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The Idea of Pollution

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Pollution is the primary target of environmental law. During the past forty years, hundreds of federal and state statutes, administrative regulations, and international treaties have established multiple approaches to addressing pollution of the air, water, and land. Yet the law still struggles to identify precisely what constitutes pollution, how much of it is tolerable, and what we should do about it.

But environmental pollution is hardly the only type of pollution. Historically, the idea of pollution had two meanings: a narrow view limited to effects on the air, water, and natural environment; and a broad view that incorporated the moral connotation similar to terms such as

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"defilement" that characterized a host of effects upon human environments. The broader view of pollution remains evident in contemporary anthropological literature, which studies the pollution beliefs of cultures throughout the world. Moreover, the law responds to complaints of cultural pollution objecting to such phenomena as hostile work environments, violent entertainment, and pornography.

This Article explores how the idea of pollution can help society better understand and respond to the introduction of materials into both natural environments and human environments. It reviews the historical understanding of pollution, the unsuccessful efforts to prescribe what constitutes pollution, and the social construction of both unwanted pollutants and affected environments. The Article thus encourages further consideration of how the law responds to pollution claims in all of the places that are of concern to society.

TABLE OF CONTENTS

INTRODUCTION

Dame Mary Douglas was one of the most important writers to explore the concept of pollution in the twentieth century. Douglas was an anthropologist who explored the structure of culture, drawing both upon extensive fieldwork in Africa and a synthesis of ideas developed in other scholarly disciplines. Douglas considered the nature of pollution ideas in the context of traditional native cultures concerned about ritual cleanness.[1] Scholars now recognize her work as one of the leading anthropological writings of the twentieth century.[2]

Legal scholars employ the anthropological understanding of pollution to analyze a range of impacts upon human cultures and communities.[3] This scholarship, however, overlooks the applicability of Douglas's work to the air and water pollution that environmental law addresses. The broader, anthropologically based idea of pollution can help answer numerous legal questions raised by environmental law. The insights offered by the fundamental environmental law term "pollution" promise to shape the regulatory response to climate

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[1] *See generally* MARY DOUGLAS, PURITY AND DANGER: AN ANALYSIS OF THE CONCEPTS OF POLLUTION AND TABOO (1966) (exploring cultural definitions of pollution and cleanliness).

[2] Douglas became the rare scholar to be knighted for her work, one year before her death in 2007. *See New Year Honours 2006*, THE TIMES (London), Dec. 30, 2006, at 51 (noting that Douglas had been selected as Dame Commander in British Empire); *The Hundred Most Influential Books Since the War*, TIMES LITERARY SUPPLEMENT, Oct. 6, 1995, at 39 (listing *Purity and Danger*). *See generally* RICHARD FARDON, MARY DOUGLAS: AN INTELLECTUAL BIOGRAPHY (1999) (noting that Mary Douglas's work is among highlights of twentieth-century British anthropology).

[3] *See, e.g.*, WILLIAM N. ESKRIDGE, JR., DISHONORABLE PASSIONS: SODOMY LAWS IN AMERICA, 1861-2003 *passim* (2008) (exploring role of pollution beliefs in traditional response to homosexuality); Ann Kibbey, *Trial by Media: DNA and Beauty-Pageant Evidence in the Ramsey Murder Case*, 43 N.Y.L. SCH. L. REV. 691 (1999-2000) (noting arguments that illicit sex is polluting); Mona Lynch, *Pedophiles and Cyber-predators as Contaminating Forces: The Language of Disgust, Pollution, and Boundary Invasions in Federal Debates on Sex Offender Legislation*, 27 LAW & SOC. INQUIRY 529 (2002) (studying pollution claims involving sex offenders); Geoffrey P. Miller, *Circumcision: Cultural-Legal Analysis*, 9 VA. J. SOC. POL'Y & L. 497 (2002) (analyzing circumcision as remedying pollution or as pollution itself); Marc R. Poirier, *The Cultural Property Claim Within the Same-Sex Marriage Controversy*, 17 COLUM. J. GENDER & L. 343, 364-66 (2008) (same); Robin L. West, *Law's Nobility*, 17 YALE J.L. & FEMINISM 385 (2005) (examining treatment of women's sexual desires as polluted); Walter Otto Weyrauch, *Autonomous Lawmaking: The Case of the "Gypsies,"* 103 YALE L.J. 323, 342-51 (1993) (describing pollution beliefs of Gypsies (or Roma), including contamination of men by menstruating or pregnant women, general taboos against sex, hygienic concerns about food and bodily functions, and socially disruptive behavior). Dan Kahan has relied upon *Purity and Danger* to propose a theory of "cultural cognition" regarding disputed factual beliefs that inform public policy. *See infra* text accompanying notes 319-67.

change as well as more familiar complaints about the quality of the air and water. For example, in *Massachusetts v. EPA*, the Supreme Court held 5-4 that carbon dioxide ("CO_2") is a pollutant within the meaning of the Clean Air Act ("CAA").[4] The CAA defines an air pollutant as "*any* air pollution agent . . . including *any* physical, chemical . . . substance . . . emitted into . . . the ambient air."[5] According to the majority, the CAA's use of the word "any"[6] indicates legislative intent to "embrace[] all airborne compounds of whatever stripe."[7] Justice Scalia's dissent contended that EPA properly viewed "air pollution" as involving impurities in the air closer to the earth.[8] Whether one views CO_2 and other greenhouses gases as a pollution problem helps to explain the possible responses to climate change.[9]

Other pollution claims arise outside the context of environmental law. Consider the cultural pollution allegations leveled at violent movies and video games after the 1999 shootings at Columbine High School. Indeed, most of the candidates in the 2000 elections included cultural pollution on their list of evils to combat.[10] Similarly, many people classify pornography as cultural pollution.[11] Excessive campaign contributions and spending are said to pollute the political system.[12] The work of Professor Keith Aoki documents how society

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[4] Massachusetts v. EPA, 549 U.S. 497, 529 (2007).

[5] 42 U.S.C. § 7602(g) (2006).

[6] *Massachusetts*, 549 U.S. at 528-29.

[7] *Id.* at 529.

[8] *Id.* at 560 (Scalia, J., dissenting).

[9] *See* John Copeland Nagle, *Climate Exceptionalism*, 40 ENVTL. L. (forthcoming March 2010) (analyzing implications of idea of pollution for climate change).

[10] *See, e.g.*, 145 CONG. REC. S4419-21 (daily ed. Apr. 29, 1999) (statement of Sen. Brownback) (describing violent video games as "cultural pollution"); *Federal Trade Commission Report on Marketing Violent Entertainment to Children: Hearing Before the Senate Commerce, Science, and Transportation Comm.*, 106th Cong. (2000) (testimony of Sen. Hatch) ("In Utah, we have reclaimed abandoned coal mines. Why can we not even acknowledge that there has been a mental and moral waste dump created from our over infatuation with television, movies, and music?"); *CNN Crossfire* (CNN television broadcast May 10, 1999) (interview with Rob Reiner, avid campaigner for Al Gore, who acknowledged, "[T]here's no question that these violent movies that are made, poison the soul. They pollute the culture").

[11] *See* H. Patricia Hynes, *Pornography and Pollution: An Environmental Analogy*, *in* PORNOGRAPHY: WOMEN, VIOLENCE AND CIVIL LIBERTIES 384, 384-97 (Catherine Itzin ed., 1992); Robert P. George, *The Concept of Public Morality*, 45 AM. J. JURIS. 17, 17-19 (2000); *see also* Matthew Benjamin, *Possessing Pollution*, 31 N.Y.U. REV. L. & SOC. CHANGE 733, 752 (2007) (quoting Robert Bork).

[12] *See* United States v. Inzunza, No. 05-50902, 2009 U.S. App. LEXIS 20825, at *13 (9th Cir. Sept. 1, 2009) (lamenting "the potentially polluted atmosphere of campaign contributions"); CHARLES R. ASHMAN, THE FINEST JUDGES MONEY CAN BUY,

described nineteenth century Chinese immigrants as pollution that threatened the United States' valuable natural resources, public morals, and public health.[13] The common usage of pollution imagery in cultural and other contexts invites comparisons to how environmental law understands pollution and addresses its own pollution claims.

This Article considers how a broad understanding of pollution can assist in society's response to the full range of pollution claims. Part I reviews the conceptual history of pollution. It begins with the etymology of the word "pollution," and then reviews the term's actual usage in literature, political debates, and law before the twentieth century. Part II considers the conceptual use of pollution in formulating public policy today. Part III reviews the ways that society conceives different types of environments and the boundaries that surround them, and then considers the multiplicity of pollutants that can enter such environments. Finally, Part IV offers suggestions on how to apply a comprehensive idea of pollution to the full range of pollution claims.

I. THE HISTORY OF POLLUTION

We have become accustomed to thinking of pollution exclusively in terms of environmental degradation. This approach so pervades the

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AND OTHER FORMS OF JUDICIAL POLLUTION 3 (1973) (noting "American justice is choking on judicial pollution"); John Copeland Nagle, *Corruption, Pollution, and Politics*, 111 YALE L.J. 293, 316-30 (2000) (reviewing ELIZABETH DREW, THE CORRUPTION OF AMERICAN POLITICS: WHAT WENT WRONG AND WHY (1999)); J. Skelly Wright, *Money and the Pollution of Politics: Is the First Amendment an Obstacle to Political Equality?*, 82 COLUM. L. REV. 609 *passim* (1982) (using pollution as alternative lens to explore concerns about campaign finance). The idea emerged as early as 1910, when California gubernatorial candidate Hiram Johnson charged that Southern Pacific Railroad had "debauched, polluted and corrupted our state" through its control of state politics. *See* Hank Dempsey, Comment, *The "Overlooked Hermaphrodite" of Campaign Finance: Candidate-Controlled Ballot Measure Committees in California Politics*, 95 CAL. L. REV. 123, 129 (2007) (citing JOHN M. ALLSWANG, THE INITIATIVE AND REFERENDUM IN CALIFORNIA 1898-1998, at 13 (2000)). Similarly, Justice Douglas once described the Constitution's Necessary and Proper Clause as "an arsenal of power ample to protect Congressional elections from any and all forms of pollution." United States v. Classic, 313 U.S. 299, 330 (1941) (Douglas, J., dissenting).

[13] Keith Aoki, *"Foreign-ness" & Asian American Identities: Yellowface, World War II Propaganda, and Bifurcated Racial Stereotypes*, 4 ASIAN PAC. AM. L.J. 1, 27-31 (1996); *see also* Stephen Lee, Comment, *Citizen Standing and Immigration Reform: Commentary and Criticisms*, 93 CAL. L. REV. 1479, 1479 (2005) (asserting that "Douglas' model provides powerful analogy for understanding the United States' federal immigration regime").

societal mindset that people often dismiss references to cultural pollution, light pollution, spiritual pollution, and other nonenvironmental pollution as a mere rhetorical device. An argument advanced by Kenneth Wilson in his acclaimed *Columbia Guide to Standard English* demonstrates this dismissal by suggesting that the words *pollution* and *pollute* "are rapidly becoming overused."[14] He contended that:

> [The literal definitions] invite figurative uses applied to any and all things that disgust or anger us. The literal senses of *pollute* and *pollution* are sufficiently varied to warrant our trying to protect them from the wear and tear of figurative overuse. *Noise pollution* and *polluting the thoughts of the young* or *the processes of government* are graphic figurative uses, but they're becoming worn.[15]

Presumably Wilson would be further distressed by people labeling the political atmosphere in Washington, D.C., the "valueless toxic assets" of struggling banks, and the Chicago Bulls without Michael Jordan as forms of pollution.[16]

But Wilson wrongly assumed that the traditional core meaning of pollution corresponds with the popular belief that pollution is a phenomenon involving the natural environment. Pollution has always had dual meanings: a broad reference to all sorts of effects upon human environments, and a narrow focus upon natural environments. In fact, until less than a century ago society applied the term to human environments more often than natural environments. Historically, Wilson had it backwards. Even today, however, the more familiar connotation of pollution as involving the air or the water has not fully

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[14] KENNETH G. WILSON, THE COLUMBIA GUIDE TO STANDARD AMERICAN ENGLISH 336 (1993).

[15] *Id.* Similarly, a Scripps Institution of Oceanography official once speculated about "calorie pollution" (too much sugar in one's diet) and "personnel pollution" (too many half-occupied typists), warning that "as scientists and craftsmen, we should not overuse or misuse our tools or our words until they become so bent or so blunt that they lose their efficacy." Ralph A. Lewin, Commentary, *Pollution is a Dirty Word*, 231 NATURE 65, 65 (1971).

[16] *See, e.g.*, Richard Benedetto, *Next Senate Leader Must Cool It*, THE TIMES UNION (Albany, N.Y.), June 4, 2001, at A7 (describing Washington, D.C.'s political atmosphere as pollution); David Brooks, *Showing Some Discipline*, N.Y. TIMES, Feb. 10, 2009, at A27 (classifying bank assets as pollution); Richard Cohen, *Cases of Imperfection in the Criminal-Justice System*, SACRAMENTO BEE, May 31, 1999, at B11 (classifying attorneys as form of pollution); Peter May, *After Being on Top of the World, Ex-Bulls See Another Side*, BOSTON GLOBE, May 2, 1999, at D8 (accusing Chicago Bulls without Michael Jordan of being pollution).

displaced the important role that the language of pollution plays in the law. The historical and continued usage of pollution to describe a variety of objectionable influences rebuts the suggestion that reference to pollution outside the environmental context is mere rhetoric.

A. Pollution Before the Twentieth Century

The word pollution emerged in Old French during the fourteenth century and originates from the Latin word "polluere," which means "to soil or defile."[17] By 1828, Noah Webster's first dictionary listed five definitions of pollution:

> 1. The act of polluting.
>
> 2. Defilement; uncleanness; impurity; the state of being polluted.
>
> 3. In *the Jewish economy*, legal or ceremonial uncleanness, which disqualified a person for sacred services or for common intercourse with the people, or rendered any thing unfit for sacred use.
>
> 4. In *medicine*, the involuntary emission of semen in sleep.
>
> 5. In *a religious sense*, guilt, the effect of sin; idolatry, etc.[18]

The definitions of *pollute* and *polluting* were similar, with Webster citing Old Testament examples to illustrate three of the four meanings of pollute.[19] Effects upon the natural environment are at most implicit in these definitions of pollution. Conversely, Webster's definitions easily accommodate the view that it is human environments that suffer from pollution.

Webster's definitions show that society viewed pollution as something occurring outside the natural environment well into the twentieth century. Literary references to pollution nearly always involved an adverse affect upon humans or human environments. William Shakespeare, James Fenimore Cooper, Nathaniel Hawthorne, and Henry Wadsworth Longfellow all referred to pollution occurring in the context of sexual or spiritual harms.[20] By contrast, there are few

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[17] *See* THE BARNHART CONCISE DICTIONARY OF ETYMOLOGY 582 (Robert K. Barnhart ed., 1995).

[18] 2 NOAH WEBSTER, AN AMERICAN DICTIONARY OF THE ENGLISH LANGUAGE 38 (n.p. 1828).

[19] *Id.*

[20] *See* JAMES FENIMORE COOPER, THE PIONEERS 165 (1870) (writing that "heresies

references to water pollution or air pollution in literary works before the twentieth century.[21]

In addition, theologians frequently employed the language of pollution. Indeed, one can view John Calvin's entire theology through the lens of pollution, as revealed by the more than one hundred references to pollution in his sixteenth century *Institutes of the Christian Religion*.[22] Later Protestant theologians favored pollution imagery as well, as seen in the writings of Jonathan Edwards, Yale President Timothy Dwight, and Princeton seminary professor Charles Hodge.[23] The King James translation of the Bible, first published in

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have polluted every church"); NATHANIEL HAWTHORNE, THE SCARLET LETTER 79 (1850) (referring to "that mystery of a woman's soul, so sacred even in its pollution"); Henry Wadsworth Longfellow, *Resignation*, *in* THE COMPLETE POETICAL WORKS OF HENRY WADSWORTH LONGFELLOW 133, 134 (1902) (writing of being "safe from sin's pollution"); JOHN MILTON, PARADISE LOST 651 (Alastair Fowler, 2d ed. 1998) (1667) (Book XII, lines 107-10) (explaining how God will "withdraw His presence from among [the sinful world] [t]o leave [people] to their own polluted ways"); WILLIAM SHAKESPEARE, THE FIRST PART OF HENRY VI, act 5, sc. 6 (Joan La Pucelle accused King Henry VI of being "polluted with your lusts"); WILLIAM SHAKESPEARE, TROILUS AND CRESSIDA, act 5, sc 3 (Cassandra described "hot and peevish vows" as "polluted offerings"); WILLIAM SHAKESPEARE, THE RAPE OF LUCRECE, in THE RIVERSIDE SHAKESPEARE 1722, 1735 (1974) (Lucrece despaired of "my poor soul's pollution"); JONATHAN SWIFT, GULLIVER'S TRAVELS 22 (n.p. 1726) (describing ancient temple as "having been polluted some years before by an unnatural murder").

[21] Herman Melville described how "the savages" forced "the skipper" away from a stream because "his lips would have polluted it." HERMAN MELVILLE, TYPEE 284 (1846). This, however, is hardly the kind of water pollution that inspired the Clean Water Act more than a century later. Perhaps the clearest suggestion of water pollution — or rather, its absence — appears in Hawthorne's short story *Roger Malvin's Burial*, where he described how a family "halted and prepared their meal on the bank of some unpolluted forest brook." Nathaniel Hawthorne, *Roger Malvin's Burial*, *in* NATHANIEL HAWTHORNE, YOUNG GOODMAN BROWN AND OTHER TALES 56, 70 (Oxford Worlds Classics ed. 1998).

[22] *See* JOHN CALVIN, INSTITUTES OF THE CHRISTIAN RELIGION *passim* (Henry Beveridge trans., 1845) (1559) (frequently using concept of pollution to explore religious ideology).

[23] *See* TIMOTHY DWIGHT, THEOLOGY; EXPLAINED AND DEFENDED, IN A SERIES OF SERMONS 434 (6th ed. 1829) (equating divorce with prostitution because "[t]o the Eye of God, those, who are polluted in each of these modes, are alike, and equally, impure, loathsome, abandoned wretches"); Jonathan Edwards, *A Warning to Professors: Or the Great Guilt of Those Who Attend on the Ordinances of Divine Worship, and Yet Allow Themselves in Any Known Wickedness*, *in* 2 THE WORKS OF JONATHAN EDWARDS 185, 185 (Edward Hickman ed., 10th ed. 1865) (admonishing that "[t]he fire of God's wrath is kindled by none so much as by the polluters of holy things"); CHARLES HODGE, THE COMMENTARY ON THE EPISTLE TO THE ROMANS 322 (1835) (writing that "[s]in subjectively considered is pollution, a defilement of the soul"); Jonathan Edwards, Original Sin (3 WJE Online 34) (praising "God's gracious initiative in providing escape from the morass

1611, contains nearly fifty references to pollution, almost all in the Old Testament.[24] Modern translations of the Bible use the word pollution less frequently, but it still appears in some places. The epistle of James, for example, teaches that the "[r]eligion that God our Father accepts as pure and faultless is this: to look after orphans and widows in their distress and to keep oneself from being polluted by the world."[25]

Pollution imagery also appeared in political debates. Seven years of service as President of the United States provoked Thomas Jefferson to write that "[n]othing can now be believed which is seen in a newspaper. Truth itself becomes suspicious by being put into that polluted vehicle."[26] Jefferson also denounced a political opponent as "the most red-hot federalist, famous, or rather infamous for the lying and slandering which he vomited from the pulpit in the political harangues with which he polluted the place."[27] Other commentators targeted relations with Great Britain, state governments, the Bank of the United States, and territorial Utah's bigamy laws as instances of pollution.[28] References to air pollution, water pollution, and other

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of spiritual pollution"). An online search of Edwards' writings shows 207 references to pollution. Online search for pollution, http://edwards.yale.edu (Aug. 29, 2009).

[24] *See, e.g.*, *Ex.* 20:25 (reporting God's commandment that "if thou wilt make me an altar of stone, thou shalt not build it of hewn stone: for if thou lift up thy tool upon it, thou hast polluted it"); *Num.* 18:32 (warning that death will result for those who "pollute the holy things of the children of Israel"); *Ps.* 106:38 (lamenting that "the land was polluted with blood of innocent children sacrificed to the idols of Canaan"). Note, too, that the regulations of Leviticus have often been studied as a pollution code, including a chapter entitled "The Abominations of Leviticus" in Douglas's *Purity and Danger*. *See* DOUGLAS, *supra* note 1, at 41-57; *see also* KWAME ANTHONY APPIAH, COSMOPOLITANISM: ETHICS IN A WORLD OF STRANGERS 54-56 (2006); MARY DOUGLAS, LEVITICUS AS LITERATURE 150 (1999) (discussing how Leviticus "puts unclean contact into the same bracket as breaches of the moral code"); MARTIN GOODMAN, ROME AND JERUSALEM: THE CLASH OF ANCIENT CIVILIZATIONS 275-76 (2007); CORNELIUS PLANTINGA, JR., NOT THE WAY IT'S SUPPOSED TO BE: A BREVIARY OF SIN 44 (1996); DEREK TIDBALL, THE MESSAGE OF LEVITICUS 141-86 (2005).

[25] *James* 1:27 (New International Version).

[26] Letter from Thomas Jefferson to John Norvell, June 11, 1807, *in* 4 MEMOIRS, CORRESPONDENCE, AND PRIVATE PAPERS OF THOMAS JEFFERSON 81, 82-83 (Thomas Jefferson Randolph ed., 1829).

[27] Letter from Thomas Jefferson to Joel Barlow, Jan. 24, 1810, *in* 9 THE WRITINGS OF THOMAS JEFFERSON 268, 269 (Paul Leicester Ford ed., 1898).

[28] *See* H.R. 7, 36th Cong. (1st Sess. 1860) (proposing to annul Utah's polygamy laws because "no principle of self-government or citizen sovereignty can require or justify the practice of such moral pollution"); F. S. DRAKE, LIFE AND CORRESPONDENCE OF HENRY KNOX 96 (1873) (arguing during debates over ratification of United States Constitution that "the vile State governments are sources of pollution, which will contaminate the American name perhaps for ages"); 32 JOURNAL OF THE SENATE OF THE

kinds of environmental pollution are conspicuously absent from political debates before the end of the nineteenth century.

The same pattern appears in law. None of the earliest judicial decisions that mention pollution involved harms to the natural environment. Instead, the nine English cases decided before 1800 in which the court referred to pollution involved a variety of harms to the family, the church, the government, and other human institutions. For example, in 1616, Justice Croke warned an accused murderer that blood "is a crying sin . . . which doth pollute the land."[29] The complaints against an Anglican minister included the charge that "he took the cups and other vessels of the church, consecrated to holy use, and employed them in his own house, and put barm in the cups, that they were so polluted, that the communicants of the parish were loath to drink out of them."[30] A court deciding an adultery case concluded that a husband could not complain of his wife's behavior when he had done the same: "It is not unfit if he, who is the guardian of the purity of his own house, has converted it into a brothel, that he should not be allowed to complain of the pollution which he himself has introduced."[31]

UNITED STATES OF AMERICA 258 (Sept. 13, 1841) (considering resolution praising Andrew Jackson for destroying Bank of United States and thus saving people of nation from "the moral pollution which a longer connexion with that institution must have brought upon them"); Letter from Francis Lightfoot Lee to Landon Carter (May 21, 1776), *in* 4 LETTERS OF DELEGATES TO CONGRESS 57, 58 (Paul H. Smith ed., 1979) (writing two months before United States declared its independence that continued connection with Britain "wou'd be infamy & pollution"); Mark Twain, *The American Flag*, *in* MARK TWAIN'S WEAPONS OF SATIRE: ANTI-IMPERIALIST WRITINGS ON THE PHILIPPINE-AMERICAN WAR 14, 16-17 (Jim Zwick ed., 1992) (objecting to Spanish-American War by describing American government as polluted).

[29] King v. Taverner, (1616) 81 Eng. Rep. 144, 146 (K.B.).

[30] Smith v. Clay, (1627) 124 Eng. Rep. 294, 294 (C.C.P.).

[31] Beeby v. Beeby, (1799) 162 Eng. Rep. 755, 756 (K.B.). The other eighteenth century English pollution cases are Moorsom v. Moorsom, (1792) 162 Eng. Rep. 1090, 1097 (K.B.) (rejecting notion that husband could have encouraged his wife's extramarital sexual activity in order to "consent to her pollution with a view of getting rid of her"); Evans v. Evans, (1790) 161 Eng. Rep. 466, 471 (E.A.P. & D.) (denying any evidence that degrading habits pollute ladies); Hume v. Ely, (1775) 3 Eng. Rep. 305, 314 (H.L.) (finding that fraudulent transaction in estate dispute had "tainted and polluted the whole of the preceding transaction"); Collins v. Blantern, (1767) 24 Eng. Rep. 850, 852 (K.B.) (explaining that bond could not be given for illegal consideration because "[a]ll writers upon our law agree in this, no polluted hand shall touch the pure fountains of justice"); Bridgeman v. Green, (1757) 97 Eng. Rep. 22, 25 (K.B.) (writing of contested gift that "[l]et the hand receiving it be ever so chaste, yet if it comes through a corrupt, polluted channel, the obligation of restitution will follow it"); Lord Audley's Case, (1632) 123 Eng. Rep. 1140, 1141 (C.P.) (indicating "that pollution and using of a man upon his belly sodomitically, without penetration, was

Nineteenth century American judicial decisions also referred to numerous types of pollution, including several references to environmental pollution. As a federal court advised in 1886, "The right to pure air is incident to the land — as much so as the right to the uninterrupted flow of a stream of pure water which runs through it — and no one can be permitted to pollute either, to the injury and disadvantage of the owner."[32] But the first reference to water pollution in a reported American case did not occur until 1832, and the first reference to air pollution was in 1849.[33] Meanwhile, the courts invoked the image of pollution to describe numerous other harms throughout the nineteenth century and before. In 1793, the Virginia Supreme Court noted that no West Indian citizens "can wish to see the tribunals of their own country polluted" by judges biased against Americans.[34] American courts and counsel worried about the pollution of legal or political processes, the polluting effects of foreign innovations, and such disparate sources of pollution as wrongful business practices and inmates.[35] Moral pollution was another target of

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buggery" under statute).

[32] Sellers v. Parvis & Williams Co., 30 F. 164, 166 (C.C.D. Del. 1886).

[33] *See* Hay v. Cohoes Co., 2 N.Y. 159, 162 (1849) (noting that landowners "could not pollute the air upon the plaintiff's premises"); Howell v. M'Coy, 3 Rawle 256, 270 (Pa. 1832) (denying right to pollute water); *see also* Tate v. Parrish, 23 Ky. 325 (1828) (containing headnote referring to action as one "for polluting the water" where plaintiff objected to defendant's disposal of dead hog into spring).

[34] Page v. Pendleton, 1793 Va. LEXIS 53, at *1, Wythe 211, 211 (1793); *see also* Anderson v. Dunn, 19 U.S. 204, 227 (1821) (stating that courts have power "to preserve themselves and their officers from the approach and insults of pollution").

[35] *See* Trist v. Child, 88 U.S. (21 Wall.) 441, 451 (1874) (invalidating contingency fee agreement to lobby Congress because it would mean that "the spring-head and the stream of legislation are polluted"); Holmes v. Jennison, 39 U.S. (16 Pet.) 540, 615 (1840) (Baldwin, J., concurring) (approving deportation of alleged criminal to Quebec because "no political community . . . can be under any obligation to suffer a moral pestilence to pollute its air"); Johnson v. Twenty-One Bales, 13 F. Cas. 855, 861 (C.C.D.N.Y. 1814) (No. 7,417) (advising that "[f]rom sources so agitated, if not polluted [as the French Revolution], nothing satisfactory can be drawn"); Commonwealth v. Martin's Ex'rs, 19 Va. (5 Munf.) 117, 155 (1816) (remarking that "the fountain of justice is, perhaps, as pure in England, as in any part of the universe, yet we all know that the stream even there, has been sometimes polluted by the undue influence of the [British] crown"); People v. Croswell, 3 Johns. Cas. 337, 343 (N.Y. Sup. Ct. 1804) (containing counsel arguing against doctrine because it "originated in a polluted source, the despotic tribunal of the Star Chamber"). Additionally, several courts quoted Lord Wilmot's 1757 opinion stating that "[a]ll writers upon the law agree in this, no polluted hand shall touch the fountains of justice." Adams v. Barrett, 5 Ga. 404, 417 (1848) (quoting Collins v. Blantern, (1767) 95 Eng. Rep. 847, 852 (K.B.)); *see also* State *ex rel.* Crow v. Bland, 46 S.W. 440, 446 (Mo. 1898) (describing statute prohibiting corrupt election practices as designed to prevent activities that

judicial scorn. The Indiana Supreme Court admonished in 1893 that "[f]ew greater crimes against society can be conceived than that of the moral pollution of our youth."[36] The courts were especially concerned about the moral pollution of women by adulterous husbands, rapists, and consignment to prostitution.[37]

Slavery best illustrates the literary, political, religious, and legal understandings of pollution in the nineteenth century. Justice Joseph Story told a grand jury that he wished he "could say that New England, and New England men, were free from this deep pollution" of the slave trade.[38] The Pennsylvania legislature resolved in 1820 that

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"pollute the fountain from which spring the liberties of the people"); United States v. Sheldon, 5 Blume Sup. Ct. Trans. 337, 364 (Mich. Terr. 1829) (worrying that respectable attorneys would be unwilling "to enter upon such a scene of moral pollution as our Courts, would then exhibit" if slander of judges was permitted); State v. Candler, 10 N.C. (3 Hawks) 393, 397 (1824) (advising that law will not allow perjurers to testify so that "the stream of justice may not be polluted").

[36] Hardesty v. Hine, 34 N.E. 701, 702 (Ind. 1893); *see also* State *ex rel.* Clark v. Osborne, 24 Mo. App. 309, 312 (1887) (reversing public school's expulsion of student for attending prohibited party despite counsel's argument that "the sources of corruption and moral pollution which endanger the life of any school of its class, lie without and beyond the school house walls"); People v. Muller, 96 N.Y. 408, 413 (1884) (stating that purpose of obscenity statute was "to protect the community against the contamination and pollution arising from [the] exhibition and distribution" of obscene and indecent pictures); Kitchen v. Tyson, 7 N.C. 314, 316 (1819) (overturning "[a] verdict founded upon the testimony of a witness who is destitute of all moral and religious obligation, and strongly tempted by interest to give to polluted principles the most mischievous operation"); Wilson v. Young, 31 Wis. 574, 579-80 (1872) (indicating that evidence of individual reputation is admissible if it involves "vices . . . of a character which pollute the moral nature").

[37] *See* Helmes v. Helmes, 52 N.Y.S. 734, 738 (1898) (overturning divorce obtained by husband who conspired to cause his wife to commit adultery because "[t]his man has forfeited all right to legal relief from his marital obligations because of the unchastity of his wife by his anxiety to have her polluted"); More v. Bennett, 33 How. Pr. 177, 179 (N.Y. Sup. Ct. 1867) (referring to efforts of those who sought to rescue prostitutes "from the horrors and pollution of their condition"); State v. Sudduth, 30 S.E. 408, 409 (S.C. 1898) (upholding rape conviction while observing that "a woman unwilling to receive the embraces of a brute would exert every power she could control to escape his polluting touch"); Hair v. Hair, 31 S.C. Eq. (10 Rich. Eq.) 163, 174 (1858) (stating that wife confronted with her husband's obscene and indecent actions "would be held justifiable in fleeing from the polluting presence of that monster, with whom in an evil hour she had united her destinies"); Rogers v. State, 1 Tex. Ct. App. 187, 191 (Tex. Crim. App. 1876) (describing rape victim as "jealous of her chastity . . . and trying to avoid pollution"); Shattuck v. Hammond, 46 Vt. 466, 470 (1874) (observing that woman who committed adultery "is exorcised as a polluted and polluting thing").

[38] 1 LIFE AND LETTERS OF JOSEPH STORY 340 (William Wetmore Story ed., 1851); THE MISCELLANEOUS WRITINGS, LITERARY, CRITICAL, JURIDICAL, AND POLITICAL, OF JOSEPH STORY, LL.D. 361 (1835); *see also* Fales v. Mayberry, 8 F. Cas. 970, 971 (C.C.D.R.I.

"the people of Pennsylvania . . . may boast that they were foremost in removing the pollution of slavery from amongst them."[39] John Greenleaf Whittier characterized supporters of slavery as "bowed to an Idol polluted with blood."[40] A Cincinnati minister asked, "What Christian father could endure, that his daughters, whom he had educated in virtue, should be subdued for pollution by the whip, or by the *customs* of the system?"[41] Writing about his efforts to combat the slave trade, President John Tyler informed Congress "that our own coasts are free from its pollution."[42] Senator Charles Sumner described slavery as a mistress "polluted in the sight of the world" in the speech that precipitated his caning on the Senate floor in 1856.[43] A delegate to the 1857 Iowa constitutional convention praised the Kansans who "have saved the territory probably from being polluted with the curse of slavery."[44] Frederick Douglass described slavery as "glaring frightfully upon us, with the blood of millions in his polluted skirts," and a system "marked with blood and stained with pollution." He also wrote of "the scenes of pollution which the slaveholders continually provide for most of the poor, sinking, wretched young women, whom they call their property."[45] William Seward defended the Ordinance of 1787 as having "dedicated all of the national domain not yet polluted by Slavery to free labor immediately, thenceforth and forever."[46] Several English ministers approved a resolution upon the assassination of President Lincoln that characterized the Civil War "as a temporal judgment for the commencement, continuance, and defence of the polluted system of slavery."[47] By 1878, even the Louisiana Supreme

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1815) (No. 4,622) (describing "the deepest pollution of illegality").

[39] 9 JOURNAL OF THE SENATE OF THE UNITED STATES OF AMERICA 78 (Jan. 5, 1820) (reprinting Pennsylvania legislature's resolution).

[40] JOHN GREENLEAF WHITTIER, POEMS OF JOHN G. WHITTIER 83 (1851).

[41] 2 CHARLES ELLIOTT, SINFULNESS OF AMERICAN SLAVERY 285 (B.F. Tefft ed., 1851).

[42] 36 JOURNAL OF THE SENATE OF THE UNITED STATES OF AMERICA 192 (Feb. 20, 1845) (reciting message from President Tyler).

[43] Charles Sumner, *The Crime Against Kansas* (1856), *reprinted in* 4 THE WORKS OF CHARLES SUMNER 125, 144 (1871); *see also* Gregg M. McCormick, Note, *Personal Conflict, Sectional Reaction: The Role of Free Speech in the Caning of Charles Sumner*, 85 TEX. L. REV. 1519, 1526 (2007).

[44] 2 THE DEBATES OF THE CONSTITUTIONAL CONVENTION; OF THE STATE OF IOWA, ASSEMBLED AT IOWA CITY, MONDAY, JANUARY, 19, 1857, at 709 (1857).

[45] FREDERICK DOUGLASS, MY BONDAGE AND MY FREEDOM 282, 413, 444 (1857).

[46] William H. Seward, *The Irrepressible Conflict*, *in* WILLIAM HENRY SEWARD, POLITICAL SPEECHES 1, 3 (1860).

[47] U.S. DEP'T OF STATE, THE ASSASSINATION OF ABRAHAM LINCOLN . . . AND THE ATTEMPTED ASSASSINATION OF WILLIAM H. SEWARD, SECRETARY OF STATE, AND FREDERICK W. SEWARD, ASSISTANT SECRETARY, ON THE EVENING OF THE 14TH OF APRIL, 1865.

Court described the money earned by the sale of slaves in 1853 as "polluted gold."[48]

B. Pollution Today

Obviously, something changed. As a result, several environmental historians are exploring the history of environmental pollution in the nineteenth and twentieth century, and how "pollution" became the term that is so familiar to us now.[49] Professor Adam Rome wrote a comprehensive account of this development in a 1996 article.[50] According to Rome, Americans rarely used the words pollute and pollution to refer to "human degradation of the environment" until after the Civil War.[51] Instead, pollute and pollution referred to the "violation, perversion, or corruption of moral standards."[52] What people now know as air pollution was labeled "smoke," "noxious vapors," or simply a "nuisance."[53] Air was not polluted, but "contaminated," "tainted," "vitiated," "corrupted," or "fouled."[54] People used "trade wastes," "industrial wastes," and other terms to

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EXPRESSIONS OF CONDOLENCE AND SYMPATHY INSPIRED BY THESE EVENTS 321 (1866).

[48] George v. Amacker, 30 La. Ann. 390, 392 (1878). Additional references to slavery as pollution include WILLIAM GOODELL, VIEWS OF AMERICAN CONSTITUTIONAL LAW, IN ITS BEARING UPON AMERICAN SLAVERY 66 (2d rev. ed. 1845) (noting that District of Columbia "is as sacred from the pollution of legalized, constitutional slavery, as is the soil of England itself"); HORACE GREELEY, A HISTORY OF THE STRUGGLE FOR SLAVERY EXTENSION OR RESTRICTION IN THE UNITED STATES, FROM THE DECLARATION OF INDEPENDENCE TO THE PRESENT DAY 26 (1856) (reprinting 1819 Pennsylvania legislative resolution asserting that people of Pennsylvania "may boast that they were foremost in removing the pollution of Slavery from among them"); WENDELL PHILLIPS, THE CONSTITUTION A PRO-SLAVERY COMPACT: OR, EXTRACTS FROM THE MADISON PAPERS, ETC. 148 (3d ed. 1856) ("A union of virtue with pollution is the triumph of licentiousness.").

[49] *See, e.g.*, PETER THORSHEIM, INVENTING POLLUTION: COAL, SMOKE, AND CULTURE IN BRITAIN SINCE 1800 (2006) (outlining historical evolution of perceptions of air pollution); Christine Meisner Rosen, *'Knowing' Industrial Pollution: Nuisance Law and the Power of Tradition in a Time of Rapid Economic Change, 1840-1864*, 8 ENVTL. HIST. 565 (2003) (examining environmental history and pollution-related nuisance case law to discuss legal concept of pollution in 1800s); *cf.* BARNHART, *supra* note 17, at 582 (observing that "[t]he sense of contamination of the environment by harmful substances appears sporadically in technical sources since 1877 but came into general use about 1955").

[50] Adam W. Rome, *Coming to Terms with Pollution: The Language of Environmental Reform, 1865-1915*, 1 ENVTL. HIST. 6 (1996).

[51] *Id.* at 6.

[52] *Id.*

[53] *See id.*

[54] *See id.* at 8.

describe what we now characterize as water pollution.[55] These terms reflected the early nineteenth century understanding that cities were cleaner than the countryside, and that city air was cleaner than the air in natural environments. The prevailing "miasma" theory viewed places with abundant biological materials — swamps or forests, for example — as introducing harmful gases into the air. Some people recognized that industrial emissions were harmful, but many others saw such emissions as innocuous or even helpful, with numerous public health authorities proclaiming the chemicals released by the burning of coal cleaned biological impurities in the air.[56]

The rapid urbanization and industrialization that occurred during the nineteenth century provoked increased concern about many of the problems now called pollution. Indeed, "[b]y the 1850s, a few sanitary reformers had begun to use the verb 'pollute' " to refer to emissions into the air and dischargers into the water.[57] In 1876, the Massachusetts Board of Health published a lengthy study, *The Pollution of Rivers*.[58] According to Rome, river pollution is the key to the transformation of the meaning of pollution:

> Though the word "pollution" originally had powerful moral connotations, the river pollution studies eventually contributed to a demoralization of the phrase. Investigators invariably sought to discriminate between dangerous and non-dangerous pollutants. Thus the word "pollution" no longer implied a judgment but instead became purely descriptive: Anything that was not naturally in a river was pollution, but only a few forms of pollution were cause for alarm.[59]

The concept of air pollution developed later than water pollution. Justice Holmes's reference to "the pollution in the air" in the famous *Georgia v. Tennessee Copper Co.* smelter case illustrates one of the first references to air pollution.[60] The Oil Pollution Act of 1924, the first

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[55] *See id.* at 13.

[56] *See* THORSHEIM, *supra* note 49, at 22 (quoting Scottish physician whose 1880 address "drew attention to the deodorising and antiseptic powers of smoke and sulphur, which probably operated beneficially in killing the deadly germs, and disinfecting the foul smells, which cling about the stagnant air of fogs").

[57] Rome, *supra* note 50, at 8.

[58] *Id.* at 9.

[59] *Id.* at 13.

[60] *Id.* at 14 (quoting Georgia v. Tennessee Copper Co., 206 U.S. 230, 238 (1907)). The Supreme Court relied upon *Georgia v. Tennessee Copper Co.* to support the standing of states to challenge the EPA's failure to regulate greenhouse gases under the CAA in *Massachusetts v. EPA*, 549 U.S. 497, 518-19 (2007). Rome adds that "[i]n the

federal statute whose title referred to pollution, solidified the new understanding of the term.[61] The environmental connotation of pollution became pervasive during the environmental protection movement of the 1960s and 1970s, and today it dominates popular discourse and the law.

C. Pollution and the Law

Even with such dominance, references to all sorts of pollution persist and the idea of pollution continues to play an important role outside the environmental context in several areas of the law. Modern dictionaries contain both the narrow definition of pollution as limited to effects on the natural environment and the broad view of pollution as encompassing a much larger group of harmful influences.[62] The law, however, is more likely to describe the air or water as polluted than human environments. By 2003, a federal court of appeals referred to "the typical focus" of the word pollution "on harm to the environment" without acknowledging the many other types of pollution that courts cited in the past.[63] Despite this focus on environmental harm, however, the idea of pollution continues to play a significant role in several other areas of law.

1. Sensory Pollution

Recall Kenneth Wilson's *Columbia Guide to Standard English*, in which he dismissed references to noise pollution as a "graphic" use of the word pollution that is becoming "worn."[64] Wilson's comment overlooked the significant role that noise pollution concerns played during the environmental movement of the 1960s and 1970s. The first annual report of the Council on Environmental Quality grouped noise

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early 1900s, the phrases 'air pollution' and 'atmospheric pollution' still were rare." Rome, *supra* note 50, at 14.

[61] Oil Pollution Act, Pub. L. No. 68-238, 43 Stat. 604 (1924).

[62] *See, e.g.*, BLACK'S LAW DICTIONARY 1197 (8th ed. 2004) (defining pollute as "[t]o corrupt or defile; esp., to contaminate the soil, air, or water with noxious substances"); 12 THE OXFORD ENGLISH DICTIONARY 43 (2d ed. 1989) (defining pollution as "defilement; uncleanness or impurity caused by contamination (physical or moral)," and as "[t]he presence in the environment, or the introduction into it, of products of human activity which have harmful or objectionable effects"); WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY OF THE ENGLISH LANGUAGE UNABRIDGED 1756 (1993) (noting that polluted can mean "morally corrupt or defiled").

[63] Cleere Drilling Co. v. Dominion Exploration & Prod., Inc., 351 F.3d 642, 651 (5th Cir. 2003).

[64] *See* WILSON, *supra* note 14, at 336.

pollution with pesticides and radiation.[65] The year 1970 alone yielded several treatises and law review articles analyzing the "major environmental problem" presented by noise pollution.[66] Congress responded by enacting the Noise Control Act in 1972. This statute anticipated state enforcement of federal noise levels in a manner similar to the state implementation of the air quality standards required by the CAA.[67] In each instance, the law described noise pollution as a problem similar to air and water pollution.

Other laws also address pollution of the sensory environment. Light pollution is the subject of local ordinances, state laws, and national park management plans.[68] Occasionally, courts describe offensive smells as odor pollution, as illustrated by the recent invalidation of the rezoning of a lumber company's land because of the smells that nearby residents suffered from the company's expanded operations.[69] Visual pollution refers to ugly buildings, cellular telephone towers, billboards, flags and signs, and numerous other images that interfere with the visual landscape.[70] Chief Justice Burger thus contended that

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[65] U.S. COUNCIL ON ENVIRONMENTAL QUALITY, ENVIRONMENTAL QUALITY: THE FIRST ANNUAL REPORT OF THE COUNCIL ON ENVIRONMENTAL QUALITY 123 (1970).

[66] *See* CLIFFORD R. BRAGDON, NOISE POLLUTION: THE UNQUIET CRISIS, at xvii (1970); Mark O. Hatfield, *Noise, the Gathering Crisis*, 1 ENVTL. L. 33, 33 (1970) (advising that "[n]oise pollution is reaching crisis proportions in the United States"); NOISE POLLUTION AND THE LAW, at v (James L. Hildebrand ed., 1970) (noting book's place as "the first book concerning *noise pollution and the law* to be published in the United States"); *see also* R. MURRAY SCHAFER, THE BOOK OF NOISE 2 (1998) (describing "a world-wide epidemic of Noise Pollution" in revised version of 1968 monograph).

[67] *See* Noise Control Act, 42 U.S.C. §§ 4901-4918 (2006).

[68] *See, e.g.*, Tex. Dep't of Transp. v. City of Sunset Valley, 146 S.W.3d 637, 647 (Tex. 2004) (exploring cause of action stemming from light pollution); Night Sky Protection Act, N.M. STAT. ANN. §§ 74-12-1 to 74-12-11 (West 1999); U.S. DEP'T OF THE INTERIOR, GRAND CANYON GENERAL MANAGEMENT PLAN 24 (1995).

[69] *See* McDowell v. Randolph County, 649 S.E.2d 920, 925 (N.C. App. 2007). Other cases citing odor pollution include Tulou v. Raytheon Serv. Co., 659 A.2d 796, 808 (Del. Super. Ct. 1995); Wayne County Dep't of Health v. Olsonite Corp., 263 N.W.2d 778, 788, 790, 794 (Mich. Ct. App. 1977); Concerned Citizens of Bridesburg v. City of Philadelphia, No. 85-14, 1987 U.S. Dist. LEXIS 617, at *13, *18 (E.D. Pa. Jan. 28, 1987).

[70] For examples of judicial references to visual pollution, see Ballen v. City of Redmond, 466 F.3d 736, 744 (9th Cir. 2006) (billboards); Shivwits Band of Paiute Indians v. Utah, 428 F.3d 966, 983 (10th Cir. 2005) (same); Cleveland Area Bd. of Realtors v. City of Euclid, 88 F.3d 382, 384 (6th Cir. 1996) (residential signs); Kramer v. Gov't of Virgin Islands, 479 F.2d 350, 352 (3d Cir. 1973) (drive-in theatre); Lamar Adver. Co. v. Township of Elmira, 328 F. Supp. 2d 725, 729 (E.D. Mich. 2004) (billboards); Blue Legs v. U.S. EPA, 732 F. Supp. 81, 83 (D.S.D. 1990) (waste dumps); Arizona v. Watson, 6 P.3d 752, 758 (Ariz. Ct. App. 2000) (trash); Stearn v. County of San Bernardino, 88 Cal. Rptr. 3d 330, 332 (Cal. Ct. App. 2009) (billboards); Am. Nat'l

"every large billboard . . . adds to the visual pollution of the city."[71] Wind energy proposals have produced the latest objections to visual pollution.[72] And there are even state laws that codify the concern about visual pollution.[73]

2. Moral, Ethical, and Cultural Pollution

Despite differences in medium, the concepts of noise, light, and visual pollution are not far distant from the pollution that affects the air and water. A better indication of the continuing breadth of the idea of pollution in the law appears in those instances in which the law responds to concerns about the pollution of other kinds of environments. A South Carolina legal ethics rule forbidding attorneys from engaging "in conduct tending to pollute the administration of justice" is the only extant codification of pollution outside the natural environment.[74] The conduct that courts found to satisfy that standard includes misappropriation of a client's funds, soliciting prostitution, failure to disclose the unauthorized recording of telephone conversations, shoplifting, illegally obtaining prescription drugs, possession of cocaine, and violating a court order regarding permissible compensation.[75] Earlier, sodomy statutes in Indiana and

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Bank & Trust Co. v. City of Chicago, 568 N.E.2d. 25, 28-29 (Ill. App. Ct. 1990) (describing building that blocked view as form of visual pollution); Mayor & City Council of Baltimore v. Mano Swartz, Inc., 299 A.2d 828, 833 (Md. 1973) (billboards); John Donnelly & Sons, Inc. v. Outdoor Advert. Bd., 339 N.E.2d 709, 718 (Mass. 1975) (billboards); People v. Amerada Hess Corp., 765 N.Y.S.2d 202, 205 (Dist. Ct. 2003) (gas stations). *See also* John Copeland Nagle, *Cell Phone Towers as Visual Pollution*, 23 NOTRE DAME J.L. ETHICS & PUB. POL'Y 537 *passim* (2009).

[71] Metromedia, Inc. v. City of San Diego, 453 U.S. 490, 560-61 (1981) (Burger, C.J., dissenting).

[72] *See, e.g.*, U.S. DEP'T OF THE INTERIOR, BUREAU OF LAND MGMT., FINAL PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT ON WIND ENERGY DEVELOPMENT ON BLM-ADMINISTERED LANDS IN THE WESTERN UNITED STATES 5-90 (2005), http://www.windeis.anl.gov/documents/fpeis/maintext/Vol1/Vol1Ch5.pdf (discussing adverse visual impacts as "visual pollution").

[73] *See* MINN. STAT. § 103B.661 (2008) (empowering conservation district to review proposed construction that would result in "visual pollution" along specified lake); W. VA. CODE § 22-15A-1(e) (2009) (declaring state's public policy "to eliminate the visual pollution resulting from waste tire piles").

[74] S.C. APP. CT. R. 413, 7(a)(5).

[75] Recent examples of attorneys who violated that provision include *In re* Pearman, 673 S.E.2d 432, 432-33 (S.C. 2009) (soliciting prostitution); *In re* Yarborough, 668 S.E.2d 802, 802-03 (S.C. 2008) (bribing witness); *In re* Farlow, 668 S.E.2d 790, 790-91 (S.C. 2008) (distributing marijuana and possessing ecstasy); *In re* Koulpasis, 667 S.E.2d 548, 549-50 (S.C. 2008) (misusing client funds); *In re* DePew, 658 S.E.2d 79, 80 (S.C. 2008) (using false identification to obtain driver's license).

Wyoming prohibited "self-pollution." The laws against self-pollution were part of a general nineteenth century trend to associate certain sexual practices with mental illnesses.[76] As that view faded, the laws disappeared as well.

Although statutory references to the pollution of humans or human environments are rare, judicial descriptions of such pollution are more common. The most frequent use of such pollution references occurs in civil rights cases where courts describe hostile work environments as polluted by racism, sexism, or other kinds of discrimination. The first judicial acceptance of employer liability under the federal Civil Rights Act for countenancing a hostile work environment occurred in the 1971 case *Rogers v. EEOC*.[77] There, Josephine Chavez complained that her employer discriminated against her by segregating its patients so that she would not have contact with people of other races.[78] Judge Goldberg sustained the Equal Employment Opportunity Commission's authority to investigate the matter. He asserted that "[o]ne can readily envision working environments so heavily polluted with discrimination as to destroy completely the emotional and psychological stability of minority group workers, and I think Section 703 of Title VII was aimed at the eradication of such noxious practices."[79] The Supreme Court has since quoted the pollution

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[76] The statutes reflected Webster's early definition of pollution as the involuntary emission of semen. The few recent explanations of such laws refer to "the belief that exposed semen somehow contaminates the environment and taints its holiness." Elliot N. Dorff, *Jewish Response* in *Symposium on Religious Law: Roman Catholic, Islamic, and Jewish Treatment of Familial Issues, Including Education, Abortion,* In Vitro *Fertilization, Prenuptial Agreements, Contraception, and Marital Fraud*, 16 LOY. L.A. INT'L & COMP. L. REV. 9, 82 (1993); *see also* Locke v. State, 501 S.W.2d 826, 829 (Tenn. Ct. Crim. App. 1973) (Galbreath, J., dissenting) (asking "[w]ould we go as far as has the legislature of Indiana which has proscribed masturbation or self pollution and thus condemn a practice that is so universally accepted now as normal under certain circumstances that the mature person who has never engaged in this type of activity would in all likelihood be considered biologically quite abnormal?"); DAVID M. FELDMAN, MARITAL RELATIONS, BIRTH CONTROL, AND ABORTION IN JEWISH LAW 120 (1974) (quoting rabbi who explained that self-pollution "adds to the forces of uncleanness in the world"); Randy E. Barnett, *Bad Trip: Drug Prohibition and the Weakness of Public Policy*, 103 YALE L.J. 2593, 2606-07 & nn.38-39 (1994) (reviewing STEVEN B. DUKE & ALBERT C. GROSS, AMERICA'S LONGEST WAR: RETHINKING OUR TRAGIC CRUSADE AGAINST DRUGS (1993)) (quoting Indiana and Wyoming statutes and describing historical context surrounding their enactment).

[77] 454 F.2d 234 (5th Cir. 1971), *cert. denied*, 406 U.S. 957 (1972).

[78] *Id.* at 236-37.

[79] *Id.* at 238 (opinion of Goldberg, J.).

language of *Rogers* three times, most recently in 1998 when Justice Thomas described *Rogers* as a "landmark case."[80]

More than one hundred other cases referred to hostile work environments as polluted by racism, sexism and other forms of discrimination.[81] These courts use the idea of pollution to analyze the nature of an unpolluted work environment, the discriminatory acts or speech that operate as pollutants, and when the pollution of a workplace with discrimination becomes sufficiently pervasive to impose liability upon the employer.[82] Descriptions of discrimination as pollution appear in other contexts as well and support these judicial discussions.[83]

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[80] Burlington Indus., Inc. v. Ellerth, 524 U.S. 742, 767 (1998) (Thomas, J., dissenting); *see also* Harris v. Forklift Sys., Inc., 510 U.S. 17, 22 (1993); Meritor Sav. Bank, FSB v. Vinson, 477 U.S. 57, 66 (1986).

[81] *See, e.g.*, Davis v. Team Elec. Co., 520 F.3d 1080, 1095 (10th Cir. 2008) (defining work environment as "abusive if 'hostile conduct pollutes the victim's workplace, making it more difficult for her to do her job, to take pride in her work, and to desire to stay in her position' "); Harsco Corp. v. Renner, 475 F.3d 1179, 1188 (10th Cir. 2007) (finding that evidence "reveal[ed] an environment polluted with gender-specific comments and behavior that exceeded mere flirtatiousness or baseness that has been found not to support a Title VII claim"); Jackson v. County of Racine, 474 F.3d 493, 500 (7th Cir. 2007) (quoting *Meritor*, 477 U.S. at 66); Schiano v. Quality Payroll Sys., 445 F.3d 597, 606 (2d Cir. 2006) (quoting *Harris*, 510 U.S. at 22); McGinest v. GTE Serv. Corp., 360 F.3d 1103, 1113, 1117-18 n.10 (9th Cir. 2004) (noting that "[d]iscrimination continues to pollute the social and economic mainstream of American life"); Anderson v. G.D.C., Inc., 281 F.3d 452, 458-59 (4th Cir. 2002) (noting defendant's protests that there was insufficient evidence to find that "the environment . . . was so polluted with sexual harassment that it altered the terms and conditions of her employment"); Jackson v. Quanex Corp., 191 F.3d 647, 660 (6th Cir. 1999) (citing *Meritor*, 477 U.S. at 66); Gudenkauf v. Stauffer Commc'ns., 158 F.3d 1074, 1081 (10th Cir. 1998) (quoting congressional testimony that "[i]t is in the interest of American society as a whole to assure that equality of opportunity in the workplace is not polluted by unlawful discrimination"); Daniels v. Essex Group, Inc., 937 F.2d 1264, 1273 n.3 (7th Cir. 1991) (citing Paul v. Asbury Auto. Group, LLC, No. 06-1603-K1, 2009 U.S. Dist. LEXIS 4924, at *14 (D. Or. 2009) (quoting *McGinest*, 360 F.3d at 1113; Mari J. Matsuda, *Public Response to Racist Speech: Considering the Victim's Story*, 87 MICH. L. REV. 2320, 2336, 2340 & n.84 (1989))).

[82] *See, e.g.*, Brown v. Dep't of Pub. Safety, No. 08-00470, 2009 U.S. Dist. LEXIS 79237, at *33 (D. Haw. Aug. 28, 2009) (holding that one offensive statement did not pollute plaintiff's workplace); Baker v. Int'l Longshoremen's Ass'n, Local 1423, No. CV205-162, 2009 U.S. Dist. LEXIS 11006, at *13 (S.D. Ga. Feb. 13, 2009) (holding union could not escape hostile work environment liability by emphasizing that pervasiveness of "course [sic] language and sexual remarks and innuendo" at union's docks resulted in "'heavily polluted'" workplace).

[83] *See, e.g.*, Aman v. Cort Furniture Rental Corp., 85 F.3d 1074, 1082 (3d Cir. 1996) (asserting that "[d]iscrimination continues to pollute the social and economic mainstream of American life, and is often simply masked in more subtle forms"); H.R.

3. Judicial Pollution

Judges often worry that pollution could affect their own proceedings, different kinds of marketplaces, and a variety of other environments.[84] Most commonly, courts employ the idea of pollution

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REP. NO. 102-40, pt. 1, at 46-47 (1991), *as reprinted in* 1991 U.S.C.C.A.N. 584-85 (quoting Jane Lang, former General Counsel of United States Department of Housing and Urban Development, who proclaimed that "[i]t is in the interest of American society as a whole to assure that equality of opportunity in the workplace is not polluted by unlawful discrimination"); 147 CONG. REC. E1154 (daily ed. June 19, 2001) (statement of Rep. Hilliard) (explaining that "[t]he effects of racism spread quickly and can soon pour into every community, harden and form the foundation of social institutions; and every mind of every person becomes polluted"); Anthony Appiah, *Racism and Moral Pollution*, 18 PHIL. F. 185, 189 (1986-87) (arguing that symbolic disassociation in 1980s from South African apartheid has moral basis because "this notion of pollution is displayed in some of the thinking about the issue of South African divestment"); Peter H. Schuck, *Alien Rumination*, 105 YALE. L.J. 1963, 1965 (1996) (reviewing PETER BRIMLOW, ALIEN NATION: COMMON SENSE ABOUT AMERICA'S IMMIGRATION DISASTER (1995)) (asserting that "[u]ntil the 1950s, racism pervaded and polluted American public law").

[84] *See* Medegen MMS, Inc. v. ICU Med., Inc., 317 F. App'x 982, 989 (Fed. Cir. 2008) (Walker, C.J., dissenting) (worrying that relying upon dictionary "risks polluting the claims construction analysis" required by patent law); Sands, Taylor & Wood v. Quaker Oats Co., 34 F.3d 1340, 1348 (7th Cir. 1994) (holding that remedies for violations of trademark law must "provide a sufficient deterrent to ensure that the guilty party will not return to its former ways and once again pollute the marketplace"); *In re* NYSE Specialists Secs. Litig., No. 03 Civ. 8264, 2009 U.S. Dist. LEXIS 53255, at *46-47 (S.D.N.Y. Jun. 5, 2009) (recognizing that all investors are injured " 'where the public market of a quoted security is polluted by false information' " (quoting *In re* Oxford Health Plans, Inc., Secs. Litig., 199 F.R.D. 119, 124 (S.D.N.Y. 2001))); Therasense, Inc. v. Becton, Dickinson & Co., 565 F. Supp. 2d 1088, 1101 (N.D. Cal. 2008) (noting that patent application was intended to avoid toxic materials from breaking off devices and polluting patients' bloodstream); *In re* Host Am. Corp. Secs. Litig., 236 F.R.D. 102, 108 (D. Conn. 2006) (worrying about securities markets "polluted by false information" (citing *In re* Oxford Health Plans, Inc. Secs. Litig., 199 F.R.D. 119, 124 (S.D.N.Y. 2001))); Corporate Express Office Prods., Inc. v. Gamache, No. 1:06-MC-127, 2006 U.S. Dist. LEXIS 90345, at *37 n.11 (N.D.N.Y. Dec. 13, 2006) (cautioning "[t]oo often the vagaries of an oral agreement cloud and pollute the true intent of the parties"); Kennedy Indus., Inc. v. Aparo, 416 F. Supp. 2d 311, 316 (E.D. Pa. 2005) (characterizing false advertising as pollution); New York v. Microsoft, 224 F. Supp. 2d 76, 263 (D.D.C. 2002) (charging Microsoft with "polluting" software industry standards); Diana H. v. Rubin, 171 P.3d 200, 207 (Ariz. Ct. App. 2007) (noting mother's objection to her daughter's immunization because "immunization involves polluting a person's blood 'with something that's inappropriate' "); Bronakowski v. Lindhurst, No. CA 08-1151, 2009 WL 1816165, at *7 (Ark. Ct. App. June 24, 2009) (Marshall, J., concurring) (explaning that defendant's conduct was "not a routine commercial transaction polluted with trickery"); Phillips v. Cricket Lighters, 841 A.2d 1000, 1006 (Pa. 2003) (rejecting "the argument that the intended user doctrine will somehow pollute strict liability with privity requirements"). For more examples of recent judicial references to "pollution,"

to describe actions interfering with the pure administration of justice. In a 1956 case in which the United States Supreme Court reversed a conviction obtained through perjured testimony, Chief Justice Warren explained that the witness:

> [B]y his testimony, has poisoned the water in this reservoir, and the reservoir cannot be cleansed without first draining it of all impurity. This is a federal criminal case, and this Court has . . . [a duty] . . . to see that the waters of justice are not polluted. Pollution having taken place here, the condition should be remedied at the earliest opportunity.[85]

Such concerns about the pollution of the institutions of justice appear in numerous recent decisions.[86] The twenty-first century counterpart to the

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see Doe v. Friendfinder Network, Inc., 540 F. Supp. 2d 288, 296-97 (D.N.H. 2008) (noting concern that internet could become "highly polluted" by undesirable speech); Wilberforce Univ., Inc. v. Wilberforce Univ. Faculty Ass'n, No. 3:06-cv-291, 2008 U.S. Dist. LEXIS 23978, at *6 (S.D. Ohio Mar. 26, 2008) (rejecting fired professor's claim that her appeal process had been "polluted by the University's failure to afford the protection envisioned" by collective bargaining agreement); Walzier v. McMullen, No. H-06-2361, 2008 U.S. Dist. LEXIS 19582, at *29 (S.D. Tex. Mar. 13, 2008) (holding that inmate failed to allege constitutional violation simply by worrying that "all of his food trays will be polluted with sòmething" if he became an informant); Commonwealth v. Michaliga, 947 A.2d 786, 793 (Pa. Super. Ct. 2008) (agreeing with trial court's conclusion that spa owner had obtained money through criminal fraud "and used this polluted money for her own selfish squanderings"); *see also* Ruggero J. Aldisert, *Perspective from the Bench on the Value of Clinical Appellate Training of Law Students*, 75 MISS. L.J. 645, 653 (2006) (warning that appellate arguments "cannot afford to . . . pollute[] the good with the bad" (emphasis omitted)).

[85] Mesarosh v. United States, 352 U.S. 1, 14 (1956).

[86] *See* United States v. Elfgeeh, 515 F.3d 100, 144 (2d Cir. 2008) (Sack, J., concurring in part and dissenting in part) (suggesting that overturning conviction of hawala operator is consistent with Supreme Court's recognition "that in some cases trial publicity can so pollute criminal proceedings" that new trial is necessary); United States v. Campa, 459 F.3d 1121, 1136 (11th Cir. 2006) (noting trial judge's decision to "no longer permit the victims' families to be present during voir dire 'if there are efforts made to pollute the jury pool' "); United States v. Kennedy, 372 F.3d 686, 695 (4th Cir. 2004) (expressing concern that "perjury . . . pollutes the judicial process"), *cert. denied*, 543 U.S. 1123 (2005); Price v. Mills, No. 3:06-cv-294 2009 U.S. Dist. LEXIS 84880, at *16 (E.D. Tenn. Sept. 17, 2009) (holding that defendant failed to provide evidence that his prior relationship with jury foreman "polluted his trial"); United States v. Delatorre, 572 F. Supp. 2d 967, 986 (N.D. Ill. 2008) (holding that court security operator's remarks to jury had not "polluted the jury's consideration of the case"); United States v. Fieger, No. 07-CR-20414, 2008 U.S. Dist. LEXIS 18473, at *10 (E.D. Mich. Mar. 11, 2008) (excluding "two commercials [that] are unequivocally directed at polluting potential jury venire . . . in favor of" Geoffrey Fieger, who served as attorney for Dr. Kevorkian); United States v. Low, No. 06-00323, 2006 U.S. Dist. LEXIS 90944, at *40 (D. Haw. Dec. 15, 2006) (quoting United States v. LaPage, 231

F.3d 488, 492 (9th Cir. 2000)) (warning that no lawyer "may knowingly present lies to a jury and then sit idly by while opposing counsel struggles to contain this pollution of the trial"); People v. Wallace, 44 Cal. 4th 1032, 1056 (2008) (holding that "the trial court's refusal to excuse the seven prospective jurors [did not] 'pollute the jury pool' "); People v. Stanley, 140 P.3d 736, 762 (Cal. 2006) (approving trial judge's advising jury that "we don't want you to be polluted by some outside information that may or may not be correct"); State v. Couture, 482 A.2d 300, 318 (Conn. 1984) (holding that serious prosecutorial misconduct mandated retrial of doubtlessly guilty defendant because "[t]he prosecutor cannot pollute the waters and then claim that we should ignore his actions because the fish are not worth saving"); State v. Juan V., 951 A.2d 651, 667 n.3 (Conn. App. Ct. 2008) (Berdon, J., dissenting) (contending that " 'serious prosecutorial misconduct, regardless of the prosecutor's intention, may so pollute a criminal prosecution as to require a new trial, even without regard to prejudice to the defendant' " (quoting State v. Hafner, 362 A.2d 925, 936, *cert. denied*, 423 U.S. 851 (1975))); People v. Brown, 903 N.E.2d 863, 872 (Ill. App. Ct. 2009) (Gordon, J., dissenting) (contending that "[t]o allow jurors' affidavits . . . would tend to pollute our system of independent deliberations by the jury" (quoting Chalmers v. City of Chicago, 415 N.E. 508, 511 (Ill. App. Ct. 1980))); State v. Deschon, 85 P.3d 756, 761 (Mont. 2004) (reciting defense attorney's explanation that she did not conduct individual voir dire on potential jury members because "no one made a statement that raised enough concern for her to believe that 'they might pollute the jury' "); People v. Kopp, 756 N.Y.S.2d 830, 832 (Sup. Ct. 2003) (worrying about "the polluting of any potential local jury pool" from media coverage of trial of accused abortion doctor murderer James Kopp); State v. Avery, 649 S.E.2d 102, 106 (S.C. Ct. App. 2007) (indicating that trial court interviewed jurors "to determine whether they were so polluted by pretrial publicity that they could not determine the defendant's guilt with impartiality"); Holt v. State, No. E2005-00587-CCA-R3-PC, 2006 Tenn. Crim. App. LEXIS 107, at *14 (Jan. 27, 2006) (noting absence of media "that barrages people day to day about cases that . . . tend to pollute the juries"); Alex v. State, No. 2-05-324-CR, 2006 Tex. App. LEXIS 1660, at *7 (Mar. 2, 2006) (rejecting defendants claim that "newspaper articles 'polluted' the jury pool so that they would assume appellant's guilt"); *see also* Barbara Allen Babcock, *The Duty to Defend*, 114 YALE L.J. 1489, 1511 (2005) (reciting "the old saying" that "perjury 'pollutes the justice' "). Pennsylvania courts frequently instruct juries that certain testimony or evidence comes from a "corrupt and polluted source." *See, e.g.*, Munoz v. Grace, No. 05-4199, 2007 U.S. Dist. LEXIS 58516, at *28 (E.D. Pa. Aug. 10, 2007) (quoting Commonwealth v. Chmiel, 639 A.2d 9, 13 (Pa. 1994)); Jordan v. Beard, No. 02-8389, 2003 U.S. Dist. LEXIS 22261, at *3 (E.D. Pa. Nov. 26, 2003) (raising claim of ineffectiveness for "failure to request the 'corrupt and polluted source' instruction"); Pursell v. Horn, 187 F. Supp. 2d 260, 320 (W.D. Pa. 2002) (noting that officer's statement regarding rape had "the potential of polluting the minds of the jurors and unduly prejudicing the defendant"); Commonwealth v. Collins, 957 A.2d 237, 262 (Pa. 2008) (considering whether appellant may have been acquitted had trial court instructed jury that witness's testimony was "a corrupt and polluted source"); Commonwealth v. Cook, 952 A.2d 594, 624 n.24 (Pa. 2008) (noting that testimony should be viewed "with disfavor because it comes from a corrupt and polluted source"); Commonwealth v. Williams, 936 A.2d 12, 34 (Pa. 2007) (stating that jury received " 'corrupt and polluted source' " instruction from trial court regarding witness's testimony). *But see* United States v. Bobb, 471 F.3d 491, 500 (3d Cir. 2006) (noting that "there is '[n]o mandatory requirement that accomplice testimony be

nineteenth century decisions voicing concerns about the moral pollution of youth appears in a New York court's reversal of a child custody order because the order failed to consider that the teenage girl "has lived in the polluted environment of domestic violence all of her life."[87]

4. Cultural Pollution

Cultural pollution claims surfaced in political and popular debates during the 1990s. For violent entertainment, the pollutant is the violent images and words contained in the various forms of entertainment. But not all violent images are created equal. Pollution beliefs involving violent entertainment, like pollution claims in environmental law and anthropology, reflect different understandings of what constitutes a pollutant. Critics most often level the pollutant charge against portrayals that glorify and fail to show any adverse consequences for engaging in violence. This is especially true for graphic and easily imitated violence. Thus, activists target *Natural Born Killers* as cultural pollution because it portrays the murderers as heroes, while *The Basketball Diaries* provides an all too readily imitated depiction of a disillusioned student killing his classmates. Video games that portray lifelike incidents of violence, even allowing the player to choose the color of the animated victim's blood, are equally controversial, as are games that function to teach a player how to better engage in actual violence. By contrast, society is less likely to characterize entertainment violence as a pollutant if that entertainment portrays violence justified by a greater good (e.g., *Saving Private Ryan*) or for the purpose of demonstrating its horrific nature (e.g., *Schindler's List*). This holds true for violence that appears on news programming or, at another extreme, violence that occurs in animated cartoons.

Pornography also prompts frequent complaints about cultural pollution.[88] These complaints must confront the challenge of identifying the offending pollutant, for the difficulty of determining what is or is not pornography has attained almost mythic proportions. Putting the details of that debate aside for the moment, the pollutant said to be contained in pornography is graphic sexual images and sometimes, graphic sexual words. The broad universe of such materials could include such disparate things as X-rated movies,

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described as emanating from a corrupt or polluted source' " (quoting United States v. DeLarosa, 450 F.2d 1057, 1061 (3d Cir. 1971))).

[87] *In re* Wissink, 749 N.Y.S.2d 550, 552 (N.Y. App. Div. 2002).

[88] *See supra* note 11.

Playboy magazine, popular Hollywood movies, medical textbooks, baby photographs, and Renaissance art. This universe could also include specialty magazines featuring "virtually any conceivable, and quite a few inconceivable, sexual preferences."[89] What materials constitute pornography is a source of never ending debate that illustrates the contested nature of many pollution claims.

Skeptics dismiss such claims of cultural pollution as rhetorical flourishes or political jargon. But Duke political scientist and economist James Hamilton's book *Channeling Violence* offers a scholarly explication of why "television violence is fundamentally a problem of pollution."[90] Hamilton explains that violent television is analogous to the cancer risk that an individual faces from a toxic chemical at a Superfund site. The violent program is the toxic chemical, the nature and extent of the violence establishes the program's toxicity, and the amount of programming a person views is the exposure amount. Hamilton's economic analysis explains why there is a commercial market for violent programming even though it is harmful to society. "Television violence generates negative externalities," Hamilton writes, just as environmental pollution does.[91] Specifically, "[B]roadcasters attempting to deliver audiences to advertisers or attract viewers to a cable system may not fully incorporate the costs to society of their violent programming if these costs include such factors as increased levels of aggression and crime."[92] The millions of children who watch violent television even when it is not directed at them easily demonstrate the externality argument. These externalities manifest themselves in the costs of the actual violence and increased aggression that is associated with exposure to violent television. Indeed, "If broadcasters were led to internalize the costs to society of violent programming, fewer violent programs would be offered."[93] Hamilton suggests that society could employ many of the tools used to combat environmental pollution to curtail violent entertainment.[94]

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[89] ATTORNEY GENERAL'S COMMISSION ON PORNOGRAPHY, FINAL REPORT 291 (1986) (noting "a significant portion of what is available" circa 1986 featured "sadomasochism, bestiality, urination and defecation in a sexual context, and substantially more unusual practices even than those").

[90] JAMES T. HAMILTON, CHANNELING VIOLENCE: THE ECONOMIC MARKET FOR VIOLENT TELEVISION PROGRAMMING, at xvii (1998).

[91] *Id.* at 3.

[92] *Id.*

[93] *Id.* at 37.

[94] *See id.* at 295-322.

D. The Anthropological Study of Pollution Claims

The above cases and writings illustrate that the idea of pollution continues to play a role in the law outside of the environmental context, especially with respect to hostile work environments and the proper administration of criminal justice. A broad legal understanding of pollution, however, pales in comparison to the critical place that the idea occupies in anthropology.[95] Beginning at the end of the nineteenth century, numerous anthropologists examined the rituals that various societies developed to mark the boundaries between what they regarded as pure and what they regarded as impure.[96] Those boundaries most often involve sexuality, food, hygiene, and other familiar activities. Anthropologists frequently focus on the cultural divisions between purity and pollution because they help to explain other cultural phenomena, human ecology, and the source "of the most deeply held of cultural beliefs" that "arouse powerful feelings of veneration and disgust for those who hold them."[97] The divisions are of particular interest to structuralist anthropologists who emphasize the contrast between life and death, male and female, and other human experiences.[98]

The classic treatment is Douglas's *Purity and Danger: An Analysis of Concepts of Pollution and Taboo*.[99] Her study of numerous "primitive" cultures helped identify two ways in which the idea of pollution operates as a response to violations of societal boundaries. First, characterizing something as pollution seeks to influence the behavior of others.[100] Second, the label of pollution can defend general views of

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[95] Andrew S. Buckser, *Purity and Pollution*, *in* 3 ENCYCLOPEDIA OF CULTURAL ANTHROPOLOGY 1045, 1045 (David Levinson & Melvin Ember eds., 1996) (noting "[t]he concepts of purity and pollution pose an intriguing puzzle for cultural anthropologists").

[96] The leading studies that preceded Mary Douglas include EMILE DURKHEIM, THE ELEMENTARY FORMS OF RELIGIOUS LIFE (1915); JAMES G. FRAZIER, THE GOLDEN BOUGH: THE ROOTS OF RELIGION AND FOLKLORE (1890); CLAUDE LEVI-STRAUSS, THE ELEMENTARY STRUCTURES OF KINSHIP (1949); A.R. RADCLIFFE-BROWN, STRUCTURE AND FUNCTION IN PRIMITIVE SOCIETY (1952); EDWARD B. TYLOR, RELIGION IN PRIMITIVE CULTURE (1958).

[97] Buckser, *supra* note 95, at 1046.

[98] *See infra* Part III.B.1.

[99] *See* DOUGLAS, *supra* note 1. The primacy of the work in anthropological circles is confirmed by Buckser, *supra* note 95, at 1046 (describing *Purity and Danger* as "one of the most powerful theoretical studies of pollution"). *See also* G. Scott Davis, *Richard Rorty and the Pragmatic Turn in the Study of Religion*, 39 RELIGION 77, 81 (2009) (citing work "of Mary Douglas on pollution" as example of "a brilliant interpreter [who] will hand us a critical tool that brings out certain similarities").

[100] See DOUGLAS, *supra* note 1, at 129-37.

the social order.[101] In either instance, "A polluting person is always in the wrong."[102] Douglas and Aaron Wildavsky elaborated these views sixteen years later in *Risk and Culture*, which investigated "the sudden, widespread, across-the-board concern about environmental pollution and personal contamination that has arisen in the Western world in general and with particular force in the United States."[103] Douglas and Wildavsky identified two senses in which people employ the term pollution: a technical sense typical of air and water pollution "when the physical adulteration of an earlier state can be precisely measured;"[104] and a nontechnical sense connoting moral defect in which "pollution is a contagious state, harmful, caused by outside intervention, but mysterious in its origins."[105] These latter pollution beliefs "uphold conceptual categories dividing the moral from the immoral and so sustain the vision of the good society."[106]

The four questions that Douglas and Wildavsky asked about such moral pollution are equally applicable to environmental pollution: what is being judged impure, who is accused of causing the impurity, who are the victims of the impurity, and how can the impurity be removed?[107] They first addressed those questions in the context of the Hima, a people who hold a pollution belief "that contamination by contact with women causes cattle to sicken and die."[108] This belief represents an instance of a common traditional treatment of sex and gender roles as constrained by ideas about pollution. Douglas and Wildavasky readily admitted that the application of pollution ideas to sexuality is strange to modern societies.[109] But they also explored the manner in which people misunderstand concerns about environmental

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[101] *See id.* at 3, 113.

[102] *See id.* at 113.

[103] MARY DOUGLAS & AARON WILDAVSKY, RISK AND CULTURE: AN ESSAY ON THE SELECTION OF TECHNICAL AND ENVIRONMENTAL DANGERS 10 (1982). *Risk and Culture* proved to be more controversial than *Purity and Danger*, especially as it related to environmental pollution. *See* E. Donald Elliott, *Anthropologizing Environmentalism*, 92 YALE L.J. 888, 892 (1983) (finding *Risk and Culture* "unsatisfactory" because "[i]t reduces culture to a theory of the structure of environmental groups; and it fails to give proper weight to rational factors, such as science and economics, in explaining the increased attention policymakers have given to the environment"); Langdon Winner, *Pollution as Delusion*, N.Y. TIMES, Aug. 8, 1982, at 78 (dismissing book as "an ill-conceived polemic" against environmentalists).

[104] DOUGLAS & WILDAVSKY, *supra* note 103, at 36.

[105] *Id.*

[106] *Id.* at 37.

[107] *Id.*

[108] *Id.* at 40.

[109] *Id.*

pollution, emphasizing the extent to which much air and water pollution exists naturally. In both instances, the idea of pollution operates to stigmatize the pollutant and the polluter, despite lingering scientific uncertainty about exactly what is happening. Following Douglas and Wildavsky, many other anthropologists and scholars in employ pollution as a framework for analyzing a variety of historical efforts to attain societal purity.[110] The idea of pollution, therefore, extends well beyond the familiar subjects of environmental law, which necessitates a consideration of what, then, pollution really is.

II. THE MEANING OF POLLUTION

The history of pollution establishes that the term applies to many kinds of harms beyond the now familiar images of smoky air and oily water. But the breadth of pollution claims makes it difficult to understand the meaning of the term. The initial goal of this Article was to develop a definition of pollution that it could apply to disparate societal concerns. That effort failed, for reasons that will become apparent in this Part of the Article. A universal definition of pollution is not just impossible, but is also unnecessary for an analysis of how the idea of pollution can aid in analyzing hostile work environments, violent entertainment, objectionable sights and smells, pornography, unwanted people, campaign moneys, and the like, as well as air and water pollution.

Legal definitions of pollution and pollutant occur in hundreds of federal and state statutes, local ordinances, international treaties, and private sources of law. In addition, the frequency with which environmental law must define pollution and pollutant suggests that it should be relatively easy to construct a uniform definition. The reality is far different. The approaches that environmental law takes to

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[110] *See infra* text accompanying notes 254-263. Douglas herself drew upon the pollution ideas expressed before her. *See* ROBERT PARKER, MIASMA: POLLUTION AND PURIFICATION IN EARLY GREEK RELIGION 1-4, 121 (1983) (citing examples from Thucydides, Aeschines, and numerous other ancient Greek authors and asserting that "[a]nyone who has sampled a few of the most commonly read Greek texts will have encountered pollution"); Edward B. Harper, *Ritual Pollution as an Integrator of Caste and Religion*, 23 J. ASIAN STUD. 151, 151 (1964) (describing concept of ritual pollution as "fundamental to such well-known aspects of Indian culture as untouchability, limited access to wells, and the setting apart of a priestly caste"); *see also* BARRINGTON MOORE, JR., MORAL PURITY AND PERSECUTION IN HISTORY, at ix (2000) (examining Old Testament, sixteenth-century France, French Revolution, and Asiatic civilizations to determine "when and why human beings kill and torture other human beings who, on account of their different religious, political, and economic ideas, appear as a threatening source of 'pollution' ").

defining pollution demonstrate multiple obstacles to reaching a uniform definition. Detailed definitions contained in environmental law often fail to distinguish between what is and is not pollution. More general definitions, on the other hand, tend to be so vague or overbroad that they become invalidated in other contexts. This definitional confusion is not unique to environmental law. Discussions of pollution beliefs in anthropology are even less susceptible to precise definitions. All of these failings could confound the effort to examine various claims of pollution before it really begins.

What saves the project is the work of Douglas and other anthropologists who have built upon her work. Together, these scholars present a theory that frames pollution as a violation of each society's designated boundaries. Pollution is socially constructed, equally so in environmental law, anthropology, and in other contexts. Pollution beliefs share a common theme in that they focus on particular environments and the pollutants that enter those environments. Each society determines what it regards as a pollutant and which environments are in need of protection.[111] This way of looking at the typical characteristics of pollution beliefs suggests that, although the concept of pollution eludes precise definition, the enterprise of understanding and comparing pollution claims remains worthwhile.

A. Defining Pollution

Environmental law contains numerous definitions of pollution subject to legal controls. Nearly all of these definitions apply to instances of environmental pollution, with a much smaller group of statutes addressing sensory pollution such as noise and light pollution. Other uses of pollution imagery in the law leave the term undefined. Environmental law relies upon three alternative solutions to the problem of defining pollution:

1. Treat everything added to the environment as pollution (*the comprehensive solution*);

2. Rely upon detailed lists of pollutants or polluters (*the listing solution*);

3. Rely upon the effects of an alleged pollutant (*the effects solution*).

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[111] *See infra* Part III (exploring contextual definitions of pollution).

Unfortunately, all three of these approaches fail to identify clearly what is or is not pollution. This Part first describes each approach, and then explains their common failings.

The *comprehensive solution* appears in statutes that treat everything added to the environment as pollution. The CAA defines "air pollutant" to include "any physical, chemical, biological, [or] radioactive . . . substance or matter which is emitted into or otherwise enters the ambient air."[112] That definition encompasses everything from the soap bubbles that children blow toward the sky, smoke rising from the candles lighting a deck, butterflies released in a backyard, and countless other things rarely perceived as pollutants. Indeed, it is difficult to imagine anything that enters the air that is not an air pollutant according to the CAA. In *Massachusetts v. EPA*, for example, Justice Scalia complained that the Court's expansive interpretation of the pollution covered by the CAA would encompass "*everything* airborne, from Frisbees to flatulence."[113] The majority did not offer any counterexamples. Statutes that purport to list pollutants rather than defining everything as a pollutant also illustrate the comprehensive solution. An Arizona air pollution statute, for example, defines "air contaminants" to include "smoke, vapors, charred paper, dust, soot, grime, carbon, fumes, gases, sulfuric acid mist aerosols, aerosol droplets, odors, particulate matter, windborne matter, radioactive materials, or noxious chemicals, *or any other material.*"[114] Here the breadth of the list of specific pollutants operates to deem a pollutant any imaginable material conceivably released into the air.

The *listing solution* appears in many environmental statutes that contain lengthy lists of specific pollutants. Nebraska follows this approach by defining land pollution as the presence of "refuse, garbage, rubbish, or junk," with "junk" further defined as "old scrap, copper, brass, iron, steel, rope, rags, batteries, paper, trash, rubber debris, waste, dismantled or wrecked automobiles, or parts thereof, and other old or scrap ferrous or nonferrous material."[115] Federal environmental law also provides examples of lengthy lists of pollutants, with five

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[112] 42 U.S.C. § 7602(g) (2006).

[113] Massachusetts v. EPA, 549 U.S. 497, 558 n.2 (Scalia, J., dissenting). EPA has since been petitioned to declare water vapor a pollutant within the meaning of the CAA. *See* Alice R. Thomas et al., Petition for Rulemaking Under the Clean Air Act to Reduce the Emission of Air Pollutants from Aircraft that Contribute to Global Climate Change 7 (Dec. 31, 2007), *available at* http://www.biologicaldiversity.org/programs/climate_law_institute/transportation_and_global_warming/airplane_emissions/pdfs/Aircraft-GHG-Petition-12-05-2007.pdf.

[114] ARIZ. REV. STAT. ANN. § 49-421 (2008) (emphasis added).

[115] NEB. REV. STAT. § 81-1502(18-19) (2009).

federal statutes collectively listing 1,134 different pollutants.[116] Unfortunately, the lists contained in these statutes are inconsistent, as they often contain both pollutants found on all of the other lists and pollutants not listed anywhere else. As Professor John Dernbach concluded, "Each list alone can be explained reasonably, but there is no rationale that explains how the different lists fit together."[117] Some of the differences between the lists stem from the unique properties of the substances involved, but such variations fail to explain most of the differences.[118] The best explanation for the content of each list is the happenstance of each list's individual assembly.[119] This result belies the assumption that there is a principled, consistent way in which to identify environmental pollution.

The *effects solution* identifies pollution by its effects rather than by specifying particular pollutants. For example, the Clean Water Act ("CWA") defines pollution (as opposed to pollutants) as the "man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of the water."[120] A New Mexico statute defines "water contaminant" as "any substance that could alter, if discharged or spilled, the physical, chemical, biological or radiological qualities of water."[121] Wisconsin defines "toxic pollutants" by reference to whether they "cause death, disease, behavioral abnormalities, cancer, genetic mutations, physiological malfunctions, including malfunctions in reproduction or physical deformations, in such organisms or their offspring."[122]

The state statutes that define pollution by reference to a threshold amount of a particular substance also evidence the effects solution. For example, an Arkansas statute indicates that pollution exists when a substance occurs "in quantities, of characteristics, and of a duration [which are harmful]."[123] A more stringent Idaho statute provides that a substance is an "air contaminant" if it exceeds its natural composition in the atmosphere.[124] These and many other statutes finesse the identification problem by providing that "pollution" occurs if certain

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[116] *See* John C. Dernbach, *The Unfocused Regulation of Toxic and Hazardous Pollutants*, 21 HARV. ENVTL. L. REV. 1, 14 (1997).

[117] *Id.* at 27.

[118] *See id.*

[119] *See id.* at 80-81.

[120] *See* 33 U.S.C. § 1362(19) (2006).

[121] *See* N.M. STAT. ANN. § 74-6-2(B) (West 2008).

[122] *See* WIS. STAT. § 283.01(17) (2008).

[123] ARK. CODE ANN. § 8-4-303(5) (2009).

[124] *See* IDAHO CODE ANN. § 39-103(1) (2009).

harms occur. This transfers the inquiry from a threshold investigation of what constitutes pollution to a factual inquiry into the effect of certain substances on the relevant environment. In sum, each of environmental law's three approaches to defining pollution fails to aid the effort to identify a more general meaning of the term.

1. Everything Is Pollution

The frequent description of everything as pollution provides the first reason for environmental law's failure to produce a principled definition of pollution. Consider the CWA, which provides separate definitions for its operative terms pollutant and pollution.[125] The CWA defines pollutant by listing fifteen specific substances,[126] and thus the definition appears to rely upon the listing solution to the problem of identifying pollution. The statute, however, actually operates more like the comprehensive solution by assuming that virtually anything placed into the relevant environment — the water — is a pollutant subject to regulation. As environmental scholar William Rodgers has observed, "Despite the absence of an indisputable catch-all (e.g., 'any other stuff whatever'), there is little doubt that the recitation of categories in the definition of 'pollutant' is designed to be suggestive and not exclusive."[127]

Three lines of decided cases confirm that the CWA regards nearly everything added to water as a pollutant. The first line of cases holds that fish can be pollutants in some circumstances.[128] A second line of cases questions whether the intentional application of chemicals — by farmers, mosquito control districts, and individual homeowners — are pollutants.[129] The third line of cases considers whether water itself can be a pollutant when someone combines two bodies of water

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[125] 33 U.S.C. § 1362.

[126] *Id.* § 1362(6).

[127] WILLIAM H. RODGERS, JR., ENVIRONMENTAL LAW 300 (2d ed. 1994).

[128] *See, e.g.*, Ass'n to Protect Hammersley, Eld, & Totten Inlets v. Taylor Res., Inc., 299 F.3d 1007, 1016-17 (9th Cir. 2002) (noting that mussel shells constitute pollution in some situations); U.S. Pub. Interest Group v. Atlantic Salmon of Me., LLC, 215 F. Supp. 2d 239, 256 (D. Me. 2003) (finding that operation of defendant's salmon farm aquaculture pen sites violated CWA). *See generally* Jeremy Firestone & Robert Barber, *Fish as Pollutants: Limitations of and Crosscurrents in Law, Science, Management, and Policy*, 78 WASH. L. REV. 693 (2003) (noting that recent jurisprudence suggests that fish can be pollutants within context of sea-based farming operation of Atlantic salmon).

[129] *See, e.g.*, No Spray Coal., Inc. v. City of New York, 351 F.3d 602, 605 (2d Cir. 2003) (holding that "citizen suit" regarding spraying of pesticides brought under CWA was authorized by statute).

containing different pollutants or different amounts of those pollutants.[130]

Pollution, as opposed to pollutant, receives an even broader definition under the CWA. Pollution "means the man-made or man-induced alteration of the chemical, physical, biological, and radiological integrity of water." This definition and the CWA's goals "suggest a far broader array of human activities not typically included in the lay understanding of water pollution."[131] The construction of levies and culverts, the introduction of non-native species, the impoundment of rivers by dams, and irrigation that diminishes instream flows are examples of activities that could qualify as pollution under the CWA's definition.[132] Indeed, the CWA's definition of pollution "would imply the elimination of every type of human alteration of the chemical, physical, and biological integrity of the nation's waters."[133] According to one scholar, the distinction between a broad view of pollutants and an even broader view of pollution is essential to understanding the different types of regulatory measures and other responses that the CWA employs to combat pollutants and pollution.[134] So construed, the scope of the CWA becomes so broad that it may be impossible to identify what is *not* a pollutant.

2. Uncertainty Regarding Pollutants

A second reason for environmental law's failure to provide a universal definition of pollution emerges from those instances where detailed definitions fail to distinguish what is pollution from what is not. The best illustration of this failure comes from insurance law. Since 1970, insurers sought to deny liability coverage for many of the injuries caused by pollution. The 1985 version of the absolute pollution exclusion clause contained in comprehensive general liability policies excludes "bodily injury or property damage arising

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[130] *See* Greenfield Mills, Inc. v. Macklin, 361 F.3d 934, 949 (7th Cir. 2004) (classifying water moved from millpond to river as pollutant); Catskill Mountains Chapter of Trout Unlimited, Inc. v. City of New York, 273 F.3d 481, 494 (2d Cir. 2001) (classifying water diverted from one reservoir to another as pollutant); DuBois v. U.S. Dep't of Agric., 102 F.3d 1273, 1278 (1st Cir. 1996) (arguing that snowmaking produced pollutant snow).

[131] Robert W. Adler, *The Two Lost Books in the Water Quality Trilogy: The Elusive Objectives of Physical and Biological Integrity*, 33 ENVTL. L. 29, 35 (2003).

[132] *Id.* at 31.

[133] *Id.* at 46.

[134] *See generally* Adler, *supra* note 131 (describing importance of embracing broad definitions of pollution and pollutant).

out of the actual, alleged or threatened discharge, dispersal, release or escape of pollutants."[135] The clause defines pollutants to mean "any solid, liquid, gaseous, or thermal irritant or contaminant, including smoke, vapor, soot, fumes, acids, alkalis, chemicals, and waste," with "waste" further defined as including "materials to be recycled, reconditioned or reclaimed."[136] Insurance companies seeking to avoid liability sought to extend that clause to a broad range of events within the meaning of those terms. Insured parties, for their part, have tried to limit the clause to the narrow understanding of pollution as within the purview of environmental laws.

Indeed, "To say there is a lack of unanimity as to how the clause should be interpreted is an understatement."[137] That is how the California Supreme Court described the law when it considered the application of an absolute pollution exclusion clause for the first time in *MacKinnon v. Truck Insurance Exchange*.[138] There, the court interpreted the clause contrary to its literal language and in favor of its more general history and purposes. The court was concerned about interpreting "pollutant" in a manner that could cover *any* substance depending on the circumstances. Instead, the court found it "far more reasonable that a policyholder would understand [the clause] as being limited to irritants and contaminants *commonly thought of as pollution* and not as applying to every possible irritant or contaminant imaginable."[139]

Other courts, by contrast, read absolute pollution exclusion clauses to encompass whatever falls within the literal description of pollutants listed in the clause at issue. Courts also question whether there is consensus about what is "commonly thought of as pollution" for purposes of a pollution exclusion clause. For example, courts disagree on the pollutant status of adhesives, ammonia, asbestos, carbon dioxide, carbon monoxide, cleaners, construction debris, gasoline, lead paint, nitrogen dioxide, radioactive materials, sealants, sewage, smoke, solvents, and vegetation.[140]

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[135] *See* Bituminous Cas. Corp. v. Advanced Adhesive Tech., Inc., 73 F.3d 335, 336 (11th Cir. 1996).

[136] *Id.*

[137] MacKinnon v. Truck Ins. Exch., 73 P.3d 1205, 1208 (Cal. 2003).

[138] *Id.* at 1207.

[139] *Id.* at 1216.

[140] The cases providing the conflicting judgments concerning the nature of specific substances as pollutants are described in Claudia G. Catalano, Annotation, *What Constitutes "Pollutant," "Contaminant," "Irritant," or "Waste" Within Meaning of Absolute or Total Pollution Exclusion in Liability Insurance Policy*, 98 A.L.R. 5th 193 (2009).

The carbon monoxide cases are illustrative of the varied range of approaches that different courts take.[141] Carbon monoxide is a poisonous gas listed as a pollutant under the federal CAA.[142] In numerous cases, insurance companies denied coverage for injuries sustained from the inhalation of carbon monoxide released from construction in a shopping mall, a building's defective heating system, and an improperly calibrated water heater.[143] Courts that classified carbon monoxide as a pollutant, and thus denied insurance coverage for injuries resulting from carbon monoxide, emphasized that the gas falls within the literal meaning of "contaminant" and "irritant" in the pollution exclusion clause. One such court added that the clause "draws no distinction between intentional and non-intentional discharge of pollutants; nor does it in any manner suggest that only chronic emission of the defined pollutants is excluded from coverage."[144]

By contrast, the Illinois Supreme Court refused to apply the clause to cases that "have nothing to do with 'pollution' in the conventional, or ordinary, sense of the word," or to substances not "traditionally

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[141] There are conflicting cases concerning carbon monoxide. *Compare* Nautilus Ins. Co. v. Country Oaks Apts., Ltd., 566 F.3d 452, 458 (5th Cir. 2009) (defining carbon monoxide as pollutant), *and* Cont'l Cas. Co. v. Advance Terrazzo & Tile Co., 462 F.3d 1002, 1009 (8th Cir. 2006) (same), *and* U.S. Fid. & Guar. Co. v. Lehigh Valley Ice Arena, Inc., No. 03-CV-05700, 2004 U.S. Dist. LEXIS 6100, at *18 (E.D. Pa. Mar. 3, 2004) (same), *and* Essex Ins. Co. v. Tri-Town Corp., 863 F. Supp. 38, 40-41 (D. Mass. 1994) (same), *and* Reed v. Auto-Owners Ins. Co., 667 S.E.2d 90, 92 (Ga. 2008) (same), *and* Bituminous Cas. Corp. v. Sand Livestock Sys., Inc., 728 N.W.2d 216, 222 (Iowa 2007) (same), *and* Matcon Diamond, Inc. v. Penn National Ins. Co., 815 A.2d 1109 (Pa. Super. Ct. 2003) (same), *with* Reg'l Bank of Colo., N.A. v. St. Paul Fire & Marine Ins. Co., 35 F.3d 494, 498 (10th Cir. 1994) (holding carbon monoxide not pollutant), *and* Janart 55 West 8th LLC v. Greenwich Ins. Co., 614 F. Supp. 2d 473, 480 (S.D.N.Y. 2009) (same), *and* Am. States Ins. Co. v. Koloms, 687 N.E.2d 72, 79 (Ill. 1997) (agreeing with restriction of definition to "only those hazards traditionally associated with environmental pollution"), *and* Andersen v. Highland House Co., 757 N.E.2d 329, 334 (Ohio 2001) (holding that carbon monoxide does not fall under the pollution exclusion), *and* Langone v. Am. Family Mut. Ins. Co., 771 N.W.2d 334, 338 (Wis. Ct. App. 2007) (same).

[142] *See* 42 U.S.C. § 7407(d)(4)(A) (2006) (prescribing actions that must be taken in areas that have failed to attain national ambient air quality standard for carbon monoxide).

[143] *Nautilus Ins. Co.*, 566 F.3d at 458 (defective heating system); Assicurazioni Generali, S.p.A. v. Neil, 160 F.3d 997, 1000 (4th Cir. 1998) (defective water heater); League of Minnesota Cities Ins. Trust v. Coon Rapids, 446 N.W.2d 419, 419 (Minn. Ct. App. 1989) (Zamboni); Matcon Diamond v. Penn Nat'l Ins. Co., 815 A.2d 1109, 1113-14 (Pa. Super. Ct. 2003) (shopping mall).

[144] Bernhardt v. Hartford Fire Ins. Co., 648 A.2d 1047, 1052 (Md. Ct. Spec. App. 1994).

associated with environmental pollution," which the court held without explanation to not encompass the accidental release of carbon monoxide from a broken furnace.[145] This stance corresponded with the Tenth Circuit's earlier explanation that "a reasonable person of ordinary intelligence might well understand [that] carbon monoxide is a pollutant when it is emitted in an industrial or environmental setting, [but] an ordinary policyholder would not reasonably characterize carbon monoxide emitted from a residential heater which malfunctioned as 'pollution.' "[146] For these courts, the meaning of pollution depends upon the context. It also depends upon assumptions of social meaning that conflict with courts describing carbon monoxide released from heating systems as pollution.

The California Supreme Court's *MacKinnon* decision further reveals the contested nature of pollutants identified in pollution exclusion clauses. The dispute in *MacKinnon* concerned an apartment tenant who died after the property owner contracted to spray pesticides to eradicate bees in the building. The court held that the pesticide spraying was outside the pollution exclusion clause, and thus within the scope of the liability insurance coverage, because the contractor did not "discharge" the pesticides.[147] Although pesticide runoff behaves like "a traditional environmental pollutant," the normal application of pesticides does not fit "the 'common understanding of the word *pollute* [as] something creating impurity, something objectionable and unwanted.' "[148]

The California Supreme Court offered a narrow view of pollution. No doubt Rachel Carson, author of the now famous *Silent Spring*, would be surprised to learn that pesticides produce pollution only when negligently applied.[149] Pesticides also offer a mirror image to the pollution problem presented by solid, hazardous, or nuclear wastes. Disposing wastes by discarding unwanted substances into the environment causes pollution. By contrast, people manufacture pesticides precisely so that one can release them into the environment. Certainly, "the essence of the exercise" of applying pesticides "is to

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[145] *Am. States Ins. Co.*, 687 N.E.2d at 79.

[146] *Reg'l Bank of Colo., N.A.*, 35 F.3d at 498.

[147] MacKinnon v. Truck Ins. Exch., 73 P.3d 1205, 1215-16 (Cal. 2003).

[148] *Id.* at 1215, 1218 (quoting W. Am. Ins. Co. v. Tufco Flooring E., Inc., 409 S.E.2d 692, 698 (N.C. Ct. App 1991) (emphasis added).

[149] *Cf.* RACHEL CARSON, SILENT SPRING (1962) (describing harmful ecological effects of pesticides).

pollute purposely." [150] Even though society permits the use of pesticides, pesticides still constitute pollutants.

3. Vagueness and Overbreadth of Pollution Definitions

Besides being all encompassing and subject to conflicting applications, the third problem with environmental law's definitions of pollution is that they are vague or overbroad. As discussed above, the comprehensive solution treats everything introduced to the relevant environment as pollution. The listing solution attempts to avoid this uncertain definition by relying on a detailed list of what constitutes a pollutant. The effects solution, on the other hand, disavows any prejudgment about what constitutes a pollutant in favor of an individualized evaluation of the consequences that a substance or product has on the environment that it enters. Each approach strains to avoid disputes about the meaning of the operative definition.[151]

The vagueness challenges leveled against definitions of air pollution, water pollution, and other kinds of environmental pollution achieve little success. Courts reject arguments that environmental law provisions are impermissibly vague through two different lines of reasoning. Under the first line of reasoning, courts maintain that terms contained in the statutory definitions of environmental pollution sufficiently inform the public about what a law encompasses. In short, pollution definitions mimic longstanding statutory definitions of nuisances.[152] A statutory reference to pollution itself states a recognizable standard, albeit a broad one, and general definitions of pollution commonly include only harmful contamination. For these reasons, courts explain, it is unnecessary to expect the legislature to delineate all of the characteristics of all types of pollution.

Courts also offer a second line of reasoning in rejecting vagueness arguments: the amorphous nature of air and water pollution mandates broad, general definitions of environmental pollution.[153] Vague

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[150] RODGERS, *supra* note 127, at 394.

[151] *See supra* Part II.A.

[152] *See, e.g.*, MD. CODE ANN., HEALTH-GEN. § 20-301 (West 2009) (" '[N]uisance' means a condition that is dangerous to health or safety.").

[153] *See, e.g.*, Metro. Sanitary Dist. v. U.S. Steel Corp., 243 N.E.2d 249, 251 (Ill. 1968) (rejecting vagueness claim because "pollution" invokes the idea of the general common law of nuisance); Ray v. Mason County Drain Comm'r, 224 N.W.2d 883, 888 (Mich. 1975) (rejecting the claim that "pollution" is vague even though "the language of the statute paints the standard for environmental quality with a rather broad stroke of the brush"); Houston Compressed Steel Corp. v. State, 456 S.W.2d 768, 774 (Tex. Civ. App. 1970) (observing that "[t]he science of air pollution control is new and

definitions help policymakers tolerate and adapt to changing scientific and societal understandings. Under this rationale, air and water pollution defy precise standards and the inexact, ever evolving nature of environmental science precludes efforts to fix a particular vision of pollution into law. The sheer breadth of the subject precludes a more precise definition, lest polluters circumvent the law. These rarely succeed outside of environmental law.

Vagueness challenges to definitions of noise pollution have been somewhat more successful. Consider *Thelen v. State*, a dispute between lakeside residents and a neighbor who used his dock as a launch pad for his helicopter.[154] The county noise ordinance prohibited "any loud, unnecessary or unusual sound or noise which either annoys, disturbs, injures, or endangers the comfort, repose, health, peace, or safety of others."[155] Basing its decision on *Coates v. City of Cincinnati*, the Georgia Supreme Court held that the ordinance was vague concerning the sound of a helicopter.[156] In *Coates*, the United States Supreme Court noted that "[c]onduct that annoys some people does not annoy others."[157] *Coates*, however, involved protected speech, and thus allowed the defendant to complain of the vagueness of the ordinance in any application. By contrast, the First Amendment does not protect the noise from a helicopter. This limited the helicopter owner to arguments about the vagueness of the county noise ordinance as applied to him. But the Georgia court insisted that "[w]hether the noise of a helicopter takeoff or landing is 'unnecessary,' 'unusual,' or 'annoying' to a neighbor more than 50 feet away 'certainly depends upon the ear of the listener.' "[158] The court did not proffer any listeners who found the sound of a nearby helicopter necessary, usual, or enjoyable.

Perhaps the most telling indication of judicial tolerance of flexible definitions of pollution occurs in decisions that allow agencies or courts to define pollution on a case-by-case basis. For example,

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inexact, and these standards are difficult to devise, but if they are to be effective they must be broad. If they are too precise they will provide easy escape for those who wish to circumvent the law").

[154] Thelen v. State, 526 S.E.2d 60, 61 (Ga. 2000).

[155] *Id.* at 61 (quoting ordinance).

[156] *Id.* at 62 (citing Coates v. City of Cincinnati, 402 U.S. 611 (1971)).

[157] Coates v. City of Cincinnati, 402 U.S. 611, 614 (1971).

[158] *Thelen*, 526 S.E.2d at 60-61. The Eleventh Circuit afforded a similarly generous reading in rejecting a vagueness challenge to another county's noise ordinance. *See* DA Mortgage, Inc. v. City of Miami Beach, 486 F.3d 1254, 1272 (11th Cir. 2007) (stating that "[w]e believe that any interested person would know how to gauge what sound volume would be 'louder than necessary for convenient hearing' " — language employed by ordinance).

vagueness challenges to certain environmental statutes failed on several occasions because courts relied upon the designated administrative agency to determine whether the objectionable conduct constituted pollution or otherwise satisfied the statutory definition. The definition of hostile work environments illustrates a situation where courts, rather than agencies, apply a case-by-case approach to identifying pollution. The term "hostile work environment" itself is a judicial creation that does not appear in the text of Title VII. As a result, courts evaluate all relevant circumstances to determine when racism, sexism, or other factors excessively pollute work environments.[159] This problem also arises in the related field of school anti-harassment policies, where one district court analogized the problem of identifying prohibited harassment to Justice Stewart's "I know it when I see it" remark about obscenity.[160] But the court did not respond to the impossibility of defining harassment by insisting upon a clearer definition, as a vagueness challenge seeks. Instead, the court concluded, "Thus, some flexibility is to be expected."[161] In other words, the need to define the prohibited conduct justified some imprecision in doing so.

This is the same response that Chief Justice Warren offered to the problem of defining obscenity in *Jacobellis v. Ohio* — the case in which Justice Stewart made his famous quip.[162] Warren acknowledged that "neither courts nor legislatures have been able to evolve a truly satisfactory definition of obscenity."[163] That admission, however, did not lead him to abandon the effort. Instead, he observed that it was both common and of no great concern for the law to fail to define operative terms with precision. Warren cited negligence as an example because, even after centuries of use, negligence is "difficult to define except in the most general manner."[164] Despite this ambiguity, the courts "function in such areas with a reasonable degree of efficiency."

The negligence analogy similarly applies to the concept of pollution. For example, noise pollution ordinances refer to a "reasonable"

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[159] *See* Harris v. Forklift Sys., 510 U.S. 17, 23 (1982) (holding that "whether an environment is 'hostile' or 'abusive' can be determined only by looking at all the circumstances").

[160] *See* Saxe v. State Coll. Area Sch. Dist., 77 F. Supp. 621, 625 n.6 (M.D. Pa. 1999) (quoting Jacobellis v. Ohio, 378 U.S. 184, 197 (1964) (Stewart, J., concurring)), *rev'd*, 240 F.3d 200 (3d Cir. 2001).

[161] *Id.* at 626.

[162] Jacobellis v. Ohio, 378 U.S. 184, 199 (1964) (Warren, C.J., dissenting).

[163] *Id.*

[164] *Id.*

amount of noise, which courts consistently sustain against vagueness challenges. In *Jacobellis*, Chief Justice Warren further advised that "[n]o government — be it federal, state, or local — should be forced to choose between repressing all material, including that within the realm of decency, and allowing unrestrained license to publish any material, no matter how vile."[165] For Warren, the very necessity of regulating such pollution claims should afford greater leeway in identifying it. The failure of the courts to heed his advice shows that the legal rules governing vagueness are really about special categories, rather than the clarity of certain words.

The three solutions in environmental law to the problem of identifying pollution present varying probabilities that a definition of pollution will be overbroad. The effects solution is the least likely to create an overbreadth problem because it focuses the definition of pollution on anything that causes a harm. The debate about whether a particular substance is a pollutant thus becomes a debate about the application of the definition, rather than a debate about the propriety of the definition. The listing solution produces an overbroad definition of pollution only in the hands of an overzealous list maker. The real overbreadth problems occur with the comprehensive solution. Classifying everything that enters into a relevant environment as pollution is overbroad by definition. This approach only works with a theoretical environment so pure that anything introduced into it pollutes it. It seems the drafters of the CWA possessed just such an imagination, as evidenced by the CWA's definition of pollutant and pollution described above.

4. Summary

Environmental law, in short, fails to define pollution in a manner that distinguishes what is pollution from what is not. Anthropologists are similarly unsuccessful in crafting a functional definition of pollution. In fact, few of the many anthropologists addressing pollution beliefs even bother to identify what they mean by pollution. Those who do try contribute marginally to the debate. Consider Harriet Ngubane, who sees pollution as "a mystical force which diminishes resistance to disease and creates conditions of poor luck, misfortune . . . 'disagreeableness' and 'repulsiveness.' "[166] Or Edward Green, who recites a "general agreement among scholars that

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[165] *Id.* at 200.

[166] HARRIET NGUBANE, BODY AND MIND IN ZULU MEDICINE: AN ETHNOGRAPHY OF HEALTH AND DISEASE IN NYUSWA-ZULU THOUGHT AND PRACTICE 78 (1977).

pollution beliefs represent a form of naturalistic or impersonal causation that is distinct from attribution of illness to spirits, witches, sorcerers, or ancestors."[167] Or Kathy Ryan, who describes pollution as "the inauspicious state associated with birth, death, and menstruation."[168] Scholars must temper even these descriptions with the repeated insistence that pollution depends upon context. As one put it, "Conventions of purity and pollution are variable and contested within a given culture and change over time."[169] And in the words of Douglas, "What is clean in relation to one thing may be unclean in relation to another, and vice versa."[170]

B. *The Social Construction of Pollution*

This Article began with the hope that one could analyze many seemingly different phenomenons through the pollution claims that are common to each of them. The historical discussion in Part I confirms that the idea of pollution has long been understood to apply broadly, and that such breadth persists in popular discourse, the law, and academic disciplines such as anthropology. But the discussion in Part II thus far demonstrates the futility of efforts to produce a universal definition of the term pollution. This Article, therefore, now approaches the problem from another direction.

Rather than trying to define pollution, this subpart considers how people employ the idea of pollution. This investigation reveals that pollution claims share a few common characteristics. Generally, pollution involves a pollutant (the agent that produces the harmful

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[167] Edward C. Green, *Purity, Pollution and the Invisible Snake in Southern Africa*, 17 MED. ANTHROPOLOGY 83, 92-93 (1996).

[168] Susan Bean, *Toward a Semiotics of "Purity" and "Pollution" in India*, 8 SYMBOLISM & COGNITION 575, 587 (1981) (quoting Kathy Ryan, Pollution in Practice: Ritual, Structure, and Change in Tamil Sri Lanka (1980) (unpublished Ph.D. dissertation, Cornell University)); *see also* Michael P. Carroll, *Totem and Taboo, Purity and Danger . . . and Fads and Fashion in the Study of Pollution Rules*, 17 CROSS-CULTURAL RES. 271, 271 (1982) (pollution rules are prohibitions on "contact with a forbidden object [that] seemed to involve a fear of dangerous contamination"); Jamsheed Kairshasp Choksy, *Purity and Pollution in Zoroastrianism*, MANKIND Q. 167, 167 (2001) (pollution is linked "to impurity, irreligion and danger"); Emiko Namihira, *Pollution in Folk Belief System*, 28 CURRENT ANTHROPOLOGY S65, S65 (1987) (noting that "extreme purity" is "the exact opposite of pollution"); Yasumasa Sekine, *'Pollution,' 'Purity' and 'Sacred' — The Ideological Configuration of Hindu Society*, 10 BULL. NAT'L MUSEUM ETHNOLOGY 496 (1980) [hereinafter *Pollution*] ("[P]ollution is characterized by anomaly or ambiguity between death and life (birth).").

[169] Janina M. Safran, *Rules of Purity and Confessional Boundaries: Maliki Debates About the Pollution of the Christian*, 42 HIST. RELIGIONS 197, 211 (2003).

[170] DOUGLAS, *supra* note 1, at 9.

effect), a polluter (the person responsible for introducing the pollutant into the environment), and an environment in which someone or something is harmed. Anthropologically speaking, pollution beliefs emerge to enforce boundaries which certain things or people should not cross.

Douglas never actually defined the term pollution in her anthropological writings, but the way in which she employs the term reveals what she understands it to mean. Pollution, according to Douglas, is about boundaries. Pollution beliefs reinforce the social boundaries society establishes by designating which things society allows in which places. Therefore, famously, Douglas describes dirt as "matter out of place."[171] She explains that "our pollution behaviour is the reaction which condemns any object or idea likely to confuse or contradict cherished classifications."[172] Thus, "[P]ollution is a type of danger which is not likely to occur except where the lines of structure, cosmic or social, are clearly defined."[173] And, "[W]herever the lines are precarious we find pollution ideas come to their support."[174] The four kinds of social pollution listed by Douglas all involve a society's effort to preserve the order to which it aspires. Social pollution is (1) a "danger pressing on external boundaries," (2) "danger from transgressing the internal lines of the system," (3) "danger in the margins of the lines," and (4) "danger from internal contradiction."[175] The importance of these lines demonstrates why "all margins are dangerous."[176]

Now one can see how pollution beliefs arise, and why. Each society establishes pollution beliefs to reinforce boundaries. Some of those beliefs are common to many societies, while others are limited to just a few. Consider how Douglas explains the unevenness with which people treat different aspects of the body in the rituals of the world:

> In some, menstrual pollution is feared as a lethal danger; in others not at all . . . . In some, death pollution is a daily preoccupation; in others not at all . . . . In India cooked food

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[171] *Id.* at 35.

[172] *Id.* at 36.

[173] *Id.* at 113.

[174] *Id.* at 139.

[175] *Id.* at 122; *see also* Susan Reynolds Whyte & Michael A. Whyte, *Cursing and Pollution: Supernatural Styles in Two Luyia-speaking Groups*, 23 FOLK 65, 65 (1981) (stating pollution forces "strike when rules are broken, when categories are mixed and when proper order is not maintained in human affairs").

[176] DOUGLAS, *supra* note 1, at 121.

> and saliva are pollution-prone, but Bushmen collect melon seeds from their mouths for later roasting and eating . . . .[177]

In each instance, a society determines its preferred boundaries and then establishes pollution beliefs to police those boundaries.

Environmental law's treatment of pollution reflects a similar boundary problem. People struggle to specify the type, amount, and effect of substances that qualify as pollution when released into the air or the water. The line between smoke rising from a campfire and air pollution, or stones skipped along a pond and water pollution, is not easily drawn. Nor is the line between sounds and noise pollution, between lights and light pollution, or between fragrances and odor pollution. Governmental officials, environmentalists, businesses, and residents often disagree about whether the discharge of a particular substance into the air or water constitutes pollution.[178] These disputes persist even when environmental law treats everything as pollution (the comprehensive solution), prescribing hundreds or even thousands of individual pollutants (the listing solution), or deflecting the question to the issue of the resulting harm (the effects solution).

The process of establishing boundaries demonstrates that the very idea of pollution is socially constructed. That is the conclusion reached by Neil Evernden in his discussion of *The Social Creation of Nature*.[179] Evernden devotes most of his book to an explanation of how generations of human societies fashioned and refashioned the idea of nature. In the process, Evernden offers an insightful analysis of the concept of pollution. Evernden observes the "ongoing debate between the accusers and the alleged perpetrators about what actually constitutes pollution."[180] He also notes that "the ubiquitous term *pollution* did not acquire its current connotation . . . until quite recently."[181] He then elaborates on the uncertainty surrounding pollution:

> We must bear in mind that the current understanding of pollution is just that: the current understanding . . . . Our attention to physical pollution may distract us from the fact that much of the debate is over the perception of moral pollution. . . . The debate, it appears, is actually about *what*

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[177] *Id.*

[178] *See supra* Part II (providing examples of disputed cases of environmental pollution).

[179] NEIL EVERNDEN, THE SOCIAL CREATION OF NATURE (1992).

[180] *Id.* at 4.

[181] *Id.*

> *constitutes a good life.* The instance of physical pollution serves only as the means of persuasion, a staging ground for the underlying debate.[182]

Thus, insists Evernden, claims of environmental pollution and claims of moral pollution collapse into the same thing.

The challenge is to determine what that "thing" is. Evernden concludes that "in any society, we find ideas about pollution being used as a means of social control."[183] Building upon Douglas's work, Evernden inspired law professor David Cassuto to analyze the subjectivity of pollution claims in environmental law. Professor Cassuto discusses "the rhetoric of environmental protection," especially the meaning of the pollutants regulated by the CWA.[184] Addressing the concept of pollution, Cassuto writes:

> Pollutants do not exist outside of systems; pollution presupposes a system to pollute. Identifying pollutants involves determining that a foreign presence and potential source of harm exists within the system. Deciding that a substance is a pollutant requires two potentially problematic steps: designating the system's boundaries and defining harm.[185]

Cassuto then lists a series of "questions of perception, not of fact," which illustrate the difficulty in identifying the boundaries of the waterways within the jurisdiction of the CWA.[186] He concludes that even under the seemingly precise legal strictures of the CWA, " 'Pollutant' is context-dependent and is no longer referential absent a showing of harm."[187] Pollution, it seems, means whatever one says it means.

C. The Utility of Pollution

Douglas and her progeny demonstrate that pollution involves a violation of boundaries. They also teach that every society determines its own boundaries. Douglas and Wildavsky observe that modern western societies are unlikely to have an integrated view of how their

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[182] *Id.* at 4-5.

[183] *Id.* at 6.

[184] David N. Cassuto, *The Law of Words: Standing, Environment, and Other Contested Terms*, 28 HARV. ENVTL. L. REV. 79, 80 (2004).

[185] *Id.* at 107.

[186] *Id.* at 108.

[187] *Id.* at 118.

various kinds of boundaries relate to one another.[188] The manner in which one treats claims of violent entertainment as cultural pollution differs from the way in which one addresses claims of toxic pollutants leaking into the water. The idea of pollution possesses little explanatory force if it is so malleable. Yet, Douglas seizes upon the term pollution to address many different societal concerns. These include the hundreds of environmental statutes that rely upon the term to state legally enforceable obligations.[189] Additionally, scholars and popular writers alike use the term to explain claims persisting in contexts ranging from pornography to the aesthetics of cellular telephone towers to campaign finance reform. There must be a reason for the continued attraction to pollution.

The contingent description of the idea of pollution advanced by Douglas, Evernden, and Cassuto could justify the abandonment of references to pollution as unhelpful. If pollution means different things to different people at different times, then any attempt to compare the disparate things that individuals describe as pollution seems doomed to failure. That is true if the comparative exercise depended upon a commonly accepted meaning of the term pollution. But, if instead, people begin to examine how pollution beliefs operate in different circumstances, then the enterprise of identifying and responding to all sorts of pollution becomes more useful. One can learn about each society by studying its pollution claims and beliefs. One can learn about pollution by studying how each society perceives and responds to it.

That answer falls short of explaining the continued need for the concept of pollution. Perhaps one could compare toxic emissions and ugly signs and violent entertainment and racist workplaces without any reliance upon the unifying word pollution, or any other single word. Conducting this inquiry through the lens of pollution, however, remains useful for three reasons.

First, the idea of pollution is especially suited for describing the kinds of harms that occur through exposure to something added to a previously stable environment. None of pollution's synonyms — words like "corruption," "impurity," "contamination," "uncleanness," "defilement," and "profanation" — captures the same kind of concern about harms occurring in a shared environment. We understand impurity by reference to its opposite, purity. Something is pure when it does not contain any foreign matter or influences. Impurity, then,

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[188] *See* DOUGLAS & WILDAVSKY, *supra* note 103, at 10.

[189] *See supra* Part II (citing statutes).

describes anything (e.g., a person, liquid, or environment) that does not exist in its natural condition because of the presence of a harmful substance. A polluted environment is also impure, but the appellation pollution adds to the description by suggesting something about how the impurity has occurred. Thus, one anthropologist explains that pollution differs from impurity because it "evokes a stronger sense of avoidance, fear, and mystery and, in connection with these, of discrimination and rejection."[190]

Or consider the synonym corruption. The terms pollution and corruption are synonymous insofar as they presuppose a baseline condition that is unpolluted and uncorrupted. They are also similar in their implication that something has gone wrong, which alters that condition for the worse. The terms differ, though, concerning the cause of that harmful change. The dictionary definitions of corrupt are more general than the definitions of pollution.[191] Sometimes corrupt implies the harmful work of an outside agent, but in other uses, the term refers to a harm that occurs naturally, while most broadly it includes any "change from good to bad."[192]

Pollution is similar to and yet distinct from contamination, defilement, poisoned, and other terms. Contamination is broader than pollution. As a federal appeals court remarked in the context of construing a contractual indemnity provision, "all pollution is contamination, but not all contamination is pollution."[193] Thus, rivers, lakes and other bodies of water can be characterized as contaminated (because of the presence of the offending materials) or as polluted (because of the introduction of those materials into that aquatic environment). By contrast, contamination — not pollution — usually refers to food supplies, surgical wounds, and laboratory experiments.

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[190] Namihira, *supra* note 168, at S71. Also, unlike impurity, " '[P]ollution' is not only culturally defined but also is broadly shared in a society in the first place and sometimes even shared beyond the boundary of a society." Sekine, *Pollution*, *supra* note 168, at 498.

[191] *See* WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 512 (1986).

[192] *Id.* Another distinction between the terms involves the connotation of pollution as a byproduct that produces unintended (though foreseeable) results. Corruption is also more likely than pollution to connote wrongdoing by individuals, as shown by the frequent description of public officials as corrupt, not polluted. Yet one should not exaggerate the difference between pollution and corruption. Public morals and the financing of political campaigns may be described as both corrupted and polluted, with the nuances of each term adding to the understanding of the harm afflicting the thing in question. *See* Nagle, *supra* note 12, at 318-19 (comparing meanings of pollution and corruption).

[193] Cleere Drilling Co. v. Dominion Exploration & Prod., Inc., 351 F.3d 642, 651 (5th Cir. 2003).

Defilement suggests uncleanness, dirtiness, or filthiness. The word encompasses ceremonial impurity, as in houses of worship defiled by the presence of unbelievers. Defilement also retains a sexual connotation in that unwanted sexual advances are said to defile their victim.[194] Poisoned suggests an especially toxic chemical potion that kills or seriously injures those who consume or contact it. The term is more likely to describe the result of a specific intent to harm a particular individual or object, whereas pollution connotes a less purposeful but more general adverse effect. Collectively, terms like impurity, corruption, poison, defilement, or contamination are sometimes used to describe the same kinds of atmospheric and aquatic conditions that are more frequently characterized as air pollution or water pollution.[195] Yet pollution suggests something slightly different from any of these synonymous terms. The distinctiveness of the idea of pollution rests in its dual suggestion of an unwanted outside agent and a general environment that the agent enters.

The breadth of the affected area serves to distinguish pollution claims from synonymous kinds of harmful actions. Consider two different ways in which an elderly woman is injured by drinking a glass of water laced with arsenic. If a murderous nephew places arsenic into the woman's drinking water in an attempt to prevent her from disinheriting him, one would not describe the water as polluted. If, however, the arsenic was contained in water pumped from the woman's well after it leaked into the ground from a nearby mining operation, then the water is said to be polluted. The amount of arsenic present in the woman's glass of water may be identical, and the injury to her the same, but pollution exists only when the arsenic occurred in the larger body of water. Likewise, the sound of airplanes taking off and landing nearby elicits claims of noise pollution, while someone yelling into a megaphone placed next to another's ear may not. And a violent television program can be accused of polluting the culture by

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[194] *See, e.g.*, State v. Baby, 946 A.2d 463, 480 (Md. 2008) (citing 2 BRACTON, ON THE LAWS AND CUSTOMS OF ENGLAND 415 (George E. Woodbine ed., Samuel E. Thorne trans., 1997) (noting that "the crime of rape was not limited to the defilement of virgins")).

[195] *See, e.g.*, Burlington Northern & Santa Fe Ry. v. United States, 129 S. Ct. 1870, 1875 (2009) (referring to "contaminated" groundwater); Massachusetts v. EPA, 549 U.S. 497, 560 (2007) (Scalia, J., dissenting) (citing "impurities" in air); Connecticut v. Am. Elec. Power Co., Nos. 05-5104-cv, 05-5119-cv, 2009 U.S. App. LEXIS 20873, at *59 (2d Cir. Sept. 21, 2009) (describing "poison[ing]" of state's water supply by sewage); Browning v. Halle, 632 S.E.2d 29, 32 (W.Va. 2005) (quoting Snyder v. Callaghan, 284 S.E.2d 241, 246 (1981)) (referring to materials "which corrupt the quality of the water"); Milwaukee Metro. Sewerage Dist. v. City of Milwaukee, 691 N.W.2d 658, 676 (Wis. 2005) (describing case in which sewage "defiled" water).

desensitizing those who watch it, while a teacher who exhorts his student to attack others is acting harmfully, but not as a polluter.

Second, in addition to being well-suited for describing harms that occur through environmental exposures, the conceptual value of pollution also appears by examining its environmental opposite. Many environmentalists and environmental law itself define wilderness as the ideal state of the natural environment.[196] The Wilderness Act provides for the protection of those wilderness areas "where the earth and its community of life are untrammeled by man, where man himself is a visitor who does not remain."[197] By contrast, a polluted environment is one that man's hand has harmed or even destroyed. So conceived, pollution is the antithesis of wilderness. But "wilderness," say its critics, is socially constructed and no easier to define than pollution. Roderick Nash's classic *Wilderness in the American Mind* shows how the idea of wilderness has evolved throughout the course of American history from a place to conquer to a place to preserve.[198] Max Oelschlaeger's *The Idea of Wilderness* traces wilderness all the way back to prehistoric times and finds a similar evolution that continues today.[199] Both writers question whether wilderness has any fixed meaning at all. Nash writes that "wilderness . . . is so heavily freighted with meaning of a personal, symbolic, and changing kind as to resist easy definition."[200] Oelschlaeger refers to the "different, sometimes inconsistent, and even contradictory ideas of wilderness."[201] Congress also struggles to determine which unprotected federal lands satisfy the definition of wilderness contained in the Wilderness Act. Wilderness, says environmental historian William Cronin, "is quite profoundly a human creation."[202] Yet the idea of wilderness still plays an important role in the law and in popular understandings of the kinds of lands that society seeks to preserve. As a result, academic suggestions that wilderness be replaced with some other construct for environmental

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[196] *See, e.g.*, Proclamation No. 8409, 74 Fed. Reg. 45,977 (Sept. 3, 2009) (statement of President Obama praising wilderness for its "purity"); Holly Doremus, *The Rhetoric and Reality of Nature Protection: Toward a New Discourse*, 57 WASH. & LEE L. REV. 11, 29-33 (2000) (examining "the modern ideal of wilderness").

[197] 16 U.S.C. § 1131(c) (2006).

[198] RODERICK FRAZIER NASH, WILDERNESS AND THE AMERICAN MIND 1-7 (1967).

[199] MAX OELSCHLAEGER, THE IDEA OF WILDERNESS: FROM PREHISTORY TO THE AGE OF ECOLOGY (1991).

[200] NASH, *supra* note 198, at 1.

[201] OELSCHLAEGER, *supra* note 199, at 3.

[202] William Cronin, *The Trouble with Wilderness, or, Getting Back to the Wrong Nature*, *in* THE GREAT NEW WILDERNESS DEBATE 471, 471 (J. Baird Callicott & Michael P. Nelson eds., 1998).

preservation have been ignored by those responsible for establishing preservation policies.

The idea of pollution remains valuable for a third reason. Whatever the relative merits of the various synonymous terms, commonplace understanding of environmental pollution provides a helpful foundation for considering other kinds of pollution. The shared aspiration for clean environments transcends the natural environment. The idea of pollution helps explain the similarities between what people think of as environmental pollution and other things described as pollution. One can better evaluate the many distinct means of seeking a clean environment by comparing the different kinds of things that pollute them. The shared language of pollution provides a point of entry for discussions that include both the quality of the air and the water to the condition of our workplaces, cultures, institutions, and other human environments. Recall, too, that anthropologists remain committed to analyzing various societal phenomena as pollution beliefs. Perhaps another term could perform the same function in anthropological studies, but none has emerged. As one anthropologist admitted, "I am not satisfied with the use of the word 'pollution,' however, unable to come up with another term that successfully captures both the negative and positive dimensions of so called 'polluting' substances, I am forced to use it."[203]

Pollution must mean something even though we cannot precisely define the term. Otherwise, thousands of pages of environmental law make no sense. In addition, whatever pollution means, it must mean more than today's environmental connotations. The work of Douglas and other anthropologists illustrates that the term is socially constructed — pollution means what we say it means. In environmental law, practitioners often maintain that any harmful addition to the natural environment constitutes pollution.[204] They are less willing to condemn all speech, money, foreign influences, and especially other people as pollution of human environments. Nevertheless, society continues to debate precisely whether those things pollute our nation, culture, workplaces, and other environments of our making. The task of analyzing pollution claims is really the task of constructing ideal environments and then describing which influences degrade them. It is to that comparison of the many kinds of pollution claims that this study now turns.

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[203] Pauline Paine, *The Mask of Janus: A Re-analysis of the Concept of Pollution in the New Guinea Highlands*, 2 NEXUS: CANADIAN STUDENT J. ANTHROPOLOGY 15, 28 n.1 (1981).

[204] *See supra* Part II.A (describing comprehensive solution to defining pollution).

III. POLLUTANTS AND ENVIRONMENTS

The popular concern about environmental pollution illustrates the central aspects of any pollution claim: there must be an environment and there must be a pollutant. This Part explores the concepts of both environment and pollutant. First, this Part addresses the environments and boundaries that are susceptible to pollution. Environmental law focuses upon the natural environment, but it has occasion to consider human environments, too. Civil rights law considers the workplace an environment. Additional writing discusses culture as an environment susceptible to pollution. Anthropologists teach us to view these and other spaces as environments defined by the boundaries that a society establishes and protects.

Second, this Part considers the things denominated as pollutants when they cross those boundaries into an environment. The discussion in Part II has already demonstrated how environmental law employs three different techniques to mask the impossibility of crafting an uncontested definition of what constitutes a pollutant. Part III now describes the many things that anthropology, environmental law, and popular discourse designate as pollutants. This list of pollutants ranges far beyond the toxic chemicals that classically associate with environmental law, and includes the bodily fluids and proximity to death identified as pollutants by anthropologists, the violent and pornographic images targeted by opponents of cultural pollution, and the unwanted immigrants derided as people pollution. Many such pollution claims generate passionate opposition from those who deny that bodily fluids, death, violent or sexual images, or immigrants are in any way harmful. The persistence of pollution imagery in such circumstances actually reinforces efforts to address environmental pollution in the face of similar charges that a given substance is not really a pollutant.

A. Environments and Boundaries

The description of pollution as a violation of boundaries animates environmental law. A pollutant originates outside the environment it pollutes. An environment becomes polluted only when something is added to it. Put differently, no environment is polluted in its natural state. This is not to say that an unpolluted environment is a perfectly safe one; an environment may be harmful to some people or things even as it is desirable to others. The cleanest air in the world is no more hospitable to fish than a badly polluted lake. Moreover, the

introduced pollutant may already occur naturally in the environment, albeit in a lesser quantity.[205] Too much of any substance can change the nature of water or air, rendering it less hospitable to human, plant, and animal life.

But the mere introduction of something into the environment does not constitute pollution. This is because there are few environments with qualities so precisely established such that one could conclude any foreign substance constitutes pollution. Several early twentieth century decisions support the proposition that pollution does not exist without harm. In the 1934 case of *Wilmore v. Chain O'Mines, Inc.*, the Colorado Supreme Court sustained an injunction against pollution from a mining operation that discharged tailings and other material into creeks used by neighboring farmers for irrigation. On rehearing, the court explained what the injunction meant when it referred to pollution: "Unless the introduction of extraneous matter so unfavorably affects such use, the condition created is short of pollution. In reality, the thing forbidden is injury. The quantity introduced is immaterial."[206] Four years later, the same court repeated this understanding of pollution in another dispute between mining operations and farmers. When the farmers complained of water pollution caused by mining, the miners responded that the farmers themselves were polluting the water with "a large amount of natural detritus, rock particles, decayed vegetable matter, and other deleterious substances."[207] The court followed the definition of pollution previously stated in *Wilmore*, and concluded that the materials attributed to the farming were actually beneficial to the water, "and hence caused no pollution in a legal sense."[208]

Another instance of a court's refusal to treat all materials as pollution occurred in *Doremus v. Mayor of Paterson*, where individuals living along the Passaic River objected to the sewage that Paterson was dumping into the river.[209] The New Jersey Court of Chancery reasoned that "[t]he term 'pollution' is likely to mislead if its meaning be not clearly defined."[210] The court then explained, "No water, except

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[205] *See, e.g.*, Aquatic Life Ambient Freshwater Quality Criteria — Copper 2007 Revision, 72 Fed. Reg. 7,983, 7,985 (2007) (establishing recommended water quality criteria for copper even though copper "is a naturally occurring element that is generally present in surface waters").

[206] Wilmore v. Chain O'Mines, Inc., 44 P.2d 1024, 1029 (Colo. 1934) (en banc).

[207] Slide Mines, Inc. v. Left Hand Ditch Co., 77 P.2d 125, 127 (Colo. 1938).

[208] *Id.*

[209] Doremus v. Mayor of Paterson, 69 A. 225, 226-27 (N.J. Ch. 1908).

[210] *Id.* at 232.

distilled water, is perfectly free from foreign substances. A river contains in its natural state both mineral and vegetable substances held in suspension and solution."[211] With that understanding, the court noted that some of the sewage did not result in water pollution because the resulting chemical reactions "may conduce rather to its purity than to its pollution."[212]

These cases demonstrate there is no pollution where there is no harm. As David Cassuto has written, "[A] harmless pollutant amounts to a contradiction in terms."[213] There is a contrary view, though, which insists that anything released into an environment is a pollutant, whether harmful or not. That is the message of the nineteenth century understanding of river pollution, which stripped the term of its immoral connotation by viewing everything added to a river as pollution.[214] This message also forms the basis for Justice Scalia's complaint that Frisbees qualified as air pollutants despite the absence of any evidence that they harmed the air.[215] And the same New Jersey court that refused to treat all foreign substances as water pollution also distinguished between "harmful pollution" and "pollution which consists merely in the presence" of certain materials.[216] Whether pollution precedes harm, the nexus between pollution and harm raises questions about harm and causation beyond the scope of this Article. Moreover, to say that pollution is harmful is not to suggest that pollution is *only* harmful. The same substance, material, or activity that some regard as pollution others may regard as a valuable good. Again, as Cassuto puts it, "One system's pollutant is another's necessity."[217] But describing an environment as polluted never has a positive connotation.

The challenge in many instances is to identify the background, unpolluted state of the relevant environment. As Douglas and Wildavsky explained, "[The idea of pollution] rests upon a clear notion of the prepolluted condition. A river that flows over muddy ground may be always thick; but if that is taken as its natural state, it

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[211] *Id.*

[212] *Id.*

[213] Cassuto, *supra* note 184, at 117. Conversely, "[P]ollutants are harmful by definition [because] [i]f a pollutant need not cause harm, then it seems that anything at all could be a pollutant . . . ." *Id.* at 118.

[214] *See supra* text accompanying note 56.

[215] *See* Massachusetts v. EPA, 549 U.S. 497, 558 (2007) (Scalia, J., dissenting).

[216] *Doremus*, 69 A. 225 at 232.

[217] Cassuto, *supra* note 184, at 125.

is not necessarily said to be polluted."[218] Noise need not be noise pollution, as evidenced by a Federal Aviation Administration regulation of tourist flights that insisted upon "natural quiet" near the Grand Canyon, which the National Park Service defined as "naturally occurring, non-mechanized sounds."[219] Light need not be light pollution, as seen in model lighting ordinance regulations that depend upon the baseline amount of light expected in certain areas.[220]

The same challenge of identifying an unpolluted state exists with respect to claims of the pollution of human environments. In 1876, for example, a man convicted of defiling a minor argued to the Kansas Supreme Court that one could not defile a woman if she was already unchaste.[221] The court disagreed because it was unwilling to assume that "a girl of less than eighteen years of age can reach such a depth of sin and pollution that there can be no lower deep into which she may be plunged by an unfaithful protector to whom she may have been confided."[222] More recently, claims of cultural pollution rely upon an analogous presumption that there is such a thing as an unpolluted cultural environment. Such a determination of a distinct baseline will be controversial: for the Taliban, it is a pure Islamic state; for social conservatives, it is a society that does not corrupt the morals of the individuals by objectionable teachings or conduct concerning violence, sexuality, materialism, or hostility toward religion; for political liberals, it is a society that tolerates diverse forms of speech and expression, or a society free from any hostility based on race, gender, religion, sexual orientation, or other characteristics.[223] In each instance, a community must determine the desired pure environment before it becomes possible to identify the outside sources believed to introduce pollution into that environment.

Consider another example drawn from the pollution language employed in judicial opinions. Whether discrimination pollutes a workplace enough to justify a Title VII claim depends upon how much

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[218] DOUGLAS & WILDAVSKY, *supra* note 103, at 36.

[219] Grand Canyon Air Tour Coal. v. Fed. Aviation Admin., 154 F.3d 455, 460 (D.C. Cir. 1998), *cert. denied*, 526 U.S. 1158 (1999); *FAA Caps Air Tours to Cut Noise Pollution at Grand Canyon*, ENVIRONMENTAL NEWS NETWORK, Apr. 4, 2000, *available at* http://archives.cnn.com/2000/NATURE/04/04/canyon.noise.enn/index.html (describing National Park Service definition of "natural quiet").

[220] *See* International Dark-Sky Association, Directory of Lighting Ordinances, http://www.darksky.org/mc/page.do?sitePageId=58882 (last visited Oct. 12, 2009) (listing collection of state lighting ordinances).

[221] State v. Jones, 16 Kan. 608, 612-13 (1876).

[222] *Id.* at 612.

[223] *See infra* Part III.B.3.

such pollution exists in an unpolluted workplace.[224] In other words, a baseline is needed to measure discrimination claims. Few workplaces are completely free from racial and sexual content. "Thus," explains one treatise, "a 'normal' level of workplace obscenity, isolated sexual suggestiveness or propositions, and even some single instances of unwelcome touching, may not amount to unreasonable interference" required to succeed in a Title VII suit.[225] On the other hand, the fact that racism or sexism pollutes some kinds of work environments more than others has not shielded the employers responsible for such workplaces from liability. In one famous case, the owners of a shipyard failed to persuade the court that women who worked there must be prepared to expect more sexual innuendos and pictures than one would find in a typical workplace.[226] "A pre-existing atmosphere" — again, note the environmental imagery — "that deters women from entering or continuing in a profession or job is no less destructive to and offensive to workplace equality than a sign declaring 'Men Only.' "[227]

This problem of identifying the baseline unpolluted environment is equally present with respect to claims of environmental pollution. What people know as "freshwater" actually contains a diverse and dynamic chemical composition besides the familiar H_2O, including sodium, calcium, chlorine, magnesium, potassium, and even small amounts of metals such as copper, lead, and zinc. The modest amounts of such chemicals contained in freshwater rivers and lakes often serve as essential nutrients for the life that depends upon the water. The notion of "clean" air is similarly contingent. Generally, the Earth's atmosphere consists of fixed amounts of nitrogen, oxygen, argon, neon, helium, methane, krypton, hydrogen, nitrous oxide, and xenon, and variable amounts of water, carbon dioxide, ozone, sulfur dioxide, and nitrogen dioxide. Natural processes, however, constantly change that balance. Vegetation withdraws carbon dioxide and emits oxygen in prodigious amounts. Winds sweep fine sand and particulates into the air, forest fires send smoke toward the sky, and volcanoes spew assorted chemicals into the atmosphere. Yet claims of

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[224] *See* June I. Degnan, *Education: A Lifeline for the Inuit in Transition*, 10 ST. THOMAS L. REV. 109, 112 (1997) (stating that "[r]acism is like pollution, therefore, one must know a state of non-pollution to be able to grasp the poisonous aspect of pollution").

[225] HAROLD S. LEWIS, JR. & ELIZABETH J. NORMAN, EMPLOYMENT DISCRIMINATION LAW AND PRACTICE 104 (2d ed. 2004).

[226] *See* Robinson v. Jacksonville Shipyards, Inc., 760 F. Supp. 1486, 1490-91 (M.D. Fla. 1991).

[227] *Id.* at 1526.

pollution presuppose an ability to identify the point at which the environment is unpolluted, even amidst the dynamic natural processes that affect the composition of the atmosphere or a body of water.

Society may answer the "what is clean" question by stating its own preference for the condition of the environment. As explained in Evernden's *The Social Creation of Nature*, "In order for there to be perceptible pollution there must first be an understanding of systemic order, an environmental norm. Only then is it possible to detect something that is 'out of place.' "[228] Evernden adds that pollution threatens "not just the environment," but also "the very *idea* of environment, the social ideal of proper order."[229] In other words, the idea of a clean or pure environment is itself socially constructed. The controversies surrounding the cleanup of many hazardous waste sites illustrate this kind of social construction when landowners, nearby residents, and prospective businesses voice strikingly different visions of what a cleanup entails. More generally, as Cassuto writes, "[T]he optimal state of a waterway" is "a prerequisite for determining whether the water way has been polluted," but such an optimal state "is a matter of fierce debate between the many constituencies that look to use it."[230]

The problem, however, runs deeper than determining which environments are pure and which are not. The very idea of an environment is socially constructed. People did not often speak of "the environment" before the environmental movement of the 1960s. Instead, people spoke of "nature," another capacious term, the meaning of which Evernden explored in his aptly titled book.[231] Evernden devotes most of his book to the proposition that nature means what people say it means. The same is true of the environment. In Cassuto's words, "[T]he environment does not define itself; we define the environment. Depending on one's point of view, the concept of environment can range from the inanimate through an infinitely complex polyphony of perspectives."[232]

Society often defines the relevant environment broadly. The Federal Insecticide, Fungicide and Rodenticide Act is typical: "The term 'environment' includes water, air, land, and all plants and man and other animals living therein, and the interrelationships which exist

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[228] EVERNDEN, *supra* note 179, at 5-6.

[229] *Id.* at 6.

[230] Cassuto, *supra* note 184, at 108; *see also id.* at 105-07 (describing how drawing of boundaries of environments "is ongoing, subjective, and in constant flux").

[231] EVERNDEN, *supra* note 179.

[232] Cassuto, *supra* note 184, at 92.

among these."[233] Other statutes recognize that the affected environment may extend beyond the air, water or land. Tennessee defines pollution in part as the harmful alteration of "animals, birds, fish and aquatic life."[234] A Colorado law governs the "pollution of air, water, real or *personal property, animals, or human beings.*"[235] The scope of the environment is important to the National Environmental Policy Act ("NEPA"), which requires the federal government to prepare an environmental impact statement "on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment."[236] Early decisions concluded that "[n]oise, traffic, overburdened mass transportation systems, crime, congestion and even availability of drugs all affect the urban 'environment,' " and were thus within the scope of NEPA's consideration of the human environment.[237] Courts also acknowledged "the 'people pollution' cases" involving proposals to build prison hospitals, low-income housing, and job training facilities in suburban neighborhoods whose residents worried about the consequences of such newcomers.[238] In 1983, however, a unanimous Supreme Court held that NEPA applied only to "the physical environment — the world around us, so to speak."[239] The alternative, "broadest possible definition" of the relevant environment "might embrace virtually any consequence of a governmental action that some one thought 'adverse,' " a result no member of the Court was willing to accept.[240] Even as narrowed, though, the regulations interpreting NEPA explain that the relevant effects include "aesthetic, historic, cultural, economic, social, or

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[233] 7 U.S.C. § 136(j) (2006).

[234] TENN. CODE ANN. § 60-1-503(9) (2009).

[235] COL. REV. STAT. § 13-20-702(1) (2008) (emphasis added).

[236] 42 U.S.C. § 4332(C) (2006).

[237] Hanly v. Mitchell, 460 F.2d 640, 647 (2d Cir. 1972), *cert. denied*, 409 U.S. 990 (1972); *cf. Law Enforcement Responses to Mexican Drug Cartels: Joint Hearing of the Subcomm. on Crime & Drugs of the S. Comm. on the Judiciary & the S. Caucus on Int'l Narcotics Control*, 111th Cong., 1st Sess. (2009) (statement of Sen. Grassley) (asserting that "drug cartels . . . pollute our streets with drugs").

[238] RODGERS, *supra* note 127, at 946 (citing cases).

[239] Metro. Edison Co. v. People Against Nuclear Energy, 460 U.S. 766, 772 (1983).

[240] *Id.* The cases decided since 1983 appear less willing to hold that effects unrelated to the natural environment — such as a reduced quality of urban life — trigger the duty to prepare an environmental impact statement, but one scholar still sees a robust role for NEPA in urban environments. *See* Hope Babcock, *The National Environmental Policy Act in the Urban Environment: Oxymoron or a Useful Tool to Combat the Destruction of Neighborhoods and Urban Sprawl?*, 23 J. ENVTL. L. & LITIG. 1, 32-33 (2008).

health" as well as ecological effects; economic or social effects unrelated to the natural environment are not subject to NEPA.[241]

Environmental law also superimposes boundaries upon the environment that are foreign to any concept of hydrology or atmospheric science. The law distinguishes between ambient air and indoor air, and between surface water and groundwater, with strikingly different regulatory regimes governing the distinct types of air and water. Some statutes limit the meaning of pollution to certain parts of the environment, such as the air, the water, or the land.[242] Other statutes are more precise, limiting their definition of pollution to certain kinds of air (e.g., indoor air), or certain kinds of water (e.g., groundwater or coastal waters).[243] The social creation of the idea of the environment is also apparent in numerous environmental statutes that impose artificial restrictions upon the scope of the environment that they address. Ohio excludes "private waters that do not combine or effect a junction with natural surface or underground waters" from its definition of water pollution.[244] The federal CWA refers to "waters of the United States," just as many state statutes contain a similar limitation to "waters of the state."[245]

The law sometimes struggles to define the boundaries of the relevant environment affected by pollution. For example, in 2004 the Supreme Court considered whether a drainage canal and an adjacent wetland within the Everglades constitute two bodies of water or one.[246] Strict federal regulation could accompany a determination that the canal and the wetland were two different bodies of water because a more forgiving federal and state partnership applies if there is only one body of water. The controversy inspired Justice O'Connor to adopt a pot of soup metaphor: "[I]f one takes a ladle of soup from a pot, lifts it above

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[241] *See* 40 C.F.R. §§ 1508.8, 1508.14 (2009). Nearly every state governs and regulates "waters of the state."

[242] *See, e.g.*, CAL. HEALTH & SAFETY CODE § 5410(e) (West 2009) (defining pollution as certain "alteration[s] of the quality of the waters of the state"); CONN. GEN. STAT. § 22a-170 (2008) (defining air pollution as, *inter alia*, "the presence in the outdoor atmosphere of one or more air pollutants or any combination thereof"); MINN. STAT. § 116.06(14) (2008) (defining land pollution).

[243] *See, e.g.*, ARIZ. REV. STAT. § 49-301(9) (2008) (defining "pollution" as "the introduction into the groundwaters of this state of" certain materials); TEX. NAT. RES. CODE ANN. § 40.003(21) (2009) (defining "pollution" as "the presence of harmful quantities of oil from an unauthorized discharge in coastal waters or in or on adjacent waters, shorelines, estuaries, tidal flats, beaches, or marshes").

[244] OHIO REV. CODE ANN. § 1511.01(E) (West 2009).

[245] 33 U.S.C. § 1362(7) (2006).

[246] *See* S. Fla. Water Mgmt. Dist. v. Miccosukee Tribe of Indians, 541 U.S. 95, 98-99 (2004).

the pot, and pours it back into the pot, one has not 'added' soup or anything else to the pot."[247] The federal government insisted that the canal and the wetland constituted a single pot according to a "unitary waters" theory, which presumes that there is no additional pollution when pollutants that previously entered one water body are then moved to another one.[248] By contrast, the Muskogee Tribe claimed that the canal and the wetland were two separate bodies of water. Or as Justice O'Connor put it, the tribe saw the canal and the wetland as "two pots of soup, not one."[249]

The concept of an environment is also a crucial component of Title VII hostile work environment litigation. The other type of Title VII claim — the quid pro quo theory of discrimination — applies to workers terminated due to their race or sex or workers specifically targeted for other adverse employment actions because of similarly protected characteristics. A hostile work environment presents a distinct legal claim that arises when an employee suffers the ill effects of working in a workplace permeated by racism, sexism, or other prohibited bias.[250] A few courts thus emphasized the environmental nature of the claim. As one court explained, "To consider each offensive event in isolation would defeat the entire purpose of allowing claims based upon a 'hostile work environment' theory, as the very meaning of 'environment' is '[t]he surrounding conditions, influences or forces which influence or modify.' "[251] Or, as one scholar observed, "Like environmental pollution, cultural racism transcends individual harms and private disputes."[252] Note, too, that a polluted workplace can exist outside of a company's office. Sexist pickup attempts made in hotels during business trips demonstrate that the affected environment can extend to wherever employees work together.[253]

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[247] *Id.* at 110 (quoting Catskill Mountains Chapter of Trout Unlimited, Inc. v. New York, 273 F.3d 481, 492 (2nd Cir. 2001)).

[248] *Id.* at 105-09.

[249] *Id.* at 110. After the Court remanded the case, the EPA promulgated a regulation adopting the unitary waters theory, and the Eleventh Circuit deferred to the EPA's interpretation of the law. *See* Miccosukee Tribe of Indians v. U.S. Army Corps of Eng'rs, 559 F.3d 1191, 1193 (11th Cir. 2009).

[250] *See generally* Burlington Indus. v. Ellerth, 524 U.S. 742, 751-54 (1998) (discussing relationship of hostile work environment and quid pro quo claims).

[251] Jackson v. Quanex Corp., 191 F.3d 647, 660 (6th Cir. 1999) (quoting BLACK'S LAW DICTIONARY 534 (6th ed. 1990)).

[252] John O. Calmore, *Random Notes of an Integration Warrior – Part 2: A Critical Response to the Hegemonic "Truth" of Daniel Farber and Suzanna Sherry*, 83 MINN. L. REV. 1589, 1608 (1999).

[253] *See, e.g.*, Moring v. Ark. Dep't of Corr., 243 F.3d 452, 456-57 (8th Cir. 2001)

Cultural pollution claims treat the popular culture as the affected environment. Evidence that the culture is a kind of environment occurs in H. Richard Neihbuhr's definition of "culture" as "the 'artificial, secondary environment' which man superimposes on the natural."[254] The components of that environment include "language, habits, ideas, beliefs, customs, social organization, inherited artifacts, technical processes, and values."[255] In short, the perception of the cultural environment as dynamic and unpredictable matches the recent ecological teaching that portrays the natural environment in much the same way. To speak of the pollution of a space that is constantly changing anyway presents challenging definitional questions. That is equally true for both natural and human environments. Even so, an understanding of the relevant environment that encompasses nearly anything threatens to drain the idea of an environment of any useful meaning in the context of pollution claims.

The response to this concern appears in the anthropological literature, which identifies innumerable areas where pollution appears. Different cultures view metal, earth, water, fire, plants, animals, and humans as in need of protection from pollution. Fire, for example, is "extremely vulnerable to pollution" according to Zoroastrianism.[256] Moving closer to the claims of environmental pollution, the pollution beliefs of some societies worry about effects upon water, albeit by corpses or ritually unclean individuals rather than toxic chemicals. But the boundaries of greatest interest to Douglas and other anthropologists involve the body:

> The body is a model which can stand for any bounded system. Its boundaries can represent any boundaries which are threatened or precarious . . . . We cannot possibly interpret rituals concerning excreta, breast milk, saliva and the rest

(finding employer liable for actions of supervisor who made sexual advances to employee in hotel while on business trip).

[254] H. RICHARD NIEBUHR, CHRIST AND CULTURE 32 (1951) (citing Bronislaw Malinowski, *Culture*, 4 ENCYCLOPEDIA OF SOCIAL SCIENCES 621 (1931)). For another definition of culture, see Sally Engle Merry, *Law, Culture, and Cultural Appropriation*, 10 YALE J.L. & HUMAN. 575, 580 (1998) (stating that "[c]ulture is now understood as historically produced rather than static; unbounded rather than bounded and integrated; contested rather than consensual; incorporated within the structures of power such as the construction of hegemony; rooted in practices, symbols, habits, patterns of practical mastery, and practical rationality within cultural categories of meaning rather than in any simple dichotomy between ideas and behavior; and negotiated and constructed through human action rather than superorganic forces").

[255] NIEBUHR, *supra* note 254, at 32.

[256] Choksy, *supra* note 168, at 176.

> unless we are prepared to see in the body a symbol of society . . . .[257]

Anthropology, in short, reminds us that the environments affected by pollution are all simply areas defined by boundaries of our own making.

B. Pollutants

The second central aspect of pollution claims concerns substances characterized as pollutants when they enter an environment. A review of the pollutants described by environmental legislation, anthropologists, and others identifies three common features. First, anything can serve as a pollutant. Second, context determines whether something is a pollutant. Third, people frequently contest attempts to characterize something as a pollutant.

1. Pollutants in Anthropology and Theology

Consider the pollution beliefs examined by anthropologists. Recall that Douglas described "dirt" — the source of many pollution beliefs — as "matter out of place."[258] Employing that image, anthropologists identify numerous things as the objectionable pollutant targeted by pollution beliefs. Many of these pollutants cluster around concerns about sexuality, bodily fluids, death, violence, food, and undesirable people. Sexuality is an especially prominent source of pollution

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[257] DOUGLAS, *supra* note 1, at 115; *see also id.* at 173 ("[T]he focus of all pollution symbolism is the body."); Michael D. Quam, *The Sick Role, Stigma, and Pollution: The Case of AIDS*, *in* CULTURE AND AIDS 29, 39 (Douglas A. Feldman ed., 1990) (discussing stigma of acts of penetration in HIV transmission); Choksy, *supra* note 168, at 173, 176 (listing metal, earth, water, fire, plants, animals, and humans as susceptible to pollution); Benedicte Ingstad et al., *AIDS and the Elderly Tswana: The Concept of Pollution and Consequences for AIDS Prevention*, 12 J. CROSS-CULTURAL GERONTOLOGY 357, 364 (1997) (breaking sexual taboos pollutes one's blood); Tong Chee Kiong, *Death Rituals and Ideas of Pollution Among Chinese in Singapore*, 9 CONTRIBUTIONS TO SOUTHEAST ASIAN ETHNOGRAPHY 91, 108-09 (1990) (noting death pollution may affect gods, ancestral spirits, and corpse itself); Kiong, *supra*, at 108 (involving household water supply polluted by presence of corpse); Safran, *supra* note 169, at 201-08, 211-12 (sharing water with Christians pollutes that water); Paul Sillitoe, *Man-Eating Women: Fears of Sexual Pollution in the Papua New Guinea Highlands*, 88 J. POLYNESIAN SOC'Y 77, 77 (1979) (noting women can "pollute and kill men by eating away at their vital organs"). For litigation voicing these concerns, see Piggee v. Carl Sandburg Coll., 464 F.3d 667, 668 (7th Cir. 2006) (citing pamphlet asserting "that all gay males will pollute the blood supply with HIV-positive blood unless people give more money for AIDS research").

[258] DOUGLAS, *supra* note 1, at 35.

beliefs. As Douglas wrote, "[P]ollution fears do not seem to cluster round contradictions which do not involve sex. The answer may be that no other social pressures are potentially so explosive as those which constrain sexual relations."[259] Thus, sexual intercourse pollutes when it occurs at the wrong time (e.g., before one is married, while mourning one's husband, or with a woman who is nursing or menstruating), in the wrong place (e.g., in the forest, in the bush, in the garden, or in your spouse's bed with someone else), or with the wrong person (as illustrated by the adultery pollution, which Douglas describes).[260] Concerns about sexuality animate many other pollution beliefs. For many societies, menstrual blood "was once the most feared pollutant."[261] Another anthropologist explains that human

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[259] DOUGLAS, *supra* note 1, at 157.

[260] On sexual intercourse generally as pollution, see Rachel K. Jewkes & Katherine Wood, *Problematizing Pollution: Dirty Wombs, Ritual Pollution, and Pathological Processes*, 18 MED. ANTHROPOLOGY 163, 171 (1999); Julie Marcus, *Islam, Women and Pollution in Turkey*, 15 J. ANTHROPOLOGICAL SOC'Y OXFORD 204, 207 (1984); Namihira, *supra* note 168, at S65. Specific instances of sexual activity as pollution include DOUGLAS, *supra* note 1, at 134 ("adultery pollution"); Jude C.U. Aguwa, *Taboos and Purification of Ritual Pollutions in Igbo Traditional Society*, 88 ANTHROPOS 539, 541-42 (1993) (pregnancy and sexual relations while mourning one's husband, and sex with menstruating woman); Alma Gottlieb, *Rethinking Female Pollution: The Beng of Côte D'Ivoire*, 14 DIALECTICAL ANTHROPOLOGY 65, 70 (1989) (sex in forest); Sharon Hutchinson, *'Dangerous to Eat': Rethinking Pollution States Among the Nuer of Sudan*, 62 AFRICA 490, 496 (1992); Sillitoe, *supra* note 257, at 85; Whyte & Whyte, *supra* note 175, at 69 (adultery generally, and specifically sex with another woman on your wife's bed); Michael W. Young, *Skirts, Yams, and Sexual Pollution: The Politics of Adultery in Kalauna*, 84 JOURNAL DE LA SOCIETE DES OCEANISTES 61, 63-64 (1987) (premarital sex and sex in garden).

[261] Jeffrey Clark, *Gold, Sex, and Pollution: Male Illness and Myth at Mt. Kare, Papua New Guinea*, 20 AM. ETHNOLOGIST 742, 743 (1993); *see also* DOUGLAS, *supra* note 1, at 121 ("menstrual pollution is feared as a lethal danger" in some rituals; "in others not at all"); Bean, *supra* note 168, at 576; Per Hage & Frank Harary, *Pollution Beliefs in Highland New Guinea*, 16 MAN 367, 368, 372 (1981); F. Allan Hanson, *Female Pollution in Polynesia?*, 91 J. POLYNESIAN SOC'Y 335, 335 (1982) (menstrual blood is pollution "when out of place"); Janet Hoskins, *Introduction: Blood Mysteries: Beyond Menstruation as Pollution*, 41 ETHNOLOGY 299, 299 (2002); Jewkes & Wood, *supra* note 260, at 166 ("[T]he idea that taboo relating to female reproductive states or events acts to oppress women has had wide circulation, equating the isolation of 'polluted' women with discrimination and low social status"); Yeshe Choekyi Lhamo, *The Fangs of Reproduction: An Analysis of Taiwanese Menstrual Pollution in the Context of Buddhist Philosophy and Practice*, 14 HIST.& ANTHROPOLOGY 157, 158 (2003); Yasumasa Sekine, *The Concepts of Ritual Pollution in South Indian Tamil Society: On the Field of Conflicts Between Hierarchy and Subjectivity*, 51 MINZOKUGAKU KENKY 219, 219 (1986) [hereinafter *Concepts*]; Sekine, *Pollution*, *supra* note 168, at 499 (menstrual blood "the most dangerous 'pollution' "); Sillitoe, *supra* note 257, at 77; *id.* at 87 (asking "why [Wola men of Papua New Guinea] have these fears of a natural female condition

"reproduction is tinged with pollution and thus must be kept in check," so pollution beliefs targeted pregnancy, childbirth, the birth of twins, miscarriage, and abortion.[262] Other societies saw pollution in countless things related to sexuality, including male circumcision, prostitutes, incest, nudity and exposure of private parts, witnessing your child's sexual affairs, and even conversations related to sex and pregnancy.[263]

The treatment of certain aspects of sexuality as pollution is often accompanied by the view that bodily fluids are polluting. According to Douglas, "All bodily emissions, even blood or pus from a wound, are sources of impurity."[264] Douglas added that the Israelites believed that "all the bodily issues were polluting, blood, pus, excreta, semen, etc."[265] Indeed, as another scholar explained, "[T]he functions of the human body are almost universally considered polluting."[266] Here, too,

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which does not produce a substance of any real toxicity").

[262] Carol Silverman, *Pollution and Power: Gypsy Women in America*, in THE AMERICAN KALDERAŠ: GYPSIES IN THE NEW WORLD 55, 65 (Matt T. Salo ed., 1981) ("[R]eproduction is tinged with pollution and thus must be kept in check."). On childbirth as pollution, see Ariel Glucklich, *Karma and Pollution in Hindu Dharma: Distinguishing Law from Nature*, 18 CONTRIBUTIONS TO INDIAN SOC'Y 25, 26 (1984); Hutchinson, *supra* note 260, at 496; Ingstad et al., *supra* note 257, at 364; Namihira, *supra* note 168, at S65; Joanne M. Pierce, *"Green Women" and Blood Pollution: Some Medieval Rituals for the Churching of Women After Childbirth*, 29 STUDIA LITURGICA 191 (1999); Sekine, *Pollution*, *supra* note 168, at 482; Sekine, *Concepts*, *supra* note 261, at 219. On pregnancy as pollution, see Namihira, *supra* note 168, at S65; Silverman, *supra*, at 58. On miscarriage as pollution, see Glucklich, *supra*, at 26; Green, *supra* note 167, at 93. On abortion as pollution, see Green, *supra* note 167, at 93; Ingstad et al., *supra* note 257, at 364.

[263] *See* DOUGLAS, *supra* note 1, at 130-31 (incest); Shirley Lindenbaum, *Sorcerers, Ghosts, and Polluting Women: An Analysis of Religious Belief and Population Control*, *in* MAGIC, WITCHCRAFT, AND RELIGION: AN ANTHROPOLOGICAL STUDY OF THE SUPERNATURAL 241, 247-48 (Pamela Moro et al. eds., 2006) (discussing "female pollution"); Quam, *supra* note 257, at 38 (AIDS); Aguwa, *supra* note 260, at 541 (twins); Clark, *supra* note 261, at 745 (prostitutes); Glucklich, *supra* note 262, at 26 ("self-pollution and contact with the lower parts of the body"); Gottlieb, *supra* note 260, at 67 (women who have engaged in premature sex); *id.* at 70 (sex in forest); Green, *supra* note 167, at 93; Hutchinson, *supra* note 260, at 490 (twins); *id.* at 496 (incest); Marcus, *supra* note 260, at 207 (male circumcision, nudity, and exposure of private parts); Sillitoe, *supra* note 257, at 79 (newborn babies); Silverman, *supra* note 262, at 67 (women's lower body parts, conversations related to sex, and pregnancy); Whyte & Whyte, *supra* note 175, at 68-69 (incest, sexual immodesty, and witnessing your child's sexual affairs). The persistence of those pollution beliefs in Victorian England and America is described by Sara Delamont & Lorna Duffin, *Introduction*, *in* THE NINETEENTH-CENTURY WOMAN: HER CULTURAL AND PHYSICAL WORLD 9, 13-24 (1978).

[264] DOUGLAS, *supra* note 1, at 34 (analyzing Havik Brahmins's description of beliefs).

[265] *Id.* at 124.

[266] Paine, *supra* note 203, at 25. Paine added that "not all functions are considered

the idea of boundaries is key. People sometimes view bodily fluids as polluting because they "blur the distinction between the human body and things outside that body."[267] Conversely, some cultures regard certain food that enters the body as polluted.[268]

The presence of certain threatening or undesirable people gives rise to an additional set of pollution beliefs. Douglas refers to "caste pollution," a term that is especially common — but not unique — to Hindu societies.[269] Roma (nee Gypsies) see everyone else as polluting. Similarly, some Muslims identify non-Muslims, especially Christians, as polluting.[270] More generally, women are the source of numerous pollution beliefs; so much so that one scholar could write of "the generally polluting influence of women."[271] And, like certain people,

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polluting in all cultures." *Id.*; *see also* Glucklich, *supra* note 262, at 26 (bodily discharges); Hanson, *supra* note 261, at 335 (semen "when out of place"); Kiong, *supra* note 257, at 111 ("A woman's blood is considered a particularly polluting substance."); Marcus, *supra* note 260, at 207, 210 (excretion, bowel gas, urine, vomit, semen, and tears); Namihira, *supra* note 168, at S65 (bleeding); Silverman, *supra* note 262, at 57 (bathrooms).

[267] Carroll, *supra* note 168, at 275 ("[F]eces, urine, pus, vomit, mucus, semen, and menstrual blood" are "often defined as unclean in various cultures" because they "blur the distinction between the human body and things outside that body").

[268] *See* DOUGLAS, *supra* note 1, at 33-34, 127 (metal cooking vessels, cooking food, and cooked food, but not uncooked food); Aguwa, *supra* note 260, at 541 (eating prohibited food and eating food prepared by menstruating woman); Glucklich, *supra* note 262, at 26 (touching used cooking vessels); Hutchinson, *supra* note 260, at 495-496 (cannibalism and certain cow's milk); Aisha Khan, *"Juthaa" in Trinidad: Food, Pollution, and Hierarchy in a Caribbean Diaspora Community*, 21 AM. ETHNOLOGIST 245, 245-46 (1994) (eating prohibited food); Marcus, *supra* note 260, at 207 (eating prohibited food); Sekine, *Pollution*, *supra* note 168, at 497 (sitting on chairs and putting food on table); L.C. Reis & J.R. Hibbeln, *Cultural Symbolism of Fish and the Psychotropic Properties of Omega-3 Fatty Acids*, 75 PROSTAGLANDINS, LEUKOTRIENES & ESSENTIAL FATTY ACIDS 227, 229-30 (2006); Silverman, *supra* note 262, at 56. For litigation concerning such beliefs, see Akinsanya v. Ashcroft, 105 F. App'x. 848, 849-50 (7th Cir. 2004) (woman seeking asylum because her Nigerian jailers had denied her "all nourishment except 'polluted' food").

[269] DOUGLAS, *supra* note 1, at 124.

[270] *See* Safran, *supra* note 169, at 199, 201, 203-04 (stating all non-Muslims are polluting, especially Christians).

[271] Sillitoe, *supra* note 257, at 83; *see also* Gottlieb, *supra* note 260, at 66, 72 (noting "the now voluminous literature on female pollution," but observing that men were sometimes seen as polluting); Hanson, *supra* note 261, at 335-36 (observing that "the idea that women were viewed in Polynesia as . . . polluting is rampant in the literature"). For other pollution beliefs targeting certain people as polluting, see Aguwa, *supra* note 260, at 541 (twins); Bean, *supra* note 168, at 575 (lower classes); Green, *supra* note 167, at 93 (twins); Hutchinson, *supra* note 260, at 490 (twins); Paine, *supra* note 203, at 19 (men or women); Sekine, *Pollution*, *supra* note 168, at 482 (lower classes); Silverman, *supra* note 262, at 57 (non-Gypsies); Sillitoe, *supra* note

animals are sometimes viewed as polluting. For example, the traditional Igbo society of southwestern Nigeria sees pollution in odd animal activities, such as a hen that sits on only one egg, a cock that crows at an unusual hour, a fowl flying over a corpse in the coffin, and a goat climbing onto the roof of a house.[272]

Finally, there are a host of other things which defy categorization but which different societies regard as polluting. These include gold and other metals, silk clothing, leather, cotton cloth, crime generally and theft in particular, usery, gambling, drunkeness, barbering, cutting yam tendrils, hair, a child who cuts the upper teeth first, one's left hand, fainting, deep sleep, strong emotions, prophesying, and simply contact with a new environment.[273] Again, whether people view these things as pollutants often depends upon the context in which they occur. As a result, different societies hold sharply contrasting beliefs about whether they are properly deemed pollutants at all. Even so, the number of pollutants identified by anthropology begins to make the many pollutants identified by environmental law less surprising. The shifting nature of pollution beliefs is illustrated by David deSilva's contrast between Old Testament and New Testament understandings of pollutants. deSilva's book on "unlocking New Testament culture" facilitates a better understanding of the New Testament by explaining the cultural assumptions that existed during its writing.[274] Toward that end, deSilva identifies several "purity maps" drawn by Leviticus, other Old Testament books, and the early Jewish culture to delineate the boundaries across which pollutants should not cross.[275] These maps contain many of the same pollutants discussed by

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257, at 79 (newborn babies).

[272] *See* Aguwa, *supra* note 260, at 541-42. For other pollution beliefs involving animals, see Glucklich, *supra* note 262, at 26; Hutchinson, *supra* note 260, at 495 (killing elephants); Safran, *supra* note 169, at 204 (pigs).

[273] For miscellaneous pollution beliefs, see DOUGLAS, *supra* note 1, at 34 (leather and cotton cloth); Aguwa, *supra* note 260, at 541 (theft, betting with one's husband, cutting yam tendrils, and child who cuts upper teeth first); Bean, *supra* note 168, at 575 (barbering and sweeping); Clark, *supra* note 261, at 742 (gold and other things); Glucklich, *supra* note 262, at 26 (various metals); Green, *supra* note 167, at 93 (contact with new environment); Marcus, *supra* note 260, at 207, 214 (usury, gambling, drunkenness, fainting, deep sleep, strong emotions, prophesying, hair, left hand, silk clothing, and gold jewelry for men); Namihira, *supra* note 168, at S69-S70 (crime); Safran, *supra* note 169, at 204 (wine); Silverman, *supra* note 262, at 56 (topics of conversation).

[274] *See* DAVID A. DESILVA, HONOR, PATRONAGE, KINSHIP & PURITY: UNLOCKING NEW TESTAMENT CULTURE 241-304 (2000).

[275] *Id.* at 256-69. For other accounts of pollution beliefs in Jewish thought, see ELLIOT N. DORFF, MATTERS OF LIFE AND DEATH: A JEWISH APPROACH TO MODERN MEDICAL

contemporary anthropologists.[276] By contrast, deSilva explains, the pollutants of concern in New Testament writings are much different. Jesus offered a "radical reinterpretation and redrawing of purity and pollution lines, now entirely in an ethical direction: 'It is not what goes into the mouth that defiles a person, but it is what comes out of the mouth that defiles.' "[277] And thus, speech "pollutes relationships."[278] Bad teaching is polluting. So are prostitution, fornication, and other sexual sins. Indeed, "every bit as polluting as sexual sin is guile, insincerity, and self-serving motives and agenda . . . ."[279] Paul's letters portray the Christian's body as "sacred space," so "one who harms the Christian (or fellow Christian for that matter) contracts sacrilege pollution and comes under God's ban."[280] The epistle of James, says deSilva, "uses purity and pollution language . . . to orient believers toward rejecting the intrusion of the values of the dominant, non-Christian culture (like showing partiality to the rich and treating the poor dishonorably . . .) as pollution of their community."[281] The concluding Book of Revelation uses pollution imagery to denounce the power of Rome. Some of the Old Testament pollution regulations are retained, but many are rejected as unnecessary during the period after Jesus fulfilled the demands of the ritual laws.

Many alleged pollutants make little sense to twenty-first century American thought (cooking utensils and bodily fluids come to mind).

ETHICS 69-70 (1998) (suggesting that some Jews do not want to "pollute the purity of the Jewish genetic line"); Miryam Z. Wahrman, *Fruit of the Womb: Artificial Reproductive Technologies & Jewish Law*, 9 J. GENDER, RACE & JUST. 109, 135 (2005).

[276] deSilva explains that the "maps of people" keep the Israelites separate from the Gentiles. DESILVA, *supra* note 274, at 256-58. For example, "The book of Ezra and literature associated with it . . . censure the marriage of Israelites to non-Israelite wives as a violation of the Deuteronomic pollution taboo against intermarriage with the natives of Canaan who had polluted the holy land." *Id.* at 257 n.30. "Maps of spaces" protected the holy city of Jerusalem, and especially the temple therein, from the polluting presence of anyone who was not authorized to enter there. *Id.* at 258-59. "Maps of time" are illustrated by the polluting influence of work on the Sabbath. *Id.* at 259-60. Dietary regulations are "[o]ne of the better known aspects of Jewish purity codes and pollution taboos." *Id.* at 260. And, of course, the law contained "maps of the body" that viewed corpses, menstruation, childbirth, and other aspects of death and sexuality as pollutants. *Id.* at 262-64. Yet, "[S]weating, crying, urinating, defecating, even bleeding from a cut were not regarded as polluting." *Id.* at 263.

[277] *Id.* at 281.

[278] *Id.*

[279] *Id.* at 296.

[280] *Id.* at 293.

[281] *Id.* at 300.

Others are affirmatively objectionable (especially the treatment of disfavored people as themselves polluting). The key point, though, is that different societies construct remarkably elaborate understandings of the pollution they must guard against. From this perspective, the ubiquity of environmental pollution claims becomes more familiar, and the contested nature of many environmental pollution claims becomes more understandable.

2. Pollutants of the Natural Environment

Like anthropology and theology, environmental law sees many different kinds of pollutants. As described in Part II, five federal environmental statutes alone list 1,134 different pollutants.[282] Examples of the particular pollutants of concern to environmental law confirm the extraordinarily broad range of items and substances described as pollutants. Notably, "[m]etals, priority toxic organic chemicals, pesticides, and oil and grease are among the leading persistent toxic pollutants cited as causing water quality impairments," while "[s]iltation, nutrient enrichment, and oxygen-depleting substances are among the leading causes of habitat degradation and destruction."[283] Lead leaches into drinking water from corroded plumbing. Viruses, bacteria, and other pathogens enter the water from sewage systems. Spills, pipeline breaks, and runoff introduce oil into the water. Thermal pollution occurs when power plants and other facilities that use water to generate steam or to cool their machinery discharge heated water back into the river, stream, or lake. The CAA targets carbon monoxide, lead, ozone, particulates, sulfur dioxide, and volatile organic compounds as so-called criteria pollutants; the law also addresses 189 specific substances that are deemed "hazardous air pollutants," including asbestos, chlorine, and methanol.[284] The hazardous wastes regulated by federal law contain substances that are corrosive, flammable, reactive, toxic, or otherwise dangerous, including countless byproducts of industrial activities as well as discarded consumer goods such as batteries, paints, solvents, and cleaning fluids.

These examples illustrate that a pollutant may be liquid, solid, or gaseous. A pollutant may be a chemical, radiation, heat, or even a living organism. A pollutant need not even be a tangible substance that you

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[282] *See supra* Part II.

[283] THE COUNCIL ON ENVIRONMENTAL QUALITY, ENVIRONMENTAL QUALITY: THE 1997 ANNUAL REPORT OF THE COUNCIL ON ENVIRONMENTAL QUALITY 106-07 (1997).

[284] 42 U.S.C. § 7412(b)(1) (2006).

can see or feel. Quite simply, there is no limit to the kinds of materials that can operate as a pollutant. The common theme, as in anthropology, is to identify the things that cross a boundary into places where people perceive them as harmful. Like anthropologists, second generation environmental law scholars have come to recognize that "[w]hat pollution is and how we respond to it are now seen in context."[285]

Moving to claims of sensory pollution, one sees that the offending pollutants are otherwise innocuous — or even desirable — things that now appear in excessive quantities in the wrong place. The law often defines noise as "unwanted sound," which neatly captures the distinction between sounds people appreciate or ignore and sounds people find annoying or harmful. Lights that are too bright for a certain time and place give rise to complaints about light pollution. Billboards, tall towers, and ugly buildings yield sights that some describe as visual pollution. Pollution imagery is less common for unwanted smells, but there are occasional descriptions of especially bothersome smells as odor pollution. Large factory farms and farms located near residential communities are the most frequent target of odor pollution complaints, which further demonstrates the contextual nature of pollution claims.

3. Pollutants of Human Environments

The broad range of pollutants identified by anthropology, theology, environmental law, and sensory regulations relate to how human environments become "polluted."[286] Generally, descriptions of human environments refer to certain ideas, images, or people as pollutants. Of course, not every idea, image, or person is polluting, nor are particular ideas, images, or persons viewed as pollutants in every place. The pollution claims more often suggest that the problem arises because the idea, image, or person crosses a boundary into a place where it is unwanted.

This pattern appears in the claims of nations that blame western influences for polluting their societies. Beginning in the nineteenth century, for example, China began expressing concern about spiritual pollution from foreign influences.[287] Afghanistan's Taliban offers an

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[285] Charles W. Powers & Marian R. Chertow, *Industrial Ecology: Overcoming Policy Fragmentation*, *in* THINKING ECOLOGICALLY: THE NEXT GENERATION OF ENVIRONMENTAL POLICY 19, 19 (Marian R. Chertow & Daniel C. Esty eds., 1997).

[286] *See generally supra* Part III.B.1-2 (outlining factors polluting human environments).

[287] *See generally* ORVILLE SCHELL, TO GET RICH IS GLORIOUS: CHINA IN THE EIGHTIES

even more sobering example of the relentless enforcement of boundaries against perceived pollutants. The Taliban seeks a pure Islamic society, and thus created a governmental Department for the Promotion of Virtue and the Prevention of Vice that issued decrees requiring prayers and beards and forbidding idolatry, gambling, homosexuality, sorcery, pictures of animals, and kite flying.[288] The Taliban received harsh international criticism for severely restricting the activities of women. Members of the Taliban even painted the windows of women's homes black so that, in President Clinton's words, "[T]hey won't be able to see outside and . . . be polluted."[289]

The Taliban was even more fearful of how outside influences could prevent it from realizing its dream of an Islamic state. Osama bin Laden believed that the West pollutes Muslims.[290] As a result, the Taliban banned televisions, VCRs, satellite dishes, music, dancing, and virtually every form of entertainment because they were corrupting the morals of the people, especially the youth. [291] For example, the head of the General Department for the Preservation of Virtue and the Prevention of Vice explained, "Only one in 100 cassettes we confiscate are good. The rest are Indian movies and outright pornography, and these are polluters of the mind."[292] In addition, the Taliban feared that improper education could pollute Islamic culture. As a result, the Taliban closed home schools and prohibited women from attending any nonapproved classes at schools.[293] Religions contrary to Islam were perhaps most suspect to the Taliban, which prosecuted foreign aid workers accused of spreading Christianity and destroyed famous

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170-74 (1984) (describing Communist Party's 1983 campaign against Western fashion as symbolic of spiritual pollution).

[288] *See* Juan R.I. Cole, *The Taliban, Women, and the Hegelian Private Sphere*, 70 SOC. RES. 771, 787-89, 791-92 (2003).

[289] William J. Clinton, Remarks as Delivered by President William Jefferson Clinton at Georgetown University (Nov. 7, 2001), *available at* http://www.clintonfoundation.org/news/news-media/120701-sp-cf-ld-sp-wjc-addresses-students-at-georgetown-university.

[290] *See* Jeffrey Goldberg, *Inside Jihad U.: The Education of a Holy Warrior*, N.Y. TIMES, June 25, 2000, § 6, at 32 (quoting Pakistani madrasa student's belief that "Osama wants to keep Islam pure from the pollution of the infidels").

[291] *See* Kanan Makiya, *Help the Iraqis Take Their Country Back*, N.Y. TIMES, Nov. 21, 2001, at A19 (noting that Wahhabi clerics "view all non-Muslims . . . as a form of 'pollution' of the entire 'land of Muhammad,' the phrase that Osama bin Laden uses when he talks about the presence of the American military forces in Saudi Arabia").

[292] *See* Barry Bearak, *Afghans Ruled by Taliban: Poor, Isolated, but Secure*, N.Y. TIMES, Oct. 10, 1998, at A4 (quoting Religion Minister, acting as head of General Department for Preservation of Virtue and Prevention of Vice).

[293] *See* Janet Afary, *Seeking a Feminist Politics for the Middle East After September 11*, 25 FRONTIERS 128, 129 (2004); Cole, *supra* note 288, at 793-95.

ancient statues of Buddha "so thoroughly, that not even pieces of them would remain to pollute the soil."[294]

Other nations also view western influences as pollution. Historically, Muslim countries appear particularly keen to oppose what they regard as American cultural pollution. Nabeel Dejoni, a professor of communications at the American University in Beirut, insists that "[c]ultural pollution in [his] country is as harmful as environmental pollution."[295] Even ordinarily prowestern nations sometimes deride American influences as a source of cultural pollution. France has long sought to protect its indigenous culture from the effects of American movies, music, and food.[296] Canada is another frequent complainer against such cultural pollution.[297] Mexican novelist Homero Aridjis decries Halloween celebrations as cultural pollution from the United States.[298] In each instance, native cultures fear that the culture of the United States — especially the messages and values disseminated by the entertainment media — threatens their survival. In this regard, the use of the term pollution highlights both the allegiance to the pure native culture and the hostility to the harmful American influences. Not surprisingly, such complaints gain less traction within the United States itself. Instead, as noted above, American complaints about cultural pollution typically target violent entertainment, pornography, and racism.[299]

Another group of pollution claims — those targeting unwanted people as pollutants — presents an especially troubling use of pollution imagery. Anthropologists identified numerous pollution beliefs involving women and others as the offending pollutant when a society views them as being in the wrong place. People pollution accusations in popular discourse come in three forms. First,

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[294] Manohar Malgonkar, *The Anger of Gods*, THE TRIBUNE (INDIA), Dec. 16, 2001, *available at* http://tribune.india.com/2001/20011216/spectrum/time.htm.

[295] *See* Janice Rhoshalle Littlejohn, *Film Studies U.S. Media Influence*, SEATTLE TIMES, July 14, 2003, at E1 (quoting Professor Nabeel Dejoni in *The AMC Project: Hollywood and the Muslim World* (ABC television broadcast July 14, 2003)).

[296] *See, e.g.*, Taylor Dinerman, *France and the Idea of Strategic Defense: Technology, Politics and Doctrine*, 25 J. SOC. POL. & ECON. STUD. 285, 300 (2000) (explaining France's view that most of America's entertainment exports are "forms of cultural pollution").

[297] *See* SEYMOUR MARTIN LIPSET, CONTINENTAL DIVIDE: THE VALUES AND INSTITUTIONS OF THE UNITED STATES AND CANADA 221-22 (1990) (describing Canadian concern about American domination of popular culture).

[298] *See* DAVID J. SKAL, DEATH MAKES A HOLIDAY: A CULTURAL HISTORY OF HALLOWEEN 186 (2002) (quoting Aridjis).

[299] *See supra* text accompanying notes 10-13, 88-94.

population control advocates see human overpopulation as a problem of too many people. Second, those objecting to urban sprawl disapprove of a growing number of people in a particular place. Third, and most troubling, are those who believe that certain kinds of people are undesirable, and thus seek to exclude those people from the community. Advocates of this mentality label tourists, celebrities, and convicts as pollution. An infamous 1950 Senate committee report warned that "[o]ne homosexual can pollute a government office."[300] The view of Catholics as pollution helped lead to the nineteenth century and early twentieth century move toward public schools.[301]

The poor are also a frequent target of people pollution complaints. In 1978, for example, a group of residents objected to the federal government's planned establishment of a Job Corps center on a former seminary campus in their St. Paul, Minnesota neighborhood. They sued, alleging that the project could not proceed until the federal government prepared an impact statement documenting the effect that the project would have on the environment. That effect, said the neighbors, was people pollution, "the impact of persons who by reason of their background and experience are or may be different than the persons already present in the community."[302] The court rejected the notion that "the mere influx of low-income persons into a wealthier community should . . . be regarded as an adverse environmental impact," but it concluded that NEPA does require consideration of traffic congestion, criminal activity, and the character of a neighborhood because they are part of the "human environment." Thus, the poor were not pollutants themselves, but their activities could result in other kinds of pollution.[303]

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[300] *Senate Comm. on Expenditures in the Executive Dep'ts, Employment of Homosexuals and Other Sex Perverts in Government*, S. Doc. No. 241, 81st Cong., 2d Sess. 4 (1950); *see also* Dahl v. Sec'y of the U.S. Navy, 830 F. Supp. 1319, 1331 (E.D. Cal. 1993) (noting "the fearful imagery of homosexuals polluting the social environment with unrestrained and wanton expressions of deviant sexuality").

[301] *See, e.g.*, 133 CONG. REC. S1295 (daily ed. Jan. 28, 1997) (statement of Sen. Simon) (reprinting article written by Lutheran church official criticizing fundamentalists); 141 CONG. REC. H8205 (daily ed. Aug. 2, 1995) (statement of Rep. Clay) (complaining that appropriations bill was "polluted with the legislative wish list of the Christian Coalition"); Joseph P. Viteritti, *Davey's Plea: Blaine, Blair,* Witters, *and the Protection of Religious Freedom*, 27 HARV. J.L. & PUB. POL'Y 299, 300 (2003) (asserting that efforts to restrict Catholic schools were "conceived in a climate polluted by religious bigotry").

[302] Como-Falcon Coal., Inc. v. U.S. Dep't of Labor, 465 F. Supp. 850, 857-58 & n.2 (D. Minn. 1978).

[303] *Id.*

Perhaps the most sustained use of this kind of vicious imagery occurred in response to the immigration of Chinese to the United States in the second half of the nineteenth century. The number of Chinese in the United States jumped from virtually zero before 1850 to hundreds of thousands in the years after the California gold rush.[304] Most of those immigrants settled in California, and especially in San Francisco, though Chinatowns appeared in mining towns throughout the west. The newcomers were welcomed at first, but attitudes quickly changed. Bayard Thomas wrote a widely read account of his travels through China in 1853 in which he expressed his "deliberate opinion that the Chinese are, morally, the most debased people on the face of the earth . . . ." He continued, "Their touch is pollution, and, harsh as the opinion may seem, justice to our own race demands that they should not be allowed to settle on our soil."[305] California's Aaron Augustus Sargent expounded on that theme in a remarkable speech in which he proclaimed that the Chinese "bring pollution and spread corruption."[306] Recent scholarship further documents the view of nineteenth century Chinese immigrants as pollution that threatened valuable natural resources, public morals, and public health.[307]

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[304] *See generally* RONALD TAKAKI, A DIFFERENT MIRROR: A HISTORY OF MULTICULTURAL AMERICA 192-94 (1993) (discussing nineteenth century Chinese immigration).

[305] BAYARD TAYLOR, A VISIT TO INDIA, CHINA, AND JAPAN, IN THE YEAR 1853, at 354 (1855).

[306] 4 CONG. REC. 2855 (1876) (remarks of Sen. Sargent). Sargent's description of the arrival of the Chinese in a neighborhood echoes the pollution imagery:

> A landlord will rent a single house on a street to Chinamen, who at once crowd it to repletion with their compatriots . . . . The atmosphere becomes fetid, and a sickly smell pervades the neighborhood, which causes the tenants of the houses to the right and left to vacate. These houses cannot be rented again to white persons, the rents fall, and finally the Chinese get possession . . . . Withal there is unutterable filth and plague-breeding nuisances.

Id. at 2851. Sargent also detailed the other injuries allegedly inflicted by the presence of the Chinese. They undersell and thus displace white labor, they ruin existing businesses, they "fight savagely" and are dangerous to peace, they kill female infants, they prefer "ingeniously cruel and unusual" punishments, they perjure themselves, and they do not aspire to "a government of the people, by the people, for the people." *Id.* at 2850-56. Ironically, two years later Senator Sargent proposed what would later become the nineteenth amendment that guaranteed women the right to vote, and his wife Ellen Clark Sargent was a close friend of Susan B. Anthony. *See* Cornerstone Realty Group, Nevada County History: Sargent House, http://www.nccn.net/~crnrston/nc_history_sghouse.htm (last visited Oct. 7, 2009) (proclaiming Sargent's accomplishments, including fact that he "wrote the nation's first immigration laws").

[307] *See* Aoki, *supra* note 13, at 27-31 (analyzing description of nineteenth century Chinese immigrants as "pollution"); Kitty Calavita, *Collisions at the Intersection of*

The nineteenth century depictions of Chinese immigrants as pollutants are instructive for several reasons. They affirm the three characteristics of pollutants present in all pollution beliefs. First, pollutants can be anything, even another person. Second, whether something is a pollutant depends upon the context in which it appears. Finally, the contextual nature of pollutant claims face resistance. The treatment of nineteenth century Chinese immigrants also demonstrates the ease with which pollution claims can stigmatize things that later generations see as benign or even desirable. Immigration presents a literal illustration of Douglas's understanding of pollution as a violation of boundaries. Yet, it is rare to find any explicit descriptions of immigrants as people pollution at the beginning of the twenty-first century. The worries about overpopulation, sprawl, and immigration persist, but explicit pollution claims have disappeared.

Claims of environmental pollution, cultural pollution, and the pollution beliefs analyzed by anthropologists each involve a pollutant entering an environment where it produces harm. There is a very broad and variable understanding of the affected environments and the pollutants. As a result, what constitutes a clean environment is contested, as are the things that are said to pollute that environment. What society traditionally understands as environmental pollution is no different from other types of pollution claims in this respect.

IV. APPLYING THE IDEA OF POLLUTION

The understanding that the idea of pollution includes far more than today's familiar environmental pollution provides insight into how society should respond to pollution claims of all sorts. I will sketch several of those ideas here, and I hope that the broader understanding of pollution encourages further reflection regarding further implications. Initially, there is the obvious realization that multiple forms of pollution exist. The modern focus upon environmental pollution has provided substantial benefits in the quest to achieve a clean natural environment. But complaints about a variety of human environments persist. Pollution beliefs force people to ask what belongs where. This is especially true with respect to speech, where controversies involving political campaigns, pornography, and violent entertainment yield both legislative responses and judicial battles. Even

Gender, Race, and Class: Enforcing the Chinese Exclusion Laws, 40 LAW & SOC'Y REV. 249, 258-59 (2006) (quoting additional pollution claims voiced during congressional debate over Chinese exclusion acts).

more controversially, pollution beliefs ask *who* belongs where. Charges of people pollution related to immigration, religion, and sexuality are less common, but the underlying disputes about appropriate ethnic, religious, and sexual boundaries continue to rage. Seeing all of these problems as instances of boundary disputes can invoke the lessons of addressing the whole range of contested boundaries — including our significant experience in addressing environmental pollution — to aid in identifying more creative and satisfactory solutions to some of our more intractable cultural arguments.

The task of sorting these pollution beliefs becomes a task of comparing their purported harms. A popular view sees environmental law as a tool for preventing injuries to public health. Actually, it is far more complicated than that. Professor Albert Lin's study of the role of harm in environmental law concluded, "[Harm is] the pivotal concern of much of environmental law," but harm "is not an objective concept possessing a fixed meaning. Rather, harm is a normative concept dependent on social judgments about the interests that matter, bound up in social visions of the good and the bad."[308] For example, people once targeted what society now regards as environmental pollution only for its aesthetic effects. Such aesthetic concerns continue to motivate laws targeting pollution claims today, including the CAA's Prevention of Significant Deterioration program and the Telecommunications Act's mediation of charges that cell phone towers produce visual pollution.[309] Moreover, while laws such as the CAA and the CWA seek to protect the public health and welfare, another group of statutes seeks to preserve the natural environment for a much broader list of reasons.[310] There are even echoes in the early

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[308] Albert C. Lin, *The Unifying Role of Harm in Environmental Law*, 2006 WIS. L. REV. 897, 984.

[309] *See* Sierra Club v. Franklin County Power of Ill., LLC, 546 F.3d 918, 925 (7th Cir. 2008) (holding that plaintiff enjoyed standing to challenge prevention of significant deterioration permit because of aesthetic effects of power plant operating under that permit); Nagle, *supra* note 70, at 555-65 (analyzing application of TCA to aesthetic objections to cell phone towers).

[310] *See, e.g.*, 16 U.S.C. § 1 (2006) (stating that purpose of national parks "is to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations"); *id.* § 1131(a) (2008) (stating purpose of Wilderness Act as "to assure that an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas within the United States and its possessions, leaving no lands designated for preservation and protection in their natural condition"); *id.* § 1531(b) (2008) (stating purpose of Endangered Species Act is "to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be

theological understanding of pollution in such events as Al Gore's congressional testimony proclaiming that climate change is "fundamentally a spiritual problem" and the efforts of Native Americans to protect sacred lands from water that they regard as polluted even though the CWA perceives it as clean.[311] A comprehensive understanding of pollution claims will explore all of the harms that are associated with pollution.

The original meaning of pollution as synonymous with defilement shows how moral concerns play an important role in understanding pollution. Pollution is about offense as well as more tangible harms. Efforts to regulate environmental pollution often cite its immorality. House Speaker Nancy Pelosi, for example, describes global warming "as a national security issue, as an economic issue, as an environmental issue, *and as a moral issue.*"[312] Sometimes environmental pollution is *only* a moral issue. Consider an ongoing dispute between an Arizona ski resort and the native Navajo and Hopi tribes. The ski resort wants to use treated municipal wastewater for snowmaking operations. Even though the water complies with public health code standards, the tribes insist that the water will ruin their spiritual practices. The tribes, in other words, see pollution occurring simply when there is a moral or spiritual harm.[313] The existence of uniquely moral harms brings environmental pollution closer to claims of cultural pollution arising from pornography or violent entertainment, which courts often dismiss as involving "only" offensiveness.[314] The idea of pollution thus encourages renewed consideration of the role that the law, social norms, and private actions play in responding to claims of offense and moral harm.

Pollution beliefs also demand an understanding of what causes pollution's harms. Again, the differences between environmental pollution and other pollution claims may not be as substantial as would initially appear. The pollution claims that Douglas studied are hopelessly beyond the ability of modern scientific methods to judge;

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conserved").

[311] *See* Navajo Nation v. U.S. Forest Serv., 535 F.3d 1058, 1063 (9th Cir. 2008) (en banc), *cert. denied*, 129 S. Ct. 2763 (2009); *see also* AL GORE, AN INCONVENIENT TRUTH: THE PLANETARY EMERGENCY OF GLOBAL WARMING AND WHAT WE CAN DO ABOUT IT 11 (2006) (asserting that climate change "is not ultimately about any scientific discussion or political dialogue" but is instead "a moral, ethical and spiritual challenge").

[312] 155 CONG. REC. H4006 (daily ed. Mar. 25, 2009) (statement of Rep. Pelosi) (emphasis added).

[313] *See Navajo Nation*, 535 F.3d at 1063, 1106.

[314] *See, e.g.*, Am. Amusement Mach. Ass'n v. Kendrick, 244 F.3d 572, 575 (7th Cir. 2001) (stating that "[o]ffensiveness is the offense" of obscenity), *cert. denied*, 534 U.S. 994 (2001).

indeed, there is usually little (if any) scientific evidence to support them. Yet, causation has long presented a challenge to environmental law. During the nineteenth century, sanitation engineers assured the public that sewage discharges did not present any threat to public health. During the 1950s, auto manufactures denied any link between vehicle emissions and smog.[315] The common law failed to arrest much air and water pollution precisely because of the difficulty in attributing specific harms to specific polluters. The statutes that replaced the common law as the main vehicle for combating environmental pollution often simply presume that a polluter produces harm, rather than demanding actual proof of the causal nexus.[316] This is seen in the CWA's focus upon pollution-control technology instead of water quality, which assumes that better technology will inevitably result in less harm from pollution.[317] One sees the same presumption in the list of parties whom federal law holds responsible for cleaning up hazardous wastes — facility owners and operators, and those who generated or shipped the wastes — instead of asking whether any of those parties actually released pollution that harmed the environment.[318] A broader understanding of pollution could consider the application of such approaches to pollution claims involving hostile work environments, violent entertainment, and other alleged sources of cultural pollution.

Understanding the complex nature of pollution complicates formulating a response to pollution claims. Not only do different types of pollution cause different types of harms, but members of society often disagree about the harms associated with specific types of pollution. Yale's Dan Kahan has examined this problem through a theory of cultural cognition and risk assessment based upon Douglas's work. In a series of articles, Kahan has explained how individuals respond to information regarding societal risks based upon their preexisting cultural commitments.[319] Attitudes toward environmental

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[315] *See* SCOTT HAMILTON DEWEY, DON'T BREATHE THE AIR: AIR POLLUTION AND U.S. ENVIRONMENTAL POLITICS, 1945-1970, at 37-56 (2000).

[316] *See, e.g.*, 42 U.S.C. § 9607(a) (2006) (enumerating four categories of parties deemed responsible for hazardous wastes).

[317] *See* PUD No. 1 of Jefferson County v. Wash. Dep't of Ecology, 511 U.S. 700, 704 (1994) (focusing on "technology-based limitations on individual discharges").

[318] *See* 42 U.S.C. § 9607(a) (2008); John Copeland Nagle, *CERCLA, Causation, and Responsibility*, 78 MINN. L. REV. 1493, 1493-96 (1994).

[319] *See, e.g.*, Dan M. Kahan, *The Cognitively Illiberal State*, 60 STAN. L. REV. 115 (2007) [hereinafter *Cognitively Illiberal*] (investigating whether central moral directives of liberalism are ones society can expect citizens to honor); Dan M. Kahan & Donald Braman, *Cultural Cognition and Public Policy*, 24 YALE L. & POL'Y REV. 149

pollution, for example, depend upon one's other cultural beliefs. Kahan credits Douglas and Wildavsky's *Risk and Culture* with using "environmental risk perception" as "[t]he paradigmatic case" for the cultural theory of risk. Using *Risk and Culture*'s categories, Kahan explains that individualists dismiss claims of environmental risk because they object to government regulation of business, whereas egalitarians "dislike commerce and industry" so it "is . . . very congenial to them to believe that these activities cause environmental harm and should . . . be restricted."[320]

Take, for example, the debate regarding climate change. This debate contests not only the appropriate response, but also the very existence of the operative facts regarding climate change. The willingness of people to believe scientific information varies by that information's consistency with one's cultural beliefs. People understand societal risks in the manner that best fits, and least threatens their cultural commitments.[321] The unwillingness to hear expert voices is often frustrating — as the continued hesitance to embrace climate change science well illustrates — but "the scientific experts certainly possess no . . . insight on the cultural values society's laws should express."[322]

(2006) (studying how cultural background influences how people perceive the effectiveness of regulation); Dan M. Kahan, *Two Conceptions of Emotion in Risk Regulation*, 156 U. PA. L. REV. 741 (2008) [hereinafter *Two Conceptions*] (stating purpose of Wilderness Act is "to assure that an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas within the United States and its possessions, leaving no lands designated for preservation and protection in their natural condition"); Dan M. Kahan, *Cultural Cognition as a Conception of the Cultural Theory of Risk* (Cultural Cognition Project Working Paper No. 73, 2008) [hereinafter *Cultural Cognition*], *available at* http://ssrn.com/abstract=1123807 (discussing distinctive features of cultural cognition as conception of cultural theory); Dan M. Kahan et al., *The Second National Risk and Culture Study: Making Sense of — and Making Progress In — The American Culture War of Fact* (Yale Pub. Law Working Paper No. 154, 2007), *available at* http://ssrn.com/abstract=1017189 (presenting evidence of risk-communication strategies that counteract cultural cognition); *see also* The Cultural Cognition Project at Yale Law School, http://culturalcognition.net/ 1 (last visited Aug. 28, 2009) (containing contributions by Professor Kahan).

[320] Kahan, *Cultural Cognition*, *supra* note 319, at 3.

[321] *See id.* at 11-20 (citing and explaining theories of identity-protective cognition, biased assimilation and group polarization, cultural credibility, and cultural identity affirmation).

[322] Kahan, *Two Conceptions*, *supra* note 319, at 761-62. Kahan cites a similar statement in *Risk and Culture* that "[s]cience and risk assessment cannot tell us what we need to know about threats of danger since they explicitly try to exclude moral ideas about the good life." *Id.* at 121 n.72 (quoting DOUGLAS & WILDAVSKY, *supra* note 103, at 80-81).

In Kahan's words:

> We moderns are no less disposed to believe that moral transgressions threaten societal harm. This perception is not, as is conventionally supposed, a product of superstition or unreasoning faith in authority. Rather it is the predictable consequence of the limited state of any individual's experience with natural and social causation, and the role that cultural commitments inevitably play in helping to compensate for this incompleteness in knowledge. What truly distinguishes ours from the premodern condition in this sense is not the advent of modern science; it is the multiplication of cultural worldviews, competition among which has generated historically unprecedented conflict over how to protect society from harm at the very same time that science has progressively enlarged our understandings of how our world works.[323]

Nevertheless, the mere dissemination of scientific information is unlikely to achieve a consensus on societal risks when cultural commitments color the view of such information.

Kahan's thesis goes a long way toward explaining the contested understanding of many pollution claims, including the debates over climate change, internet pornography, campaign spending, and immigration. Even once there is an agreement regarding what constitutes pollution, though, there remains the question of what to do about it. Once again, a broader understanding of pollution may be helpful. Environmental law employs numerous tools to combat pollution; these tools may also apply to other pollution claims. Some of the cultural problems characterized as pollution produce their own set of responses, such as liability for hostile work environments and zoning efforts to address internet pornography. The experience with regulating cultural environments may be a fruitful source of ideas for intractable environmental problems like climate change. Generally, the law employs three different responses to pollution — toleration, prevention, or avoidance — and a broader understanding of pollution may assist in choosing between those options in particular circumstances. Or when the law fails to address pollution, either because of constitutional limitations or political unwillingness, the idea of pollution may aid in shaping social norms that enable affected communities to avoid the harms of the pollution that they fear.

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[323] Kahan, *Cognitively Illiberal*, *supra* note 319, at 119.

The thesis that pollution always involves boundary violations, as Douglas contends, suggests that we should pay greater attention to those boundaries even as we debate the pollutants that threaten to cross them. The contextual nature of pollution means that there are places where we allow some substances and other places where we do not. The regulation of pollution, therefore, requires an agreement about what belongs where. Alas, such agreement is often lacking. This results in a constant legal battle over who gets to draw the boundaries needed to exclude pollution. The battle continues when people disagree with these legally defined boundaries and engage in private actions based upon their own understanding of pollution. The fight to decide who gets to draw which boundaries is universal, and unites advocates opposing all forms of pollution, be it air and water pollution, noise and light pollution, or cultural pollution arising from violent entertainment, racism, and pornography.

Douglas observed that "some pollutions are used as analogies for expressing a general view of the social order."[324] The wide range of things society describes as pollution confirms her insight. Yet the law has constructed distinct responses to pollution claims. Laws that regulate emissions into the air, discharges into the water, violent entertainment, odors, pesticides, sprawl, noise, and hazardous wastes all vary widely despite the fact that each of these problems involves disputes about appropriate modifications to a shared environment. The realization that there are many kinds of pollution should assist both in revisiting the efficacy of various environmental regulations and in considering the diverse ways in which the law regulates workplaces, public speech, and activities in other human environments.

[324] DOUGLAS, *supra* note 1, at 3.