THE SOCIAL MEANING OF ENVIRONMENTAL COMMAND AND CONTROL

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> "The great menace to progress is not ignorance but the illusion of knowledge."[1]

The first generation of command and control environmental laws of the 1970s and 1980s achieved substantial improvements in environmental quality by focusing on the relatively small number of large, industrial polluters. Much of the low-hanging fruit among these large point sources has been picked, however, and attempts to extend command and control approaches to the sources of the remaining problems have provoked significant resistance. These remaining "second generation" sources are often not large point sources, but numerous, small, diffuse non-point sources, such as the many contributors to urban and agricultural runoff into waterbodies.

Second generation sources will present a significant challenge to environmental policymakers over the next twenty years, and these sources may require radically different prescriptions from the first

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[1] DANIEL J. BOORSTIN, CLEOPATRA'S NOSE 7 (1994).

generation command and control requirements. The challenge will be particularly great because the American public believes a number of environmental myths that incorrectly attribute the causes of many remaining environmental problems to industrial point sources, rather than to individual behavior.[2] Although much has been written about the impact on environmental law of the mismatch between individuals' and experts' perceptions of the magnitude of risks to the environment, these myths suggest that an equally important mismatch may occur between individuals' and experts' perceptions of the *sources* of these risks.

This essay draws on the new social norms literature to examine one of the possible reasons for the public misperceptions about the sources of the remaining environmental problems.[3] The essay suggests that one of the insights of the social norms literature, the influence of social meaning on social norms, may shed light on these misperceptions and may enrich our understanding of the difficulties encountered by efforts to control second generation sources. In particular, this essay examines two principal social meanings that appear to have been conveyed by the command and control system. The first social meaning is the conventional notion that pollution is bad.[4] This social meaning may have been conveyed directly through the prescriptions of the command and control statutes, and it may have promoted the development of social norms against pollution. These norms may in turn have facilitated the development of the command and control system. In fact, fear that this social meaning will be undermined underlies much of the criticism of emissions trading systems.[5]

Ironically, the command and control system also may have conveyed

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[2] *See* NATIONAL ENVIRONMENTAL EDUCATION & TRAINING FOUNDATION (NEETF), ENVIRONMENTAL READINESS FOR THE 21ST CENTURY (1999) [hereinafter 1999 NEETF Survey]; NEETF, THE NATIONAL REPORT CARD ON ENVIRONMENTAL KNOWLEDGE, ATTITUDES AND BEHAVIORS: THE SEVENTH ANNUAL SURVEY OF ADULT AMERICANS (1998) [hereinafter 1998 NEETF Survey]; NEETF, SUMMARY AND OVERVIEW OF 1997 NATIONAL REPORT CARD ON ENVIRONMENTAL KNOWLEDGE, ATTITUDES, AND BEHAVIOR (1997), *available at* http://www.neetf.org/reportcard/ files/97summary.doc [hereinafter 1997 NEETF Survey Summary]. The NEETF is a private non-profit organization authorized by Congress in 1990 to study and support environmental education. The surveys were conducted by the polling firm Roper Starch Worldwide.

[3] For a recent review of social norms literature, see Symposium, *Social Norms, Social Meaning, and the Economic Analysis of Law*, 27 J. LEGAL STUD. 537 (1998).

[4] *See, e.g.*, Lynn E. Blais, *Innovations in Environmental Policy: Beyond Cost/Benefit: The Maturation of Economic Analysis of the Law and Its Consequence for Environmental Policymaking*, 2000 U. ILL. L. REV. 237, 246 (2000) (noting the social meaning of the "environmental protection revolution").

[5] *See infra* note 62.

a second, more subtle, social meaning: "individuals" or "citizens" are distinct from "polluters," and the former are not the source of environmental problems. Although this indirect social meaning may have further facilitated the development and implementation of the command and control system, it also may have reinforced public myths about the sources of environmental problems. As a result, this indirect meaning may have discouraged the development of social norms concerning individual responsibility, and it may be one of the factors contributing to sharp public resistance to controls on second generation sources.

The aim of this essay is not to provide a critique of the command and control system or an argument about the social meaning that environmental law should seek to create. Rather, this essay identifies the two principal social meanings that appear to have been conveyed by the command and control system and explores the implications of the second social meaning for the future of environmental law.[6] Part I discusses the emerging understanding of the importance of second generation sources. Part II reviews recent surveys of environmental myths and explores the rejection of efforts to regulate second generation sources. Part III discusses the emerging scholarship on the expression of social meaning and the impact of social meaning on social norms. Part IV identifies the social meanings that may have been conveyed by the command and control system. Part IV also explores the role that these meanings may have had in shaping perceptions and norms about first and second generation environmental problems. Part V examines the types of empirical studies that could help confirm or disprove the social meaning hypothesis and explores the types of prescriptions for "meaning management"[7] that may be available. The essay concludes in Part VI that the concept of social meaning may help identify new ways to think about and test the role that environmental law can play in steering the behavior of second generation sources.

I. SECOND GENERATION ENVIRONMENTAL PROBLEMS

The environmental laws that imposed command and control

[6] The second social meaning has received little or no attention in the literature, although a related concept of "scapegoating" has been discussed by Professor Bradley Bobertz. Bradley C. Bobertz, *Legitimizing Pollution Through Pollution Control Laws: Reflections on Scapegoating Theory*, 73 TEX. L. REV. 711 (1995) (identifying a "scapegoating" theory to explain the transfer of blame from the public to others) [hereinafter Bobertz, *Legitimizing Pollution*].

[7] Lawrence Lessig, *The Regulation of Social Meaning*, 62 U. CHI. L. REV. 943, 957 (1995) (identifying methods of meaning management) [hereinafter Lessig, *Regulation of Social Meaning*].

requirements beginning in the early 1970s have led to significant reductions in emissions of targeted pollutants and improvements in environmental quality in the United States.[8] For example, by 1990, 60% of lakes and 70% of rivers were in compliance with clean water standards, as opposed to approximately one-third in 1972.[9] Similar improvements have been measured in ambient air quality. Despite substantial growth in the gross domestic product, concentrations of five of the six criteria air pollutants identified by the federal Environmental Protection Agency ("EPA") pursuant to the 1970 Clean Air Act have declined, with reductions ranging from 29% to 98%.[10] Similarly, concentrations of ozone-depleting substances have started to decrease in recent years.[11] In addition, the construction work on more than 400 federal Superfund sites had been completed by 1996, and numerous other cleanups are under way.[12] The improper disposal of hazardous waste also has declined substantially.[13]

Despite this progress, the goals of the early statutes have not been achieved. The Clean Water Act identified a goal of fishable and swimmable streams "wherever attainable" by 1983, and zero discharge of pollutants by 1985,[14] but as late as 1994 at least 40% of assessed water bodies were not in compliance with water quality standards.[15] In addition, approximately 2,500 water bodies in 1999 were under fish

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[8] *See* UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, SCIENCE ADVISORY BOARD, INTEGRATED ENVIRONMENTAL DECISION-MAKING IN THE TWENTY-FIRST CENTURY: SUMMARY RECOMMENDATIONS 1-2 (Draft Final May 6, 2000). For a detailed overview of changes in emissions and environmental conditions, see Michael P. Vandenbergh, *Ready, Fire, Aim: A Framework Approach for Linking Environmental Targets in Environmental Law*, 85 KY. L.J. 803, 812-24 (1997) [hereinafter Vandenbergh, *Framework Approach*].

[9] *See* Council ON ENVIRONMENTAL QUALITY, ENVIRONMENTAL QUALITY: THE 22ND ANNUAL REPORT OF THE COUNCIL ON ENVIRONMENTAL QUALITY 187 (1992); COUNCIL ON ENVIRONMENTAL QUALITY, ENVIRONMENTAL QUALITY: THE 5TH ANNUAL REPORT OF THE COUNCIL ON ENVIRONMENTAL QUALITY 286 (1974).

[10] U.S. ENVIRONMENTAL PROTECTION AGENCY, LATEST FINDINGS ON NATIONAL AIR QUALITY: 1999 STATUS AND TRENDS (Summary Report) 2 (August 2000) (noting that the six criteria pollutants are low-level ozone (smog) (measured atmospheric concentrations down 13%), carbon monoxide (down 29%), lead (down 98%), nitrogen dioxide (up 17%) and particulate matter (soot) (down 77%)) [hereinafter EPA 1999 AIR QUALITY REPORT].

[11] *See id.* at 3.

[12] UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, SUPERFUND REFORMS ANNUAL REPORT FY 1997 2-3 (1998).

[13] *See* UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, RCRA ENVIRONMENTAL INDICATORS PROGRESS REPORT: 1995 UPDATE 2-10 (1996).

[14] Federal Water Pollution Control Act §§ 101(a)(1)-(2), 33 U.S.C. §§ 1251(a)(1)-(2) (1994).

[15] UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, NATIONAL WATER QUALITY INVENTORY: 1994 REPORT TO CONGRESS ES-13 (1995) [hereinafter EPA 1994 WATER QUALITY INVENTORY].

consumption advisories resulting from toxic pollutants.[16] Similar concerns exist with air quality. The Clean Air Act required attainment of standards for criteria pollutants "as expeditiously as practicable, but ... in no case later than three years from the date of the approval of [a State Implementation Plan]."[17] Yet as of 1999, 62 million people lived in counties that were out of compliance with at least one of the six criteria air pollutants.[18] Furthermore, although direct releases of toxics are down substantially from 1987 levels, the total amount of toxic waste generated has increased.[19] Solid waste generation in the United States also has increased from 2.7 pounds per person per day in 1960 to 4.3 pounds in 1994.[20] Perhaps most important, it is not at all clear that the United States is on track to achieve the overall national objective of a sustainable environment identified in the National Environmental Policy Act of 1969 ("NEPA").[21]

A significant percentage of the remaining environmental problems are the result of non-compliance with command and control requirements by large, industrial point sources and publicly owned treatment works.[22] The EPA recently estimated that the rate of significant non-compliance by large point sources ranges from 27% for water permits to at least 7% for air requirements.[23] Additional gains in environmental quality could be achieved through improving compliance rates and through new laws or regulations designed to ratchet down the allowable emissions from these large point sources. The emissions that are the subject of much current debate are the air

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[16] EPA 1999 AIR QUALITY REPORT, *supra* note 10, at 3.

[17] Clean Air Act § 110(a), 42 U.S.C. § 7601(c)(iv) (1994).

[18] EPA 1999 AIR QUALITY REPORT, *supra* note 10, at 2.

[19] *See* J. CLARENCE DAVIES & JAN MAZUREK, POLLUTION CONTROL IN THE UNITED STATES: EVALUATING THE SYSTEM 88 (1998) [hereinafter DAVIES & MAZUREK, POLLUTION CONTROL].

[20] UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, CHARACTERIZATION OF MUNICIPAL SOLID WASTE IN THE UNITED STATES: 1995 UPDATE 118 (1996).

[21] The National Environmental Policy Act of 1969, Section 101(a) makes it the policy of the United States to "use all practicable means and measures ... in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic and other requirements of present and future generations of Americans." 42 U.S.C. § 4331(a) (1994).

[22] The principal non-industrial, large point sources are the discharges by publicly owned treatment works to water bodies.

[23] UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, ENFORCEMENT AND COMPLIANCE ASSURANCE: FY98 ACCOMPLISHMENTS REPORT 8-9 (1999) [hereinafter EPA 1998 ENFORCEMENT REPORT]. *See also* Mariane Lavelle, *Environment Vise: Law, Compliance,* NAT'L. L. J., Aug. 30, 1993, at S-1, S-2 (noting that a survey of corporate environmental counsel found that almost 70% of survey respondents reported that their businesses were in violation of state or federal environmental laws at least once in the prior year).

emissions from the coal-fired utilities that were grandfathered into the early Clean Air Act requirements.[24]

Many of the remaining environmental problems are not caused by large, industrial point sources, however. Instead, these problems are the result of numerous small, diffuse, non-point sources. For convenience, these sources are described in this essay as second generation sources, and the problems they cause are described as second generation problems. Examples of second generation problems include: urban and agricultural runoff; air pollution problems caused by emissions from numerous small businesses and from increases in the number and use of motor vehicles; increases in waste generation by individuals, and many sources of global warming gases. Examples of second generation sources include the 25,000 to 35,000 dry cleaning facilities in the United States. The EPA has concluded that their cumulative environmental impact is significant.[25] Similarly, automotive service and repair shops comprise the largest number of generators of small quantities of hazardous waste of any commercial or industrial sector.[26] The EPA estimates that 74% are not in compliance with hazardous waste requirements.[27]

Non-point sources are the leading cause of water pollution in the United States. One study recently concluded that urban and agricultural runoff accounted for 60% of the impaired rivers in the United States.[28] Many of the remaining air quality problems also are caused by non-point sources. Although emissions from motor vehicles have declined substantially on a per-automobile basis since 1970, the number of motor vehicles has increased by well over 40 million,[29] and the number of vehicle miles traveled (VMT) per vehicle has increased by 140%.[30] Emissions of volatile organic compounds from numerous small businesses and from consumer products are also thought to account for a substantial portion of the remaining emissions of the primary pollutants that form smog.[31] Over the last decade, an

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[24] *See* Pamela Najor, *Right to Know Group Faults Utilities' Toxic Emissions, Urges Regulatory, Legislative, Fuel Changes*, 155 DAILY ENVT. REP. (BNA) A-8 (August 10, 2000).

[25] EPA 1998 ENFORCEMENT REPORT, *supra* note 23, at 42.

[26] *Id.* at 39.

[27] *Id.*

[28] *See* EPA 1994 WATER QUALITY INVENTORY, *supra* note 15, at 14 (identifying non-point sources as the leading sources of water quality impairment for rivers, lakes and estuaries).

[29] COUNCIL ON ENVIRONMENTAL QUALITY, ENVIRONMENTAL QUALITY: THE TWENTIETH ANNUAL REPORT OF THE COUNCIL ON ENVIRONMENTAL QUALITY 9 (1990) (noting that the number of vehicles increased from 89.2 million vehicles in 1970 to 139 million in 1989).

[30] EPA 1999 AIR QUALITY REPORT, *supra* note 10, at 5.

[31] *Id.* at 6 (discussing the role of consumer products in the non-attainment of ground-level

increasing number of policymakers and academicians have noted the importance of these second generation sources.[32]

II. PUBLIC PERCEPTIONS OF AND REACTIONS TO ENVIRONMENTAL PROBLEMS

Numerous studies and articles have discussed the mismatch between public perceptions of the relative magnitude of environmental risks and experts' views of those risks.[33] Perhaps the best example is the public's ranking of toxic waste sites near the top of all human health and environmental risks, although expert studies have concluded that the risk to human health and the environment of such sites ranks far below that of many others.[34] This mismatch in risk perception has been identified as one reason why many environmental regulatory programs do not address the risks viewed by experts as the most important.[35]

A much less examined, but equally important mismatch also exists between the public's perception of the sources of environmental risks and experts' views of the actual sources. Surveys suggest that not only is the public unaware of its contributions to many of the remaining environmental problems, it is under the illusion that it is not a contributor to them.[36] For much of the last decade, the National Environmental Education and Training Foundation (NEETF) has

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ozone standards).

[32] *See, e.g.*, Bruce Babbitt, *The Future Environmental Agenda for the United States*, 64 U. COLO. L. REV. 513, 514 (1993) (observing that "the next generation of environmental challenges will be more intractable, more difficult problems that fundamentally relate to how we live on the land and the planet"); William D. Ruckelshaus, *Stopping the Pendulum*, ENVTL. F. 25, 26-27 (Nov./Dec. 1995) (noting that "the most significant threats to our environment now seem to lie, not with major industrial sites, but in the habits of ordinary Americans: we like to drive big, powerful cars, use a lot of electricity, generate a lot of waste, enjoy cheap food, live in grassy suburbs, and collectively send pollution in massive amounts to often distant waterways and airsheds") [hereinafter Ruckelshaus, *Stopping the Pendulum*].

[33] *See, e.g.*, Richard H. Pildes & Cass R. Sunstein, *Reinventing the Regulatory State*, 62 U. CHI. L. REV. 1 (1995) [hereinafter Pildes & Sunstein, *Reinventing the Regulatory State*]; Cass R. Sunstein, *Democratizing America Through Law*, 25 SUFFOLK U.L. REV. 949, 974 (1991). *See also* U.S. ENVIRONMENTAL PROTECTION AGENCY, SCIENCE ADVISORY BOARD, REGULATING RISK (1990). *See also* STEPHEN BREYER, BREAKING THE VICIOUS CIRCLE 21, tbl. 4 (1993) (comparing EPA assessments and national public opinion polls).

[34] *See* Timur Kuran & Cass R. Sunstein, *Availability Cascades and Risk Regulation*, 51 STAN. L. REV. 683, 697 (1999) [hereinafter Kuran & Sunstein, *Availability Cascades*]. *See also* U.S. ENVIRONMENTAL PROTECTION AGENCY, UNFINISHED BUSINESS: A COMPARATIVE ASSESSMENT OF ENVIRONMENTAL PROBLEMS 73-74 (1987) [hereinafter EPA, UNFINISHED BUSINESS].

[35] *See* Pildes & Sunstein, *Reinventing the Regulatory State*, *supra* note 33, at 29.

[36] *See* 1999 NEETF Survey, *supra* note 2, at 17, 29-33; 1998 NEETF Survey, *supra* note 2, at 22-28; 1997 NEETF Survey Summary, *supra* note 2, at 10.

surveyed public knowledge of environmental issues.[37] The 1998 NEETF survey results were consistent with earlier results and demonstrated a disturbing pattern of environmental myths. Although the great majority of the survey respondents rated themselves as having either "a lot" or "a fair amount" of knowledge about environmental issues and problems, the survey results indicated that the public knows less than it thinks it does.[38]

In addition to concluding that overall environmental knowledge was remarkably low, the 1998 NEETF study made several findings of particular importance to the relationship between the command and control system and second generation sources.[39] Overall, the survey results suggested that environmental myths not only dominate the public understanding of the sources of environmental problems but also demonstrate a pattern: many environmental myths involve misinformation about the role of individuals in creating the problems. For example, 47% of the respondents believed that the most common form of pollution in streams is waste dumped by factories, and only 22% knew that urban and agricultural run-off is the more common source.[40] In addition, the majority (57%) of the survey respondents believed that the principal sources of oil contamination of surface water in the United States are releases from oil tankers and off-shore oil drilling platforms.[41] Only 16% knew that the largest source is from individuals changing motor oil and discarding it in storm sewers.[42] Similarly, the respondents to the survey believed that the principal sources of the electricity they consume do not produce air emissions. Over 55% indicated that hydroelectric, solar and nuclear power are the principal sources of electricity.[43] As the study notes, however, the principal sources of electricity are actually fossil fuel-burning power plants.[44]

Perhaps not surprisingly given the public's view of its role in causing environmental problems, the public has reacted very negatively to many attempts to change individual behavior. EPA attempts in the mid-1970s to achieve Clean Air Act requirements by

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[37] *See* 1998 NEETF Survey, *supra* note 2, at 3.

[38] When presented with ten questions, each containing a myth answer, a correct answer, and two plausible but incorrect answers, in 70% of the cases the myth answer received at least a plurality. *See id.* at 5.

[39] *See id.* at 5-9.

[40] *Id.* at 6.

[41] *See id.* at 7.

[42] *See id.* at 7.

[43] *Id.* at 6.

[44] *Id.* at 22.

restricting commuting by motorists in Southern California were highly unpopular and were ultimately withdrawn.[45] More recent attempts to restrict emissions of smog precursors from a variety of second generation sources ranging from consumer products to dry cleaners have not been well received.[46] Resistance to centralized automobile emissions testing programs has been strong in many states.[47] Restrictions on non-point sources of water pollution have been no more popular.[48] Efforts to control non-point sources through watershed planning have been extremely controversial, and after years of effort only one state has received approval of a unified non-point pollution control plan to date.[49]

III. SOCIAL MEANING

A growing body of legal literature in recent years has examined the role that social norms, or social "rules of conduct," play in extralegal social regulation.[50] Much of the literature has focused on whether consideration of social influences can enhance the explanatory or predictive value of economic conceptions of individual decision-making.[51] This essay does not address the debate over the relationship between social norms and economic conceptions of decision-making. Instead, it examines the importance for environmental law of one of the concepts advanced by the norms scholars: that laws, and the programs that implement them, can express or affect social meaning,

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[45] *See* ROBERT V. PERCIVAL ET AL., ENVIRONMENTAL REGULATION: LAW, SCIENCE AND POLICY 795 (1992) [hereinafter PERCIVAL ET AL., ENVIRONMENTAL REGULATION]. *See also* Eli Chernow, *Implementing the Clean Air Act in Los Angeles: The Duty to Achieve the Impossible*, 1 ECOLOGY L.Q. 537 (1975).

[46] *See* Carolyn Whetzel, *Air Pollution: Southern California Dumps Rideshare Rule, Adopts Measure Relying on Menu of Options*, 195 DAILY ENV'T REP. (BNA) A-9, A-10 (Dec. 13, 1995).

[47] *See* Thomas O. McGarity, *Missing Milestones: A Critical Look at the Clean Air Act's VOC Emissions Reduction Program in Nonattainment Areas*, 18 VA. ENVTL. L.J. 41, 74-75 (1999) [hereinafter McGarity, *Missing Milestones*].

[48] *See* DEWITT JOHN, CIVIC ENVIRONMENTALISM: ALTERNATIVES TO REGULATION IN STATES AND COMMUNITIES 10 (1994) (quoting an Iowa farmer who said, "It may take an occupying army to regulate the 100,000 farmers in our state").

[49] *See, e.g.*, Carolyn Whetzel, *California First State to Receive Approval of Unified Nonpoint Pollution Control Plan*, 152 DAILY ENV'T REP. (BNA) A-3 (Aug. 7, 2000).

[50] *See* Eric A. Posner, *The Regulation of Groups: The Influence of Legal and Nonlegal Sanctions on Collective Action*, 63 U. CHI. L. REV. 133 (1996). *See also* Richard H. McAdams, *The Origin, Development and Regulation of Norms*, 96 MICH. L. REV. 338 (1997) [hereinafter McAdams, *Origin of Norms*]; Symposium, *Social Norms, Social Meaning, and the Economic Analysis of Law*, *supra* note 3; Symposium, *Law, Economics & Norms*, 144 U. PA. L. REV. 2181 (1996).

[51] *See* ROBERT C. ELLICKSON, ORDER WITHOUT LAW: HOW NEIGHBORS SETTLE DISPUTES (1991); Dan M. Kahan, *Social Influence, Social Meaning, and Deterrence*, 83 VA. L. REV. 349 (1997) [hereinafter Kahan, *Social Influence*].

and that this social meaning can play a role in shaping social norms.

The definitions of social norms and social meaning have been the subject of extensive debate, and a full examination of these issues is beyond the scope of this essay. Nevertheless, it may be helpful to clarify several terms. For the purposes of this essay, I follow Professor Richard McAdams in understanding a "social norm" to be an informal obligation that may be internalized (and enforced through guilt) or that may arise without internalization (and be enforced through external non-legal sanctions such as stigma or ostracism).[52] I follow Professors Lawrence Lessig and Dan Kahan in understanding social meaning to be "the frameworks of understanding in which individuals live."[53] I also follow Kahan in understanding the regulation of social meaning to include "all the ways in which the law creates and shapes information about the kinds of behavior that members of the public hope for and value, as well as the kinds they expect and fear."[54] Professor Robert Ellickson and others have noted that the term social meaning could either refer to the intended meaning of the actor or the message received by those who observe an act. Ellickson has observed that "social reception" might be a better term for the latter use of social meaning.[55] Although I am focusing on the latter use of social meaning in this essay, I have retained the term social meaning because of its widespread adoption in the literature and because the term may reduce ambiguity about the position I am taking regarding the expressive function of law.

The relationship between social meaning and the expressive function of law also has been the subject of debate. The social norms

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[52] Richard H. McAdams, *Law and Society & Law and Economics: Common Ground, Irreconcilable Differences, New Directions: Comment: Accounting for Norms*, 1997 WIS. L. REV. 625, 634 (1997) [hereinafter McAdams, *Accounting for Norms*]; McAdams, *Origin of Norms*, *supra* note 50, at 340. *See also* Richard A. Posner, *Social Norms and the Law: An Economic Approach*, 87 AM. ECON. REV. 365 (1997) (defining a social norm as a "rule that is neither promulgated by an official source, such as a court or a legislature, nor enforced by the threat of legal sanctions, yet is regularly complied with").

[53] Kahan, *Social Influence*, *supra* note 51, at 351, n.7 (noting that he is following the lead of Lawrence Lessig). *See also* Cass R. Sunstein, *Social Norms and Social Roles*, 96 COLUM. L. REV. 903, 925 (1996) [hereinafter Sunstein, *Social Norms*] (defining social meaning as "the expressive dimension of conduct (not excluding speech) in the relevant community").

[54] Kahan, *Social Influence*, *supra* note 51, at 351. *See* Lessig, *Regulation of Social Meaning*, *supra* note 7, at 943.

[55] Robert C. Ellickson, *Law and Economics Discovers Social Norms*, 27 J. LEGAL STUD. 537, 549 (1997) [hereinafter Ellickson, *Law and Economics*]. *See also* Deborah Hellman, *The Expressive Dimension of Equal Protection*, 85 MINN. L. REV. 1 (2000) [hereinafter Hellman, *Expressive Dimension of Equal Protection*]. The different uses of social meaning are reviewed in detail in Lawrence Lessig, *The New Chicago School*, 27 J. LEG STUD. 661, 680-86 (1998); Lessig, *Regulation of Social Meaning*, *supra* note 7, at 1034-44.

theorists have drawn upon the uncontroversial notion that the law is expressive in the sense that it can signal, reinforce or change social meaning. Examination of the expressive role of law has been influential in scholarship regarding voting rights districts,[56] "endorsement" theories under the Establishment Clause,[57] "stigma" theories under the Equal Protection Clause,[58] and other areas. Some expressivists have advocated an expansive, non-consequentialist view of the expressive dimension of state action, arguing that "what makes an action morally right depends on whether it expresses the appropriate valuations of (that is, attitudes toward) persons."[59] Others have advocated a more limited, consequentialist view that examines the effects of laws, rather than their intrinsic expressive character. To some, the term social meaning only applies to the latter.[60]

These two approaches to the expressive function of law have been explored in the environmental area by Professor Cass Sunstein. Sunstein has noted that a principal criticism of emissions trading programs is that by commodifying environmental emissions these trading programs express the view that environmental amenities are ordinary goods.[61] Critics of emissions trading who take the more expansive, non-consequentialist approach have maintained that the expression of this view of the environment is intrinsically problematic. Critics who support the more limited approach have maintained that the commodification of environmental emissions is problematic not because of intrinsic concerns, but because the commodification will undermine social norms regarding environmental protection that exist against the backdrop of the current command and control system.[62] The more expansive views of the expressive role of law have been

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[56] *See, e.g.*, Richard H. Pildes & Richard G. Niemi, *Expressive Harms, "Bizarre Districts," and Voting Rights: Evaluating Election-District Appearances After Shaw v. Reno*, 92 MICH. L. REV. 483 (1993).

[57] *See* Elizabeth S. Anderson & Richard H. Pildes, *Expressive Theories of Law: A General Restatement*, 148 U. PA. L. REV. 1503, 1545-51 (2000) [hereinafter Anderson & Pildes, *General Restatement*].

[58] *See, e.g.*, David A. Strauss, *Discriminatory Intent and the Taming of Brown*, 56 U. CHI. L. REV. 935 (1989). *See also* Hellman, *Expressive Dimension of Equal Protection*, *supra* note 55.

[59] Anderson & Pildes, *General Restatement*, *supra* note 57, at 1504.

[60] *See, e.g.*, Hellman, *Expressive Dimension of Equal Protection*, *supra* note 55, at 5 n.18.

[61] Cass R. Sunstein, *On the Expressive Function of Law*, 144 U. PA. L. REV. 2021, 2046 (1996) [hereinafter Sunstein, *Expressive Function*].

[62] *Id.* at 2045 (citing Steven Kelman, WHAT PRICE INCENTIVES?: ECONOMISTS AND THE ENVIRONMENT 27 (1981) (noting that a society "fails to make a statement stigmatizing polluting behavior" by adopting market mechanisms)). For a summary of common themes among arguments against emissions trading and other market approaches, see Jane B. Baron & Jeffrey L. Dunoff, *Against Market Rationality: Moral Critiques of Economic Analysis in Legal Theory*, 17 CARDOZO L. REV. 431 (1996).

criticized in the recent literature,[63] but this essay does not assert an expansive, non-consequentialist role for the expressive function of the command and control system. Instead, this essay focuses on the more limited, consequentialist notion that the public can receive a message conveyed by law, whether intended or unintended, and that this message can have an impact on perceptions about the sources of a problem and on the social norms that develop in response to those perceptions. The message conveyed in this way is what I refer to as the social meaning of the command and control system.

Scholars have identified many ways in which a social meaning may be communicated by state action. For example, the choices reflected in a law regarding the types of conduct punished, the types of sanctions used, and the severity of the sanctions can tell us "whose interests it values and how much."[64] Professor Richard Pildes has noted that the public policy programs that implement the choices made in a law also can include an expressive dimension.[65] Pildes has explored the notion that law and public policy can interact in "complex and subtle ways with public and private understandings, norms and ideals."[66] Pildes asserts that public programs do not just provide services but "[t]hey also *mean* something, whether this meaning is talked about in terms of their expressive character, their role in sustaining and creating a public culture, or the way in which understandings of public programs directly influence their implementation."[67] In this essay, I examine not only the social meaning expressed by the command and control statutes and regulations, but the government programs and

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[63] *See* Matthew D. Adler, *Expressive Theories of Law: A Skeptical Overview*, 148 U. PA. L. REV. 1363 (2000); Matthew D. Adler, *Linguistic Meaning, Non-Linguistic "Expression," and the Multiple Variants of Expressivism: A Reply Response to Professors Anderson and Pildes*, 148 U. PA. L. REV. 1577 (2000). Adler has criticized the expressivists on a number of grounds, including the notion that expressivism includes a linguistic meaning. Pildes and Anderson have responded by noting in part that, in their view, Adler does not sufficiently distinguish between communication (which is intended to be conveyed by the actor) and expression (which may or may not be). *See* Anderson & Pildes, *General Restatement*, *supra* note 57 at 1564–70.

[64] Kahan, *Social Influence*, *supra* note 51, at 362.

[65] *See* Richard H. Pildes, *Slinging Arrows at Democracy*, 90 COLUM. L. REV. 2121, 2144–45 (1990).

[66] Richard H. Pildes, *The New Public Law: The Unintended Cultural Consequences of Public Policy: A Comment on the Symposium*, 89 MICH. L. REV. 936 (1991) [hereinafter Pildes, *Unintended Cultural Consequences*]. According to Pildes, there is a causal relationship between public programs and social understandings in at least three ways: (1) public programs express and embody norms, and therefore "consecrat[e] certain values"; (2) the implementation of public programs conveys values not only to the recipients of benefits and services, but to the providers and distributors; and (3) public programs "mediate and construct relationships" between individuals and the state. *Id.* at 940–42.

[67] *Id.* at 942.

enforcement actions that implement them. For that reason, I refer throughout not just to the command and control laws but also to the command and control system.

The relationship between law, social meaning and social norms has several dimensions.[68] For example, actions can convey meaning in the absence of law. Sunstein has noted that the selection of a type of drink at a social function can convey meaning.[69] A single malt scotch sends a different message than a cheap domestic beer. Similarly, Kahan has suggested that because we expect to share time and experiences with friends, a failure to do so conveys that the person does not value the other as a friend or does not know how to do so. Thus, conduct can signal attitudes and commitments.[70]

The law can express social meaning directly by taking positions on particular issues.[71] Kahan and others have noted that criminal laws can express meaning directly by signifying particular valuations. Kahan cites the example of the Flag Protection Act of 1989, which provided penalties for flag burning.[72] He maintains that few expected that flag burning would be deterred. Instead, the law's advocates advanced it less to punish flag burning than to convey support for patriotism and to delineate the relative status of veterans and protestors.[73] The law also can change the social meaning of an action. Lessig has provided an example of the role of law in shaping social meaning that has been widely cited in scholarly publications: the social meaning attached to seatbelt use.[74] As Lessig has noted, the meaning conveyed by buckling a seatbelt in a Budapest taxi, where no seatbelt is required by law, may signal mistrust of the driver. Yet a similar action in a city with a seatbelt requirement may convey no meaning or, at most, signal that

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[68] Scholars who have examined the nature and role of social meaning include Lawrence Lessig, Cass Sunstein and Dan Kahan. *See* Dan M. Kahan, *What Do Alternative Sanctions Mean?*, 63 U. CHI. L. REV. 591 (1996); Kahan, *Social Influence*, *supra* note 51; Lessig, *Regulation of Social Meaning*, *supra* note 7; Lawrence Lessig, *Social Meaning and Social Norms*, 144 U. PA. L. REV. 2181 (1996); Sunstein, *Social Norms*, *supra* note 53. Social meanings are in part the product of existing norms. Kahan, *Social Influence*, *supra* note 51, at 362 (noting that the positions the law takes against this backdrop thus "become suffused with meaning").

[69] Sunstein, *Social Norms*, *supra* note 53, at 934 (using the example of a glass of wine versus a soft drink).

[70] Sunstein has focused on the relationship between social meaning and social roles, noting that social meaning is conveyed through the way the acts or words conform with or violate the "expectations associated with the role." *Id.* at 927.

[71] *See* Sunstein, *Expressive Function*, *supra* note 61, at 2029-44.

[72] Kahan, *Social Influence*, *supra* note 51, at 363.

[73] *See* Sunstein, *Expressive Function*, *supra* note 61, at 2023.

[74] Lessig, *Regulation of Social Meaning*, *supra* note 7, at 952 (using seatbelt use in Budapest cabs and tipping in the U.S. as examples).

the occupant is law-abiding.[75]

Social meaning, whether expressed directly or indirectly, also can affect norms. Lessig, Sunstein and others have examined the ways in which the social meaning expressed by law can shape social norms.[76] This shaping may include reinforcing or changing existing norms, inducing the creation of new norms, or discouraging their development. The ways in which the command and control system has expressed social meanings and the impact of those meanings on environmental norms are discussed below.

IV. THE ROLE OF SOCIAL MEANING IN ENVIRONMENTAL LAW

The environmental command and control system expresses social meanings directly, but also indirectly, in ways that may not have been intended by policymakers or regulators. In Part IV.A, below, I examine the two principal social meanings that appear to have been conveyed by the command and control system and explore how both social meanings may have facilitated the development and enforcement of laws and social norms concerning first generation problems. In Part IV.B, I examine the impact of the second, indirect social meaning on perceptions and norms and suggest why this second social meaning may now stand as a barrier to the resolution of the remaining second generation problems.

A. The Social Meanings of Command and Control

The environmental laws adopted in the 1970s stated broad aspirational goals for environmental quality while imposing specific command and control requirements. The aspirational goals raised the prospect that a pristine environment was achievable through

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[75] Lessig, *Regulation of Social Meaning*, *supra* note 7, at 952. Lessig has cited additional examples of how particular laws can change the social meanings of actions, including the use of hockey helmets. *Id.* at 967-72. The law also can change behavior by discouraging an action that conveys a social meaning. Kahan points out that "regulatory norms can reinforce or suppress particular meanings" of actions. He cites the example of laws designed to reduce the number of guns in schools. He notes that prohibitions on guns in school have been ineffective, at least in part because the prohibitions increase the social status of those who defy them. Kahan points instead to a program that pays rewards to school snitches to identify those with guns and thus discourages students from showing off their guns. The program attempts to undercut the value of the guns to the bearer by making the guns less likely to be displayed. Kahan, *Social Influence*, *supra* note 51, at 363-64. For a discussion of this concept in the popular press, see Jeffrey Rosen, *The Social Police: Following The Law Because You'd Be Too Embarrassed Not To*, NEW YORKER, Oct. 20 & 27, 1997, at 170, 174.

[76] *See* Sunstein, *Expressive Function*, *supra* note 61; Lessig, *Regulation of Social Meaning*, *supra* note 7.

implementation of the command and control requirements.[77] The first social meaning was expressed directly through statutory prohibitions: polluters and polluting activities are worthy of condemnation. Public sentiment against pollution increased throughout the decade preceding the enactment of the environmental laws in the 1970s, and it is unlikely that these laws created, rather than reflected, the newly emerging norms against pollution. The social meaning conveyed by the laws may have signaled a societal consensus regarding pollution, however, and in that way facilitated the widespread adoption of norms against pollution.

Volumes have been written about the reasons for the enactment of the first generation of environmental laws, with some authors focused on the "politician's dilemma" faced by President Nixon and Senator Muskie, and others focused on rational choice, "republican moment" and other explanations for their enactment.[78] I cannot hope to add to that scholarship in this essay, but I do want to explore one aspect that has received insufficient attention: the selection of the targets of the environmental command and control system. Many potential targets were available to Congress when these statutes were enacted. Among the sources of contamination were large industries, small businesses, individuals, farmers, and various federal, state and local government entities. All contributed in some significant way to the environmental degradation that was the subject of these laws, yet almost no requirements were imposed on individuals, and the requirements imposed on small businesses and some government entities were minimal in many cases.[79] Instead, industrial point sources bore the

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[77] For example, the Clean Water Act Amendments of 1972 articulated a goal of fishable and swimmable waters by 1983 and zero discharges by 1995. *See, e.g.*, David Schoenbrod, *Goals Statutes or Rules Statutes: The Case of the Clean Air Act*, 30 U.C.L.A. L. REV. 740 (1983) (noting that although the Clean Air Act provided utopian goals, the regulatory prescriptions left non-point sources largely unregulated). For a discussion of the goals in the first generation environmental statutes, see Vandenbergh, *Framework Approach*, *supra* note 8, at 835.

[78] *See* PERCIVAL ET AL., ENVIRONMENTAL REGULATION, *supra* note 45, at 764. *See generally*, E. Donald Elliot et al., *Toward a Theory of Statutory Evolution: The Federalization of Environmental Law*, 1 J.L. ECON. & ORG. 313 (1985); Christopher H. Schroeder, *The Political Origins of Modern Environmental Law: Rational Choice Versus Republican Moment-Explanations for Environmental Laws*, 9 DUKE ENVTL. L. & POL'Y. F. 29 (1998) [hereinafter Schroeder, *Rational Choice Versus Republican Moment Explanations*].

[79] For example, the agricultural sources of non-point-source water pollution were excluded from the principal requirements of the Clean Water Act. Clean Water Act, §502(14), 33 U.S.C. §1362(14) (1994) ("agricultural stormwater discharges and return flows from irrigated agriculture" are not "point sources"). Perhaps the greatest exception to this analysis is the requirement for publicly owned treatment works (POTWs) to meet Clean Water Act standards, but POTWs were given extended periods to reduce emissions. As Professor Bobertz has noted, it is clear that the participants in the legislative debates were aware that individuals played a

brunt of the requirements imposed by the command and control laws.[80] As a result, the administrative regulations promulgated by the EPA and the state environmental agencies were almost exclusively targeted to industrial polluters. We have become so comfortable with the notion of the command and control system regulating large, industrial point sources that it is almost hard to conceive of an environmental system with a substantial focus on other sources.

Of course, the bulk of the prescriptions of the command and control system may have been directed toward industrial polluters, not individuals and other second generation sources, for a variety of very defensible reasons. Industrial polluters were the source of many of the most significant problems from an environmental and human health standpoint.[81] Large industrial polluters also were the source of many of the most obvious problems. The correspondence between corporate environmental disasters and the subsequent enactment of command and control statutes has been widely discussed.[82] Among the most commonly cited examples are the roles of the Santa Barbara Channel oil spill and the burning of the Cuyahoga River in the enactment of the Clean Water Act in 1972.[83]

Large industrial polluters also were easier to regulate from an administrative standpoint.[84] They were fewer in number and more homogenous than second generation sources. As a result, the EPA could more easily draft regulations specific to various types of

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role in causing some portion of the environmental problems. Bobertz, *Legitimizing Pollution*, *supra* note 6, at 745 (quoting Senator Muskie for the proposition that "[i]t is easy to blame pollution only on the large economic interests, but pollution is a by-product of our consumption-oriented society. Each of us must bear his share of the blame").

[80] For example, industrial polluters were and are the subject of the bulk of the requirements under the Clean Air Act, the Clean Water Act, the Toxic Substances Control Act, and the Resource Conservation and Recovery Act. *See also* Bobertz, *Legitimizing Pollution*, *supra* note 6, at 744 n.176 (noting, "Up to this point, the economic burdens of environmental regulation have fallen mainly on the industrial sector").

[81] *See* EPA, UNFINISHED BUSINESS, *supra* note 34, at 58-60, 64, 66, 69, 70-71, 73-76, 78, 80 (1987).

[82] *See* Jerry L. Anderson, *The Environmental Revolution at Twenty-Five*, 26 RUTGERS L. J. 395, 414 (1995) (discussing the role of environmental disasters in the enactment of environmental laws). *See also* Schroeder, *Rational Choice Versus Republican Moment Explanations*, *supra* note 78, at 45-47 (discussing the concern for human health as a factor in increasing legislative action to reduce environmental deterioration).

[83] More recent examples include the role of Love Canal and the Valley of the Drums in the enactment of the Comprehensive Environmental Response, Compensation and Liability Act of 1980, 42 U.S.C. §§ 9601-9675 (1994), and of the Exxon Valdez oil spill in the enactment of the Oil Pollution Act of 1990, 33 U.S.C. §§ 2701-2761 (1994).

[84] *See* DAVIES AND MAZUREK, POLLUTION CONTROL, *supra* note 19, at 262 (noting that the pollution control system focused on point sources in part because they were "easy to identify and regulate").

industrial sources. Similarly, the relatively small number and homogeniety of large industrial point sources facilitated enforcement.[85] The limited scientific understanding of the relationship between any specific emission source and the environmental conditions affected may have made the prospect of designing and supporting controls on individuals or small businesses a daunting task.

In addition, attributing the remaining problems to large, industrial point sources may simply have been easier for the media to convey and individuals to understand.[86] As Professor Bradley Bobertz has noted, the public may not have been receptive to information that implicated its own behavior, as opposed to "scapegoating" a third party.[87] To the extent politicians wanted to respond both to voters' demands for greater environmental protection and unwillingness to bear the direct costs and inconvenience of prescriptions directed at individuals, large industrial polluters provided a politically palatable alternative. Poll results show widespread public support for the environment,[88] and some commentators have been critical of environmental agencies' reluctance to implement environmental laws aggressively.[89] The difficult reality for policymakers is that although public support for environmental protection is widespread, the support is often thin. The environment is often not among the voter's top concerns, and polls rarely test the general support for the environment against the costs or inconvenience that may be borne by the individuals polled.[90] Regulation of large, industrial polluters may have provided a way of satisfying the widespread public demand for environmental protection without testing the willingness of individuals to bear costs or

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[85] *See* PERCIVAL, ENVIRONMENTAL REGULATION, *supra* note 45, at 945 (noting that nonpoint source controls are difficult to develop and administer).

[86] *See, e.g.*, Kuran & Sunstein, *Availability Cascades*, *supra* note 34, at 723.

[87] *See* Bobertz, *Legitimizing Pollution*, *supra* note 6, at 715.

[88] *See* Thomas L. Osterhaus, *Pro-Social Consumer Influence Strategies: When and How Do They Work?* 61 J. Marketing 16 (1997) (noting that poll results suggest that 75% of Americans consider themselves to be environmentalists).

[89] *See, e.g.*, McGarity, *Missing Milestones*, *supra* note 47 at 96-97 (discussing EPA's failure to implement the "milestones" program under the Clean Air Act, under which certain states were required in their State Implementation Plans to achieve a gradual decrease in volatile organic chemical emissions over a set period of years).

[90] *See* Margaret Kriz, *Candidates Present Clear Choices*, 17 ENVTL. F. 6 (July/Aug. 2000) (noting that "[g]reen issues rarely rank among the top reasons why Americans select one presidential candidate over another"). *See also* Joel Connelly, *Local Efforts Reflect Global Goals; Healthy Environment Considered A Right*, SEATTLE POST-INTELLIGENCER, Apr. 21, 2000, at A1 (quoting William Ruckelshaus for the proposition that "[i]f you go into any city, 80 percent of the people would agree that the Clean Air Act should be strengthened,...[b]ut if you ask them to spend 20 minutes a year in a vehicle inspection program, 80 percent will resist").

inconvenience directly.[91]

The prescriptions of the command and control system also may have been directed principally toward industrial polluters for reasons that may be less explainable from an instrumental perspective. One potential reason is the avoidance of cognitive dissonance.[92] Cognitive dissonance is the inability to hold contradictory views of oneself at the same time.[93] For environmental law, the important aspect of this phenomenon is the difficulty for an individual to believe both "I support protection of the environment" and "I am a polluter."

The second, indirect social meaning conveyed by the command and control system may have provided a means of avoiding this cognitive dissonance: industrial polluters are the source of environmental problems, and individual citizens are enforcers allied with the government to stop them.[94] Indeed, despite the role of second generation sources in producing the remaining environmental problems, many descriptions even today speak only in terms of "industrial pollution."[95] The command and control system thus allowed individuals to support environmental protection by focusing both economic costs and moral opprobrium on industrial polluters. Simply put, individuals could now say "I support protection of the environment" and "they are polluters."

This second social meaning may have been conveyed indirectly by several aspects of the command and control system, including the choice of targets for regulation, the choice of targets for data collection, and the legal mechanisms provided for enforcement. Social meaning was expressed indirectly through the identification of the sources of the problem and the selection of the entities that must change their behavior. When the sources of a problem and the targets are clear, the notion that the selection of targets can convey a public meaning is an unremarkable proposition. Thus, when the law

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[91] Professors Kuran & Sunstein have noted that a focus on industrial requirements may sensitize the public to the risk regulation benefits of new controls without also sensitizing the public to the costs of the controls. *See* Kuran & Sunstein, *Availability Cascades*, *supra* note 34, at 721.

[92] Professor Kahan has noted that avoidance of cognitive dissonance is one potential reason why individuals have been found to adapt their moral convictions to that of their peers. Kahan, *Social Influence*, *supra* note 51, at 358-59.

[93] *See* Kahan, *Social Influence*, *supra* note 51, at 358 n.42 (citing LEON FESTINGER, A THEORY OF COGNITIVE DISSONANCE (1957)).

[94] Former EPA Administrator William Ruckelshaus has commented on the implications of this aspect of environmentalism. *See* Ruckelshaus, *Stopping the Pendulum*, *supra* note 32, at 26-27.

[95] *See* Kuran & Sunstein, *Availability Cascades*, *supra* note 34, at 720.

sanctions bank robbers for robbing banks, the identification of the bank robbers as the targets of its sanctions in and of itself conveys only limited social meaning. But when there are a variety of potential sources and targets, this selection of targets can convey a strong, indirect (and unintended) social meaning. The social meaning can then affect public perceptions about the sources of the problems and the social norms that influence behaviors associated with those problems.

As discussed above, the command and control statutes directed the vast majority of their prescriptions toward industrial polluters. With the notable exception of Clean Water Act controls on publicly owned treatment works, state and local governments were not the target of much activity. Small businesses either were not subject to or were exempted from many requirements.[96] Individuals were the subject of few requirements, and, as discussed above, many of those were withdrawn after a public outcry.

The data collection and dissemination required by the command and control system also may have conveyed this indirect social meaning. The command and control statutes required large point sources to generate and submit data on emissions to the EPA and state agencies. Those data then became the subject of government and media reports on pollution and polluters. Although the Toxic Release Inventory (TRI)[97] is the product of new thinking about the use of information disclosure to change behavior, the TRI requirements reflect much of the old thinking about sources found in the command and control statutes. The reporting obligations again fall almost exclusively on large, industrial sources. Individuals and small sources are exempt.[98] Although the costs and practical difficulties of administration may be sufficient to explain the focus on large sources, the end result is the same: The government publishes annual reports underscoring the emissions of industrial sources, without any accompanying information about second generation sources. The public then receives this message through annual media reports on the trends reflected in the TRI data.

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[96] For a discussion of small businesses and the regulatory state, see Richard J. Pierce, *Small is Not Beautiful: The Case Against Special Regulatory Treatment of Small Firms*, 50 ADMIN. L. REV. 537, 559-60 (1998) (explaining that small firms are not subject to many emissions controls and that emissions from small firms remain at levels existing prior to the Clean Air Act) [hereinafter Pierce, *Small is Not Beautiful*].

[97] *See* Emergency Planning and Community Right-to-Know Act, § 313, 42 U.S.C. §11023 (1994).

[98] *See id.* § 11023(b) and (f) (exempting from Toxic Release Inventory reporting any manufacturer with ten or fewer employees, producing less than 25,000 pounds of listed substances, or using less than 10,000 pounds of the regulated substances).

The enforcement mechanisms of the command and control statutes and their implementation by regulatory agencies also may have conveyed the indirect social meaning. Stringent enforcement mechanisms were provided for agency use against industrial polluters, but more attenuated means of achieving compliance were provided in many cases for use against individuals, small businesses, and government entities.[99] This approach has only continued in recent years, with Congress providing breaks to small businesses[100] and restricting EPA enforcement against the Department of Defense under a number of environmental statutes.[101] Not surprisingly, industrial polluters were the subject of the bulk of the enforcement actions taken against the various potential targets of the command and control system. The enforcement actions taken against industrial polluters then triggered additional media attention and reinforced the notion that industrial polluters are the source of environmental contamination.[102] Although federal, state and local government entities, small businesses and individuals have been substantial contributors to environmental problems, enforcement against these sources has been more limited.[103]

Citizen suit provisions also may have conveyed the second social meaning. The Clean Air Act,[104] Clean Water Act,[105] Resource

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[99] For example, substantial enforcement penalties are provided for non-compliance with many Clean Air Act requirements, but these penalties are imposed on regulated sources, which are predominantly industrial point sources. *See* Clean Air Act § 113, 42 U.S.C. § 7413 (1994). Programs directed at second generation problems, such as the Employee Commute Options (ECO) program under the Clean Air Act, 42 U.S.C. § 7511a(d)(1)(B), have been interpreted to provide for enforcement against employers, not individuals. *See* Approval and Incorporation of Employee Commute Option Program in the State Implementation Plan; Indiana, 60 Fed. Reg. 12695, 12696 (Mar. 8, 1995) ("employees will not face penalties for not meeting the ECO requirements"). In addition, only limited enforcement has been taken against employers who are subject to ECO program requirements. *See, e.g., DEQ Issues First Fines to Employers Over Auto Commuting Reduction Compliance*, 232 Daily Envt. Rep. (BNA) A-10 (Dec. 1, 2000) (indicating that the first penalties issued under the Oregon ECO program were all under $4,000 per employer).

[100] Pierce, *Small is Not Beautiful*, *supra* note 96, at 541-42.

[101] *See, e.g.*, 10 U.S.C. § 2703(e) (imposing restrictions on payment of environmental penalties by the Department of Defense). For a discussion of recent attempts to narrow some limitations, see *Draft Bill Would Wipe Out DOD's Immunity to Environmental Laws*, SUPERFUND REP. 8-9 (Nov. 27, 2000).

[102] *See* Bobertz, *Legitimizing Pollution*, *supra* note 6, at 719-25 (discussing media portrayals of environmental problems).

[103] *See generally* UNITED STATES ENVIRONMENTAL PROTECTION AGENCY, ANNUAL REPORT ON ENFORCEMENT AND COMPLIANCE ASSURANCE ACCOMPLISHMENTS IN 1999 (2000).

[104] Clean Air Act § 304, 42 U.S.C. § 7604 (1994). Although initially citizens could only seek to have EPA take action or order a source to comply, the 1990 Clean Air Act Amendments also provided for citizens to seek civil penalties.

Conservation and Recovery Act,[106] and other federal environmental statutes include citizen suit provisions to supplement government enforcement.[107] In addition, a number of state environmental statutes include citizen suit provisions. Many of the federal and state citizen suit provisions place citizens on the same side of the table as federal, state and local governments in enforcing the laws. Although citizen suit provisions provided greater incentives for compliance by industrial polluters, they also may have furthered the notion that individual "citizens" are distinct from "polluters."[108]

In sum, the structure and implementation of the command and control system may have not only condemned pollution but conveyed a second social meaning: Industrial polluters are the sources of environmental problems, and individuals are part of the solution, not part of the problem. This focus on industrial polluters may well have been the most appropriate choice from the perspective of trying to achieve the greatest initial gains in environmental protection at the least cost. The focus also may have facilitated the enactment of environmental laws by providing politicians with a politically palatable alternative and by enabling individuals to avoid cognitive dissonance. This focus also may buttress current public support for the command and control requirements that have produced substantial, measurable

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[105] Clean Water Act § 505, 33 U.S.C. § 1365 (1994). Section 505(a) provides that any person "having an interest which is or may be adversely affected" may commence a civil action against any person for violation of any effluent standard, limitation or order, or against EPA for failure to perform a non-discretionary duty. *Id.* Citizen groups often bring actions based on a permittee's submissions of discharge reports indicating emissions that exceed permitted levels.

[106] Resource Conservation and Recovery Act (RCRA) § 7002, 42 U.S.C. § 6972 (1994). Citizen suit provisions were included in the original RCRA provisions and were expanded in the 1984 Hazardous and Solid Waste Amendments to include situations in which past or present management or disposal of hazardous wastes contributed to an imminent or substantial endangerment.

[107] *See* Gwaltney of Smithfield v. Chesapeake Bay Foundation, 484 U.S. 49, 60 (1987) (noting that citizen suits are "meant to supplement rather than to supplant governmental action"). Many of these provisions provide citizens with an action against polluters in violation of emissions limits and against agencies for failing to pursue certain non-discretionary duties.

[108] Some citizen suit provisions also allow citizens to sue government agencies to force agency actions. *See, e.g.*, 42 U.S.C. § 6972 (1994). In the years since the enactment of the Comprehensive Emergency Response, Compensation and Liability Act ("CERCLA") in 1980, it has become clear that industrial polluters, if given incentives, are willing and able to pursue aggressively other polluters to recover environmental cleanup costs. Their resources, knowledge of other industries and obligation to pursue their economic interests produced an explosion of Superfund cost recovery litigation in the late 1980s and early 1990s. Industrial polluters have an interest in requiring competitors to comply with environmental laws, yet, with the exception of recent attempts to use the RCRA citizen suit provisions for recovery of cleanup costs where CERCLA is unavailable (*e.g.*, for cleanup of petroleum releases), corporations only rarely utilize citizen suit provisions.

gains in environmental quality. As discussed below, the indirect social meaning conveyed by the command and control system also may have had an unintended consequence: It may have strengthened the barriers to achieving further improvements in environmental quality.[109]

B. Perceptions, Norms and Second Generation Sources

Even without the expression of any social meaning by the command and control system, substantial barriers exist to regulating individual behavior. Identification and quantification of the impacts of particular second-generation sources on the environment can be extremely difficult.[110] Tailoring requirements to these multiple, diffuse sources and designing efficient enforcement programs also can be difficult. To the extent legislative and executive responses to environmental problems are facilitated by major eco-disasters with easily-identifiable villains, these responses may not occur if the problems are accretive rather than sudden and catastrophic, and the villains are millions of individuals or small businesses. If a "republican moment" was triggered by the public's response to the environmental disasters of the late 1960s and early 1970s, will the slow, largely villain-less degradation caused by second-generation sources trigger a similar moment?[111]

The indirect social meaning conveyed by the command and control system may have strengthened the barriers to governmental responses to second-generation problems in several ways. Although certainly not the only factor, this social meaning provided much of the context

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[109] The perception is also facilitated by a variety of cognitive heuristics in the way individuals perceive risks. *See* Kuran & Sunstein, *Availability Cascades*, *supra* note 34, at 709.

[110] *See* DAVIES & MAZUREK, POLLUTION CONTROL, *supra* note 19, at 262 (noting that non-point source pollution is more difficult to regulate and control than point source-based pollution because "it usually results from numerous, geographically dispersed sources each emitting relatively small quantities of pollutants").

[111] The citizen-consumer distinction may be another barrier to efforts to address second generation sources. As Sunstein has noted, researchers have identified a distinction between the views of individuals as citizens and as consumers. Individuals in their capacity as citizens may seek results that do not reflect their market behavior. This phenomenon may help explain the disconnect between citizen support for environmental laws and consumer behavior that often does not reflect a concern for the environment. The phenomenon also may have facilitated the enactment and implementation of the command and control system by allowing citizens to support policies that did not directly implicate their consumer behavior. But with some second generation environmental problems, where individual consumer behavior is the source of the problem in the first place, and external sources subject to traditional regulation are not implicated, policymakers may face a particularly difficult challenge. *See* Sunstein, *Social Norms*, *supra* note 53, at 923-25. The distinction between the citizen and the consumer has been explored by Mark Sagoff, among others. *See, e.g.*, MARK SAGOFF, THE ECONOMY OF THE EARTH (1988).

for the public myths about the causes of environmental problems. The NEETF surveys suggest that individuals believe that their behavior does not have significant environmental impacts. The indirect social meaning of the command and control system may have reinforced this perception, and the media may have perpetuated it by reporting on the toxic emissions of and major enforcement actions against industrial polluters.

The indirect social meaning also may have inhibited the development of social norms against individual behaviors that contribute to environmental problems. Not surprisingly, with the possible exception of a small handful of hardcore environmentalists, social norms that reflect the role individuals play in causing second-generation problems and that stigmatize relevant behaviors are not prevalent in most communities. At this point, it is not possible to establish a causal relationship among the social meanings conveyed by the command and control system, the public misperceptions about the sources of second generation environmental problems and the absence of norms regarding individual environmental responsibility. At the same time, it is not hard to envision that the public misperceptions and the dearth of norms might not exist today if the social meaning conveyed by the first generation of environmental laws had been one of individual responsibility. In short, the indirect social meaning conveyed by the command and control system may have facilitated public myths about the role of second generation sources. This social meaning and the perceptions it facilitated in turn may have impeded the development of norms regarding individual responsibility for environmental problems.[112]

As the social norms scholarship has made abundantly clear, social meanings and influences form a complex web of factors that influence behavior in the absence of law and that affect reactions to law. Individuals have not received the social meanings of the command and control system on a blank slate, but rather against a backdrop of material desires, pre-existing norms, legal requirements and other factors. In some cases, conflicting social norms and meanings may be in play. Desire for the demonstration of status through material goods

[112] An obvious problem here is the substantial popularity of recycling programs. Individuals recycle at surprisingly high rates but do not buy green products or act in other environmentally friendly ways at similar rates. An optimistic view would suggest that recycling programs demonstrate the ability of law to shape norms in the environmental area. A less optimistic view would suggest that recycling is only a minor inconvenience and provides an expiation of guilt, and as a result does not suggest success for efforts to shape norms concerning other environmental issues.

has an obvious impact on consumption. Individuals express strong support for less government intrusion and more protection of the environment at the same time.[113] Individual freedom from intrusiveness is highly regarded.[114] Deep-seated notions of individual freedom, open space, and the frontier mentality, as well as concerns about basic needs such as education and safety, may affect perceptions and norms about many second generation problems.

It is fair to ask whether, in light of this complex web of factors, the notion of the social meaning of the command and control system can add valuable insights to our understanding of environmental law. Is the web too complex or the concept too vague to test adequately? If tested, can the concept add to the predictive value of our assessments of future behavior and to our ability to develop prescriptions? Only further work will tell, but in the next section I identify several ways to test the existence and contours of the social meanings of the command and control system, and I suggest the types of general and specific prescriptions that the concept of social meaning may lead us to in the future.

V. TESTING AND CHANGING SOCIAL MEANING

Although I am not a social scientist, the thesis of this essay – that the social meanings conveyed by first generation statutes may have made progress on second generation problems more difficult – suggests an extensive empirical research agenda. In the sections that follow, I briefly outline the types of inquiries that could help confirm or disprove the social meaning thesis presented here. Assuming that the social meaning thesis finds empirical support, I then briefly identify several strategies that might prove effective in addressing second generation problems. The goal here is not to develop a detailed set of prescriptions for the nation's remaining environmental problems. Rather, it is to identify ways to test the thesis I have presented and to begin a dialogue about how to use the relationship between law and social meaning to address many of the most intractable problems on the environmental agenda.[115]

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[113] *See, e.g.*, Paul Taylor, *Impasse Mirrors Country's Ambivalence on Modern Role of Government*, WASH. POST, Nov. 19, 1995, at A9 (noting that "Americans are of two minds about the role of their government. They want its protections but not its intrusions; its benefits but not its costs").

[114] *See* DAVIES & MAZUREK, POLLUTION CONTROL, *supra* note 19, at 170 (noting that "an evaluation of the pollution control regulatory system would be incomplete without consideration of how that system measures up with respect to nonintrusiveness").

[115] Social norms theorists differ on whether it is advisable for government to engage in social

A. Testing the Social Meaning of Command and Control

One of the outcomes of the social norms scholarship is an increasing cross-fertilization of legal scholarship with social psychology, sociology, and anthropology. Although social science research results are often indefinite, and the schools of thought in some of these fields have been described as a "swamp,"[116] collaboration among social scientists and legal scholars is likely to increase. If the field studies of Professor Ellickson and others is any indication, social norms scholarship may lead other legal scholars and social scientists to conduct additional empirical studies of human behaviors relevant to law, and the results may challenge some widely held assumptions.[117]

In that light, it may be possible to test the notion that the command and control system has expressed social meanings about pollution caused by second generation sources, as well as the impact of those social meanings on social norms. Research could be conducted through survey techniques or laboratory studies into whether individuals receive a social meaning when they learn about the selection of targets for regulation and the subsequent enforcement against those targets. Do individuals who are not exposed to these messages have different views of the sources of the problems? Do they hold or develop different norms about the appropriate conduct of the sources? Research also could be conducted into the contours of the message received. For example, do individuals generalize accounts about a particular pollution incident to broad categories of sources or problems? On a more specific level, research also could be conducted into the role that social meaning may play in attempts to steer behavior. The social meanings of statutes or agency actions could be identified and their utility for steering specific behaviors could be assessed. The space limitations of this essay only allow me to scratch the surface here, but I discuss below several examples of these general and specific approaches to changing social meaning.

B. Meaning Management for Second Generation Sources

The examination of the social meanings conveyed by the command

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meaning management. *See generally*, McAdams, *Accounting for Norms*, *supra* note 52, at 635-36 (noting different views on the appropriate role of the state). Lessig has noted that although the public reacts negatively to explicit government management of social meanings, "social meanings are collective goods, and collective action is needed . . . to change collective goods." Lessig, *Regulation of Social Meaning*, *supra* note 7, at 1022.

[116] Ellickson, *Law and Economics*, *supra* note 55, at 549 (citing Arthur Leff).

[117] *Id.* at 551-52. *See, e.g.*, Lisa Bernstein, *Opting Out of the Legal System: Extralegal Contractual Relations in the Diamond Industry*, 21 J. LEGAL STUD. 115 (1992).

and control system suggests several potential prescriptions. These prescriptions include both methods of changing the social meaning conveyed by the command and control system on a general level and a new range of tools for using social meaning to induce changes in specific behaviors that may be contributing to second generation problems.[118]

1. Shifting the General Social Meaning of Command and Control

Overall, the prospects for large shifts in norms based on small changes in social meaning may be surprisingly good. Sunstein and others have suggested a variety of ways in which "norm cascades" can occur.[119] According to McAdams, the expressive function of laws can create or strengthen norms by signaling an existing societal consensus and by "providing the concrete norms that define compliance with internalized abstract norms."[120] This is particularly important when a weak consensus exists, because of what psychologists have called the "false consensus" effect.[121] State and local smoking prohibitions are one example of laws that signaled a consensus and thus may have led to stronger social norms against smoking.[122]

Several approaches may be available for shifting the general social meaning conveyed by the command and control system.[123] One approach is to enact legislation that is not only designed to achieve specific regulatory ends but to convey a general social meaning about the environment that will counteract the indirect meaning conveyed by the command and control system. The new legislation could signal a greater emphasis on individual or other second generation source responsibility for environmental problems. This new social meaning of

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[118] Lessig has discussed meaning management techniques in detail, and has proposed two types of semiotic techniques (tying and ambiguation) and two types of behavioral techniques (inhibition and ritual). *See* Lessig, *Regulation of Social Meaning*, *supra* note 7, at 1009-14.

[119] Kuran & Sunstein, *Availability Cascades*, *supra* note 34.

[120] McAdams, *Origin of Norms*, *supra* note 50, at 400.

[121] *Id.* at 401.

[122] To the extent a message must be "sticky" to gain widespread acceptance, a framework of desired environmental conditions may be necessary for public understanding of the role of individual actions in causing and preventing unwanted environmental impacts. *See* MALCOLM GLADWELL, THE TIPPING POINT 89-132 (1999) (noting the importance of "the stickiness factor" of an advertising message); Vandenbergh, *Framework Approach*, *supra* note 8 (discussing the role of frameworks for decision-making).

[123] Another approach is to attack the unintended social meaning of the command and control system directly through education. This is an important option, and calls for greater environmental education may have more force for second generation problems than for first generation problems, since options other than education may be unpalatable. But the current allocation of resources often is the product of a careful (and difficult to change) balance between competing economic, political and social interests.

individual responsibility could be conveyed by including requirements for individuals and small businesses in the legislation, with measures to ensure that the environmental benefits are communicated to them.[124] Under this approach, the specifics of the directive may be less important than the new social meaning that is conveyed.

2. Steering the Specific Behaviors of Second Generation Sources

The concept of social meaning also may lead to the development of new tools for steering the specific behaviors of second generation sources. A substantial amount of research will be necessary before any particular option can be advocated with any degree of comfort, but I will discuss two concepts as food for thought: (1) the use of "tying" strategies; and (2) the use of social meaning in decisions affected by the willingness to accept/willingness to pay concept. These and related approaches may provide new tools for policymakers and regulators now choosing between intrusive, expensive command and control mechanisms and economic incentives such as taxes or subsidies that may be unpopular or difficult to implement.

Tying. Lessig and others have suggested that the social meaning of an action can be changed by tying desired new concepts or actions to concepts that are already popular.[125] Alternatively, undesired concepts or actions can be tied to unpopular concepts. These techniques are popular with marketers and salespeople.[126] To address second generation sources, the law could be used to tie individual actions to the environmental harms they cause. One current example of this is the stenciling of "Chesapeake Bay Watershed—Don't Dump" that occurs on storm sewers in Northern Virginia. The stencils do more than simply inform the potential dumper of used motor oil in the storm sewer of the environmental implications of her action; they give social meaning to an act that was otherwise innocuous. This may facilitate the development of norms against dumping.

Similarly, McAdams has suggested that the law can be used to publicize a consensus that a particular concrete behavior is necessary

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[124] One approach that has had some impact in Europe is the development of take-back requirements for various consumer goods, such as automobiles and consumer electronics. Take-back programs typically require the manufacturer or importer of a consumer good to take the good back from the consumer at the end of its useful life. Take-back laws have been controversial in the United States. *See Northeast First Battleground for Manufacturer Take-Back Laws*, SUPERFUND REP. 15 (Jan. 5, 2000).

[125] *See* Lessig, *Regulation of Social Meaning*, *supra* note 7, at 1009; Robert Cialdini et al., *Social Motivations to Comply: Norms, Values, Principles*, *in* 2 TAXPAYER COMPLIANCE 220-22 (Jeffrey A. Roth & John T. Sholz eds., 1989) [hereinafter Cialdini, *Social Motivations*].

[126] Cialdini, *Social Motivations*, *supra* note 125, at 220.

in order to comply with an abstract internalized norm.[127] As a result, engaging in such concrete behavior will produce guilt.[128] McAdams notes that child safety seat laws had this effect by tying the abstract norm that "good parents provide a safe environment" to the concrete obligation to provide and use a child safety seat, enabling internal enforcement through guilt.[129] To the extent concrete, non-internalized norms generate less allegiance than do abstract, internalized norms, the concrete norms may be the ones most susceptible to Sunstein's norm cascades. Social scientists could study the operative abstract, internalized norms and concrete behaviors of various second generation sources, and look for the effects of tying new second generation behaviors to the relevant abstract, internalized norms. Recycling requirements, which have been surprisingly well received in many areas, may already accomplish this function for some household waste problems.[130]

Willingness to Accept/Willingness to Pay. Sunstein has explored the role of social meaning in an area of particular importance to second generation problems. He has noted that an individual's willingness to accept ("WTA") is often double the individual's willingness to pay ("WTP") for the same outcome, but that for environmental issues, the WTA is often much greater, as high as 75 times or more the WTP.[131] In short, people require a much higher payment to allow the destruction of an environmental good than they are willing to pay to prevent it. Sunstein ascribes this difference between WTA and WTP to social meaning: the risk of shame that may be imposed on an individual who was willing to "sell" (accept payment for) an irreplaceable public good is far greater than the risk of shame created by the notion that the individual was not willing to act (pay) to prevent its destruction. This may arise from the perception that accepting

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[127] McAdams, *Origin of Norms*, *supra* note 50, at 407.

[128] *Id.*

[129] *Id.* at 408. This abstract/concrete tying phenomenon may explain Sunstein's point that "social conditions are often more fragile than might be supposed because they depend on social norms to which ... people may not have much allegiance." Sunstein, *Social Norms*, *supra* note 53, at 909.

[130] Another possible method of changing the social meaning of an act is to cause the meaning of the act to become ambiguous. Lessig, *Regulation of Social Meaning*, *supra* note 7, at 1010-11. This ambiguation of social meaning then may undercut the symbolic value of the act. The example cited by Lessig is the wearing by many Danish citizens of yellow stars to blunt the meaning intended by the Nazis. *See id.* The ambiguation can occur through preventing the display of symbols or enabling their widespread use. Steps could be taken to blunt the social meaning of individual actions that currently convey positive social meaning but harm the environment.

[131] Sunstein, *Social Norms*, *supra* note 53, at 943.

payment leads one to be morally culpable for causing the destruction of an environmental asset.[132]

My Chesapeake Bay example may demonstrate one way in which the WTA-WTP concept could be used to address second generation sources. Can the notion of "Chesapeake Bay Watershed – Don't Dump" be made more powerful by changing the wording to "Dumping Saves Cash – But Not the Chesapeake Bay"? Certainly an advertising agency could draft a catchier phrase, but the idea is clear. The erstwhile dumper is forced to confront dumping as being equivalent to accepting a payment to allow environmental damage. Similarly, a shaming punishment for the violator of a stormwater requirement might be phrased to capture this concept. Rather than publishing the fact of non-compliance in a local paper, the more effective approach might be to phrase the message in terms of the dollar savings to the violator for risking or creating an impact to the water quality of the Chesapeake Bay. The effect of these changes in the framing of the message, driven by the social meaning of the distinction between WTA and WTP, could be tested.

VI. CONCLUSION

The social meanings conveyed by the command and control system may help explain the public's environmental myths, as well as its reluctance to address its role in causing second generation problems. These second generation problems will comprise a principal challenge to regulators and policymakers in the next twenty years, yet the sources of the problems in many cases will be well beyond the reach of the command and control methods familiar to regulators. The sources also may be beyond the traditional prescriptions of economists who have provided the foundation for some of the more innovative modifications to the command and control system in the last twenty years. This essay has attempted to use the concept of social meaning to stimulate further thought and research regarding the role that social meaning may play in efforts to identify new legal and extra-legal prescriptions for second generation problems.

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[132] *Id.* at 914. *See* Boyce et al., *An Experimental Examination of Intrinsic Values as a Source of the WTA-WTP Disparity*, 82 AM. ECON. REV. 1366, 1367 (1992).