

WHAT'S PROPERTY GOT TO DO WITH IT?

*David M. Driesen**

DANIEL COLE, POLLUTION & PROPERTY: COMPARING OWNERSHIP INSTITUTIONS FOR ENVIRONMENTAL PROTECTION (CAMBRIDGE UNIVERSITY PRESS 2002)

“Free market environmentalists,” advocates of deregulation quite active in government policy-making, and many scholars think of environmental problems as property rights problems.¹ The free market environmentalists imagine that the solution to just about every problem involves perfecting private property rights, at the expense of government control.² Daniel Cole, M. Dale Palmer Professor of Law at the Indiana University School of Law at Indianapolis, provides a much needed response to this privatization argument in his latest book, *Pollution and Property*. But many scholars not hostile to public environmental protection also tend to view environmental problems as property law problems, so the book addresses a theme of general interest.

Professor Cole shows that too many historical, ecological, political, and cultural factors influence the success of regimes to justify some general *a priori* rule favoring private property (or any other property regime) as a solution to all environmental problems. While that may seem like an obvious conclusion to environmental specialists and sophisticated property scholars, it has not been obvious to free market environmentalists and many law and economics scholars. Cole points out that Richard Posner has opined that there is no economic justification for public ownership, (pp. 23-24), and free market environmentalists have vigorously urged privatization of just about everything.³ So, this book makes an important point. The book should help economists and political scientists, who may not be familiar with property law concepts, grapple with these issues. It might help environmentalists and law professors rebut free market environmentalists, who enjoy strong corporate support⁴ and, therefore,

* Associate Professor, Syracuse University College of Law. J.D. Yale Law School (1989). The author would like to thank Robin Malloy for helpful comments and Jeff Philp for research assistance.

¹ See, e.g., TERRY L. ANDERSON AND DONALD R. LEAL, FREE MARKET ENVIRONMENTALISM (2001). Cole analyzes the first edition of this book, which appeared in 1991.

² See id.; Eric Pianin, *Free-Market Environmentalists Gaining Stature*, WASH. POST, June 4, 2001, at A4.

³ See, e.g., ANDERSON and LEAL, *supra* note 1.

⁴ See Samuel Stanke, Note, *Like Wilderness, but Need Oil? Securing America's* (continued...)

wield influence disproportionate to the value of their ideas. And it's conceivable that it might influence some of the free market environmentalists (but this may be wishful thinking). *Pollution and Property* should also aid property teachers trying to convince their students that this ancient branch of law remains relevant today. (The Supreme Court's increasingly activist takings jurisprudence will likely aid that project as well).⁵

The book's attempt to make "some normative arguments in favor of multiple property systems and admixtures of property systems" fares less well than its argument for agnosticism regarding property regimes. (p. ix). But this problem has fairly deep roots in the limitations of property metaphors.

This review will show that a property rights framework does little to illuminate the problem of selecting among government strategies for pollution control and provides an awkward and incomplete lense for viewing pollution problems. It does this primarily through a review of the limited success of scholarly deployment of property rights typologies to understand emissions trading. This review will help clarify the structure of emissions trading and elucidate the limitations of the property rights perspective in illuminating regulatory regimes.

The review will then explain that despite these inherent limitations, Cole's book succeeds well in making its major point rejecting an *a priori* rule favoring any particular property regime. Finally, it will review his attempts to reach some normative conclusions about the value of admixtures of property systems.

I. PROPERTY RIGHTS VIEWS OF POLLUTION AND EMISSIONS TRADING

⁴(...continued)

Future Energy Act Puts Little Between Accident-prone Oil Companies and the Arctic National Wildlife Refuge, 32 ENVTL. L. 905, 935 n. 303 (2002) (describing a free market environmentalist think tank as industry funded).

⁵ See, e.g., *Palazzolo v. Rhode Island*, 533 U.S. 606 (2001) (entertaining takings challenge in spite of some ripeness problems and owner's purchase after challenged regulatory restrictions were in place); *Dolan v. City of Tigard*, 512 U.S. 374, 388-396 (1994) (finding a lack of proportionality between impacts sought to be addressed through an easement and the impact of the restriction upon the property owner); *Lucas v. South Carolina Coastal Commission*, 505 U.S. 1003, 1015 (1992) (holding that elimination of all economically beneficial or productive use of a property constitutes a taking); *Nollan v. California Coastal Comm'n*, 483 U.S. 825, 837 (1987) (requiring a nexus between the purposes for demanding an easement in exchange for a building permit and the nature of the easement sought).

Professor Cole has chosen this book's title to remind the reader of J. H. Dales' *Pollution, Property, and Prices, and the Law*, usually identified (wrongly, as it turns out, *see p.x.*) as the first work to recommend emissions trading. Fittingly then, this book's first case study involves emissions trading under the Clean Air Act. (pp. 45-84). While we shall see that Cole has useful things to say about emissions trading, my principal purpose in discussing emissions trading here involves identifying some of the limits of a property rights framework in illuminating regulatory pollution control issues.

A. The Property Rights View of Pollution

The view that property rights offers a fruitful way to look at pollution has roots in the recognition of our tendency to overuse freely available resources, a view that goes back to Aristotle, according to Cole. (pp. 1-2). Garrett Hardin built on this to posit a tragedy of the commons - where users compete to ruin resources upon which all users depend - and proposed a choice between assigning private property rights to a resource and government regulation as a means of solving environmental problems.⁶ Long before the creation of modern environmental law, property owners relied upon common law nuisance actions to address pollution.⁷ Still, viewing environmental problems as property problems can, in some ways, obscure understanding of pollution and its control.⁸

The entire language of property can become an awkward hindrance to discussing air pollution, for example. Professor Cole reminds us that at common law, the public has traditionally enjoyed rights of some kind over the atmosphere and other natural resources, which some common law

⁶ See Garrett Hardin, *The Tragedy of the Commons*, 162 *SCIENCE* 1243 (1968). See also Barton H. Thompson, Jr., *Tragically Difficult: The Obstacles to Governing the Commons*, 30 *ENVTL. L.* 241 (2000).

⁷ See, e.g., *Bowman v. Humphrey*, 100 N.W. 854 (Iowa 1904); *Everett v. Paschall*, 111 P. 879 (Wash. 1910); *Whalen v. Union Bag and Paper Co.*, 101 N.E. 805 (N.Y. 1913). See also *Boomer v. Atlantic Cement Company*, 257 N.E. 2d 870 (N.Y. 1970).

⁸ Even scholars who frame these problems in property terms end up proposing administrative and legal process solutions not rooted in especially in property law. For example, Barton H. Thompson recently proposed addressing the tragedy of the commons by getting resource users to recognize there is a problem and finding effective and sustainable solutions. See Thompson, *supra* note 6, at 269-278. While these certainly seem like sensible suggestions, one could make them and justify them with only incidental reference to property rights.

courts have, at times (and with respect to water, very often), described in terms of ownership. (pp. 2, 20-23). That observation offers an important counter to any suggestion that restrictions on polluting activities involve some questionable departure from common law baselines. But thinking of pollution problems as questions about “ownership” of the atmosphere raises as many questions as it answers about how to conceptualize pollution and its control.

A focus upon the harms that pollution inflicts upon us may aid conceptualization of pollution problems better than discussions of atmospheric ownership. Air flows all around us. Neither the breathing public nor the polluter has an interest in occupying the air.⁹ But we cannot avoid daily, indeed second by second, contact with it. We all must breathe. And when we breathe the air, a kind of use, the pollutants in the air can harm us.

Since manufacturing processes and other activities produce contaminants that escape into the atmosphere, one can describe pollution problems as a conflict between breathers and polluters over use of the atmosphere. But that characterization works unevenly. Some very common pollutants do create breathing difficulties after inhalation,¹⁰ which seems like a classic use conflict, since the polluter's use of the atmosphere as a dumping ground impedes the breather's use of the air for respiration. But sometimes the harms of pollution involve physical interference with natural atmospheric functions, rather than human use of the atmosphere (if breathing is a use). For example, emission of ozone depleting substances and allow ultraviolet radiation to cause skin cancer.¹¹ And greenhouse gases disrupt the climate.¹² Neither ozone depleters nor greenhouse gases interfere directly with use of the air to breathe. Thus, the concept of pollution causing harms to others may better capture the problem of pollution than discussion of conflicts over ownership of resources.

While we can plausibly describe pollution problems in terms of property, a torts conception seems more apposite than thinking of this in

⁹ For that reason, Carol Rose usefully discusses a usufruct right. Carol M. Rose, *Expanding the Choices for the Global Commons: Comparing Newfangled Tradable Allowance Schemes to Old-Fashioned Common Property Regimes*, 10 DUKE ENVTL. L. & POL'Y F. 45, 52 n. 33 (1999-2000).

¹⁰ See, e.g., NATIONAL RESEARCH COUNCIL, *RETHINKING THE OZONE PROBLEM IN URBAN AND REGIONAL AIR POLLUTION* 31-33 (1991).

¹¹ EDWARD A. PARSON, *PROTECTING THE OZONE LAYER: SCIENCE AND STRATEGY* 87 (2003).

¹² See David M. Driesen, *Free Lunch or Cheap Fix? The Emissions Trading Idea and the Climate Change Convention*, 26 B. C. ENVTL. AFF. L. REV. 1, 6-7 (1998).

terms of property rights in the sky. After all, most of us never visit, let alone use, the stratospheric ozone layer.¹³ Thus, pollution can harm us not so much because anybody directly occupies the ozone layer, only supersonic transports, satellites, and rockets go there, but because it causes harms to people on earth.¹⁴ A torts conception also better fits the thinking of the public and elected representatives, who make the most important regime shaping decisions regarding pollution control.¹⁵ To them, limitations upon activity (e.g. pollution control requirements) do not assert or reject ownership claims, they just limit pollution to protect public health and the environment. Furthermore, at common law, air pollution was actionable as either a tort or a nuisance, as Calabresi and Malamed's landmark work on property and liability rules reminds us (albeit obliquely).¹⁶ Furthermore, even the nuisance cases often treated air pollution not as a contest over ownership of the *atmosphere*, but as a claim regarding interference with use and enjoyment of *land*.

This last observation about the failure of property rights concepts by themselves to consistently describe what precise property is involved matters a lot to the debate about emissions trading. In that context, property rights metaphors have obscured rather than illuminated understanding of emissions trading and of the arguments free market environmentalists make about it.

B. Emissions Trading Through a Property Lens

Many commentators view emissions trading as a property rights based alternative to “command and control” regulation. In an emissions trading program, the government distributes (or sells) permits allowing less

¹³ See PARSON, *supra* note 11, at 3 (ozone layer is 8 to 15 miles above the earth's surface).

¹⁴ See ID. at 3, 19, 26-28.

¹⁵ See David M. Driesen, *Getting Our Priorities Straight: One Strand of the Regulatory Reform Debate*, 31 ENVTL. L. REP. (Envtl. L. Inst.) 10001, 10005 (2001) (Congressional mandates in legislation and funding decisions influence agency priority setting); Howard Latin, *Ideal Versus Real Efficiency: Implementation of Uniform Standards and Fine-Tuning Regulatory Reforms*, 37 STAN. L. REV. 1267, 1290 (1985) (suggesting that Congress sets the goals for environmental regulation).

¹⁶ See Guido Calabresi, and A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089, 1115-1116 (1972) (explaining that both property and liability rules have been applied to limit pollution). See also Frank I. Michelman, *Pollution as Tort: A Non-Accidental Perspective on Calabresi's Costs*, 80 YALE L. J. 647 (1971).

pollution than currently exists.¹⁷ Polluters may purchase “extra” reductions from polluters who have fewer emissions than permitted, in lieu of meeting their permit limits at their own facility.¹⁸ The program creates a market in allowances, permission to pollute at a certain level.¹⁹

Yet, a major source of positive law on this point denies the relevance of property outright. The Clean Air Act states unequivocally that an emission allowance does “not constitute a property right.”²⁰

Furthermore, the term “allowance” itself suggests that a government license to pollute is at issue, rather than an ownership right. Indeed, the Clean Air Act specifically defines an allowance as a “limited authorization to emit” pollution.²¹ And the statute states that the Act does not “limit” federal authority to “terminate or limit such authorization” or state authority to demand further reductions to meet state Clean Air Act obligations.²² These definitional provisions would seem, at first glance, to reinforce the view that property rights have little to do with emissions trading. A license involves permission to carry out an activity, which is different from

¹⁷ See David M. Driesen, *Is Emissions Trading an Economic Incentive Program?: Replacing the Command and Control Economic Incentive Dichotomy*, 55 WASH. & LEE L. REV. 289, 324-325 (1998) [hereinafter, Driesen, *Dichotomy*]. Emissions trading has generated an enormous literature, see, e.g., David M. Driesen, *Does Emissions Trading Encourage Innovation?*, 33 ENV'T'L. L. REP. (Env't'l L. Inst.) 1001 (2003) [hereinafter, Driesen, *Innovation*]; Timothy F. Malloy, *Regulation by Incentives: Myths, Models, and Micromarkets*, 80 TEX. L. REV. 531 (2002); James Salzman & J.B. Ruhl, *Currencies and the Commodification of Environmental Law*, 53 STAN. L. REV. 607 (2000); Royal C. Gardner, *Banking on Entrepreneurs: Wetlands, Mitigation Banking, and Takings*, 81 IOWA L. REV. 527 (1996) (reviewing an intertemporal trading program for wetlands conservation); David M. Driesen, *Choosing Environmental Instruments in a Transnational Context*, 27 ECOLOGY L. Q. 263 (2000) [hereinafter Driesen, *Transnational*] (discussing international application of emissions trading); Ann Powers, *Reducing Nitrogen Pollution on Long Island Sound: Is There a Place for Pollutant Trading*, 23 COLUM. J. ENVTL. L. 137 (1998) (discussing proposal to use nitrogen trading regionally to control water pollution); Driesen, *supra* note 12; Bruce A. Ackerman & Richard B. Stewart, *Reforming Environmental Law: The Democratic Case for Market Incentives*, 13 COLUM. J. ENVTL. L. 171 (1988); Daniel J. Dudek & John Palmisano, *Emissions Trading: Why is this Thoroughbred Hobbled*, 13 COLUM. J. ENVTL. L. 217 (1988); Robert W. Hahn & Robert N. Stavins, *Incentive-Based Environmental Regulation: A New Era for an Old Idea?*, 18 ECOLOGY L. Q. 1 (1991); J.H. DALES, POLLUTION PROPERTY AND PRICES 92-100 (1968).

¹⁸ Driesen, *Dichotomy*, *supra* note 17, at 290.

¹⁹ See Brennan Van Dyke, *Emissions Trading to Reduce Acid Deposition*, 100 YALE L. J. 2707 (1991) for a review of the acid rain trading program.

²⁰ 42 U.S.C. § 7651b.

²¹ See 42 U.S.C. § 7651a(3).

²² 42 U.S.C. § 7651b(f).

establishing a fee simple ownership interest.²³

For free market environmentalists this simply means that the law is defective. The law should recognize a property right, and all would be well if it did so.²⁴ Suggestions that imperfect property rights impede emissions trading usually offer no explanation of the nature of the imperfection and the desired cure. And even those not calling for “perfection” of property rights often conceive of emissions trading as involving some sort of private property basis, notwithstanding Congressional repudiation of that idea.²⁵

The property rights lense may obscure understanding of emissions trading, because great conceptual difficulties bedevil attempts to describe these regulatory programs in terms of property. Perceptive scholars like Carol Rose, Richard Stewart, and now Daniel Cole, have recognized and addressed this conceptual difficulty.²⁶ They have sought to develop a richer typology of property to accommodate property that is neither purely public, nor purely private. Much of this focuses on variations upon, or contrasts with, the idea of common, as opposed to private or state, property.

Professor Cole offers a variation on this typology theme. He argues that emissions trading involves a shift from a public property regime to a mixed property regime. (p. 45). This idea of emissions trading as involving mixed property fits well with the rich property rights conceptions that other scholars have brought to bear on this problem. Rich conceptions

²³ See *United States v. Fuller*, 409 U.S. 488 (1973) (declining to compensate ranchers with grazing act permits for loss of value associated with grazing permits). Daniel Cole appropriately characterizes Dale's early recommendation of emissions trading as a proposal for a “leasing system rather than an ownership system for pollution rights.” (p. 48).

²⁴ See, e.g., Robert W. Hahn & Gordon L. Hester, *Where Did All the Markets Go?: An Analysis of EPA's Emissions Trading Program*, 6 YALE J. ON REG. 109, 117 (1989) [hereinafter, Hahn & Hester, *Markets*] (suggesting that “the lack of clearly quantified property rights” can discourage trading and recommending various changes to protect against “confiscating” the “property rights.”); Robert W. Hahn & Gordon L. Hester, *Marketable Permits: Lessons for Theory and Practice*, 16 ECOLOGY L. Q. 361, 379 (1989) [hereinafter Hahn & Hester, *Lessons*] (if future confiscation is probable, than the value of emission rights is reduced and trades are less likely). Cf. Jeanne M. Dennis, *Smoke for Sale: Paradoxes and Problems of the Emissions Trading Program of the Clean Air Act Amendments of 1990*, 40 UCLA. L. REV. 1101, 1140 (1993) (proposing protecting allocation of permits for five years).

²⁵ See, e.g., Gerald Torres, *Who Owns the Sky*, 18 PACE ENVTL. L. REV. 227 (2001); Rose, *supra* note 5; Richard B. Stewart, *Privprop, Regprop, and Beyond*, 13 HARV. J. L. & PUB. POL'Y 91 (1991). Cf. Carol M. Rose, *Essay, The Several Futures of Property: Of Cyberspace and Folk Tales, Emission Trades and Ecosystems*, 83 MINN. L. REV. 129, 163 (1998) (describing emissions trading as involving “property-like” rights).

²⁶ See Rose, *supra* note 9; Rose, *supra* note 25, at 163 (describing emissions trading as involving “property-like” rights); Stewart, *supra* note 25.

of typologies, however, obscure a fundamental problem in the use of such conceptions to distinguish emissions trading from traditional regulations. We cannot test the claim that the regime has changed without a detailed examination of which (if any) property rights have shifted in going from traditional regulation to emissions trading. Nor can we understand the meaning of calls to perfect property rights if we do not understand precisely what rights are involved.

Unfortunately, typologies of property rights do not explain who owns what under an emissions trading scheme. Some commentators suggest that the choice of emissions trading implicates the issue of who owns the sky, while others suggest that polluters own allowances,²⁷ notwithstanding positive law to the contrary. Professor Cole does not clearly choose between these two conceptions. (p. 46.) Both of these conceptions are somewhat plausible, but difficult to understand. It is not clear what we mean when we suggest that polluters own the sky or that they own allowances. And application of typologies simply obscures this fundamental issue.

I. Owning Sky. Daniel Cole sometimes suggests that emissions trading should be thought of primarily in terms of ownership of the atmosphere.²⁸ He defines the shift from traditional regulation to emissions trading as a change from a public atmospheric rights regime to a mixed property regime. (pp. 38, 44) This suggests that emissions trading privatizes some rights to the atmosphere.

The claim that shifting from traditional regulation to emissions trading enhances private ownership over the atmosphere at the expense of public ownership turns out to be problematic.²⁹ Suppose that the government distributed allowances, but did not make them transferable. By

²⁷ See, e.g., Rose, *supra* note 25, at 144, 165 (referring to rights in “pollution control” and “emission rights”).

²⁸ Cole characterizes the Clean Air Act as imposing duties upon polluting firms’ use of the atmosphere. (p. 38). He then associates with privatizing *some* public property rights in environmental goods, such as the *atmosphere*. (p. 46) (first italic in original, second added). In the same sentence, however, he says trading might be thought of as privatizing public rights in “emissions.” *Id.*

²⁹ Professor Cole recognizes that emissions trading cannot be precisely thought of in terms of ownership. Daniel H. Cole, *From Local to Global Property: Privatizing the Global Environment?: Clearing the Air: Four Propositions about Property Rights and Environmental Protection*, 10 DUKE ENV’T L POL’Y F. 103, 115 (1999). He analogizes emissions trading to a leasehold. I do not mean to suggest that thinking of emissions trading in terms of property is impossible. Indeed, Cole’s rich analysis of property shows that it is. But rather that the tendency of property talk to remind us of ownership makes the property-based approach difficult and potentially misleading.

allowing pollution, government would have given away some of the public's rights. In principle, a gift of allowances does not differ from a traditional performance standard. Both allow some pollution. And both therefore infringe on public ownership of the atmosphere.³⁰ It would seem that one might define any regime that departs from zero emissions as a mixed ownership regime.³¹ If so, then emissions trading may offer nothing new in terms of the types of property rights in the atmosphere.

Gerald Torres in a recent essay³² suggested one way of distinguishing trading's affects on atmospheric ownership from those of traditional regulation. Trading does allow a polluter to avoid clean-up by purchasing allowances from some far away plant.³³ This might interfere with the rights of those living near the plant in the air they breathe.³⁴ But general ownership talk alone may not provide a sufficient basis for evaluating his claim. The analysis would ultimately depend upon the scope of pre-existing individual rights to the air around individuals (whether rooted in ownership or not) and the question of whether trading in a program where government may (in effect) confiscate allowances interferes with those rights.

While Torres shows that Cole's view of trading as changing rights in atmospheric rights is plausible and potentially valuable, one can describe the environmental justice issues that flow from allowing reductions far from one neighborhood to justify refusing to make reductions more simply and clearly by employing a torts vocabulary. We expect to avoid harming people's health. Reductions of harms injuring white suburbanites does not justify allowing pollution damaging the health of people in poor minority communities to continue.³⁵ The claim that property rights in the atmosphere

³⁰ Daniel Cole seems to recognize this point, characterizing "issuance of pollution permits" as "partial privatization" regardless of whether the permits are transferable. (p. 45). Moreover, he associates partial privatization, such as evinced in issuance of a nontransferable permit, with a mixed property regime. *Id.* This makes the basis for his claim that emissions trading involves a "shift from a public property/regulatory regime to a mixed property/regulatory regime", (p. 44), elusive.

³¹ *Cf.* Rose, *supra* note 25, at 132 (discussing a concept of "limited common property" that is neither entirely public nor entirely private).

³² Gerald Torres, *supra* note 25.

³³ *See id.* at 262.

³⁴ *See id.* at 262-63 (arguing that trading can be understood as diminishing "the citizen's entitlement to be free of pollution.")

³⁵ *See* James Salzman & J.B. Ruhl, *Currencies and the Commodification of Environmental Law*, 53 STAN. L. REV. 607, 627 (2000) (discussing toxic hot spot problems); Stephen M. Johnson, *Economics and Equity II: The European Experience*, 58 (continued...)

shift under trading, while potentially important, turns out to be questionable.

2. *Emission Allowances.* Cole also follows other property rights scholars in suggesting that emissions trading might be thought of as involving rights in allowances. (p. 46)³⁶ Notwithstanding the language of the Clean Air Act denying property rights in allowances, trading might affect ownership of allowances, rather than ownership of the sky. For the statute authorizes polluters to trade allowances,³⁷ and it defines non-compliance with the acid rain title as emission of sulfur dioxide “in excess of the number of allowances held.”³⁸ Thus, some polluters can comply by purchasing allowances from polluters that emit less than allowed, rather than by limiting their own emissions.

Normally, when we sell something we own it; and when somebody buys something, she owns it.³⁹ So this trading of allowances would suggest that polluters own allowances. But the statutory language denying property rights in allowances makes this simple conclusion impossible.

Professor Cole provides the key to resolving this conundrum when

³⁵(...continued)

WASH. & LEE L. REV. 417 (2001); Stephen M. Johnson, *Economics v. Equity: Do Market-Based Environmental Reforms Exacerbate Environmental Injustice?*, 56 WASH. & LEE L. REV. 111 (1999); Richard Toshiyuki Drury, Michael E. Belliveau, J. Scott Kuhn, Shipra Bansal, *Pollution Trading and Environmental Injustice: Los Angeles' Failed Experiment in Air Quality Policy*, DUKE ENV'T'L L. & POL'Y F. 231, 235 (1999) (claiming that pollution trading in Los Angeles has “led to concentrated air emission hot-spots in low-income and minority communities); Comment, *What is Good for the Market Can be Bad for Health: Emissions Trading Under SCAQMD Rule 1610 and the Unjust Environmental Effects*, 29 GOLDEN GATE U. L. REV. 539 (1999). Cf. Driesen, *Transnational*, *supra* note 17, at 11-12 (discussing problems of international equity in international emissions trading)

³⁶ Cole sometimes writes about ownership of allowances and sometimes about ownership of emissions. (pp. 46, 53). Writers do not appear to distinguish between ownership of allowances and ownership of emissions, so I take the liberty of paraphrasing Cole as using the word allowances. But the two are not the same. Ownership of emissions is the wrong concept. Polluters sell allowances representing emission reductions, not emissions. To see this assume that two polluters emit 100 tons of pollution a year. They now get allowances to emit 60 tons a year. If polluter A reduces to 60 tons a year, he has 60 tons of emissions, but he has nothing to sell to polluter B. To sell to polluter B, he must reduce below the 60 tons reduction required. If he reduces to 50 tons, for example, he may sell 10 tons of “extra” reductions to another polluter. The commodity being sold is not emissions, it is emission reductions below those required by government. Indeed, to be more precise, it is a claim that these reductions are being made that is sold.

³⁷ 42 U.S.C. § 7651b.

³⁸ 42 U.S.C. § 7651b(b).

³⁹ Rose, *supra* note 25, at 131 (property facilitates trade between owners).

he writes that recommending a specific property regime for an environmental problem does not suffice; we need to specify precisely what rights and duties are involved. (p. 12). He correctly argues that this need flows from the inchoate nature of ownership, which does not invariably entail the same bundle of rights. *Id.*

Let's unpack the emissions trading bundle. A polluter has a right to sell (or buy) an allowance, but no right to retain it in the face of a government demand for it.⁴⁰ Once we focus on the specific rights in and outside the polluter's bundle, we have some shop of justifying the claim that emissions trading has changed some aspect of property relations. Emissions trading has created a right to sell and buy allowances. This right to sell and buy is different from traditional regulation, where a pollution allowance has no market value, because each polluter must individually comply with government-imposed limits.

This description of trading as conferring a right to buy and sell allowances, however, does not suffice. Polluters may not sell all of their allowances as a general matter, without violating the law. They may only sell unused allowances.⁴¹ For example, if a polluter formerly emitting at 100 tons now possesses 50 tons of allowances (each authorizing one ton of emissions), she cannot continue emitting at 100 tons (or 90 tons or 50 tons) and sell her 50 allowances.⁴² If she cuts emissions to 40 tons, however, she may sell 10 tons of allowances, for she did not use all of the allocation. This example shows that polluters really sell extra emission reductions, for the 10 tons represents the difference between actual emissions and the legally required reduction.

The buyer, moreover, does not acquire an emission reduction in a physical sense. For emission reductions are physical events in particular locations.⁴³ She acquires the right to use evidence of somebody else's "extra" reduction as an excuse from full compliance at her facility.⁴⁴

Indeed, even without allowance trading nothing prevents polluters from selling certificates stating that they reduced emissions by an amount

⁴⁰ See 42 U.S.C. § 7651c(f); Hahn & Hester, *Markets*, *supra* note 24, at 117 (equating fear of changes in emission regulations with confiscation of property rights in allowances).

⁴¹ See 42 U.S.C. § 7651b(b) (discussing unused allowances).

⁴² See 42 U.S.C. § 7651b(g) (making it unlawful to emit sulfur dioxide in excess of the amount of allowances held).

⁴³ See Driesen, *Dichotomy*, *supra* note 17, at 303 (pointing out that emissions can only be physically verified where they escape into the atmosphere).

⁴⁴ See 42 U.S.C. § 7651b(g) (defining compliance as emissions in excess of the number of allowances held).

greater than required.⁴⁵ Allowance trading involves a conditional promise by the government, however, to allow the reductions represented by these inchoate claims about having done something useful elsewhere to count toward compliance with a regulatory obligation.⁴⁶

This suggests that one might think of allowance trading as a regulatory decision to make regulatory obligations less location specific,⁴⁷ rather than as a significant change of property rights. For emissions trading makes allowances tradable, only in the sense that by limiting pollution and agreeing to accept purchased allowances to satisfy these limits, the government has made something that could have been sold anyway, valuable in practice. In other words, the regulatory regime creates scarcity (albeit with flexibility) to make the theoretically possible but economically worthless trade economically valuable. Thus, only by focusing on specific regulatory rights can we understand emissions trading; general typologies tell us precious little.

This focus on specific rights also makes it possible to understand arguments to perfect property rights in emission allowances. Perfection implies restoring the missing right to the bundle: The right to retain allowances or demand compensation in the face of a government demand for their confiscation.⁴⁸ Confiscation in this context means one of two things, either making emission limitations more stringent or declining to recognize a purchased allowance as at least a credit toward satisfying a cleanup obligation.⁴⁹ A federal regulator may decline to recognize a credit, because the claim of an emission reduction that the sold allowance represents turns out to be false.⁵⁰ State or federal regulators can impose

⁴⁵ See Driesen, *Dichotomy*, *supra* note 17, at 324 (pointing out that a law authorizing trading with no limits on pollution source's emissions would create no incentive for reductions or trades).

⁴⁶ Compare 42 U.S.C. § 7651b(g) (redefining compliance as possession of sufficient allowances) with 42 U.S.C. § 7412(f)(4) (defining compliance as obeying a specific standard for a facility).

⁴⁷ See Driesen, *Dichotomy*, *supra* note 17, at 332-336 (analyzing trading as offering "spatial flexibility").

⁴⁸ See Hahn & Hester, *Markets*, *supra* note 24, at 117.

⁴⁹ See Dennis, *supra* note 24, at 1105 (more urgent need for reductions might lead to confiscation of allowances). See generally Hahn & Hester, *Markets*, *supra* note 24, at 117.

⁵⁰ Daniel Cole may have something like this in mind when he writes that retention of administrative authority to limit allowances allows EPA "to implement the program without fear of having to compensate utilities for "taking their allowances." See Daniel H. Cole, *Clearing the Air: Four Propositions about Property Rights and Environmental* (continued...)

more stringent demands because of local air quality needs or new information indicating that we need greater reductions than those provided for in a trading program.⁵¹

Arguments to perfect property rights in this context involve demands that government not adjust emission limitations in the face of new scientific information (or public demand) and that officials not make certain adjustments in the face of false claims.⁵² I argue in *The Economic Dynamics of Environmental Law* (MIT Press 2003) that environmental problems grow over time, because of population growth, increased consumption, and other factors, so a static approach to environmental protection may have little to recommend it.⁵³ Talk of perfecting property rights obscures the true underlying issues about how to manage the tradeoff between stability to encourage cost-decreasing trades and the need to protect the public properly from environmental harms that may grow over time.

If enough sticks are missing from the bundle of rights, ownership becomes an unhelpful - indeed, a misleading - concept. As soon as we state that a polluter owns allowances or does not own allowances (or the sky), we have obscured our understanding of emissions trading. For polluters have some rights we associate with ownership and not others. General statements about ownership obscure this. And unpacking the bundle properly requires analysis of environmental law that begins to look like regulatory work, rather than property rights analysis.

Typologies distinguishing between private, public, mixed, and common property do nothing to clarify distinctions between emissions trading and traditional regulation. For both trading and traditional regulation reflect a combination of private and public rights. And describing emissions trading as involving a property right suggests ownership of something (if not to property scholars, then at least to the general public), and therefore obscures significant issues regarding emissions trading. Only when we describe precisely what rights the polluter acquires under trading and compare those rights to traditional regulation do we understand trading. And once we do that, we become involved in environmental legal analysis that make property rights

⁵⁰(...continued)

Protection, 10 DUKE ENVTL. L. & POL'Y F. 103, 113 (1999).

⁵¹ Cf. Driesen, *Transnational*, *supra* note 17, at 21-22 (discussing need for local reductions to serve local needs in the international context).

⁵² See Rose, *supra* note 25, at 170-71.

⁵³ See DAVID M. DRIESEN, *THE ECONOMIC DYNAMICS OF ENVIRONMENTAL LAW* (2003).

metaphors seem beside the point.

II. PROFESSOR COLE'S CASE FOR AGNOSTICISM

If property rights conceptions have so little to offer, the reader might wonder at my claim that Professor Cole offers a convincing refutation of the free market environmentalists' position favoring private property regimes. But Cole's case relies in part upon precisely the kind of complexity that makes it hard to use property rights to understand emissions trading. (ix) The free market environmentalists' simple dichotomy between government control and private ownership just does not capture the world in which we live.

Moreover, property rights talk may illuminate some things, even if it obscures others. Hardin's insights stem from a property rights model, and that model does illuminate fundamental problems that environmental law must address. Notwithstanding the title's emphasis upon pollution, *Pollution and Property* addresses a wide range of environmental problems, including natural resources problems. With respect to natural resources, property metaphors may prove more helpful than in the pollution case. After all, in natural resources law fee simple ownership, either public or private, frequently matters. But property talk in the pollution context can prove unhelpful unless quite carefully elaborated.⁵⁴ More direct consideration of the precise contours of legal rights and responsibilities and their policy implications frequently yields more cogent insights.

Professor Cole develops a theoretical framework rooted in property rights scholarship and institutional economics.⁵⁵ Cole points out that the assumptions Coase makes in positing the Coase "theorem" (absent transaction costs, owners would negotiate efficient solutions to problems,

⁵⁴ Cf. Rose, *supra* note 25, at 169 (discussing how scholars of water law find calling entitlements "property" without considering background context is unhelpful).

⁵⁵ This positions him to contribute something to an important project in the legal academy and elsewhere - the development and application of insights from institutional economics. Edward Rubin has argued that institutional economics may create a discourse among legal scholars of disparate views, a necessary antidote to the tendency of scholars to talk past each other when methodological approaches vary with the policy preferences of the writer. See Edward Rubin, *The New Legal Process, The Synthesis of Discourse, and the Microanalysis of Institutions*, 109 HARV. L. REV. 1393, 1413-1417 (1995-96). See also Sidney A. Shapiro, *Matching Public Ends and Private Means: Insights from the New Institutional Economics*, 6 J. SMALL & EMERGING BUS. L. 43, 45-47, 48-53 (2002) (employing institutional economics to analyze the question of accountability for private actors performing public functions). So, one hopes that his decision to frame his arguments in terms of institutional economics creates an opportunity for dialogue.

including environmental problems) would create optimal pollution levels with or without property rights. (pp. 3-4). The world of no transaction costs, perfect information, and perfect markets would make property irrelevant, he suggests.

But Cole, following Coase himself and the institutional economists, argues that in the real world transaction costs create friction that interfere with optimal pollution levels and with efforts to define property rights. (pp. 4-5.) In this real world, the question of which property rights regime is best becomes more difficult.

Professor Cole discusses each type of property regime, showing that none of them perform well in all circumstances. He makes this point through concrete examples of how all types of regimes perform unevenly in addressing environmental problems. These case studies constitute the book's greatest strength. Professor Cole's previous books, *Environmental Protection in Transition* (co-edited with John Clark, 1998) and *Instituting Environmental Protection: From Red to Green in Poland* (1998), involved exercises in comparative law, and Cole makes good use of that approach here, making international comparisons part of the picture. For example, while conceding that free market environmentalists can point to significant failures of state ownership in land, Cole shows that Poland under communist rule retained 27% of its forests in pristine condition. (pp. 106). Hence, Poland has the last stands of primeval European forest and free-roaming herds of European Bison. Id.

Cole also argues that emissions trading shows that mixed property regimes do not always perform well, but often do. In a chapter derived, at least in part, from a previously published article in the *Wisconsin Law Review*,⁵⁶ Cole argues that the Act's historic reliance upon traditional regulation can be defended as efficient, largely because emissions trading could not perform "efficiently" without good monitoring unavailable during the Act's early years. (pp. 67-84). As the technology advanced, argues Cole, an inefficient regime became more efficient. This chapter will have value for students of emissions trading and the instrument choice debate. It also illustrates Cole's point that the performance of property regimes depends on technological factors that rule out *a priori* generalization.

My favorite part of the book contrasts previous private ownership of Stonehenge with current public ownership. (pp. 137-149). Without giving too much away, both regimes had their share of problems.

Cole makes a strong case for agnosticism. Because the advantages and disadvantages of competing property regimes vary with cultural,

⁵⁶ Daniel H. Cole and Peter Z. Grossman, 1999 WIS. L. REV. 887 (1999).

technological , ecological, and institutional factors, a general theory of which property regime is best does not work withstand analysis. (p. ix).

III. TYPOLOGIES AND NORMATIVE THEORY

As my analysis of emissions trading shows, framing understanding of environmental regulation in property terms necessarily involves some conceptual difficulties. Cole admirably brings forward a number of important insights. Still, I have some concerns with how Professor Cole handles the problems his conceptually rich treatment forces him to cope with.

Cole makes a number of telling points. He claims that no property is truly private, in the sense that the owner's use exists apart from government protection and potential limits. (p. 9). He also points out that in cases where a corporation or multiple owners share interests in some property, it becomes difficult to distinguish between private property and common property. (pp. 10-11).

A major move involves defining public regulation as a property-based regime. (p. ix.). This definition is plausible, because one can view any regulation as an assertion of public ownership in a natural resource.⁵⁷ It allows Cole to claim that all approaches to environmental problems are property rights approaches. (p. ix). This move also highlights the long historical tradition of recognizing public rights in natural resources, including air and water, which Cole tellingly describes. (p. 20-23).

Once he defines all ownership involving some regulation as property-based, however, then Cole must describe everything as some sort of property regime (except perhaps a *laissez-faire* approach to a generally accessible commons, like the ocean). In trying to create a rich typology, given the ambiguities he perceptively recognizes, he ends up confusing the reader. He states that his book will rely upon the conventional three item typology of private, common, and public property, albeit with caveats. (p. 13). But he does not do that. He adds a fourth type, mixed public and private property. (p. 18). Combining Cole's choice to treat all regulation as a property regime and his point that all private property is subject to some government regulation should yield the result that this fourth type, mixed property, is not a type at all, it's almost everything.⁵⁸ Professor Cole

⁵⁷ See Rose, *supra* note 25, at 137 (regulation "can be seen as an assertion of public rights in previously unowned . . . common resources.")

⁵⁸ A chart suggests otherwise (p. 10), but that chart is nowhere explained.

recognizes that “all property regimes are mixed,” but declines to reduce all property regimes “to a single type,” because doing so would not aid analysis. (p. 45). But he never offers a distinctive narrower definition of mixed property, which makes his use of the term bewildering. This confusion infects the book’s organization, making it hard to follow his conceptual path. This does not detract from the book’s strong empirical case for agnosticism, but it disrupts the book’s flow.

This treatment of regulation as ownership pays some dividends in a chapter on takings law. Professor Cole argues that takings law involves collision between private and public property rights, a nice insight. (p. 166). But Cole does not clarify this idea’s relationship to his main thesis.⁵⁹

He advances a more obviously relevant subsidiary thesis when he defines the “best” property regime for environmental protection as that which achieves society’s exogenously set environmental protection goals at the lowest total cost, defined as the sum of exclusion and coordination costs. (p. 131). Thus, he views the selection of property regimes as selection of the cheapest means of environmental protection. (p. 132). This seems like a plausible response to free market environmentalists, who do claim, after all, that private property regimes protect the environment better than public ownership or regulation. Of course, most property rights scholars will find that cost effective environmental protection cannot be the sole basis for selecting a property rights regime. One suspects that Dale’s emissions trading provides the shadow example leading to this formulation.⁶⁰ I have argued elsewhere that short term cost effectiveness is overrated and does not coincide very well with the long term good.⁶¹ But Professor Cole’s emphasis on the value of cost effectiveness certainly

⁵⁹ Early in the book, Cole claims that takings law makes property an impediment to environmental protection. (p. 19). This could support his agnosticism claim, but he does not explicitly link it to that claim. Moreover, the chapter addressing takings does not highlight this functional point, but a different normative point. He concludes that the Court should “at least consider the public property rights” at stake in takings cases. (p. 177). While I’m inclined to agree with that conclusion, I cannot see how that point supports his largely descriptive thesis, that no one type of property regime is invariably superior.

⁶⁰ Carol Rose, *The Shadow of the Cathedral*, 106 YALE L.J. 2175 (1997) (arguing that shadow examples influence legal analysis).

⁶¹ See Driesen, *Innovation*, *supra* note 17, at 10097 (arguing that emissions trading’s failure to encourage initially expensive innovation is problematic, because expensive innovations sometimes offer wider environmental improvements, lower costs over time, and lead to greater capability to realize more ambitious environmental goals); Driesen, *supra* note 12 (arguing, in the climate change context, that some emissions trading designs offer a cheap fix, rather than a key to long term progress). See generally DRIESEN, *supra* note 53 (arguing that efficiency based approaches do not cope well with change over time and recommending an alternative based on economic dynamics).

establishes a position that many scholars will agree with.

On the whole, Cole's use of rich concepts of property strengthens his case for agnosticism and offers useful information. He succeeds less well in clarifying some of the ambiguities in his approach and in developing strong normative arguments based on it. That may be just as well, for strong normative arguments would conflict with the book's central goal of justifying theoretical agnosticism toward property regimes.

CONCLUSION

This book helps introduce richer conceptions of property to those unfamiliar with them, rebuts the empirical claims of free market environmentalists, provides some useful and interesting information to complicate our views about environmental policy, and illustrates that, for better or for worse, views about property regimes continue to influence debates about environmental protection. A property rights lense, however, has some inherent limitations as an illuminator of modern pollution control issues.