

DRAFT—DO NOT CITE OR QUOTE WITHOUT AUTHOR’S PERMISSION

## The Intersection of Scale, Science, and Law in *Massachusetts v. EPA*

Hari M. Osofsky\*

Forthcoming in *Oregon Review of International Law* (2007)  
and  
*Adjudicating Climate Change: Sub-National, National, and Supra-national Approaches* (William C.G. Burns & Hari M. Osofsky, eds.)  
(approved and under contract, Cambridge University Press)

Justice Scalia: But I always thought an air pollutant was something different than a stratospheric pollutant, and your claim here is not that the pollution of what we normally call “air” is endangering health....[Y]our assertion is that after the pollution leaves the air and goes up into the stratosphere it is contributing to global warming.

Mr Milkey: Respectfully, Your Honor, it is not the stratosphere. It’s the troposphere.

Justice Scalia: Troposphere, whatever. I told you before I’m not a scientist.

(Laughter).

Justice Scalia: That’s why I don’t want to deal with global warming, to tell you the truth.<sup>1</sup>

---

\* Assistant Professor, University of Oregon School of Law; B.A., J.D., Yale University. This essay was initially prepared for Pat Bartlein’s course on Climatological Aspects of Global Change, and I am very grateful to him for his many insights on climate science, which have fundamentally shaped my analysis. The piece also benefited from feedback during the *Oregon Review of International Law* Symposium, as well as from its presentation at the 2007 American Society of International Law Annual Meeting. In addition, Wil Burns, Holly Doremus, Alexander Murphy, and Eve Vogel provided very helpful comments that greatly improved the piece. I would like to thank my research assistants—Will Cooksey, Michelle Platt, and Jeff Richards—for their helpful work in exploring the initial impacts of *Massachusetts v. EPA*, as well as Stefanie Herrington for her meticulous review of drafts. As always, the piece would not have been possible without the loving support of Josh and Oz Gitelson. An edited version of this piece appears as a chapter in *Adjudicating Climate Change: Sub-National, National, and Supra-national Approaches* (William C.G. Burns & Hari M. Osofsky, eds.) (approved and under contract) (forthcoming 2007, Cambridge University Press) and a truncated version of this piece, based on my remarks at the ASIL conference, was published in the *ASIL Proceedings of the 101<sup>st</sup> Annual Meeting*.

## I. Introduction

The above exchange occurred between Justice Scalia and James Milkey, Assistant Attorney General of Massachusetts, during the oral argument in *Massachusetts v. EPA*,<sup>2</sup> the first case heard by the U.S. Supreme Court on governmental regulation of greenhouse gas emissions. It not only illustrates the complexities of judicial engagement with the science of global warming, but provides a window into one of the greatest obstacles to effective regulatory approaches to the problem of climate change. Namely, greenhouse gas emissions and their impacts are foundationally multiscale; they range from the most individual to global levels.

Referencing climate change as a multiscale problem, however, only serves as a starting point for further discussion. “Scale” is a complex and contested concept in both the geography and ecology literature. Geographers have defined it as: (1) “a nested hierarchy of bounded spaces of differing size;” (2) “the level of geographical resolution at which a given phenomenon is thought of, acted on or studied;” (3) “the geographical organizer and expression of collective social action;” and (4) “the geographical resolution of contradictory processes of competition and cooperation.”<sup>3</sup> Ecologists supplement this understanding with additional concepts; they define scale as being composed of grain (“the finest level of spatial or temporal resolution in a data set”) and extent (“the size of the study area or the duration of the study”).<sup>4</sup>

This essay analyzes the interaction of scale (in its many guises), science, and law in the Supreme Court briefs, oral argument, opinion, and dissents in *Massachusetts v. EPA* as a window into the role of the subnational in international law. At first blush, the choice of this case might seem counterintuitive. As a formal matter, the case primarily occurs at a national level. It involves a dispute over the interpretation of federal law that was heard by federal courts at every level. It is precisely this apparently “national” character of the case, however, that makes it a good example of the multiscale dynamics of international decisionmaking. Despite the “formal” federal level of this case, both its actors and

---

<sup>1</sup> Transcript, *Massachusetts v. EPA*, 2006 WL 3431932 (U.S.) (Nov. 29, 2006), at 22–23.

<sup>2</sup> See *Massachusetts v. EPA*, 127 S.Ct. 1438 (2007).

<sup>3</sup> NEIL BRENNER, *NEW STATES SPACES: URBAN GOVERNANCE AND THE RESCALING OF STATEHOOD* 9 (2004) (internal quotations omitted).

<sup>4</sup> Nathan F. Sayre, *Ecological and Geographical Scale: Parallels and Potential for Integration*, 29 *PROGRESS IN HUMAN GEOGRAPHY* 276, 281 (2005).

arguments have subnational and supranational dimensions that are deeply intertwined with the science of climate change.

Part II draws from Holly Doremus's work on the use of science as tool in and obstacle to regulatory approaches and from Nathan Sayre's analysis of the concept of scale to consider the particular challenges posed by the multiscale context of climate change. Part III discusses the interaction of scale, science, and law in *Massachusetts v. EPA*. Part IV examines the implications of that interaction for how this case should be fit into a model of international legal decisionmaking with respect to climate change. The piece concludes with broader reflections on strategies for improving the way in which courts engage the scale-science confluence.

## II. The Science-Scale Intersection as an Argumentative Tool

This Part interweaves the work of two California-based academics: (1) Holly Doremus, a law professor at UC Davis whose scholarship explores the way in science is used in natural resource regulation,<sup>5</sup> and (2) Nathan F. Sayre, a geographer whose recent scholarship has compared the analysis of scale in the geography and ecology literatures.<sup>6</sup> The Part summarizes Doremus's analysis of defensive uses of scientific uncertainty and then builds upon it using Sayre's analysis of scale.

### A. Defensive Uses of Scientific Uncertainty

---

<sup>5</sup> See Holly Doremus, *Science Plays Defense: Natural Resource Management in the Bush Administration*, 32 *ECOLOGY L.Q.* 249 (2005); Holly Doremus & A. Dan Tarlock, *Science, Judgment, and Controversy in Natural Resource Regulation*, 26 *PUB. LAND & RESOURCES L. REV.* 1 (2005); Holly Doremus, *The Purposes, Effects, and Future of the Endangered Species Act's Best Available Science Mandate*, 34 *ENVTL. L.* 397 (2004); Holly Doremus, *Listing Decisions Under the Endangered Species Act: Why Better Science Isn't Always Better Policy*, 75 *WASH. U. L.Q.* 1029 (1997). For additional analyses of the intersection between law and science in public policymaking, see *ADAPTIVE GOVERNANCE: INTEGRATING SCIENCE, POLICY, AND DECISION MAKING* (Ronald D. Brunner et al., eds., 2005); *RESCUING SCIENCE FROM POLITICS: REGULATION AND THE DISTORTION OF SCIENTIFIC RESEARCH* (Wendy Wagner & Rena Steinzor, eds., 2006); Donald T. Hornstein, *Accounting for Science: The Independence of Public Research in the New, Subterranean Administrative Law*, 66 *AUT LAW & CONTEMP. PROBS.* 277 (2003).

<sup>6</sup> See Sayre, *supra* note 4. A substantial geography literature engages these questions of scale and science. See, e.g., Louis Lebel, Po Garden, & Masao Imamura, *The Politics of Scale, Position, and Place in the Governance of Water Resources in the Mekong Region*, 10 *ECOLOGY AND SOCIETY* 18 (2005); James McCarthy, *Scale, Sovereignty, and Strategy in Environmental Governance*, 37 *ANTIPODE* 731 (2005); Erik Swyngedouw, *Scaled Geographies: Nature, Place, and the Politics of Scale*, in *SCALE AND GEOGRAPHIC INQUIRY: NATURE, SOCIETY, METHOD* 129 (Eric Shepard & Robert B. McMaster 2004). An extensive review of that literature is beyond the scope of this brief essay, though I plan to address it in more depth in future work. I choose to focus on Nathan Sayre's here, however, because of the particular way in which he interweaves ecological and scalar issues.

Holly Doremus's article, *Science Plays Defense: Natural Resource Management in the Bush Administration*, explains that the biggest difficulty regarding science and politics in natural resources management is not the politicization of science, but rather the scientizing of politics. Both conservationists and those who seek to block regulation can use science as a tool. Doremus notes: "The combination of actual uncertainty and public expectations of uncertainty makes the rhetoric of science equally available to regulatory offense and defense."<sup>7</sup> She traces offensive and defensive uses of science and then explores four main ways in which the Bush Administration has used science defensively: high burden of proof, value choices in the face of ambiguity, resolution of scientific certainty issues at the agency level, and limits to information gathering.<sup>8</sup>

These offensive and defensive strategies around science are apparent in the debates over climate change regulation in the United States. In fact, Doremus even quotes a memorandum from Frank Luntz on the topic to illustrate the defensive approach:

The most important principle in any discussion of global warming is your commitment to sound science. Americans unanimously believe all environmental rules and regulations should be based on sound science and common sense. Similarly, our confidence in the ability of science and technology to solve our nation's ills is second to none. Both perceptions will work in your favor if properly cultivated.<sup>9</sup>

If Luntz is correct, a reinforcement of current scientific uncertainty and of the importance of waiting for future technological and scientific developments can serve as a powerful tool in blocking more stringent regulation of greenhouse gas emissions.

Moreover, as Doremus has explained, in judicial decisionmaking, the framing of science often is outcome determinative.<sup>10</sup> The climate change context is no exception. The regulatory debates at the core of the arguments in *Massachusetts v. EPA*, discussed in detail in Part III, exemplify the offensive and defensive uses of science that she has highlighted.

---

<sup>7</sup> Doremus, *supra* note 5, at 258.

<sup>8</sup> *Id.* at 266–95.

<sup>9</sup> *Id.* at 255 (quoting The Luntz Research Companies, Straight Talk, The Environment: A Cleaner, Safer, Healthier America, at 138, available at <http://www.luntzspeak.com/graphics/LuntzResearch.Memo.pdf>).

<sup>10</sup> Doremus, *supra* note 5.

### B. Debates over Scale

The arguments over science in *Massachusetts v. EPA*, however, consistently have a particular geographic dimension to them: scale. Both the geography and the ecology literatures, which engage scientific issues very much interconnected with climate change, have their own distinct discourses about scale. Sayre's recent article, *Ecological and Geographical Scale: Parallels and Potential for Integration*, attempts to interweave the two debates. He explains that:

In both ecology and human geography, the adequacy of research at any single scale is clearly in question, but the concept of scale itself remains unclear. Most participants in the debates acknowledge the need for studies that span multiple scales, and most conceive of different scales as being organized in some sort of hierarchical fashion. Within human geography, recent contributions have established several further points of general agreement: that scale is socially constructed and thus historically contingent, that it is politically contested, and that it is centrally important to understanding a variety of political, sociocultural, economic and environmental phenomenon. The debate has foundered though basic conceptual and methodological questions, however. What exactly is scale? How should researchers theorize and use it?<sup>11</sup>

He goes on to argue that human geographers should draw three primary lessons from the ecologists' work on scale: that it is critical to distinguish between scale and level, that rescaling processes are about jumping levels, and that hierarchical models of scale can be misleading at times.<sup>12</sup>

Sayre's analysis of scale, like Doremus's discussion of the scientizing of politics, are reflected in the arguments of *Massachusetts v. EPA*. As discussed in detail in Part III, both sides consistently try to (1) rescale, i.e., change the relevant level for the argument, and (2) create hierarchies among levels, i.e., assert the primacy of a particular level, in order to accomplish their goal of proving the appropriateness or inappropriateness of the EPA exercising its discretion to regulate motor vehicle greenhouse gas emissions.

### C. Scale as a Lens on Science and the Law

The key point of this piece is not simply that both scientizing and rescaling of occur in this case, but rather that they are being used together

---

<sup>11</sup> Sayre, *supra* note 4.

<sup>12</sup> *See id.* at 283–86.

to accomplish litigative goals. The large scale—both spatially and temporally—of climate change, and the resultant scientific uncertainties about subnational contributions to it and impacts from it, are used together by the respondents to try to block regulatory behavior. In contrast, petitioners assert the appropriateness of nation-level regulation of supranational phenomenon and certainty around subnational contributions and effects to try to push for regulatory behavior.<sup>13</sup>

These dynamics suggest that offensive and defensive strategies around science have particular nuances in multiscale contexts in which relevant levels range from the individual to the global. Namely, the existence of many levels to jump and many possible arrangements of hierarchy allows for intersecting efforts at rescaling that place judges in a particularly difficult decisionmaking position. Moreover, the nexus of uncertainty around both science and scale creates additional judicial discretion and opportunities for litigants to attempt to manipulate the outcome.<sup>14</sup>

### III. The Collision of Scale and Science in *Massachusetts v. EPA*

*Massachusetts v. EPA* involves the appropriateness of the U.S. EPA's denial of a petition requesting that it regulate motor vehicles' greenhouse gas emissions under section 202(a)(1) of the Clean Air Act.<sup>15</sup> The case is just one of many petitions and lawsuits engaging global climate change that have been filed around the world in subnational, national, and supranational fora. These litigative efforts tend to take two main approaches: (1) claims against governmental entities to force or limit regulatory behavior and (2) claims against corporate emitters to limit emissions directly. *Massachusetts v. EPA* falls into the first category. In both forms, the cases serve as part of the state-corporate regulatory interactions around climate change.<sup>16</sup>

<sup>13</sup> See *infra* Part III. As Holly Doremus has noted, the dynamics of this case represent only one variation of the intersection of scale, science, and regulation. In other contexts, such as debates over critical habitat, scaling down also can be an anti-regulatory strategy because scientific uncertainty is often magnified at smaller scales. Email from Holly Doremus, Professor, UC Davis School of Law, to Hari Osofsky, Assistant Professor, University of Oregon School of Law (Mar. 20, 2007).

<sup>14</sup> Frederic Kirgis has explored similar issues in the context of legal formulas that contain two elements. In particular, he notes that courts and other decisionmakers are often unaware, or at least do not articulate an awareness, that they are using a sliding scale—“[t]he greater the degree to which one element is satisfied, the lesser the degree to which the other need be”—in such situations. Frederic L. Kirgis, *Fuzzy Logic and the Sliding Scale Theorem*, 53 ALA. L. REV. 421, 422–23 (2002).

<sup>15</sup> *Massachusetts v. EPA*, 127 S.Ct. 1438 (2007).

<sup>16</sup> For a discussion of the geography of many of these suits, see Hari M. Osofsky, *The Geography of Climate Change Litigation: Implications for Transnational Regulatory Governance*, 83 WASH U. L.Q. 1789 (2005). For other analyses of climate change litigation, see, for example, ADJUDICATING CLIMATE CHANGE: SUB-NATIONAL, NATIONAL, AND SUPRA-NATIONAL APPROACHES (William C.G. Burns & Hari M. Osofsky, eds.) (forthcoming 2007, Cambridge

This Part explores the dynamics among scale, science, and law in the case. It considers the scales represented by the petitioners and respondents in the case, the use of science and scale in the claims by petitioners and respondents, and the implications of these approaches for efforts to use science as a tool for and against regulation.

### A. Actors

The parties to *Massachusetts v. EPA* constitute a diverse group which cross-cuts scales. Twelve states, three cities, a U.S. territory, and thirteen nongovernmental organizations brought the petition. Ten other states and nineteen industry and utility groups organized into six conglomerate entities served as respondents.<sup>17</sup>

These petitioners and respondents span numerous geographic regions at multiple levels of governance. The state and local level governmental petitioners tend to be located towards the coasts and respondents mostly are based in the middle of the country. The national level governmental respondent, the U.S. EPA is based in the national capital, but has ten regional offices located in major cities throughout the country.<sup>18</sup> The nongovernmental entities similarly have a mix of local, state, national, and international ties.<sup>19</sup> And the above lists do not even include the many who filed amicus briefs or other actors engaged in responding to the Supreme Court's ruling.

From a scalar perspective, then, this case interacts with far more than simply the federal level at which it occurs. The actors reveal *Massachusetts v. EPA* as a situs for contestation across levels of governance between a wide variety of interested actors. As I have

---

University Press); JOSEPH SMITH & DAVID SHEARMAN, CLIMATE CHANGE LITIGATION: ANALYSING THE LAW, SCIENTIFIC EVIDENCE & IMPACTS ON THE ENVIRONMENT, HEALTH & PROPERTY (2006); RODA VERHEYEN, CLIMATE CHANGE DAMAGE AND INTERNATIONAL LAW, PREVENTION DUTIES AND STATE RESPONSIBILITY (2005); William C.G. Burns, *The Exigencies that Drive Potential Causes of Action for Climate Change Damages at the International Level*, 98 AM. SOC'Y INT'L L. PROC. 223 (2004); Richard W. Thackeray, Jr., Note, *Struggling for Air: The Kyoto Protocol, Citizens' Suits Under the Clean Air Act, and the United States' Options for Addressing Global Climate Change*, 14 IND. INT'L & COMP. L. REV. 855, 884-98 (2004).

<sup>17</sup> A complete list of parties is available at International Center for Technology Assessment (ICTA), Global Warming Petitioners, <http://www.icta.org/doc/global%20warming%20petitioners%20final.pdf> (last visited Feb. 27, 2006) [hereinafter ICTA Parties Listing].

<sup>18</sup> EPA Organizational Chart, <http://www.epa.gov/epahome/organization.htm>. *Massachusetts v. EPA*, 127 S.Ct. 1438 (2007).

<sup>19</sup> For an in-depth discussion of those ties, see Osofsky, *supra* note 16, 1830-34 (2005).

analyzed elsewhere, these dynamics pose difficult questions about how to locate this case in an analysis of transnational regulatory governance.<sup>20</sup>

## B. Claims

The facts in this case involve the U.S. EPA's denial of a national-level rulemaking petition under a national-level law, the Clean Air Act, to address emissions by vehicles in places around the United States that contribute to the supranational phenomenon of climate change, which produces localized effects at a subnational level. The substantive and procedural claims made by the petitioners rely upon national-level statutes to address a situation that occurs across spatial and temporal scales. Moreover, this intersection of scalar issues and scientific data was at the core of both the standing and substantive issues debated in the U.S. Supreme Court.

### 1. Standing

Although standing was not one of the issues initially before the court,<sup>21</sup> the respondents raised it in their briefing and the Supreme Court justices discussed it extensively in oral argument. The Brief of the Federal Respondent claimed that the supranational and extended time scales of climate change limited the impact of national-level decisions to limit reductions:

Global climate change is, by definition, a global phenomenon. The greenhouse gases at issue here are 'fairly consistent in concentration, everywhere along the surface of the earth.' The vast majority—as must as 80 percent—of all greenhouse gas emissions emanate from countries other than the United States. For that reason, reducing greenhouse gas emissions within the United States is unlikely, as a general matter, to have a significant long-term impact on climatic conditions in this country without reductions of greenhouse gas emissions in other parts of the world.<sup>22</sup>

---

<sup>20</sup> See Hari M Osofsky, *The Geography of Climate Change Litigation Part II: Narratives of Massachusetts v. EPA*, 8 CHICAGO J. INT'L L. \_\_ (forthcoming 2008); Hari M. Osofsky, *Climate Change Litigation as Pluralist Legal Dialogue?*, 26 STANFORD ENVTL. L.J. & 43 STANFORD J. INT'L L. 181 (2007) (Joint Issue).

<sup>21</sup> The questions presented in the petition for writ of certiorari were: "1. Whether the EPA Administrator may decline to issue emission standards for motor vehicles based on policy considerations not enumerated in section 202(a)(1). 2. Whether the EPA Administrator has authority to regulate carbon dioxide and other air pollutants associated with climate change under section 202(a)(1)." Petition for Writ of Certiorari, *Massachusetts v. EPA*, 2006 WL 558353 (U.S.) (No. 05-1120).

<sup>22</sup> Brief for Federal Respondent, *Massachusetts v. EPA* (No. 05-1120), 2006 WL 3043970, at \*13.

The respondents further argue with respect to standing that the impacts at state and local levels are too speculative because of the extent of both the space and time involved. As the Brief for Respondents Alliance of Automobile Manufacturers, Engine Manufacturers Association, National Automobile Dealers Association, Truck Manufacturers Association (Brief for Respondents AAA) put it:

because they do not face any imminent injury, petitioners are forced to rely on predictions of harm decades in the future, the occurrence of which is largely (if not entirely) dependent on actions other nations take in their own regulations of greenhouse gas emissions. Petitioners' hypotheses each of which is the subject of an active scientific debate, are reduced to conjecture by the inherent uncertainty of global events that will unfold between now and the time of the predicted injury.<sup>23</sup>

These claims by respondents thus use scientific uncertainty together with the alleged global scale of the problem to argue against the appropriateness of the petitioners being allowed to be before the Supreme Court.

The petitioners' reply to the standing argument rescales the issue back to the state and local levels and the present time. They note:

Rising temperatures have injured petitioners in the following specific and concrete ways: coastal States have lost and are losing land to rising sea levels; ground-level ozone (smog) is exacerbated by rising temperatures, leading to adverse health effects and costly efforts on the part of States to address the problem; glaciers are melting, causing distinct injuries to particular individuals. These injuries span a broad range, from the Commonwealth of Massachusetts losing coastal land to Frank Keim no longer being able to hike on the Alaskan glaciers he used to enjoy....Petitioners injuries are not "some day" injuries, as respondents content; they are injuries in the here and now. Nor do petitioners' declarations describe mere "generalized grievances"; they attest to harms being visited—right now—upon particular individuals and particular States.<sup>24</sup>

---

<sup>23</sup> Brief for Respondents Alliance of Automobile Manufacturers, Engine Manufacturers Association, National Automobile Dealers Association, Truck Manufacturers Association, *Massachusetts v. EPA* (No. 05-1120), 2006 WL 3023028 (U.S.), at \*13.

<sup>24</sup> Reply Brief, *Massachusetts v. EPA* (No. 05-1120), 2006 WL 3367871, at \*2-\*3.

This reply relies on the same scientific data set, but by scaling down the argument, engages the alleged injuries in ways that tie them more easily to legal standing requirements.

The Supreme Court's opinion sides with the petitioners and indicates that the "widely shared" character of climate-change risks does not prevent Massachusetts from having an interest in the case's outcome.<sup>25</sup> It concludes the standing analysis:

In sum—at least according to petitioners' uncontested affidavits—the rise in sea levels associated with global warming has already harmed and will continue to harm Massachusetts. The risk of catastrophic harm, though remote, is nevertheless real. That risk would be reduced to some extent if petitioners received the relief they seek. We therefore hold that petitioners have standing to challenge the EPA's denial of their rulemaking petition.<sup>26</sup>

Although the Court's holding on standing narrowly focuses on the interests of state parties, its approach to them scales down the problem of climate change and its regulation; this "global" phenomenon can cause harm at a state level and choices at a federal level influence the risks faced by states.

The dissenters, unsurprisingly, side with the respondents. Justice Robert's dissent, for example, explains how, in his view, the multiscale nature of the problem defeats standing.

The Court's sleight-of-hand is in failing to link up the different elements of the three-part standing test. What must be *likely* to be redressed is the particular injury in fact. The injury the Court looks to is the asserted loss of land. The Court contends that regulating domestic motor vehicle emissions will reduce carbon dioxide in the atmosphere, *and therefore* redress Massachusetts's injury. But even if regulation *does* reduce emissions—to some indeterminate degree, given events elsewhere in the world—the Court never explains why that makes it *likely* that the injury in fact—the loss of land—will be redressed.

In so doing, Justice Roberts articulates his concerns about whether the occurrence of emissions around the world (essentially, local emissions taking place at a global scale) makes the impact of U.S. national-level regulatory behavior less clear at a subnational scale.

---

<sup>25</sup> Massachusetts v. EPA, 127 S.Ct. 1438, 1456 (Apr. 2, 2007).

<sup>26</sup> *Id.* at 1458.

At the core of this battle over standing lies scientific data. Both sides acknowledge the problem of climate change, but they part ways in how to map the scientific information, and its uncertainties, onto existing legal structures. As emissions and their impacts connect to multiple levels of governance, the parties and Court are forced to grapple with how to apply the more-simply structured standing doctrine onto this problem.

## 2. Substantive Claims

The substantive arguments reveal a similar dynamic of scaling climate change and regulatory authority over it up and down. For example, the respondents claim that states cannot implement National Ambient Air Quality Standards in this context because their regulatory level failed to match the global level at which the problem was occurring. The brief of respondent CO2 litigation group argues:

None of the regulatory authorities makes sense if the ‘air pollutant’ to which they are applied is CO2 or another greenhouse gas being regulated for the purpose of mitigating potential global climate change. Since the projected effect of greenhouse gas emissions is a function of changes in the global atmosphere, rather than local or regional air quality, and it is the aggregate contribution of all greenhouse gas emissions around the world to global atmospheric greenhouse gas contributions that is believed by many to cause global climate change, notions of attaining or not attaining an ambient air quality standard within a state or air quality control region are inapplicable.<sup>27</sup>

The theme of scientific uncertainty is intertwined with the claim of scalar mismatch, as represented in language like “believed by many” in that statement. As with the standing argument, respondents are portraying climate change as something occurring at a supranational level and over a long period of time, with substantial deficits in current understanding about how anthropogenic greenhouse gas emissions fit into that model.

The petitioners’ argument on this point, in contrast, relies upon the various levels at which the Clean Air Act provides regulatory authority. They note in their opening brief:

Whatever question exists about the applicability of the NAAQS program to the air pollutants at issue here cannot excuse the failure to adopt emissions standards under section 202. Section 202 does provide a perfectly feasible mechanism for regulation emission of these pollutants

---

<sup>27</sup> Brief for Respondent CO2 Litigation Group, *Massachusetts v. EPA* (No. 05-1120), 2006 WL 3043971, at \*20.

from motor vehicles: the establishment of the same sort of limits on these pollutants that EPA has already imposed on pollutants such as carbon monoxide and hydrocarbons.

In other words, regulation can work according to the petitioners if one changes levels—to the national one—and type of regulatory approach.

A similar debate among the parties takes place over whether Congress's specific action with respect to ozone limits EPA's ability to regulate prior to a similar type of action regarding global climate change. The Brief for Respondents AAA argues:

Congress has previously dealt with emissions issue relating to non-localized gases that implicate global environmental concerns. For example, when Congress addressed stratospheric ozone depletion it used an express delegation under a new regulatory framework: Title VI of the Clean Air Act. The addition of Title VI to address global issues reflects Congress's views about the regulatory limits of Titles I and II of the Act.

Much like carbon dioxide, anthropogenic substances that deplete ozone are emitted around the world and are very long-lived. The upper ozone depleting effects—and consequences of those effects—occur on a global scale.<sup>28</sup>

This approach indicates a presumption that similarities in the scale and time-frame of two problems, as described in the existing scientific literature, means that a Congressional approach to one of them limits regulatory discretion with respect to another.

The petitioners, unsurprisingly, resist such an interpretation and use the ozone legislation differently. Beyond arguing that the ozone provisions have been used to regulate “air pollutants associated with climate change,” they note:

EPA cannot seriously maintain that ‘coordination with the international community’ is a prerequisite for regulating air pollutants that ‘are emitted around the world and are very long-lived’ the consequences of which ‘occur on a global scale.’ Congress directed the EPA to regulate ozone-depleting substances themselves without awaiting such coordination.<sup>29</sup>

---

<sup>28</sup> Brief for Respondents AAA, *supra* note 23, at \*38–\*39; *accord* Brief for Federal Respondent, *supra* note 22, at \*27–\*30.

<sup>29</sup> Brief for Petitioners, *Massachusetts v. EPA* (No. 05-1120), 2006 WL 3043970, at \*27.

The petitioners thus use the same analogy between ozone and global climate change to indicate that national-level regulation of multiscale problems is appropriate.

As with the standing issue, the majority opinion substantively sides with the petitioners over a vigorous dissent. It holds that Clean Air Act Section 202(a)(1), read together with the Act's broad definition of "air pollutant," gives the EPA statutory authority to regulate greenhouse gas emissions from motor vehicles.<sup>30</sup> Moreover, the Court rejects the EPA's alternative argument that even if it has statutory authority, it should not exercise it.<sup>31</sup> In so doing, the opinion notes that the agency cannot avoid its regulatory responsibilities simply by invoking scientific uncertainty. Rather, the EPA must address the statutory question of whether "sufficient information exists to make an endangerment finding."<sup>32</sup>

Although Justice Robert's dissent engages only the standing question, Justice Scalia's dissent—joined by the other three dissenting judges—addresses the merits. Justice Scalia's dissent begins by arguing that EPA's discretion is broader than the majority holds,<sup>33</sup> but then further indicates that the majority is wrong on its own terms because of the EPA's statements on scientific uncertainty.<sup>34</sup> Its final argument addresses scale even more clearly through arguing against the majority's broad interpretation of "air pollutant."<sup>35</sup> In particular, the dissent focuses quite literally on the question of the part of the atmosphere in which "pollution" resides. Because greenhouse gases build up in the upper atmosphere, the dissent claims that the EPA's exclusion of them through focusing on "ambient air at ground level or near the surface of the earth" is statutorily consistent.<sup>36</sup>

Together, the actors and arguments in this case indicate the judicial challenge that the collision of scientific uncertainty and multiscale regulatory problems pose. Although the parties used particular perspectives of that intersection in their argument, the briefs and arguments were not explicit about the fact that the U.S. Supreme Court's selection of scalar perspective would influence how the scientific data should be viewed. Similarly, although choices about the scale of climate change and its regulation run through the discourse among the majority

<sup>30</sup> Massachusetts v. EPA, 127 S.Ct. 1438, 1459–62 (2007).

<sup>31</sup> Massachusetts v. EPA, 127 S.Ct. 1438, 1462–63 (2007).

<sup>32</sup> Massachusetts v. EPA, 127 S.Ct. 1438, 1463 (2007).

<sup>33</sup> Massachusetts v. EPA, 127 S.Ct. 1438, 1471–74 (2007).

<sup>34</sup> Massachusetts v. EPA, 127 S.Ct. 1438, 1474–75 (2007).

<sup>35</sup> Massachusetts v. EPA, 127 S.Ct. 1438, 1475–77 (2007).

<sup>36</sup> Massachusetts v. EPA, 127 S.Ct. 1438, 1477 (2007) (internal quotation marks omitted).

and dissenting opinions, those decisions are often buried in the legal analysis.

### III. Implications for International Legal Decisionmaking

The strategic use of science with scale in *Massachusetts v. EPA*, especially when not explicit, suggests dangers for the way in which decisionmaking that has supranational dimensions tends to be dichotomized. In particular, the balkanization of both scalar and identity categories allows for distorting efforts at rescaling. This Part focuses on three types of divisions that are not only inaccurate descriptors in a multiscalar, multiactor framework, but also provide the basis for the political games being played in the case.

#### 1. Domestic v. International

Is *Massachusetts v. EPA* domestic or international?<sup>37</sup> The case clearly was brought under domestic law and many of the petitioners are domestic governmental actors, but simply characterizing it as domestic does not encompass all of the scales involved. As was repeatedly expressed by parties on both sides of the litigation, the case involves an international problem and exists as part of a broader law and policy discourse internationally.<sup>38</sup>

Neither “domestic” nor “international” accurately captures the multiscalar character of the case, and a notion tha

Similarly, if domestic, is *Massachusetts v. EPA* simply federal?<sup>39</sup> It is in a federal court and involves the regulatory discretion of a federal actor, but in both its actors and claims, involves many other scales and places associated with them in the United States.<sup>40</sup> After all, a good portion of the above-described debate involved state and local actors, regulatory decisions, and impacts. Moreover, the distinction—local v. state v. federal—fails to capture the nuances of the levels involved or the fact that multiple levels are involved in every aspect of the discourse.

This point becomes even clearer if this case is viewed in the broader context of climate change litigation and policy. For example, as I have discussed in depth elsewhere,<sup>41</sup> California is not only a plaintiff in *Massachusetts v. EPA*, but also a plaintiff in four other cases and a defendant in one other case involving climate change;<sup>42</sup> three of those other cases also involve motor vehicle emissions and the one in which California is being sued stems from its state-level efforts to regulate vehicle emissions.<sup>43</sup> Moreover, California's representatives in Congress are playing leadership roles in post-mid-term election efforts to regulate

<sup>39</sup> For examples of broader federalism debates in the context of environmental regulations, see Kristen H. Engel, *State Environmental Standard-Setting: Is There a "Race" and Is It "to the Bottom"?*, 48 HASTINGS L.J. 271 (1997); Daniel C. Esty, *Revitalizing Environmental Federalism*, 95 MICH. L. REV. 570 (1996); Joshua D. Sarnoff, *The Continuing Imperative (but Only from a National Perspective) for Federal Environmental Protection*, 7 DUKE ENVTL. L. & POL'Y F. 225 (1997); Peter P. Swire, *The Race to Laxity and the Race to Undesirability: Explaining Failures in Competition Among Jurisdictions in Environmental Law*, 14 YALE J. ON REG. 67 (1996); Henry N. Butler & Jonathan R. Macey, *Externalities and the Matching Principle: The Case for Reallocating Environmental Regulatory Authority*, 14 YALE L. & POL'Y REV. & YALE J. ON REG. 23 (1996); Richard L. Revesz, *Rehabilitating Interstate Competition: Rethinking the "Race-to-the-Bottom" Rationale for Federal Environmental Regulation*, 7 N.Y.U. L. REV. 1210 (1992); Richard L. Revesz, *The Race to the Bottom and Federal Environmental Regulation: A Response to Critics*, 82 MINN. L. REV. 535 (1997); Richard B. Stewart, *Environmental Regulation and International Competitiveness*, 102 YALE L.J. 2039 (1993).

<sup>40</sup> For an interesting analysis of the complexities of regulation at multiple scales, see William W. Buzbee, *Recognizing the Regulatory Commons: A Theory of Regulatory Gaps*, 89 IOWA L. REV. 1 (2003).

<sup>41</sup> See Hari M. Osofsky, *Climate Change as Pluralist Legal Dialogue?*, *supra* note 20.

<sup>42</sup> See Complaint, *Central Valley Chrysler-Jeep v. Witherspoon*, available at 2004 WL 5001055 (E.D.Cal.); Complaint, *Connecticut v. Am. Elec. Power Co.*, 406 F. Supp. 2d 265 (S.D.N.Y. 2005) (No. 04 Civ 5669), available at <http://caag.state.ca.us/newsalerts/2004/04-076.pdf>; Complaint, *People of the State of California v. General Motors Corp., et. al*, available at [http://ag.ca.gov/newsalerts/cms06/06-082\\_0a.pdf](http://ag.ca.gov/newsalerts/cms06/06-082_0a.pdf); Petition for Review, *California v. NHTSA*, available at [http://ag.ca.gov/newsalerts/cms06/06-046\\_0a.pdf](http://ag.ca.gov/newsalerts/cms06/06-046_0a.pdf) (May 2, 2006); Non-Binding Statement of Issues of Petitioners, *Coke Oven Environmental Task Force v. U.S. Environmental Protection Agency*, Case No. 06-1131 (Sept. 3, 2003).

<sup>43</sup> California Global Warming Solutions Act of 2006 (AB 32), Cal. Health & Safety Code §§ 38500 *et seq.*; Press Release, Office of the Governor, Governor Schwarzenegger Signs Landmark Legislation to Reduce Greenhouse Gas Emissions, Sept. 27, 2006, available at [http://www.climatechange.ca.gov/documents/2006-09-27\\_AB32\\_GOV\\_NEWS\\_RELEASE.PDF](http://www.climatechange.ca.gov/documents/2006-09-27_AB32_GOV_NEWS_RELEASE.PDF).

emissions more aggressively,<sup>44</sup> and its cities are both engaging in litigation<sup>45</sup> and their own regulatory efforts.<sup>46</sup> Divorcing *Massachusetts v. EPA* from that multiscalar context de-contextualizes the case in ways that portray its significance inaccurately.

### 3. Public v. Private

Finally, is this litigation about public or private decisionmaking?<sup>47</sup> Because this case involves the behavior of a federal regulator, one could argue that it is a public law case. But such a view of the case would suffer from some of the same flaws as the other two efforts to categorize it.

<sup>44</sup> See, e.g., Press Release, *Pelosi and Reed: We Should Work Together to Take American in a New Direction*, Jan. 27, 2007, <http://www.house.gov/pelosi/press/releases/Jan07/SOTU.html>; *Is U.S. Energy Independence a Pipe Dream?*, NPR Talk of the Nation, Jan. 24, 2007 (“Today Speaker of the House Nancy Pelosi upped the ante and called for energy independence within 10 years.”); Press Release, Senator Barbara Boxer, Boxer, Bingaman, and Lieberman Ask President to Commit to Working with Congress to Fight Global Warming, Nov. 15, 2006, available at <http://boxer.senate.gov/news/releases/record.cfm?id=265906&&>.

<sup>45</sup> See Complaint for Declaratory and Injunctive Relief (Second Amended), Friends of the Earth, Inc., v. Watson, No. 02-4106 (N.D. Cal. Sept. 3, 2002), available at [http://www.climatelawsuit.org/documents/Complaint\\_2Amended\\_Declr\\_Inj\\_Relief.pdf](http://www.climatelawsuit.org/documents/Complaint_2Amended_Declr_Inj_Relief.pdf).

<sup>46</sup> See ICLEI Website, Regional Membership Lists by Country, <http://www.iclei.org/index.php?id=1387&region=NA> (last visited Jan. 31, 2007).

<sup>46</sup> See ICLEI Website, CCP: Participants, <http://www.iclei.org/index.php?id=1121> (last visited Jan. 31, 2007); Fact Sheet, California Climate Activities, [http://www.climatechange.ca.gov/climate\\_action\\_team/factsheets/2005-06\\_CLIMATE-ACTIVITIES\\_FS.PDF](http://www.climatechange.ca.gov/climate_action_team/factsheets/2005-06_CLIMATE-ACTIVITIES_FS.PDF) (last visited Jan. 31, 2007); City of Los Angeles Webpage, Council Actions, [http://www.lacity.org/ead/EADWeb-AQD/council\\_actions.htm](http://www.lacity.org/ead/EADWeb-AQD/council_actions.htm) (last visited Jan. 31, 2007); City of Los Angeles Webpage, Awards Received, [http://www.lacity.org/ead/EADWeb-AQD/awards\\_received.htm](http://www.lacity.org/ead/EADWeb-AQD/awards_received.htm) (last visited Jan. 31, 2007); Tomas Alex Tizon, *Mayor Is on a Mission to Warm U.S. Cities to the Kyoto Protocol*, L.A. TIMES, Feb. 22, 2005, at A15. For scholarly analysis of the state and local dimensions of climate change regulation, see BARRY G. RABE, STATEHOUSE AND GREENHOUSE: THE EMERGING POLITICS OF AMERICAN CLIMATE CHANGE POLICY (2004); Donald A. Brown, *Thinking Globally and Acting Locally: The Emergence of Global Environmental Problems and the Critical Need to Develop Sustainable Development Programs at State and Local Levels in the United States*, 5 DICK. J. ENVTL. L. & POL’Y 175 (1996); Ann E. Carlson, *Federalism, Preemption, and Greenhouse Gas Emissions*, 37 U.C. DAVIS L. REV. 281 (2003); David R. Hodas, *State Law Responses to Global Warming: Is It Constitutional to Think Globally and Act Locally*, 21 PACE ENVTL. L. REV. 53 (2003); Laura Kosloff & Mark Trexler, *State Climate Change Initiatives: Think Locally, Act Globally*, 18 WTR NAT. RESOURCES & ENV’T 46 (2004); Robert B. McKinstry, Jr., *Laboratories for Local Solutions for Global Problems: State, Local and Private Leadership in Developing Strategies to Mitigate the Causes and Effects of Climate Change*, 12 PENN ST. ENVTL. L. REV. 15 (2004); Hari M. Osofsky, *Local Approaches to Transnational Corporate Responsibility: Mapping the Role of Subnational Climate Change Litigation*, PACIFIC MCGEORGE GLOBAL BUS. & DEV. L.J. (forthcoming 2006) (Conference Proceedings Issue); Barry G. Rabe, *North American Federalism and Climate Change Policy: American State and Canadian Provincial Policy Development*, 14 WIDENER L.J. 121 (2004); Judith Resnik, *Law’s Migration: American Exceptionalism, Silent Dialogues, and Federalism’s Multiple Ports of Entry*, 115 YALE L.J. 1564, 1643-47 (2006).

<sup>47</sup> For a historical perspective on the evolution of the public/private distinction in a local government context, see Gerald Frug, *A Legal History of Cities*, in THE LEGAL GEOGRAPHIES READER 154 (Nicholas Blomley, David Delany & Richard T. Ford eds., 2001).

A mix of public and private actors appears on both sides of the lawsuit in *Massachusetts v. EPA*, and other instances of climate change litigation. Moreover, some of the cases over vehicle emissions debate governmental regulatory decisions, and others focus on emissions decisions of private actors directly.<sup>48</sup> To fail to see these cases as involving a state-corporate regulatory dynamic would be just as flawed as ignoring California's critical role in the multiscale dialogue about climate change.

As a wide range of actors operate at across scales and play multidimensional roles in the policy and law-making debate, *Massachusetts v. EPA* becomes one convergence in a complex dance. This reality creates risks that traditional ways of categorizing the case will miss critical elements of what it is.

#### IV. Concluding Reflections: Strategies for Managing the Confluence

The confluence of scale, science, and law in *Massachusetts v. EPA* does not simply challenge our conventional approaches to categorization, but also suggests important strategies for managing these ever-more-common convergences better. In particular, the lack of explicit acknowledgement of battles at this intersection has troubling implications for judicial decisionmaking. When petitioners and respondents are scaling up and scaling down without acknowledging it, judicial discretion is increased tremendously. The scalar lens that the court chooses may well be outcome determinative, and may not reflect a great deal of consciousness about the ways in which the framing influenced the decision.

Unfortunately, efforts to engage scale more directly may not actually fix this problem. If parties spotlight the way in which scale and science are being used, the court may make its decision more reflectively. However, the outcome will not necessarily vary much. Judges may well choose the same scalar framing that they were initially inclined towards selecting. As Holly Doremus's work makes clear, even if scale and science are approached more consciously, the scientizing and scaling of politics may be unavoidable.

---

<sup>48</sup> I have discussed this dynamic in depth in Osofsky, *supra* note 16, at 1796–97; see also Robert Dufresne, *The Opacity of Oil: Oil Corporations, Internal Violence, and International Law*, 36 N.Y.U. J. INT'L & POL. 331 (2004). For an interesting analysis of corporate responsibility in the context of indigenous peoples' land rights, see Lillian Aponte Miranda, *The Hybrid State-Corporate Enterprise and Violations of Indigenous Land Rights: Theorizing Corporate Responsibility and Accountability under International Law*, \_\_ LEWIS & CLARK L. REV. \_\_ (forthcoming 2007) (on file with author); Hari M. Osofsky, *Learning from Environmental Justice: A New Model for International Environmental Rights*, 24 STANFORD ENV. L.J. 71, 72–76 (2005).

Under such a view, explicit acknowledgement of scale, science law confluence would simply change the words that advocates and judges use. Both sides likely will continue to use scale and science in tandem both offensively and defensively, and the arguments about why a particular framing is appropriate would simply become more explicit and nuanced. Moreover, the lack of university-level exposure to geography among many elites in the United States<sup>49</sup> may cause resistance to a deeper engagement of the nuances of scale and feed the politicization of its confluence with science and law.

Even so, I think that an active effort to engage this intersection more systematically would be an improvement over the status quo. When assumptions are allowed to control discourse without conscious acknowledgement, the possibilities for political manipulation of science are heightened. If courts and litigants engage the confluence of law, scale, and science more thoughtfully, the potential for an adequate regulatory discourse over complex issues like climate change improves. At the very least, an explicit dialogue about these issues might help lawyers and judges become more comfortable with the dynamics underlying cases like *Massachusetts v. EPA*. Given the growing climate crisis, further exploration of these scalar questions is critical.<sup>50</sup>

---

<sup>49</sup> Beginning with Harvard in 1948, many U.S. universities eliminated their geography departments or failed to constitute them. Alexander Murphy, *Geography's Place in Higher Education in the United States*, 31 J. OF GEOGRAPHER IN HIGHER ED. 121, 122–23 (January 2007); William A. Koelsch, *Academic Geography, American Style: An Institutional Perspective*, in GEOGRAPHY: DISCIPLINE, PROFESSION AND SUBJECT SINCE 1870: AN INTERNATIONAL SURVEY 245, 270 (Gary S. Dunbar, ed., 2001); see also Thomas J. Wilbanks & Michael Libbee, *Avoiding the Demise of Geography in the United States*, 31 THE PROFESSIONAL GEOGRAPHER 1, 1 (1979). A recent study indicates that 93% of U.S. liberal arts institutions lack geography departments. Mark D. Bjelland, *A Place for Geography in the Liberal Arts College?*, 56 PROFESSIONAL GEOGRAPHER 326, 326 (2004). I have discussed this issue in depth in Hari M. Osofsky, *A Law and Geography Perspective on the New Haven School*, \_\_ YALE J. INT'L L. \_\_ (forthcoming 2007).

<sup>50</sup> I plan to explore these issues of scale in more depth in a future article, *Is Climate Change an "International" Legal Problem?* (Draft Manuscript on File with Author), and monograph, *Scales of Law: Rethinking Climate Change and the War on Terror* (Draft Précis on File with Author).