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# *Ecology and the Limits of Justice: Establishing Capability Ceilings in Nussbaum's Capabilities Approach*

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**Abstract** Human impacts on large-scale ecological interactions effectively confer fundamental advantages of wealth and power to some members of society and not to others. As illustrated here by reference to a 1993 cholera outbreak resulting from degradation of aquatic ecosystems, these impacts can pose barriers to the normal channels through which one might pursue individual advantage, thereby raising tensions for liberal theories of justice that are committed both to basic liberties and to distributive fairness. I first illustrate these tensions by reference to John Rawls's theory. I then argue that although Nussbaum's theory, which emerged in dialogue with Rawls's, improves upon it in this regard, it remains subject to the same basic tensions. Instituting 'capability ceilings' that impose a limit on the set of basic opportunities available to people would help resolve this tension. Thus, in addition to Nussbaum's proposal for establishing capability thresholds, I defend capability ceilings as a friendly amendment to her theory.

**Key words:** John Rawls, Martha Nussbaum, Justice, Capabilities, Environmental justice, Ecosystems, Political liberalism, Value conflict, Habitat change, Resource inequality

## **Introduction**

On 6 March 2001, President George W. Bush issued a letter to several national-level senators publicly defending his decision to oppose committing the United States to the Kyoto Protocol — an international treaty regulating greenhouse gas emissions. Bush claimed that meeting the treaty's goals would "cause serious harm to the U.S. economy" and emphasized his strong commitment "not to take actions that could harm consumers." In the environmental policy debate, such references to the relationship between the benefits of economic productivity and the

legitimacy of environmental protection are common. Like Bush, anti-regulatory advocates often emphasize the economic impacts of environmental policies and how this might bear on various dimensions of human well-being. For example, as one critic of highly precautionary regulatory regimes claims, “by slowing economic growth and/or increasing energy prices, regimes could, in the final analysis, decrease overall access to food which could lower health status and increase death and disease in the poorer segments of society, especially in the developing world” (Goklany, 2000, p. 221).

In this paper I want to consider a normative question that bears on the rise of economic goals to this position of prominence in the environmental debate. Specifically, I want to consider how we ought to evaluate environmental protection policies when they come into conflict with economic goals that also play a key role in furthering human well-being. In answering this question, I argue that we should evaluate policy goals in terms of their impacts on the environmental dimensions of human capabilities — that is, on the environmental resources and ecological conditions that enable people to do and be different things. To justify and develop this approach to evaluating policy goals, I rely on the ‘partial theory of justice’ that Martha Nussbaum advances.<sup>1</sup> Nussbaum’s capabilities approach provides a helpful and illuminating framework for reasoning about what justice requires in the context of relationships in which the activities of citizens in distant places impact each other through large-scale ecological interactions. However, in order to fully account for this relationship between citizens, global economic and ecological processes, and justice, Nussbaum’s capabilities approach will require further theorizing. In particular, I focus on the need to establish ‘capability ceilings’ — in addition to ‘capability thresholds’ — as conditions of justice.

The present paper will proceed in the following way. As a practical reference point for developing my theoretical argument, I will first discuss a brief example of how complicated interactions between economic and ecological processes can produce troubling environmental inequities. Second, I will argue that Nussbaum’s capabilities approach to justice provides a better framework for addressing environmental inequities than a framework that relies on John Rawls’s political theory, which she seeks to complement and extend. Third, I will discuss some limitations in Nussbaum’s theory and how they might be addressed through establishing ‘capabilities ceilings’ within her broader theory of justice.

### **Habitat change and environmental inequity**

A key feature of many contemporary environmental problems is that they are the product of complicated interactions between economic and ecological processes. Consider, for example, the interactions producing a new variant of cholera — *Vibrio cholerae* — that spread through India and Bangladesh in January 1993 (see Colwell, 1996, pp. 2026–2027). Aided by

a previously undetected antigen, by mid-April this new strain of cholera had invaded Calcutta, infecting 15 000 people, killing 230, and it soon spread to Thailand, Pakistan, and 10 other Asian nations. During the peak of its attack, *V. cholerae* was infecting 600 people per day in the city of Dhaka, Bangladesh (Epstein, 1995, p. 169).

Public health experts attributed the 1993 cholera outbreak to several factors resulting from changing ecological conditions.<sup>2</sup> First, an increase in nitrogen-rich wastewaters, fertilizers, and acid rain prompted growth in the aquatic weeds and algae — free-floating phytoplankton and zooplankton — that can harbor a certain form of the cholera bacteria that is either directly consumed after being absorbed by estuary waters or indirectly consumed through contaminated seafood (see Colwell, 1996, pp. 2026–2028; Colwell and Spira, 1992; Islam *et al.*, 1994). Second, wetlands and mangroves that normally do the work of filtering out these nitrogen-rich stimuli are being lost to coastal development, aquaculture, diking, and drilling. Third, certain fish, which are the natural predators of the plankton that harbors the cholera bacteria, are in severe decline due to overfishing (Epstein, 1995, p. 170). Fourth, the warmer sea surface temperatures believed to be brought on by climate change augmented algae growth by increasing photosynthesis in algal metabolism, increasing nutrient-rich coastal upwelling, and shifting the community of organisms toward more toxic species (e.g. ‘red tides’); consequently, coastal algae became less palatable to their natural predators (see Colwell, 1996, p. 2027; Epstein, 1992, pp. 1167–1168).

These kinds of habitat change exemplify how complicated interactions between economic and ecological processes can amplify human vulnerability to environmental threats.<sup>3</sup> As Paul Epstein emphasizes in explaining the prevalence of opportunistic pests, “Environmental change and pollutants stress individuals and populations [of plant and animal species], and this may be reflected in the global resurgence of infectious disease as these stresses cascade through the community assemblages of species” (see Epstein, 1995, p. 168). In the cholera case, industrial agriculture, coastal land-use development, commercial fishing, and greenhouse gases produced by fossil-fuel-based economies all combined to affect ecological systems in ways that undermined human health. While these activities may benefit both the poor and the rich in different ways, the costs of the 1993 cholera outbreak were most significant for two relatively impoverished groups: those without access to water not penetrated by cholera organisms, and those dependent on eating fish that contained the mutated forms of cholera. Thus, the 1993 cholera outbreak illustrates that just as the poor are most vulnerable to environmental changes that will result from global warming, such as flooding, they are also especially vulnerable to various diseases that result from other kinds of large-scale ecological change.

Because the burdens of these ecological changes are both severe and unequally distributed, they raise important questions about the justness of

environmental disparities that result from interaction between economic and ecological processes. The most prominent liberal theories of justice have done little to address these questions (see Miller, 1999, pp. 151–153; Bell, 2004, p. 289); they often treat economic activity as a neutral or benign condition of societal well-being that will improve the material conditions of the rich and poor alike. As such, environmental problems are commonly treated merely as cases in which externalities need to be internalized. For example, in his original formulation of *A Theory of Justice*, John Rawls refers to the environment as a special kind of economic good; one that is public in nature, and therefore subject to the dangers of underproduction and unsustainability. From this economic perspective, to address environmental problems we merely need to apply taxes and subsidies that force polluters to pay for the (true) social cost of their negative impacts on the environment (Rawls, 1971, p. 268).

However, in a world connected by large-scale ecological processes, the external effects of economic activities can be distant and difficult to identify before their disastrous consequences occur. Maximizing food production in croplands and grazing lands, for instance, can alter ecological processes in ways that severely impact natural services (e.g. water purification) in places distant from the agricultural land itself (see Galloway *et al.*, 2003). Likewise, creating levees and channels to reduce natural flooding and protect farmland in fertile areas can lead to the loss of wetlands far downstream, and hence can reduce the capacity of wetlands to mitigate storm surges in coastal areas (see Day *et al.*, 2007). Furthermore, it is difficult to quantify the losses that result from these kinds of humanly induced changes in ecological systems (see O'Neill, 2007, pp. 85–88). For example, if people cannot put a monetary value on the loss of identity and security that follows their evacuation from areas deluged by coastal flooding, then it will be excessively difficult to internalize the costs of economic activities that produce the ecological changes causing floods.

In light of these complications, addressing environmental inequities will require a theory of justice that accounts for how interactions between economic and large-scale ecological processes shape the distribution of individual advantage in society. I will argue that Martha Nussbaum's capabilities approach is appropriate for this purpose. However, because her theory emerges in critical dialogue with John Rawls's approach to justice, I will first explain why her theory is better than Rawls's for addressing questions about the environment's role as a condition of justice.

It is important to note that in identifying limitations in Rawls's theory, I focus on Rawls's theory of domestic justice rather than his theory of international justice. At one level, the domestic theory might seem like a misguided choice, since the kind of environmental problems I focus on in this paper cross state borders. But Rawls's theory of international justice is famously a theory about justice between *peoples*, not individuals (see

Rawls, 1999), and as I argue below it is necessary to focus on individuals when addressing questions of environmental justice.<sup>4</sup> There are some ways in which Rawls's domestic theory is still problematic in this respect; specifically, his 'difference principle' focuses on the position of the worst-off *class* in society. I explore the domestic theory, nonetheless, because it can more easily accommodate this problem, and because Rawls's more recent work on his domestic theory of justice at least references environmental protection in relation to healthcare, which he claims can be included in his theory as a 'primary good' (see, Rawls, 2001, pp. 168–176). The domestic theory, in short, provides a more sophisticated basis for critically engaging the potential of Rawls's political theory to address injustices that result from the distribution of environmental resources (for example, see Bell, 2004). The next section of this paper discusses how Rawls's early work addresses the environment; the following section then turns to his more recent reference to the environment as a dimension of public health.<sup>5</sup>

### **Justice and the environment in Rawls's early political theory**

In addressing how the institutional mechanisms of a liberal-democratic society bear on environmental inequities, the political theory of John Rawls seems like an obvious starting point. Rawls provides a systematic account of justice for modern liberal democracies, and because he treats economic institutions as part of the 'basic structure' of society — and therefore, as subject to evaluation according to his two principles of justice — his theory also makes it possible to bring economic institutions under the lens of justice (Rawls, 1971, p. 259). However, as I argue below, Rawls's early work errs in treating environmental problems merely as a matter of internalizing externalities. Specifically, he fails to recognize the relevance of the environment to the basic liberties protected by his first principle of justice, a failure that is especially problematic when addressing environmental impacts that occur at the intersection of economic activities and ecological processes. Furthermore, even if Rawls were to account for functioning ecological systems as a precondition of the advantages that his principles of justice protect — an extension some defend based on Rawls's discussion (in his later work) of public health as a primary good — his theory of justice would still lack particular features of Nussbaum's capabilities approach that make it better for addressing the relationship between the environment and basic conditions of justice. As a preface to this argument, let us first consider some key features of Rawls's approach to justice.

Rawls advances the following two principles for determining how a just society ought to allocate the benefits of social and economic cooperation: First, each person is entitled to the most extensive scheme of equal basic liberties consistent with like liberties for all; second, the benefits of social and economic cooperation must be (a) attached to offices

and positions open to all under conditions of fair equality opportunity, and (b) distributed such that the greatest benefits go to the least advantaged members of society (Rawls, 1971, p. 302; 1993, p. 291). The liberties relevant to the first principle consist of basic civil and political freedoms, such as freedom of speech, assembly, thought, and association (Rawls, 1971, p. 61; 1993, p. 291). These liberties have no particular priority amongst themselves, but Rawls does assign them priority with respect to the second principle (Rawls, 1971, p. 61). As he explains, “By priority of liberty I mean the precedence of the principle of equal liberty over the second principle of justice. The two principles are in lexical order, and therefore the claims of liberty are to be satisfied first” (Rawls, 1971, p. 244). Put differently, the political liberties protected under the first principle of justice “cannot be denied to certain social groups on the grounds that their having these liberties may enable them to block policies needed for economic efficiency and growth ...” (Rawls, 1993, p. 295); rather, if policies needed for economic efficiency and growth do not violate the liberties that the first principle of justice protects, then they are acceptable so long the constraints of the second principle guide the resulting distribution of benefits.

The second part of Rawls’s second principle — commonly referred to as the ‘difference principle’ — requires that projects producing inequalities (e.g. of power, income, status, etc.) make life better for the worst-off members in society, and that access to the more privileged or prestigious positions are not blocked (e.g. by racial or gender-based discrimination). Consequently, Rawls’s difference principle “requires that the higher expectations of the more advantaged contribute to the prospects of the least advantaged” (Rawls, 1971, p. 95).

Rawls understands his two principles of justice as operating within a constitutional structure that secures the liberties of equal citizenship protected under the first principle (see Rawls, 1971, p. 197). Toward this end, governmental interventions in institutional activities are justifiable on two grounds: as a means to preventing the kind of wealth accumulation that can radically distort political power, and as a means to equalize basic liberties and opportunities. For example, in order to prevent distortions in political power, Rawls allows government to block monopolistic barriers that would undermine equality of opportunity in economic activities and in the free choice of occupation (Rawls, 1971, p. 275). Likewise, the government may impose various levies and regulations in order to prevent a distribution of wealth that concentrates power in a way that is detrimental to political liberty and fair equality of opportunity (Rawls, 1971, p. 277). These purposes also justify using taxes to raise revenues for funding a public school system that provides equally endowed and motivated citizens an equal chance to attain educational and cultural experiences. Finally, the government may also use these tax revenues to make transfer payments that otherwise satisfy the difference principle (Rawls, 1971, p. 278).<sup>6</sup> Taken together, the civil and political freedoms that

Rawls's first principle secures (e.g. freedom of assembly and expression) and the social and economic conditions that Rawls's second principle distributes (e.g. equal opportunity and income redistribution) make up a list of 'primary goods.'

As I have previously mentioned, Rawls's *Theory of Justice* treats environmental protection as a form of governmental intervention that is necessary due to the public and indivisible nature of environmental goods (see Miller, 1999, p. 156). Specifically, he views environmental resources as available to all if they are available to anyone, and as goods that cannot be divided up according to people's private preferences for more or less (see Rawls, 1971, pp. 266–268). Thus, Rawls's early political economy suggests that government should internalize externalities so that law and government can make polluters pay the true social cost of the waste they produce.

Although internalizing externalities is an important part of correcting for market failures, this original treatment of the environment is limited. Specifically, in *A Theory of Justice*, Rawls fails to recognize the environment's significance as a condition of social justice that is instrumental to the basic liberties and opportunities his principles of justice seek to protect. Furthermore, because addressing environmental problems puts the goals of his two principles of justice in tension with each other, the lexical priority of Rawls's first principle would require giving priority to considering how environmental resources bear on the basic liberties that his first principle secures. Let us consider this problem and then turn to the less obvious problem that remains in Rawls's later effort to treat healthcare as a primary good to which the environment is instrumental.

First, it is important to note that Rawls's early work errs in treating the environment as a mere public good that can be accurately valued by internalizing externalities. Many environmental resources indeed are indivisible in the sense that "the quantity produced cannot be divided up as private goods can and purchased by individuals according to their preferences" (Rawls, 1971, p. 206). However, this understanding of their indivisibility does not mean that their contribution to individual advantage is made equally available to everyone if made available to anyone. Primarily this is because environmental resources as well as larger ecological systems can exist in qualitatively different conditions. For example, preservation of the ozone layer is a good made available to everyone, but the advantages such preservation provides will be of greater benefit to those who are most threatened by its destruction, such as people living closer to the North Pole and South Pole of the earth. Likewise, wetland ecosystems involved in the process of water purification can exist in states of greater or less ecological health, and therefore they can be more or less effective at purifying water. It follows that the advantages of protecting wetland ecosystems will be greater for those who are more likely to rely on these systems for their water resources or for their nutritional inputs from fish living in wetland ecosystems.

Second, because the quality of environmental goods can in these ways make them unequally available, Rawls also errs in treating the environment as if it does not confer fundamental advantages of wealth and power to some and not to others. The environmental circumstances one is born into do affect one's initial chances in life, and, like the social and economic circumstances that one is born into, appeals to notions of desert or merit do not justify them (see Rawls, 1971, p. 7). For example, the children of poor and minority communities are often born into neighborhoods with more severe air pollution problems (American Lung Association, 2001). One consequence of exposure to air pollution is childhood asthma, a common and chronic health condition that affects 4.8 million children under the age of 18 in the United States. The prevalence rate of asthma attacks is 32% higher in African Americans than the rates for whites. Similarly, African-American children are four times more likely to die from asthma than white children and are three times more likely to be hospitalized for asthma (Sze, 2007, p. 95). Aside from hospitalization and death, asthma also can have significant negative effects on work and school attendance, as well as on one's social life and emotional well-being (Nocon and Booth, 1989–1999). As a case in point, victims of asthma as well as their families and their communities often experience a loss of control that leads to family-wide and community-wide depression (Nossiter, 1995).

These problems demonstrate that environmental circumstances can have profound effects from the start of life. High levels of polluted air can have health impacts that close off the normal channels through which one would otherwise pursue important personal and career goals. Exposure to ultraviolet light that passes through a thinned ozone layer can produce skin cancer that leads to premature death. Eating fish from polluted water can involve ingesting toxins that affect the mental abilities of one's unborn children (Cone, 2005, pp. 153–167). In short, because the condition of the natural environment confers fundamental advantages to some and not to others, Rawls errs in not addressing its importance as a matter of basic justice, alongside other basic protections, such as equal opportunity and free expression.

In light of these limitations in Rawls's existing account of environmental problems, it would improve his theory to incorporate an account of the environment's instrumental value to basic conditions of justice. However, addressing the environment's instrumental value in a Rawlsian theoretical framework would demand much stronger environmental protections than Rawls's early political theory admits. Specifically, because protecting the environmental preconditions of basic liberties protected by the first principle of justice might conflict with economically productive uses of the environment that are necessary for satisfying the goals of the difference principle, the lexical priority of Rawls's first principle would require protecting the environment as a precondition of basic liberties.

Let us consider how this tension between Rawls's principles arises by returning to the Cholera outbreak (discussed above) that struck India and

Bangladesh in January 1993. This case demonstrates how complicated interactions between economic activities (that produce fertilizers, waste, acid rain, over-fishing, etc.) and ecological processes (such as those that filter water and control free-floating plankton) can function to undermine human health and well-being. Like air pollution, habitat changes fostering the spread of diseases such as cholera can indeed have a profound effect on one's initial chances in life — not just determining whether or not one is able to live a life, but also determining whether one will have the physical capacity to take advantage of basic civil and political freedoms as well as opportunities for personal and professional advance. In a case such as this, then, in which economic activities produce environmental impacts that undermine some individuals' capacity to enjoy basic liberties, Rawls's commitment to the priority of liberty limits the scope his theory allows for pursuing economically productive uses of the environment that will improve the prospects of the least advantaged. Environmental impacts, in other words, require protections that conflict with the goals of the difference principle.

More fundamental than the priority Rawls accords to the civil and political freedoms that his first principle protects is his separation of them from the social and economic protections the second principle allocates. As Nussbaum has noted, this separation makes it difficult for Rawls adequately to address the extent to which political and civil freedoms have material prerequisites, or to recognize that social and economic protections are necessary preconditions for realizing these liberties.<sup>7</sup> Contemporary efforts to address this problem make progress with some aspects of Rawls's theory, but, as I discuss below, they do this by adopting the concepts descriptive of human capabilities, which therefore only illuminates why a capabilities approach to justice offers a better framework for dealing with questions about the distribution of environmental goods and harms.

### **Justice and the environment in Rawls's later political theory**

In his later work, Rawls briefly acknowledges that there may be material prerequisites to the protections that allow people to be “fully cooperating members of society” (Rawls, 2001, p. 169), and he suggests that, if necessary, the basic liberties and opportunities included in the “index of primary goods” can include these prerequisites (see Rawls, 2001, p. 172). In so far as these prerequisites pertain to basic liberties and opportunities, however, an adequate articulation of them points us towards capabilities. In so far as they pertain to the distribution of other advantages, they remain, in the Rawlsian theory, insufficiently individualistic to cope with the environmental problems addressed here.

Most important to the present discussion, in *Justice as Fairness: A Restatement*, Rawls sketches what an extension of his theory of justice would entail if healthcare was considered among the primary goods that

his second principle of justice distributes. Here, Rawls's explicitly references clean air and unpolluted water as 'in-kind' benefits that the government ought to provide:

[T]he primary goods of income and wealth are not to be identified only with personal income and private wealth ... As citizens we are also the beneficiaries of the government's providing various personal goods and services to which we are entitled, as in the case of health care, or of its providing public goods (in the economist's sense), as in the case of measures ensuring public health (clean air and unpolluted water, and the like). (Rawls, 2001, p. 172)

Derek Bell draws on this reference to argue that an extension of Rawls's theory of justice to include healthcare as a primary good can incorporate protection and provision of basic environmental goods (see Bell, 2004). For Bell, "The inclusion of basic environmental goods on the list of primary goods is justified because of their role in maintaining the 'minimum essential capacities for being [a] normal and fully cooperating [member] of society'" (2004, p.298). In other words, without basic environmental protections people might lack the conditions of bodily health necessary for executing the 'two moral powers' — a capacity for a sense of justice and a capacity for a sense of the good — necessary for maintaining their status as free and equal citizens (see Rawls, 2001, pp. 18–19 and 168–169).

Bell's effort to build on Rawls's brief discussion of healthcare in order to account for the distribution of environmental goods is illuminating. While he follows Rawls in identifying the needs of the least advantaged group in society, he also adopts the language of human capabilities in determining the environmental priorities a Rawlsian framework would arrive at. Consider, for example, the following quote from Bell's argument:

If the goal is to ensure that all members of the least advantaged group are normal and fully cooperating members of society, the "basic structure" of society must be designed (as far as possible) to maintain (and restore) for everyone a complex of physical and mental capacities that equips them to function (e.g. work, pursue a conception of the good) in their society ... In effect, we are choosing among alternative policy packages (available at any particular level of resources) and their guarantees of primary goods to members of the least advantaged group by considering their likely effects on the essential capacities of the members of the least advantaged group. (Bell, 2004, pp. 300–301)

I include this quote from Bell's argument because it demonstrates how quickly a discussion about practical issues of policy involves reasoning about the capacities that enable people to function, first, and how primary goods bear on them, second. To put this point differently, Bell's argument

raises the question of whether Rawls's primary goods should be the basis for policy evaluation when what really matters is how those goods bear on the physical and mental capacities that enable people to function with and toward a sense of justice and a sense of the good.<sup>8</sup> Indeed, identifying injustice in the distribution of environmental goods and harms will ultimately involve going beyond the Rawlsian conception of individual advantage to assess how environmental conditions impact people's capacities or capabilities to function. Because this argument from the essential capacities of citizens thus moves us towards a capabilities account, I set it aside, below, when returning to Rawls's views.

Rawls's later work also gestures at how his second principle might indirectly address environmental problems; but this approach also is limited in its potential environmental policy applications. Rawls associates the provision of healthcare — and by extension the environmental conditions that good health requires — with the primary goods of income and wealth. This is evident in the last extended quote from Rawls (cited above), where Rawls groups healthcare with the primary goods of “personal income and private wealth” rather than with the basic liberties (see Rawls, 2001, p. 172).<sup>9</sup> Because income and wealth are subject to distribution according to Rawls's second principle of justice (i.e. the difference principle), the distribution of healthcare — and by extension the provision of environmental resources that enable individual health — can be unequal, so long as the greatest benefits go to the members of the least advantaged *group* or *class* in society. Here, it is the non-individualist focus of Rawls's theory that is problematic.

Specifically, although environmental justice advocates frequently point out that people in certain racial groups and classes of income face the worst environmental burdens, we cannot accurately evaluate the justness of a given distribution without looking at the environmental burdens that threaten people irrespective of their group or class association. In particular, poorer classes or minority groups do indeed face more extreme exposure to environmental risks and harms, but there can be important variations within these groups and classes — variations that make some individuals within a given group or class much worse off in relation to those exposures. Thus, in focusing on a group or a class — or their representative member — Rawls's theory of justice is in danger of supporting policies that improve aggregate environmental conditions, rather than promising that specific environmental conditions are met for each *individual*. Put differently, just as a region can be in compliance with a given environmental standard (e.g. of air quality) while particular neighborhoods within that region are out of compliance, a low-income group or class might experience environmental exposures at an aggregate level that differ substantially from the exposures faced by individuals within that group.

For this reason, in addition to the problem with Rawls's conception of individual advantage discussed above, Nussbaum's capabilities approach is

superior as theory of justice for addressing inequities in the distribution of environmental goods and harms. As I will now argue, not only does Nussbaum provide a conception of individual advantage that can better account for the ways in which environmental benefits and burdens bear on basic conditions of justice, she also seeks to establish absolute protections for the social and economic conditions that are prerequisites for realizing each person's liberties. After explaining why these features of Nussbaum's capabilities approach make it easier to see the obstacles to equality that environmental problems pose, I will argue that, in order to address these problems in a way that meets her conditions of justice, Nussbaum's approach will need to establish limits — or ceilings — on capability protections, in addition to threshold levels of capability protection she already seeks to protect as constitutional entitlements. In this context, by 'capability protection' or 'capabilities protections', I refer to the legal, social, or political means through which a society protects any or all of the central human functional capabilities.

### **Advantages of a capabilities approach to environmental justice**

Like Rawls, Nussbaum does not systematically theorize the multiple ways in which the natural environment bears on conditions of justice (see Holland, 2008). However, because her theory of justice requires protecting people's capabilities to do and be different things, it is able to accommodate a broader and more accurate account of the environment's instrumental value to basic conditions of justice. Specifically, Rawls's theory of justice treats social 'primary goods' as the basis on which to evaluate relative social position. As I have discussed, these goods consist of rights and liberties, powers and opportunities, and income and wealth (Rawls, 1971, p. 62). In contrast, Nussbaum bases evaluation of relative social position on a list of central human functional capabilities.<sup>10</sup> Capabilities are conditions or states of human enablement that make it possible for people to achieve things, such as "being able to have good health" and being able "to move freely from place to place" (Nussbaum, 2000a, pp. 78–79; 2006, pp. 76–78). Some of Nussbaum's capabilities do establish protections for the same rights, opportunities, and material holdings that Rawls's two principles of justice distribute; for example, Nussbaum's list of central capabilities includes "Being able to use one's mind in ways protected by guarantees of freedom of expression with respect to both political and artistic speech, and freedom of religious exercise."<sup>11</sup> However, in Nussbaum's theory, income and wealth do not play such a central role in evaluating relative social position; for many things besides income and wealth contribute to individual advantage, and many of these things are not commensurable with income and wealth (see Nussbaum, 2006, pp. 283–284). Furthermore, a person's capabilities indicate whether a person's circumstances allow her to translate the things she has into actual achievements (Sen, 1982, pp. 357–358; 1992,

p. 110). Thus, in the capabilities approach, it is the goods and resources people have, as well as their abilities, that determine relative social position.

A conception of individual advantage that focuses on people's capabilities rather than on their primary goods has important advantages when it comes to addressing environmental problems. This is because the variation in individual circumstance that a focus on capabilities illuminates is especially important when the quality of a given standard of environmental protection varies dramatically across geographical space. Consider, for example, a regulation controlling pollutants that harm the atmosphere's ozone layer, which filters out harmful ultraviolet radiation from the sun. As discussed in my critique of cost internalization, a regulation limiting pollutants that damage this layer of atmospheric protection does not provide equal protection to all people, primarily because ozone depletion poses bigger threats to people living close to the earth's northern pole (where the layer of atmospheric protection is thinnest). What matters in this instance is whether one is able to translate a given level of pollution control into the achievement of avoiding cancer, given one's geographical circumstance. In other words, people in different geographical locations will be able to do different things with an existing level of pollution control. Because the capabilities approach thinks about individual advantage in terms of people's conditions or states of enablement, it can more easily observe how these variations in individual circumstance pose barriers to the kinds of equal protection that justice requires.

The capabilities approach also insists on securing a threshold level of capability protection for each person, treated as an end in their own right (see Nussbaum, 2000a, pp. 5–6; 2006, pp. 71, 78, and 166–167). This gives it advantages in comparison with Rawls's early effort to address environmental problems through cost internalization, and in comparison with later elaborations of Rawls's theory of justice, which seek to address environmental impacts on well-being through the second principle of justice. With respect to cost internalization, if justice requires a threshold level of capability protection for each person, then the externalized costs of activities that deplete the ozone layer cannot be internalized in a way that satisfies the conditions of justice. For to merely make polluters pay more for damage to the ozone layer would be to treat the consequences of that damage to capabilities (i.e. damage to human life and health) as if those consequences are something for which it is possible to compensate people. Likewise, treating ozone depletion as a threat to the Rawlsian primary good of healthcare will involve remedying unequal impacts at the level of income and wealth, and according to a group-based or class-based analysis of disadvantage (see Wolff and De Shalit, 2007, pp. 31–34). Yet, here again, it is unlikely that giving certain classes of people more income and wealth can make up for the health consequences of ozone depletion; for these consequences are not commensurable with income and wealth,

and they may track geographical distributions that do not correspond to class distributions, such that important individual impacts are overlooked.

Nussbaum's capabilities approach need not attempt any such commensuration. Her capabilities approach does not permit such trade-offs (between money and health) to occur below a minimum threshold level of human health enablement. As Nussbaum explains, "If people are below the threshold on any one of the capabilities, that is a failure of basic justice, no matter how high up they are on all the others" (Nussbaum, 2006, p. 167). It follows that if damage to the ozone layer pushes some people's capabilities for life and health below the threshold, then the activities that produce those damages are unjust.

Thus, whether we are considering Rawls's early effort to address environmental problems through cost internalization, or trying to draw on more recent work endeavoring to connect environmental protections to Rawlsian primary goods distributed by the second principle of justice, his theory has a limited capacity to identify the obstacles to equality that environmental problems pose for particular individuals, especially when cash transfers cannot eliminate or compensate for these problems (see Wolff and De Shalit, 2007, p. 26). In contrast, Nussbaum's capabilities approach is more likely to recognize the environmental barriers to social justice. I have argued that this is partly because an evaluative focus on each individual's capabilities can account for how variation in individual circumstance shapes well-being.

In addition to the advantages of this evaluative focus, Nussbaum's theory is also more likely to recognize a wide range of barriers to social justice because she systematically incorporates the idea that political and civil liberties may have social and economic prerequisites. In particular, the mandate to protect the full list of capabilities for each person is not governed by distinct principles; one protecting civil and political freedoms, the other regulating the distribution of social and economic protections. For Nussbaum, the demand to attain social and economic protections is absolute: she does not subject social and economic protections to the distributive constraints of the Rawls's difference principle; rather, certain social and economic guarantees must be met regardless of where one falls with respect to the least advantaged group or class in society (Nussbaum, 2006, pp. 288–289). Consequently, if the environmental preconditions of a social protection such as bodily health conflict with the economic preconditions of a political protection such as free expression, then the capabilities approach registers a failure to attain equally important basic capability thresholds (i.e. of 'bodily health' and 'senses, imagination, and thought'). In this respect, Nussbaum's capabilities approach recognizes that the environmental preconditions of health for each person matters. It is not enough to protect only those environmental conditions that ensure the least advantaged group or its representative member are getting the majority of health benefits; for, depending on the existing distribution of health benefits, such a mandate

may not even get each person in the least advantaged group up to an adequate bodily health threshold.

Clarifying conflicts in this way does not directly overcome the real conflict that exists between protecting the environmental conditions that enable basic capabilities, and ensuring that various benefits flow from economic productivity. However, a theory of justice that helps to clarify rather than conceal the environmental obstacles to achieving threshold levels of capability protection would usefully force society to face what Nussbaum refers to as the 'tragic question.' The tragic question arises when it is not possible to push one capability above the threshold that justice requires without simultaneously pushing another capability below the threshold that justice requires. Thus, the tragic question concerns whether any of the alternatives available in a choice situation are morally acceptable (Nussbaum, 2000b, p. 1007). It is important for individuals to face this question because doing so registers the fact that prioritizing one capability over another denies important moral commitments. Furthermore, as Nussbaum explains, squarely facing the tragic question "keeps the mind of the chooser firmly on the fact that his action is an immoral action, which it is always wrong to choose." It also "informs the chooser that he may owe reparations to the vanquished an effort to rebuild their lives after the disaster that will have been inflicted upon them." When recognition of the loss of tragedy is public, this also constitutes an acknowledgement of moral culpability, which has expressive importance. Finally, facing the conflict also "reminds the chooser that he must not do such things henceforth, except in a very similar tragic circumstance" (Nussbaum, 2000b, p. 1009).

In these ways, recognizing the tragedy that capability conflict implies can have the practical implication of pushing society toward justice. In part this is because the tragic question provides an occasion for public deliberation in which citizens try to understand a situation with important public consequences (see Nussbaum, 2000b, p. 1011). Deliberation can, in turn, lead to some instructive thinking about how a society might govern better. It may, for example, motivate us to "imagine what a world would be like that did not confront people with such choices" (Nussbaum, 2000b, p. 1013). It may give us a moment to pause and ask whether there is way of rearranging our social practices so that we can avoid the tragedy (Nussbaum, 2000b, p. 1016). For Nussbaum, when a conflict puts one capability in conflict with another, it is indeed a sign that society has probably gone wrong somewhere; that it is probably not well designed (Nussbaum, 2006, p. 401). Thus, the occurrence of a tragic conflict should initiate long-term planning efforts that will allocate resources away from supporting entitlements that are not fundamental and toward supporting threshold level of capabilities that define the conditions of justice (Nussbaum, 2006, p. 403). Conflict between the capabilities that Nussbaum seeks to protect as fundamental entitlements could be the basis for planning a future society that minimizes or eliminates conflicts.

Despite these advantages of the capabilities approach in revealing the conflicts among the preconditions required for achieving a threshold level of a single set of basic protections, this account of how to deal with these conflicts only takes us so far. In part this is because of the role that deliberation plays in Nussbaum's theory of justice. First, she envisions that a deliberative process, involving the public as well as legislative and judicial actors, will determine the rearrangement of practices necessary for removing tragic tradeoffs (Nussbaum, 2000b, p.1027). Second, it is through such a deliberative process that Nussbaum also seeks to establish the appropriate threshold levels of the central human functional capabilities. In establishing these thresholds, Nussbaum argues that the level of protection for each capability should be set with an eye to the other capabilities. As she explains:

In framing the education capability, for example, it is sensible to ask what we can expect to deliver compatibly with delivering all the other capabilities. On the one hand, the threshold of each should not be set in a utopian or unrealistic way: so we must ask what combination we can hope to deliver to people under reasonably good conditions. On the other hand, we should not set our sights too low, deferring to present bad arrangements. Thus it would have been wrong to conclude that universal primary and secondary education of children is not a good goal for a just public policy, on the grounds that right now it is not feasible in some badly managed states. (Nussbaum, 2006, p. 402)

In this way, the capabilities approach seeks to make a deliberative society attentive to how providing a high threshold for one capability might diminish the resources that can be put to providing similarly high thresholds for the other capabilities. Additionally, the capabilities approach seeks to make a society aspirational in setting thresholds at a level that is not held hostage by the appearance of its current possibilities (Nussbaum, 2000b, p.1026). However, when we consider how the environmental preconditions that produce tragic capability conflicts bear on these goals, it becomes clear that capability thresholds cannot be the only focus of our deliberation.

### **Why Nussbaum's conditions of justice require establishing capability ceilings**

Because protecting the environmental preconditions of some capabilities can undermine the economic conditions that enable other capabilities, adequate protection of all capabilities will require establishing *capability ceilings* in addition to capability thresholds. As I conceive them, 'capability ceilings' establish maximum levels of capability protection. Their purpose is to limit the amount of resources that can be put to protecting capabilities that are in conflict with each other. Most importantly,

capability ceilings force us not merely to face but constructively to spell out this conflict in our deliberations about what a society can realistically accomplish in its effort to provide protection of a threshold level of central human functional capabilities for each person. Specifically, our deliberations will have to address questions about *whose* capabilities have to be limited and *why*.

Thus, a capabilities approach that establishes capability ceilings would not just tell us what people should be able to do; it would also require establishing the limits of those capabilities. Nussbaum already implies the importance of establishing such limits (or ceilings), albeit in a less direct way. For example, in posing the problem that protecting the health of animals might require lowering the threshold for human health capabilities, she states:

I believe that we should think about the whole set of capabilities together when facing such questions, rather than thinking that health costs must always be traded off against other costs. There are very likely other costs not associated with fundamental entitlements that could be trimmed way back before we would have to cut anyone's health care ... surely support for luxury items would be our first target. If for example, people stopped driving SUVs there would be many gains, not the least of which would be decreased spending on gasoline, which would free up money to be used in other ways, connected with fundamental entitlements — and health would be the gainer, on both sides. (Nussbaum, 2006, p. 403)

We can understand this proposal to put a limitation on use of luxury items, such as sports utility vehicles (SUVs), as an indirect way of establishing capability ceilings. Suppose this limitation was not voluntary but mandatory. Decreasing the use of SUVs would effectively divert monetary resources to healthcare that will improve some people's capabilities, but for those who drive SUVs this would put a limit (or ceiling) on two of their central capabilities: bodily integrity and material control over one's environment.

Specifically, to stop people driving SUVs is to limit the ways people can move freely from place to place, which is one component of Nussbaum's bodily integrity capability. Of course, the threshold level of this mobility component may not be so high that it includes being able to move freely from place to place in SUVs, and Nussbaum clearly would not see this extent of mobility as a fundamental entitlement. Yet that is precisely why a capability ceiling is needed. For if some people do have this extent of mobility, then not only will their realization of that capability promote competitive tendencies that artificially inflate other's valuation of the capability to drive SUVs, it will also divert resources that could otherwise go to protecting threshold levels of more fundamental capability protections. In this instance, to fail to establish a ceiling for the bodily

integrity capability is to treat moving freely from place to place in an SUV as if it were a fundamental entitlement for those who can afford it that is equivalent to achieving a threshold level of bodily health capability for those who cannot afford this threshold level of bodily health capability.

A similar implication follows if we treat driving SUVs as a component of one's capability to have material control over one's environment. This capability enables people to hold property in both land and moveable goods, not just formally but in terms of real opportunity. If driving an SUV is understood as a condition of one's real opportunity to do what one wants with one's property, then to stop people driving SUVs is to limit the ways in which people can pursue the opportunities that holding property currently makes available. Even if the threshold level of control over one's material environment is not set so high as to include being able to put one's property (i.e. SUV) to the uses one chooses, a capability ceiling is necessary for freeing up the resources involved in driving SUVs so that they can be put toward achieving threshold levels of capability protection for each person.

These examples illustrate why capability ceilings are useful as a tool for instructing deliberation about capability thresholds and conflicts: when combined with the thresholds, ceilings make it possible to use conditions of justice as the criterion for determining the extent to which a society ought to limit capability protections having harmful effects. For example, Nussbaum has noted that "Some capabilities are actually bad, and should be inhibited by law (the ability to discriminate on grounds of race or sex or disability, the ability to pollute the environment)" (Nussbaum, 2006, p. 166). But in order to determine and justify the *extent* to which law should limit these non-fundamental capabilities (such as the ability to pollute), it is necessary, first, to identify the more fundamental source of their justification; and second, to clarify why the limitation on capability protection — the ceiling — is necessary for protecting something equally fundamental.

For example, within a threshold-ceiling framework, we can understand the ability to pollute as a property right protected by one's capability to have material control over one's environment. Perhaps each of us should be assured *some* capability of polluting; however, to protect this capability far above a threshold level allows for polluting activities that undermine equally fundamental basic entitlements, such as life and bodily health. Thus, when our deliberations are guided by a threshold-ceiling framework, we can determine and justify the extent to which a society ought to limit property rights that constitute one's capability to have material control over one's environment by relating these limits to the equally fundamental entitlements they enable (e.g. bodily health).

In some instances it may seem that the ceiling for a capability should be set at the same level as the capability threshold. For example, to build on the preceding point, it may be that, in order to provide adequate protection for the life and bodily health capabilities (threatened by

polluting activities), the ceiling for the capability to control one's material environment should be set at or near the threshold level of that capability, especially when some people are below a threshold on any of the central human capabilities that polluting activity threatens. In other words, in such instances, it may seem that a ceiling is unnecessary, because for all intents and purposes the capability threshold is also operating as the capability ceiling.<sup>12</sup> I contend, however, that maintaining the threshold-ceiling framework is important for two reasons.

First, the framework is necessary for making finely-tuned policy judgments about the conditions required for protecting a central capability. In particular, there are many dimensions or specifications of any central human capability, and a ceiling that matches a threshold should be put only on those dimensions of a capability that operate to undermine other central capabilities. For example, the ability to pollute — as a dimension or specification of the capability to have material control over one's environment — may need to be restricted such that pollution above the threshold is not permitted. However, this is because polluting activity above the threshold harms other capabilities, pushing them below their thresholds. If protecting a different dimension or specification of the capability for control over one's material environment above the threshold is harmless, then there would be no reason to require that a ceiling be set at the threshold. Instead, the ceiling would need to be set only if or when an above-threshold level of capability protection functions to undermine other capabilities.

Thus, although it would seem reasonable to set the ceiling on one's ability to pollute at the same level as the threshold, a different dimension or specification of the capability to control one's material environment might allow for a ceiling that is set far above the threshold. Consider, for example, that the ability to extract groundwater from one's property (as a dimension or specification of the capability for material control over one's environment) might need to be set at a threshold level that ensures each property owner has enough water to irrigate the crops necessary for survival. For a variety of other uses, some property owners may extract water above what this threshold ensures. A ceiling that is above the threshold would allow this extraction up to the point at which further extraction starts to undermine other central capabilities. Being attentive to this difference between a threshold and a ceiling will allow for public policies that provide a wider range of functioning opportunities along those dimensions or specifications of a central capability for which capability protection above the threshold is harmless. Put differently, by allowing for threshold and ceilings to be set at different levels, we open up a wider range of choice among functioning possibilities. In this way, the threshold-ceiling framework is an instructive device for making finely-tuned policy judgments, such as those that allow for levels of protection to vary along different dimensions or specifications of any given capability.

There is a second reason why the threshold-ceiling framework is instructive, even in light of instances in which the threshold and ceiling are set at the same level: it can help us to identify when a seemingly tragic tradeoff is not really tragic. A seemingly tragic tradeoff is not really tragic if it is possible to avoid a capability conflict without pushing anyone's capability below a threshold. For instance, technological optimists commonly present such solutions in response to those who favor stronger environmental protections, for there is always the hope and the possibility that a technological solution can prevent society from having to face tragic tradeoffs. If we make suitable investments in nuclear power or hydrogen cars, for example, then we can reduce the production of greenhouse gases such that there will be no need for people to stop driving SUVs. In light of such claims, deliberating about a capability ceiling remains important, because it calls on those who view the conflict as non-tragic to demonstrate that their proposed solutions do in fact avoid pushing some people below the threshold; to return to the present example, reliance on nuclear power or hydrogen cars may simply create new problems that undermine capability thresholds. In this way, identifying ceilings is one way of getting those who wish to pursue activities that might undermine people's capabilities to demonstrate that activities do not have these effects.

Let us now consider how establishing capability ceilings might bear on solutions to the cholera outbreak that struck India and Bangladesh in January 1993. In this case, various economically productive human activities led to habitat changes fostering the survival and spread of the *V. cholerae* bacteria. In particular, agricultural activities, coastal land-use development, over-fishing, and activities producing greenhouse gases changed aquatic ecosystems by increasing weeds and algae harboring the cholera bacteria. It is important to note three important things about these activities. First, they were most probably a consequence of some people's existing capability protections, such as control over one's material environment, practical reason, life, and bodily integrity. Second, these activities might have led to improvements in some people's capabilities, such as those of bodily health, affiliation, control over one's political environment, and senses, imagination, and thought. Third, and in contrast, it is equally important to note that the activities produced ecological impacts that led to capability decline, most notably in some people's capabilities for life and bodily health. In this respect, a conflict of basic capabilities rests at the center of the conflict between goals of economic productivity and environmental protection.

Nussbaum's capabilities approach requires, first and foremost, that a threshold level of each capability be guaranteed for each person. The activities producing the cholera outbreak violate this requirement because they leave some people's life and bodily health capabilities below an obvious threshold of acceptability. However, as I suggest above, to halt these activities would be to violate various capability protections and forgo various capability improvements. Amidst this kind of tragic tradeoff,

capability ceilings can help to establish the extent to which a society ought to limit capabilities in conflict with each other. Specifically, determining the appropriate capability ceilings requires that deliberators address the extent of capability protection that society can realistically promise while simultaneously protecting a threshold of the central human functional capabilities for each person. Since capability ceilings establish maximum levels of capability protection, our deliberations will have to focus on establishing these ceilings for those people who already experience a level of capability protection that exists above the threshold of what justice requires.

For example, in the cholera case, the limitations on activities that foster a decline in aquatic ecosystems should involve constraining (or putting ceilings on) the capabilities of beneficiaries that already experience a threshold level of all of the central human functional capabilities. This may mean establishing ceilings on the capabilities of those in distant locations who release greenhouse gases; to return to an earlier point, perhaps society ought to limit protection of people's capabilities to move freely from place to place in SUVs. Likewise, some people benefiting from the agricultural and coastal development projects may experience levels of capability protection far above the threshold level of capabilities that justice requires. Therefore, we might establish capability ceilings that limit the extent of protection of their bodily health capability or of their capability to have control over their material environment. For example, a ceiling might limit the extent to which a beneficiary can reasonably claim that his capability for bodily health is violated if regulations protecting aquatic life prevent him from making the kind of profits that allow for extravagant nourishment, by which I mean nourishment that is far beyond what is necessary for protecting a threshold level of bodily health capability. In this way, a threshold-ceiling framework can help deliberators to arrive at solutions to the conflict between economic development and environmental protection that are justified directly in terms of their implications for capability protections that define the basic conditions of justice.

## **Conclusion**

The capabilities approach allows us to design policies that will achieve threshold levels of basic capabilities. Dialogue about capability ceilings can help us to identify and put limits on the capabilities of those who experience high levels of capability protection that make it unrealistic for society to achieve basic conditions of justice for others. I have argued that Nussbaum's capabilities approach is valuable in revealing capability conflicts that arise at the intersection of economic and ecological processes. Nussbaum does not follow Rawls in treating environmental problems as a matter of correcting externalities, and her approach to justice is more sensitive to how variation in each individual's situation can

and should alter levels of environmental protection. For these reasons, Nussbaum's capabilities approach more easily observes what and why environmental inequities create conflicts that threaten social justice. Although Nussbaum's theory cannot avoid addressing these conflicts, with the addition of capability ceilings, her theory could help structure dialogue and craft policies about those conflicts in ways that push society toward justice.

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## Notes

- 1 Nussbaum's capabilities approach is a 'partial' theory of justice because she does not advance it as an 'exhaustive account of political justice.' Instead, Nussbaum maintains that there may be other important political values closely connected with justice that her theory does not include (see Nussbaum 2000a, pp. 75–76).
- 2 The ecological conditions affecting the 1993 cholera outbreak are summarized by Paul Epstein (1995, p. 170), but also see Siddique *et al.* (1991, p. 1126) for a discussion of how ecological changes (resulting from increased flooding caused by dams) may have contributed to cholera outbreaks in Bangladesh prior to the 1993 outbreak.
- 3 For a discussion of various case studies relating human health problems to degradation of ecological conditions, see Grifo and Rosenthal (1997).
- 4 Beitz (1979) argues that Rawls's domestic theory could be applied as an international theory of justice that deals with individuals at the global level rather than the national level. I do not consider this option here because of the excessive institutional demands that would be involved applying Rawls's 'difference principle' at the international level; that is, in identifying and reshaping all international economic inequalities such that they provide the greatest benefits to the least advantaged.
- 5 In the present discussion I do not address the potential for Rawls's theory to address questions of *intergenerational* justice — justice across generations — such as the argument that Marcel Wissenberg (1999) advances. For present purposes I am concerned with how Rawls's theory might be used to address questions of *intragenerational* justice, by which I mean justice within a single generation. I also do not discuss David Miller's (1999) discussion of Rawls's theory of justice, primarily because I am interested in how environmental resources and conditions can be directly attached to protections for existing primary goods. Miller recognizes this as one categorization of the environment's value, but the majority of his analysis concerns how to engage in more informed and democratic valuations of the natural environment's subjective value to citizens, which he treats as value that is additional to whatever baseline might be established as a minimum condition of justice. In this discussion, I am interested in evaluating policy impacts independent of people's subjective valuations, even if that evaluation ultimately only serves to further

- democratic reasoning. For a summary of additional efforts to apply Rawls's theory to environmental issues, and the problems with those efforts, see Daniel Thero (1995).
- 6 Although Rawls (1971, p. 277) does claim that beyond this suitable minimum provided by wealth transfers, "it may be perfectly fair that the rest of total income be settled by the price system, assuming that it is moderately efficient and free from monopolistic restrictions, and unreasonable externalities have been limited."
  - 7 Rawls (1993, p. 7) briefly addresses this point, granting that certain basic needs might need to be met in order for citizens to understand and exercise their basic civil and political liberties. But as Nussbaum notes, Rawls grants this point with 'tantalizing brevity,' and says little about what it might mean to satisfy basic needs. See Nussbaum (2006, p. 289).
  - 8 Of course, this is a primary point made in Amartya Sen's original critique of Rawls's theory of justice (see Sen, 1982).
  - 9 I have already discussed (on pp. 403–407) why environmental protections should be attached to the basic liberties protected by Rawls's first principle of justice, so I will now focus on other problems with Bell's elaboration of Rawls's theory.
  - 10 Nussbaum's list of Central Human Functional Capabilities include the following: (1) *Life*. Being able to live to the end of a human life of normal length; not dying prematurely, or before one's life is so reduced as to be not worth living. (2) *Bodily Health*. Being able to have good health, including reproductive health; to be adequately nourished, to have adequate shelter. (3) *Bodily Integrity*. Being able to move freely from place to place; having one's bodily boundaries treated as sovereign, i.e. being able to be secure against assault, including sexual assault, child sexual abuse, and domestic violence; having opportunities for sexual satisfaction and for choice in matters of reproduction. (4) *Senses, Imagination, and Thought*. Being able to use the senses, to imagine, think, and reason — and to do these things in a 'truly human' way, a way informed and cultivated by an adequate education, including, but by no means limited to, literacy and basic mathematical and scientific training. Being able to use imagination and thought in connection with experiencing and producing self-expressive works and events of one's own choice, religious, literary, musical, and so forth. Being able to use one's mind in ways protected by guarantees of freedom of expression with respect to both political and artistic speech, and freedom of religious exercise. Being able to search for the ultimate meaning of life in one's own way. Being able to have pleasurable experiences, and to avoid non-necessary pain. (5) *Emotions*. Being able to have attachments to things and people outside ourselves; to love those who love and care for us, to grieve at their absence; in general, to love, to grieve, to experience longing, gratitude, and justified anger. Not having one's emotional development blighted by overwhelming fear and anxiety, or by traumatic events of abuse or neglect. (Supporting this capability means supporting forms of human association that can be shown to be crucial in their development.) (6) *Practical Reason*. Being able to form a conception of the good and to engage in critical reflection about the planning of one's life. (This entails protection for the liberty of conscience.) (7) *Affiliation*. A. Being able to live with and toward others, to recognize and show concern for other human beings, to engage in various forms of social interaction; to be able to imagine the situation of another and to have compassion for that situation; to have the capability for both justice and friendship. (Protecting this capability means protecting institutions that constitute and nourish such forms of affiliation, and also protecting the freedom of assembly and political speech.) B. Having the social bases of self-respect and non-humiliation; being able to be treated as a dignified being whose worth is equal to that of others. This entails at a minimum, protections against discrimination on the basis of race, sex, sexual orientation, religion, caste, ethnicity, or national origin. In work, being able to work as a human being, exercising practical reason and entering into meaningful relationships of mutual recognition with other workers. (8) *Other Species*. Being able to live with concern for and in relation to animals, plants, and the world of nature. (9) *Play*. Being able to laugh, to play, to enjoy recreational activities. (10) *Control Over One's Environment*. A. *Political*. Being able to

participate effectively in political choices that govern one's life; having the right of political participation, protections of free speech and association. *B. Material*. Being able to hold property (both land and moveable goods), not just formally but in terms of real opportunity; and having property rights on an equal basis with others; having the right to seek employment on an equal basis with others; having the freedom from unwarranted search and seizure.

11 See the fourth capability listed in the previous note.

12 Although I cannot fully address this issue here, I am grateful to an anonymous reviewer for bringing my attention to it.

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