

CHAPTER 35

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WATER ETHICS

Toward Ecological Cooperation

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WATER is the “bloodstream” of our planet (Ripl, 2003). This life-sustaining resource is endangered by processes of industrialization, population growth, and climate change. A water ethics discusses normative challenges inherent in the effects of pollution and scarcity. Yet this is only one side of the debate. Since water services are necessary for the survival of many organisms, not of humans alone, the relation between human interests and needs of non-human animals needs to be addressed, too. In particular, water is a common pool good. It is the material that constitutes groundwater and freshwater reservoirs, the seas, the lakes, and the rivers. Therefore, one of the most intriguing questions in water ethics is how two normative claims can simultaneously be met, even though they pull in opposite directions. The first claim addresses legitimate interests of persons to utilize water as a life-sustaining resource; the second claim, instead, insists on the protection of a vulnerable good—even in the case that this does not meet human interests in utilizing water.

In this contribution, I shall respond to this situation in first discussing an approach to water ethics that focuses on its life-maintaining services to human beings. This is the discussion of water rights. Second, I shall outline an ecocentric water ethics. Cultural traditions and religious sources as well as recent approaches to ecological virtues underpin this line of thought. The first two approaches to water ethics represent what might be called extreme options: the first focusing exclusively on human interests, the second on non-instrumental values of water. The third section is dedicated to a discussion of water justice. In accordance with theories on environmental justice, a theory of water justice reaches beyond the distributive paradigm, which has dominated recent approaches to interpersonal justice. It defends a more comprehensive notion of justice, including interspecies and intergenerational fairness. This theory widens the focus of research, yet it still does not pay tribute to the tensions resulting from conflicting interests in a shared resource.

The fourth section develops an alternative perspective in water ethics by defending a common-goods approach to water. For two reasons, this is particularly convincing. First, it responds to the characteristics of water as a common good. Second, this approach does not rest on a singular normative principle, but addresses a triangle of normative claims instead, including fairness, care, and respect for water. Due to this complexity, the proceeding sections also serve as a preparation of this more comprehensive approach to water ethics.

1 A HUMAN RIGHT TO WATER

Access to clear and fresh water is a necessity for human beings. Presupposing that persons have a right to satisfy exigencies, a right to water will be included. In his defense of basic rights, Henry Shue (1996) follows this line of thought. He argues that rights are basic when “enjoyment to them is essential to the enjoyment of all other things” (Shue, 1996: 19). Basic rights comprise, *inter alia*, subsistence rights, whereas subsistence means unpolluted air, unpolluted water, adequate food, adequate clothing, adequate shelter, and minimal preventive public health care (Shue, 1996: 23). Following Shue, a right to unpolluted water is a basic human right. Moreover, it includes “justified demands for social guarantees against standard threats” (Shue, 1996: 34). Recently, water rights have also been reasoned as self-standing rights, belonging to a new group of environmental rights (Scanlon, Cassar, and Nemes, 2004; Gleick, 1998).

The approach to water rights combines two aspects. First, it implies that the right to water is a human right in the sense of something that each person is justified to claim for herself. A human right expresses universal, yet personal entitlements. Moreover, the right to water does not have to be glued to more fundamental rights, but instead meets the criteria of a self-standing group of rights, reasoned by means of “paramount moral importance” (Hayward, 2004: 47). Second, a right to water correlates with duties of political institutions; even though classified as a moral right, its consequences are political. This approach provides the justificatory background for soft and hard law sources, which translate a right to water into legal obligations, both on a national level and in international law—whereas customary law plays an important role (Kravchenko and Bonine, 2008: 113–146).¹

Moreover, the content of a right to water has been spelled out in detail. Three dimensions have been highlighted: water needs to be *accessible*, that is: water resources need to be in safe reach for all, they need to be affordable to all, and they need to be accessible in law and fact; water needs to be given in *adequate quality*, it must be safe; water must be *accessible in a certain quantity*, granting sufficient and continuous measure for personal and domestic use (Scanlon, Cassar, and Nemes, 2004: 28). Even though the precise content is important for rendering a right to water precise, three arguments *against* a right to water also need to be acknowledged.

First, scholars criticize that a right to water rests on a resource-oriented approach to a natural good. While it highlights the needs of persons, it neglects two further perspectives: It remains silent on the needs of living beings that are non-human beings; and it remains silent on the necessities that result from keeping a complex natural system intact. In contrast to classical rights, environmental rights have two sides: they express justified claims of persons; simultaneously, they address environmental goods as intact resources (Shelton, 1991: 109, 117). This second aspect has been neglected. Second, the declaration of a right to water is not very helpful, unless “water” has been given further qualifications. Fresh water management is only a part of the problem of a fair water management system. Water materializes as freshwater resources, groundwater, water basins, rivers, the deep sea, and water cycles. In short: a water ethics needs to deal with different conflicts resulting from the diversity of water systems and water reservoirs. Third, the discussion of a right to water misses the point in another respect, too. Does a right to water include that each person—independently of

her living place and her living conditions—has a right to clean water or merely unpolluted water? The focus on “safe water” appears to imply this: Persons have a right to “sufficiently clean” water; as long as pollution is below a level of safe water, this appears to be the case.

Even though these objections contribute to regarding a right to water in a critical light, the concept of a right to water still provides a baseline that defines a minimum moral requirement. It claims that to some degree all persons should have access to safe water as a life-sustaining resource. Yet the critical assessment also says that another perspective has not been taken seriously enough: this is the perspective which I shall address now. Water is more than a life-sustaining resource.

2 RESPECT FOR WATER

Water has been addressed in the narratives of cultures and religions (Shaw and Francis, 2008). They respond to water as a life-sustaining gift, yet in a different way than moral theory does. Some narratives contribute to regarding water as something very precious; other narratives point to the unique power of water. In many of the Western world’s oldest myths such as those of ancient Mesopotamia and Greece, water is regarded as sacred. It gives birth to life. In Islam religion, water is explicitly considered to be a blessing from God. Until today, these presumptions have an influence on water law in the Arabic world (Naff and Dellapenna, 2002). Overall, water gives life and it is a blessing to humankind.

Drawing attention to water as a valuable resource has not been reserved to cultural narratives and to religions. Instead, it has also been reasoned in recent approaches to environmental ethics. Some scholars defend the view that water deserves an attitude that includes “compassionate retreat” (Brown and Schmidt, 2010), which is a reasonable attitude toward a good that has a value of its own (Armstrong, 2006). Yet presupposing something like an “intrinsic value” of water is difficult to reason. In the remainder of this section, I wish to highlight two ways of claiming respect for water that forgo a notion of “value” but might instead be a little closer to experiences with water.

Bernard Williams reminds us of a reasonable attitude to nature that responds to the fact that persons only have limited control of nature (Williams, 1995). The enormous destructive powers of water in flooding the land, in tsunamis and in extreme rainfalls, should not be forgotten here. Yet, it is not only fear, but also aesthetic appreciation that generates an attitude of respect, as for instance the beauty of waterfalls and of the seas. Captured by an experience of the sublime, the adequate response is profound respect. An attitude of respect has also been reasoned in the context of recent approaches to environmental virtues (Cafaro and Sandler, 2010; Leopold, 1949; Sandler, 2007). The virtue of humility, for instance, expresses respect for a natural good.

Theories claiming respect for water counterbalance anthropocentric theories that focus on human interests and human needs. They remind us of the powers, the beauty and the complexity of water. In particular, they provide an alternative to a resource-oriented approach, which acknowledges the value of water in terms of countable benefits. Yet one weakness of these theories is that they rely on premises that are not necessarily shared by many people. Cultures and religions, as well as ecocentric worldviews and virtue-ethics approaches, are not neutral but depend on sources that support a distinct set of values.

Recent approaches to environmental virtues contribute to transcending cultural lines and borders. Yet it is still an open question whether or not virtue theory can carry the weight of normative claims of a moral theory speaking about justice. In particular, a virtue ethics would have to define best practices in profiting from water. Possibly, a thorough discussion of how greed could be avoided and which role domination might play in addressing water resources could accomplish this. At the very least, an approach to respect for water is an important reminder of aspects of nature that in industrialized societies have continuously been rendered invisible—maybe even inaccessible: the beauty of water, the specific qualities of water reservoirs, and the complexity of hydrological cycles.

3 WATER JUSTICE

So far, two general approaches to a water ethics have been discussed in terms of a right to water and in terms of respect for water. Another important aspect of water ethics is due to the fact that conflicts over water raise distinct distributive challenges. One answer to this has been the turn to theories that are more pragmatic in style and respond to situational exigencies (Kowarsch, 2011; Norton, 2005). Yet this does not render theories of justice superfluous. Instead, they can also be interpreted as supporting a modest, yet crucial role of ethics in addressing water shortages.

Unfortunately, there is no straightforward way to apply theories of justice to distributive principles for water resources. Instead, there are three major difficulties in applying approaches of justice in the context of water ethics: a misfit of the distributive paradigm, the need of local and temporal extension, and the need to rethink justice in terms of anti-dominion. I shall recall these difficulties in turn in order to explain how theories of distributive justice have been overhauled in order to address these issues; these extensions also prepare a theoretical shift in the next section, focusing on water as a common pool good. There are three major aspects in overhauling the distributive paradigm.

First, authors who discuss environmental justice challenge the distributive paradigm in that an approach to single items that can be produced and distributed does not fit the overall situation (Schlossberg, 2007: 11–44). In particular, natural resources are not products of cooperation, nor does the precondition of moderate scarcity apply (Baxter, 2005).² In many regions of the world, water is not scarce, but extreme scarcity and droughts, as well as extreme flooding, are frequent events; climate change is contributing to this development and to incidents of extreme weather events and water scarcity (Feldman, 2007: 1–22).

A second critique relates to the rather limited perspective of distributive justice in local and temporal terms. Some basic environmental problems are global problems. As a consequence, water justice needs to be reasoned in the context of an international or in the context of a cosmopolitan approach to ethics (Caney, 2005a; Pogge, 2001). Comparable to approaches to climate justice which defend a fair share of each person in a common resource (Caney, 2005b; Vanderheiden, 2008), a cosmopolitan approach to water justice will discuss principles of justice as related to a “global commons” (Buck, 1998). Moreover, the negative effects of mismanagement of water resource in the presence for future generations also need to be addressed. Therefore, an approach to intergenerational justice has to discuss forms of injustice that have been analyzed as “intergenerational buck-passing.” This is a situation in

which current generations benefit from resources, yet in benefiting they produce costs that all later groups of persons have to bear (Gardiner, 2011: 148–160). In order to avoid severe intergenerational injustice, it is obligatory to develop regimes that protect rivers, lakes, and the seas from overexploitation now.

A third critique says that distributive justice is right in addressing justice, yet the scope is ill-set. Justice in participating in natural resources needs to be addressed in terms of correcting unfair power-relations first. In particular, the claim of water justice is closely related to claims of the ending of unfair power-relations in exploiting nature (Martínez Alier, 2003). Ecofeminists connect that request with a comprehensive critique of a dualist and a dissociative worldview that results from male domination in the sciences and in politics (Plumwood, 1993). In order to prevent future water wars, feminists also recommend to account for the services of women in water supply adequately (Gaard, 2001; Shiva, 2005).³ These claims for water justice are related to a more general theme, also traded under the name of “anti-dominion.” In order to prevent status injuries (Schlossberg, 2007: 136–145), unfair power relations that favor access conditions to natural resources of select groups of persons need to be disclosed and corrected.

The outcome of the attempt to address water shortages and mismanagement of water resources in terms of distributive justice is twofold: First, the distributive paradigm is not particularly convincing in addressing conflicts over resources that cannot be resolved by distributing water resources. This critique also resonates with the discussion of water rights in section 1. Second, more attention needs to be paid to the fact that water systems and water resources are qualitatively distinct goods.

4 ECOLOGICAL COOPERATION

In order to come closer to the concrete challenges that a water ethics needs to address, the first step is an acknowledgment of the fact that the normative challenges cover a wide range of different scenarios. Examples comprise conflicts in freshwater supply, overexploitation of the fishing stocks in rivers and lakes, groundwater shortages caused by overexploitation by the private sector and by agriculture, transboundary water conflicts concerning lakes and rivers, the pollution of water reservoirs as in-pool pollution, and insufficient water management in areas of dense population (Kowarsch, 2011).⁴ In order to measure critical limits of shortages and of degradation of water resources, a variety of indices has been developed. These indices include the “water footprint” (www.waterfootprint.org)⁵ measuring the amount of water needed for specific practices and processes of production; a “water poverty index” paying specific tribute to the close relationship between water supply and food safety (Lawrence, Meigh, and Sullivan, 2002), and the “aridity index” measuring the interdependence of climate data and water shortages (Thorntwaite, 1948; Vörösmarty et al., 2000). In addressing water as a systemic good, a key insight is the following: A water system can only be kept intact if the capacity to display ecofunctions that a water system is ready to display is not set at risk. In other words: the limits of resilience of water as a complex system need to be taken seriously (Falkenmark and Folke, 2002).

The conclusions from this description need to be drawn with caution. The shift from a general perspective to a context-sensitive perspective is not necessarily paramount to the

shift from a principled account of water ethics to a pragmatic or straightforwardly political account (Broome; 2012; Posner and Sunstein; 2008; Posner 2004).⁶ Instead, water ethics takes into account an analysis of the drivers for the depletion of water resources on a more general level. Threats to the resilience of water resources and water systems do not necessarily result from climate change or from overconsumption. Instead, they also result from either mutually incompatible or straightforwardly hazardous practices in profiting from water, including in-pool pollution. Because of indivisibility and a lack of regular entrance barriers, water resources are particularly vulnerable to the “tragedies of the commons” (Hardin, 1968; Jamieson, 2008: 14–15). The analysis of water in terms of a public good (Kallhoff, 2011, 2012) is particularly helpful not only in understanding the existing shortfalls in protecting water from environmental hazard, but also in developing a future-looking normative approach to water ethics.

Persons and institutions that are captured in a dilemmatic structure of collective action cannot escape the “tragedy of the commons,” unless they subscribe to rules that define best practices in addressing the good (Petrella, 2001).⁷ Following proposals in social philosophy, joint agency provides an alternative to self-interest actions of individuals and groups. In particular, collective agency differs in basic respects from the actions of individuals (Gilbert, 2006; Tuomela, 2002, 2012). A shared vision of an intended good, an *ethos*, is a central element in processes of group formation. Once persons have constituted a group, the ethos has also reason-giving power (Tuomela, 2003, 2012).⁸ Members of a group are likely to engage in activities that count as “working together”; by doing their activities, they contribute to realizing a shared end.

This model can also be reasoned in the context of cooperation that aims at profiting intelligently from a joint resource and at paying respect to non-instrumental values of a natural good. A precondition is that persons are aware of their dependency on water and, moreover, of their mutual dependency (Poteete and Janssen, 2010). This contributes to developing a framework that might not contribute to an equal share but to fair practices in profiting from a shared resource. Moreover, it contributes to rethinking practices of justified enclosure as well as cooperative schemes for outcomes that persons can also accept for normative reasons (Kallhoff, 2012, 2014).

A water ethics has an important role to play in explaining this model of joint agency as well as in informing the ethos. The ethos exposes a normative vision of best current and future practices in profiting from a shared natural good. It has three pillars. *First*, it declares the integrity of a water system as a core value that deserves moral respect. “Integrity” has an empirical side in terms of essential ecofunctions (Costanza et al., 1998). Integrity is endangered by severe incidents of stress, overexploitation, or pollution. Second, the ethos says that caring for a shared natural resource is the right attitude of all profiteers from that resource. Care includes a thorough and mindful appreciation of water in profiting from it. It relates to the experiences and the knowledge of persons and groups of persons who are accustomed to a common good (McEwan and Goodman, 2010). In particular, it addresses dependency of a shared good and appreciation for that good in normative terms. Third, the ethos claims fairness in profiting from water resources in two respects: as procedural fairness in decision-making processes (Engel and Westra, 2010) and as a fair share in terms of a basic right to water (see section 1). The ethos does not give strict principles, but instead includes basic normative yardsticks in profiting from water. It is left to team reasoning (Sudgen, 2003) within the group to develop a fine-grained approach to a specific water resource or water cycle. Yet

it says that it is necessary to recall a triangle of normative perspectives in order to succeed in ecological cooperation, namely integrity of a shared good, care for it, and fairness in profiting from it.

This approach to water ethics provides a distinct focus. It says that ecological cooperation is possible in resolving conflicts within the group of profiteers; its precondition is the willingness to comply with a shared ecological ethos.⁹ It is particularly important to invite persons and parties to join the group that identifies with an ecological ethos.¹⁰ A necessary prerequisite is that the claims of the “ethos” are fair and not overdemanding. Moreover, the deep dependency on a critical resource needs to be rendered continuously visible.

5 CONCLUSION

In this contribution, I have discussed four alternative approaches to a water ethics. First, a theory of water rights lays emphasis on a fair share of each person in safe water supply. A critical assessment comes to the conclusion that this perspective on water as a resource is important; yet it is too limited in addressing the complexities of water supply, water hazard, and water scarcity. Second, a theory of respect for water, instead, focuses on the values of water—not as a resource, but as something that deserves appreciation, perhaps even the attitude of humility. It is one of the central questions of whether or not that approach can be translated into a virtue ethics that pays respect to cultural differences. Third, I have argued that approaches to justice are important, yet they undergo major theoretical transformation if applied to environmental goods. They need to integrate an extended temporal and local frame; they need to respond to claims of justice in terms of correcting unfair power-relations; and they need to get beyond a simplistic distributive paradigm. Fourth, I have outlined an approach to water that focuses on the characteristics of a common good.

The fourth approach teaches an important lesson about the debate on water ethics. There is no reason to think of the sketched approaches to water ethics as mutually exclusive programs. Instead, these approaches are interrelated in many different ways. In particular, an approach to water as a common good resonates with basic principles of fairness, with care as an environmental virtue, and with respect for the integrity of water as a common pool good. The major shift that a theory of collective agency provides is the following: An ecological ethos that is reasoned in the context of a water ethics provides the backdrop both for processes of group-formation and for acting together. As the examples at the end of section 4 demonstrated, this ethos is not the only driving force for collective agency. Instead, persons would be wise to work together in addressing a resource that provides important services, both in terms of life-supporting services and in terms of services for sustaining cultural and economic practices.

Two further lessons that go beyond water ethics can also be learned from these discourses. In water ethics, it is obligatory to substitute distributive justice by a more content-rich idea of justice. The latter includes concepts of the integrity of water systems and its manifold value, water as a living space and nutrient of many diverse living entities. Moreover, water ethics contributes to the insight that the overall perspective on natural goods needs to be overhauled consequently. Neither human interests nor preferences figure as exclusive backdrop for addressing best practices. Instead, scholars are asked to draw a normative map related to values and interests in nature

first—a map that highlights vulnerabilities of natural resources as well as the sources of value of these goods in concrete scenarios. The corresponding ethos is not one-dimensional; instead, it includes the value of integrity as well as approaches to an attitude of care and procedural fairness.

NOTES

1. A right to water has recently been enshrined in the “General Comment No. 15 (2002): The Right to Water (arts. 11 and 12 of the International Covenant on Economic, Social and Cultural Rights)” (Committee on Economic, Social and Cultural Rights, 2003). The “Human Right to Water and Sanitation” has been accepted by the United Nations General Assembly. See www.un.org/ga/search/view_doc; access: December, 16, 2013.
2. As a response, authors have worked on a theory of ecological justice that breaks with the distributive paradigm, as for instance (Baxter, 2005).
3. Scholars who defend a feminist approach to water justice also demand the overhaul of existing law in favor of women’s rights and the rights of indigenous people, i.e., in stopping privatization of water resources (Shiva, 2005).
4. For an overview over the main fields of water problems and an empirical analysis of these fields, see (Kowarsch, 2011).
5. See www.waterfootprint.org for recent publications; access: December 26, 2013.
6. The two most important accounts that support this step are theories focusing on cost-benefit-analysis in developing policy instruments and theories that subscribe to an overall utilitarian framework. Theories that subscribe to one of the two strategies have been developed by Broome (2012), Posner and Sunstein (2008), and Posner (2004).
7. For an example, see rules and principles in the “Water Manifesto” (Petrella, 2001).
8. Note that the approach to group agency does not necessarily presuppose existing groups; instead, it works on a looser term of “working together.” In particular, the shift from a perspective on persons to groups is not a mystical fact, but rather can be explained as a shift from I-reasoning to We-reasoning (see Tuomela, 2003; Tuomela, 2012).
9. A similar shift has already been reasoned by Elinor Ostrom; yet Ostrom lays emphasis on two different facts: she draws on the capacity of local communities to develop rules that govern a common natural good; and she draws on a situation in which the community is dependent on a resource in terms of food production and livestock (Ostrom, 1990).
10. The first step is an invitation; yet there is no reason why the ethos should not be enshrined in environmental law, too.

REFERENCES

- Armstrong, A. C. (2006). “Ethical Issues in Water Use and Sustainability.” *Area* 38(1): 9–15.
- Baxter, B. (2005). *A Theory of Ecological Justice*. Routledge Research in Environmental Politics. London, New York: Routledge.
- Broome, J. (2012). *Climate Matters. Ethics in a Warming World*. Amnesty International Global Ethics Series. New York, London: W. W. Norton & Company.
- Brown, P. G., Schmidt, J. (2010). “An Ethic of Compassionate Retreat.” In *Water Ethics: Foundational Readings for Students and Professionals*, edited by P. G. Brown, G. Peter, and J. Schmidt, 265–286. Washington, D. C., Covelo, CA, London, England: Island Press.

- Buck, S. J. (1998). *The Global Commons: An Introduction*. Foreword by Elinor Ostrom. Washington, D. C., Covelo, CA: Island Press.
- Cafaro, P., and Sandler, R. (eds.) (2010). "Virtue Ethics and the Environment." Repr. from *Journal of Agricultural and Environmental Ethics*, 23 (1–2), 2010. Dordrecht: Springer.
- Caney, S. (2005a). *Justice beyond Borders: A Global Political Theory*. Oxford, England, New York, NY: Oxford University Press.
- Caney, S. (2005b). "Cosmopolitan Justice, Responsibility, and Global Climate Change." *Leiden Journal of International Law* 18(4): 747–775.
- Committee on Economic, Social, and Cultural Rights (2003). General Comment No. 15 (2002): "The Right to Water (arts. 11 and 12 of the International Covenant on Economic, Social and Cultural Rights)" ([www.unhcr.ch/tbs/doc.nsf/o/a5458d1d1bbd713fc1256cc400389e94/\\$FILE/Go340229.pdf](http://www.unhcr.ch/tbs/doc.nsf/o/a5458d1d1bbd713fc1256cc400389e94/$FILE/Go340229.pdf); access: December 16, 2013).
- Costanza, R., et al. (1998). "The Value of the World's Ecosystem Services and Natural Capital." *Ecological Economics* 25(1): 3–15.
- Engel, J. R., and Westra, L. (2010). *Democracy, Ecological Integrity, and International Law*. Newcastle: Cambridge Scholars Publishing.
- Falkenmark, M., and Folke, C. (2002). "The Ethics of Socio-Ecological Catchment Management: Towards Hydrosolidarity." *Hydrology and Earth System Sciences* 6(1): 1–9.
- Feldman, D. L. (2007). *Water Policy for Sustainable Development*. Baltimore: Johns Hopkins University Press.
- Gaard, G. (2001). "Women, Water, Energy: An Ecofeminist Approach." *Organization and Environment* 14(20): 157–172.
- Gardiner, S. M. (2011). *A Perfect Moral Storm. The Ethical Tragedy of Climate Change*. Oxford, New York: Oxford University Press.
- Gilbert, M. P. (2006). "Rationality in Collective Action." *Philosophy of the Social Sciences* 36(1): 3–17.
- Gleick, P. H. (1998). "The Human Right to Water." *Water Policy* 1: 487–503.
- Hardin, G. (1968). "The Tragedy of the Commons." *Science* 162 (3859): 1243–1248.
- Hayward, T. (2004). *Constitutional Environmental Rights*. Oxford/New York: Oxford University Press.
- Jamieson, D. (2008). *Ethics and the Environment: An Introduction*. Cambridge: Cambridge University Press.
- Kallhoff, A. (2011). *Why Democracy Needs Public Goods*. Lanham, Md: Lexington, a division of Rowman & Littlefield.
- Kallhoff, A. (2012). "Addressing the Commons: Normative Approaches to Common Pool Resources." In *Climate Change and Sustainable Development: Ethical Perspectives on Land Use and Food Production*, edited by T. Potthast and S. Meisch, 63–68. Wageningen: Wageningen Press.
- Kallhoff, A. (2014). "Water Justice: A Multilayer Term and Its Role in Cooperation." In *Analyse & Kritik*, 36 (2): 367–382.
- Kowarsch, M., ed. (2011). *Water Management Options in a Globalised World*. Proceedings of an International Scientific Workshop, 20–23 June 2011, Bad Schönbrunn. Institute for Social and Developmental Studies (IGP) at the Munich School of Philosophy.
- Kravchenko, S., and Bonine, J. E. (2008). *Human Rights and the Environment: Cases, Law, and Policy*. Durham, NC: Carolina Academic Press.
- Lawrence, P., Meigh, J., and Sullivan, C. (2002). *The Water Poverty Index: An International Comparison*. Keele Economics Research Papers. Newcastle-under-Lyme: Keele University.

- Leopold, A. (1949). *A Sand County Almanac*. Oxford: Oxford University Press.
- Martínez Alier, J. (2003). *The Environmentalism of the Poor: A Study of Ecological Conflicts and Valuation*. Cheltenham: Edward Elgar.
- McEwan, C., and Goodman, M. K. (2010). "Pace Geography and the Ethics of Care: Introductory Remarks on the Geographies of Ethics, Responsibility, and Care." *Ethics, Policy & Environment* 13(2): 103–112.
- Naff, T., and Dellapenna, J. (2002). "Can There Be Confluence? A Comparative Consideration of Western and Islamic Fresh Water Law." *Water Policy* 4: 465–489.
- Norton, B. G. (2005). *Sustainability: A Philosophy of Adaptive Ecosystem Management*. Chicago: University of Chicago Press.
- Ostrom, E. (1990). *Governing the Commons. The Evolution of Institutions for Collective Action*. Cambridge, New York: Cambridge University Press.
- Petrella, R. (2001). *The Water Manifesto: Arguments for a World Water Contract*, translated by P. Camiller. New York: Palgrave.
- Plumwood, V. (1993). *Feminism and the Mastery of Nature*. London, New York: Routledge.
- Pogge, T. (2001). "Eradicating Systemic Poverty: Brief for a Global Resources Dividend." *Journal of Human Development* 2(1): 59–77.
- Posner, R. A. (2004). *Catastrophe: Risk and Response*. Oxford: Oxford University Press.
- Posner, E., and Sunstein, C. (2008). "Climate Change Justice." *Georgetown Law Journal* 96: 1565–1612.
- Poteete, A. R., and Janssen, M. A. (2010). *Working Together: Collective Action, the Commons, and Multiple Methods in Practice*. Princeton: Princeton University Press.
- Ripl, W. (2003). "Water: The Bloodstream of the Biosphere." *Philosophical Transactions of the Royal Society of London, Biological Sciences* 358: 1921–1934.
- Sandler, R. L. (2007). *Character and Environment: A Virtue-Oriented Approach to Environmental Ethics*. New York: Columbia University Press.
- Scanlon, J., Cassar, A., and Nemes, N. (2004). *Water as Human Right?* IUCN Environmental Policy and Law Paper 51. IUCN—The World Conservation Union.
- Schlossberg, D. (2007). *Defining Environmental Justice. Theories, Movements, and Nature*. Oxford, New York: Oxford University Press.
- Shaw, S., and Francis, A., eds. (2008). *Deep Blue: Critical Reflections on Nature, Religion, and Water*. London: Equinox.
- Shelton, D. (1991). "Human Rights, Environmental Rights, and the Right to Environment." *Stanford Journal of International Law* 28(103): 103–138.
- Shiva, V. (2005). *Globalization's New Wars: Seed, Water, and Life Forms*. New Delhi: Women Unlimited.
- Shue, H. (1996). *Basic Rights. Subsistence, Affluence, and U. S. Foreign Policy*. Princeton: Princeton University Press.
- Sudgen, R. (2003). "The Logic of Team Reasoning." *Philosophical Explorations: An International Journal for the Philosophy of Mind and Action* 6: 165–181.
- Thorntwaite, C. W. (1948). "An Approach Toward a Rational Classification of Climate." *Geographical Review* 38: 55–94.
- Tuomela, R. (2002). *The Philosophy of Sociality: The Shared Point of View*. Cambridge: Cambridge University Press.
- Tuomela, R. (2003). "The We-Mode and the I-Mode." In *Socializing Metaphysics: The Nature of Social Reality*, edited by F. Schmitt, 93–127. Lanham, Md.: Rowman & Littlefield.
- Tuomela, R. (2012). "Group Reasons." *Philosophical Issues* 22(1): 402–418.

- Vanderheiden, S. (2008). *Atmospheric Justice: A Political Theory of Climate Change*. Oxford: Oxford University Press.
- Vörösmarty, C. J., Green, P., Salisbury, R., and Lammers, R. (2000). “Global Water Resources: Vulnerability from Climate Change and Population Growth.” *Science* 289: 284–288.
- Williams, B. (1995). “Must a Concern for the Environment Be Centred on Human Beings?” In *Making Sense of Humanity and Other Philosophical Papers*, 233–240. Cambridge: Cambridge University Press.