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The transformative value of ecological pragmatism: an introduction to the work of Bryan G. Norton

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Abstract. In the space of only a few years, Bryan Norton has become one of the essential actors of environmental ethics through his launching of what has become one of its dominant trends: environmental pragmatism. Environmental pragmatism refuses to take a stance in the dispute between the defenders of *anthropocentrist ethics* and the supporters of *nonanthropocentrist ethics*. Instead, Norton prefers to distinguish between "strong anthropocentrism" and "weak- or extended- anthropocentrism" and develops the idea that only the latter is capable of not under-estimating the diversity of instrumental values that humans may derive from the natural world. The practical difference between these two kinds of theories is considerable.

Bryan G. Norton is currently Professor of Philosophy and Political Science at the School of Public Policy, Georgia Institute of Technology, Atlanta, GA. Born on July 19, 1944 in Marshall (Michigan), he enrolled in several university courses (sociology, political science and philosophy). In 1970, he submitted a thesis on the philosophy of Rudolf Carnap and was awarded a Ph.D. Several years later, this was the subject of his first important publication (Linguistic Frameworks and Ontology: a Re-Examination of Carnap's Metaphilosophy). His interest in environmental issues emerged during that same period, through the organisation of a series of symposia and seminars of which he was the Principal Investigator, on the subject of Wilderness (1977), on the relationship between Man and Nature (1978–1979) and other subjects such as the link between ecology and environmental ethics (1980). Over the next three years when he was teaching at the University of Maryland as a Research Associate in the Department of Philosophy and Public Policy (1981-1983), he coordinated work on the issue of the preservation of species and edited the publication in 1986 of a volume bringing together the main results of this prolonged collegial reflection. He wrote the preface, introductions to several sections and two of its chapters (The Preservation of Species. The Value of Biological Diversity).

Meanwhile, he published a succession of decisive articles in the prestigious review *Environmental Ethics*. They were to have a significant impact on the history of environmental



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ethics, by giving them a pragmatic turn according to a logic which the author retrospectively reconstructs as follows:

In the first paper, ["Environmental Ethics and Nonhuman Rights" (1982a)], I expressed doubts that environmental concerns could be expressed in terms of "rights" because of the systemic nature of environmental goods and the individual nature of rights (and utilities). The second paper ["Environmental Ethics and the Rights of Future Generation" (1982b)], more positive in nature argued for the possibility of a more holistic idea of what we owe the future. At that time, I had not seriously considered an explicit appeal to pragmatism, although I think the basic approach of both these papers was consistent with pragmatism. But in developing the "weak anthropocentrism" idea, [in "Environmental Ethics and Weak Anthropocentrism" (1984)] I began to see that one could support an environmental ethic without "extension" of human ethical concepts to nonhumans, which meant I could offer an intelligible alternative to non anthropocentrism. Later in the 1980s, I began to see that, if one builds an ethic that is adequately long-sighted and adequate to capture the longterm advantages of protection of natural systems, then this ethic would probably coincide in many of its policy implications with a well-worked out nonanthropocentric theory. This led, eventually, to my paper ["Conservation and Preservation: A Conceptual Rehabilitation" (1986b)], published in 1986, where I first proposed, at the end of the article, the "convergence hypothesis". This formulation is, in my view, the first step toward a more "pragmatist" position, an idea that was developed in my 1991 book [Toward Unity Among Environmentalists]. The convergence hypothesis seems to me to be pragmatic in the sense that it suggests that anthro and nonanthro are "philosophical" theories that make little or no difference to practice (Bryan Norton, personal communication).

In the space of only a few years, Bryan Norton has become one of the essential actors of environmental ethics through his launching of what has become one of its dominant trends: environmental pragmatism.

The originality of his pragmatism in the context of environmental ethics is perhaps best described as a refusal to take a stance in the dispute between the defenders of *anthro-pocentrist ethics*¹ and the supporters of *nonanthropocentrist ethics*². Norton's early philosophical endeavours sought to challenge the practical relevance of this entire speculative issue by raising two closely interconnected types of argument.

The first of these puts forward the necessarily *militant* component of environmental ethics in its role as an emerging field of research. In this respect, there are only two possible outcomes: either environmental ethicists genuinely aim to guide policies by subjecting them to relatively rational rules, in which case their failure to achieve this objective so far should encourage them to consider, firstly, what it is in their way of expressing and dealing with problems that has prevented them from succeeding, and secondly, to adapt their discursive strategy to the realities of politics; or else the theorists of environmental ethics choose to pursue their metaphysical wrangles over the status of the intrinsic value of natural entities, over the possibility of considering ecosystems from a moral standpoint and other issues such as the number of angels who can dance on the head of a pin, in which case they need to decide once and for all whether they really care about the current ecological crisis.

According to Norton, what actually matters as regards the environment, is not so much taking principled stances, but rather developing rational aids to decision-making, so that the various actors can agree on what should be done and develop the concrete policy measures which need to be implemented. In this sense, petty in-fighting between anthropocentrists and non-anthropocentrists, humanists and ecocentrists, "shallow" and "deep ecologists", etc., are all the more damaging that they divide environmental ethicists and stifle efforts for concerted and effective action.

The second argument makes the point that the discussion between anthropocentrists and non-anthropocentrists is particularly futile insofar as the major concept of "human interests" (or human utility), on which the whole discussion focuses, is left very much undefined. The fact that satisfying human interests does not necessarily involve the irre-

versible destruction of the object of desire is insufficiently noted: there is a distinction to be made between utility which is satisfied by the immediate consumption of natural goods (raw materials, agricultural products, etc.) and a utility which implies the conservation of the useful object since conservation is a prerequisite for satisfying human interests (this is the case for all the ecological services provided by nature without which we would very soon be deprived of any access to consumer goods). More generally, far from being no more than a source of raw materials or an open-air dumping ground for our waste, nature can have an aesthetic, moral, spiritual or scientific value for humans. In this case, so that the satisfaction nature provides can endure, the object must remain intact since satisfaction is in a way inseparable from the object itself, to the point of being inherent to it – making it possible, so to speak, to assign a educational, (and no longer metaphysical) meaning to the concept of intrinsic value, inasmuch as the objects of satisfaction are not considered to be indefinitely and indiscriminately substitutable.

From this stems the concept of distinguishing, as Norton did in the early 1980s, between "strong anthropocentrism" and "weak (or extended) anthropocentrism". Only the latter is capable of not under-estimating the diversity of instrumental values that humans may derive from the natural world, and correlatively not homogenising the plurality of interests or preferences they experience (a spontaneous "feeling" of preference is essentially different from a "considered" preference which is mediated by a given vision of the world). A theory is said to be *strongly anthropocentrist* if all the natural values it recognises are related to the satisfaction of preferences felt by human beings. A theory of value is said to be weakly anthropocentrist if all the natural values which it recognises are related to the influence exerted by a given "felt" preference on the ideals which structure the vision of the world (and on which are essentially based "considered" preferences) 3 .

The practical difference between these two kinds of theories is considerable. Insofar as preferences felt by humans are not subject to any review within the value system of strong

¹In which, man, in the final analysis, is the yardstick for everything and the single end-point, with which all of nature complies, as the simple instruments of his well-being.

²For which, independently of any human evaluation, nature includes intrinsic objectives and natural values, those pertaining to humans obviously among them, but without granting humans the right to any particular privilege, since they are only members – amid many – of Earth's living community.

³It is this argumentative strategy which enables Norton to plead in favour of species preservation without having to resort to the concept of "intrinsic value", see Norton, B. (1986a, 1987). In response to those who consider that species in danger of imminent extinction cannot be protected if they are without any commercial utility, unless the argument of the intrinsic value of biodiversity is put forward, Norton emphasises that it is not because a species cannot prove its economic or industrial value that it has none. Norton seeks to demonstrate that it is possible to recognise a utilitarian value to biodiversity for its own sake, without having to take into account the specific characteristics of members of the species or of its population as a whole – a value that would therefore be situated beyond any known or demonstrable value, but would still not be an intrinsic value. In this way, it would be possible to dispense with a case by case value justification for each species, without having to transcend the domain of human utility.

anthropocentrism, there is no way in which can be criticised the attitude of those for whom nature is no more than a store of raw materials to be extracted and used in manufacturing products to satisfy human preferences. Inversely, insofar as weak anthropocentrism recognises that felt preferences may, or may not, be rational (in the sense that they may be judged as not being consonant with a rational vision of the world), it provides a framework for the possible critical review of the value systems which prescribe a relationship with nature based on pure exploitation:

In this way, weak anthropocentrism makes available two ethical resources of crucial importance to environmentalists. First, to the extent that environmental ethicists can make a case for a world view that emphasizes the close relationship between the human species and other living species, they can also make a case for ideals of human behavior extolling harmony with nature. These ideals are then available as a basis for criticizing preferences that merely exploit nature.

Second, weak anthropocentrism as here defined also places value on human experiences that provide the basis for value formation. Because weak anthropocentrism places value not only on felt preferences, but also on the process of value formation embodied in the criticism and replacement of felt values with more rational ones, it makes possible appeals to the value of experiences of natural objects and undisturbed places in human value formation. To the extent that environmentalists can show that values are formed and informed by contact with nature, natures takes on value as a teacher of human values. (Norton, B., 1984:135)

This latter value is the one which Norton soon came to designate by the name of "transformative value", i.e. a value capable of transforming preferences in accord with a higher ideal. It is remarkable that this is neither an instrumental, nor a non-instrumental (or intrinsic) value, but rather a value which cannot be reduced to either of these categories, which are therefore revealed as unable to express the entire range of values that humans can attribute to nature. Rather than be forced into accepting this bipartite classification of natural values, Norton suggests an acceptance of their essential plurality and situating them in a kind of continuum, ranging from the values of consumer society to aesthetic, spiritual and other similar values.

In such circumstances, the environmentalist's task, when entering the public arena, will be to defend and command the respect – to the fullest extent possible – of the above principles, while seeking to define an environmental policy capable of the fullest and most harmonious integration of the entire range of natural values. Norton's belief on this point, is that programmes for the protection of the environment are perfectly justifiable on the basis of a sufficiently broad interpretation of anthropocentric instrumental values and, better still, that this point of view has an undeniable practical advantage, on the one hand because it is the mode of justification which is the most current among environmentalists and therefore constitutes an immediately recognised forum for debate and,

on the other hand, because by neutralising the axiological controversy between intrinsic value and human utility, it allows for individual subjectivity to choose between the various philosophical options. As a result, the debate is moved to the area of rational modes of environmental action.

It is this idea that the author, after further consideration, reworded under the name of "convergence principle", meaning that between defenders of intrinsic value and supporters of anthropocentrism, there is a double convergence despite disagreement on the value principle. On the one hand, the convergence is in practical terms (as regards recommended measures and action strategies); and on the other hand it is axiological (due to the possibility of taking into consideration values ignored by strict anthropocentrism).

As Norton points out specifically, the corollary of this principle is the recognition of the validity of two distinct types of methodological pluralism, one of which could be named "theoretical pluralism" and the other "meta-theoretical pluralism". The first of these accepts the existence of a multiplicity of mutually incommensurable theoretical models which can be the foundation for the moral considerability of natural entities. The models remain theoretically different but in practice this makes almost no difference, as for example, the model based on the criterion of animal sentience (as in Peter Singer) to justify animals being given moral consideration, or the one which refers to the determination of all organic individuality as the teleological centre of life (as in Paul Taylor). The second type of pluralism accepts the possibility that several divergent moral theories, which do not even agree on the determination of environmental ethics issues, can nevertheless work together as part of a single moral enterprise – as happens for example when ecofeminists and ecocentric environmentalists cooperate to save the same natural habitat, even though their respective commitment is in practice based on very different theoretical considerations⁴.

The advantage of a pluralistic approach to values is that, by its very nature, it is prepared to seek compromise and determine jointly, through environmental policy negotiations, the conditions for cooperative action, thus making it possible to form strategic causal coalitions⁵. The chances of finding

⁴For more on that subject, see Light, A. and Katz, E. (1996:4 sq.).

⁵For that matter, it is probably because Bryan Norton is a keen advocate of striking a reasonable balance between various opinions and divergent interests that environmental pragmatism, of which he is the most eloquent exponent, has so frequently been considered as one of the options in the United States when public policy environmental programmes were under evaluation, with Norton himself as a participant. He was an active member of the well-known governmental Environmental Protection Agency, where he served from 1991 to 1994 on the Science Advisory Board and co-authored the annual Risk Assessment Forum report, from which arose the first evaluation protocols for Ecological Risk Assessment in the United States. He also participated in the work of several no less well-known NGOs, in particular sitting as an elected member of the

common ground are all the greater as environmental pragmatism does not refer to any concept which would be difficult to justify in philosophy, as that of "intrinsic value", nor does it in any way suppose that one needs to adopt, before even entering into discussion, any particular "vision of the world". Although it does firmly denounce the attempt to reduce all natural values to the status of economic ones, and although it criticises the systematic use of cost-benefit analysis and warns against the pitfalls of the contingent valuation method, environmental pragmatism shares with decision-makers the fundamental and firmly-held belief that solutions to environmental problems must be found in the *sustainable development* of economic systems, for the sake of our responsibility to future generations who must be able to benefit from the generosity and services offered by the ecosystem:

"In our search of an environmental ethic we will never, I submit, find any environmental values or goals more defensible than the sustainability principle." (Norton, B., 2003:63)

Determination of the conditions for sustainable development has been the focus of all Norton's philosophical efforts for over a decade – efforts which culminated in the publication in 2005 of his most ambitious work to date, in which he laid the groundwork for an adaptative ecosystem management philosophy (Sustainability. A philosophy of Adaptative Ecosystem Management).

In harmony with the main theoreticians of sustainability, Norton considers that the problem of morally acceptable conditions for sustainable development needs to be considered in the framework of a theory for intergenerational equity. He also considers that the differences between currently available sustainability models are due to the way the problem of the determination of obligations we have to future generations is raised and the solutions to it are found.

Our obligations to future generations can be emphasised in three different ways.

The *distance problem* can be our point of focus, in which case the question is determining how far into the future our moral obligations should extend. In this sense, it would appear that our usual approach to environmental valuation tends to consider all the values extant in the future as discountable functions of current values, so that they become irremediably rooted in the present and do not adequately consider the interests of future people. We then need to decide whether it is possible to develop a value theory that can determine what is fair for both present *and* future generations.

Or else we can focus on the *ignorance argument*, the question then being to find out who will be living in the future and what they will be needing. To the extent that individuals in the future cannot express their concerns and interests today and since we are reluctant to force on them any particular version of what is "good", it becomes difficult to even begin

Governing Board of the Society for Conservation Biology (1988 to 2005) and of the Board of Directors of Defenders of Wildlife, (1996 to 2005).

evaluating the policies that might affect them. Finally, we could emphasise the *typology of effects problem*, signifying that we would need to find out which of our present actions have truly moral implications for the future.

Norton considers that two major sustainability models are currently emerging. Some sustainability theoreticians maintain (by granting some pre-eminence to the ignorance argument) that what we owe the future is no more than the opportunity to benefit from a certain number of utilities, undiminished from one generation to the next. In which case, for the supporters of that principle, intergenerational equity should be a comparison between the possibilities of benefiting from various forms of well-being available to individuals living in different time frames. The aim of sustainability does not in any way require that we leave intact any specific resource, but rather that we try and maintain an undiminished stock of capital in the shape of a wealth of investment, productive capacity and technological expertise. What should be passed on from one generation to the next is the same level of possibilities and the same equitable scope of opportunity. Since it is probably impossible to curb or control the type of use that is made of the environment and the consequent distribution of the fruits of cooperation which corresponds to what today's people consider is good for themselves, and since – in certain circumstances - diminished resources or a deterioration of the quality of the environment can be the outcome of a totally rational use of resources by previous generations, then each succeeding generation is duty bound to make sure that the range of life opportunities available to its offspring is no less satisfactory than the one they enjoyed themselves. This implies that each generation recognises that it is morally bound to offset depleted resources or a degraded environment by developing an equivalent production potential.

Other sustainability theoreticians recommend a different course: instead of comparing individual forms of well-being, a list of "features" which must be saved for the benefit of future generations should be drawn up. "Features" means any aspect of the natural world which is physically describable, including important sites, groups of biological classifications, fixed reserves of resources and important ecological processes. Examples of such "features" would include: sufficient supplies of safe drinking water; the Grand Canyon, grizzly bears (or more generally, "biological diversity"); an intact ozone layer in the upper atmosphere; and perhaps landscapes such as mainly forested areas. By this approach (whereby only the problem of the typology of effects is considered to be truly important), the assumption that resources are totally fungible is unacceptable and, on the contrary, it is important to specify the environmental characteristics and processes which are essential for future well-being and to state that they are so important that any decision as to what must be passed on that does not include them would inevitably cause future generations to be cheated. The loss of such characteristics should be seen as a deterioration of the quality of life for future generations, regardless of the amounts paid by way of compensation or the total wealth offered as a substitute to compensate for their loss.

Norton seeks to fit these two models together by developing a sufficiently all-embracing theory to link the well-being of future generations to the range of options or choices left open to them, and which moreover could be rendered operational by specifying physical characteristics as indicators of future well-being. He points out that although, without a doubt, we do have an obligation not to impoverish future generations, we may also owe them a reasonably unrestricted range of options and opportunities. In the circumstances, would it be absurd to say that we might be reducing the options available to them while we were trying to shelter them from economic impoverishment?

Consider, for example, a very wealthy widower who, being a well-intentioned despot (...) refuses to allow his daughters to pursue an education, and instead places their inheritance in a productive and secure trust, ensuring that they will have a more-than-adequate income for life (provided they never go to college under pain of disinheritance). In this case, which of course differs from our sustainability cases in some perhaps important ways, I think it could be said that, if any of the daughters wanted to attend college, they would have been made worse off than they would have been had their father not forbidden them to do so. Further, it rings far truer – given that the daughters are lavishly cared for financially – to explain the harm done to the daughters not in terms of economic impoverishment, but in terms of a narrowed range of options life choices.

If that case makes sense, it is not a much further step to an environmental case: suppose that our generation converts all wilderness areas and natural communities into productive mines, farmlands, production forests, or shopping centres, and suppose that we do so efficiently and that we are careful to save a portion of the benefits, and invest them wisely, leaving the future far more wealthy than we are. Does it not make sense to claim that, in doing so, we harmed future people, not economically, but in the sense that we seriously and irreversibly narrowed their range of choices and experiences? A whole range of human experience would have been obliterated; the future will have been (...) impoverished. (Norton, B., 1999:131–32)

The thesis Norton is defending is that our obligation to the future includes – in addition to maintaining an equitable savings rate – maintaining an intact range of choices and opportunities so that certain activities can be pursued and certain interests enhanced. To elucidate, we must begin with a careful examination of what is meant by "choice" and "opportunity" and continue with the introduction of conceptual models to express sustainability in terms of keeping options open. In other words, there must be, in a manner that makes political sense, a correlation between options and opportunities on the one hand, and, a physically describable systemic characteristic on the other, so that the problem of intergenerational equity can be reduced to a determination of the char-

acteristics of the ecosystem and the countryside which it is essential to preserve for the benefit of future values considered to be of local importance.

An option designates, in Norton's terminology, a natural resource available for the utility that humans may have for it, while "utility" is defined as meaning not only the material advantage they may offer, but also the aesthetic (or scientific, etc.) enjoyment linked to the distinctive "style" of the area in question. In this sense, options correspond to the "inventory" of usable resources available at a given time. An opportunity - a more complex concept with options as one of its components – corresponds to a situation in which all the conditions are present to enable a resource to be chosen at any given time. One of these conditions is obviously that the option is available at the time when the choice is to be made, but an opportunity also requires that it is possible to act with a view to using that option within that timeframe. For a resource which is the object of an option to be truly an opportunity, the resource must continue to exist unspoiled and usable at the time the choice is made whereas, correlatively, the person who wishes to use it must be empowered, both physically and politically, to access that option.

Intergenerational equity therefore requires, to the fullest extent possible, that people in the future are able to access the options under protection. The conditions for such access are partly *political* (demanding the development of open and responsible institutions in charge of allocating resources) and partly *economic* (implying that an adequate level of wealth/income is maintained).

To conform with Norton's model, the availability of an option is to be understood necessarily, but not sufficiently, as conditional on the existence of an opportunity. Conversely, an opportunity can only be protected if the option is also protected. In consequence, deciding what the present generation owes to future generations is to determine which set of presently available options our generation can use without unfairly subtracting from those which need to be left open to provide future opportunities.

Those aspects of the natural world which must be protected are still to be defined. Norton suggests correlating economic development to the natural characteristics of a region and its key resources. According to that growth model (which he names: "Integrated Regional Development Path"), key natural resources are not interchangeable with other forms of capital, but certain resources are valued as "key resources" for the economic development of the community. The resources become keystones in the local economy in that the persistence of all kinds of activities in the region (such as resource extraction, transport, tourism and manufacturing) depend on the protection of such resources. Families, for example, wishing to live in the region for generations, would be well advised to valuate these keystone resources as essential so as to keep the same range of opportunities open for the following generation. When families living in the region plan the long term future of their community as an ongoing multi-generational project, they naturally consider that prudent use of key resources is a kind of investment that protects the fundamental values of their community. If these key resources are over-exploited and depleted, their loss has a much greater impact on the economy than a mere loss of income, because the distinctive features of the regional environment and the diversity of the available habitats would be impaired:

These keystone natural resources form the basis for an enduring and place-based cultural identity, based both on the distinctive resource mix that greeted early settlers and on the distinctive cultural practices and institutions that have been built to use these resources. They are basic to any strategy of regional development that recognizes the importance of natural resources to the comparative advantage of the region. The Integrated Regional Development Path, therefore, emphasizes place-relative development, which in turn links the economy and local residents in more and more integrated system of economic and cultural links and institutions. These links are place-based and intergenerational in nature (Norton, B., 1999:146–147).

The Integrated Regional Development Path bases development on core distinctive features and sources of value specific to each region, while also seeking to protect them. Environmental policies should try to ensure the protection of the community's distinctive character and regional identity and consider that one of their tasks is to promote the development of a sense of "place" and a better understanding of the role of a region's natural history in building up the economy and the culture which make it different from any other region. If that were the case, economy and ecology could progress hand in hand, so that an intergenerational bond would be created in the shape of a set of characteristics that would express the opportunities that the region originally offered to the early settlers. In this way, natural history and cultural history would provide the framework for current affairs to find their place and be dealt with. Furthermore, human communities would be more attached to their region, and their values, aspirations and identity across time would have greater continuity.

This analysis demonstrates that sustainability can be more generally defined as follows:

Sustainability is a relationship between generations such that the earlier generations fulfil their individual wants and needs so as not to destroy, or close off, important and valued options for future generations (Norton, B., 2005:363).

A very sketchy analysis, as Norton hastens to emphasise, needing to be refined for each local community, which will ultimately have to decide what it wishes to pass on to future generations. By implication, "every community might come up with a different definition" (Norton, B., 2005:40).

For Norton, this is contextualism, because his goal is to find local solutions to local problems. But what precisely differentiates this form of "contextualism" from relativism? If the localities are the principal actors in defining sustainability, then is there any basis for external criticism?

Moreover, what can we do if a community adopts an unsuitable idea of sustainability and related insustainable practices in cases where grand-scale cooperation between local communities, either at national or international level or both, is required? Is Norton's approach applicable to solve problems which cannot be reduced to a local scale and that local communities tend to neglect, or even ignore, and which require cooperation between different communities and beyond, between different countries on a planetary scale?

Finally, can environmental policies afford to dispense with universal principles? Should not fighting global warming, for example – a subject which Norton remarkably hardly mentions in all of the 607 pages of *Sustainability* – necessarily involve the development of a global community concept⁶?

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References

Light, A. and Katz, E. (Eds.): Environmental Pragmatism, London & New York, Routledge, 1996.

Norton, B.: Linguistics Frameworks and Ontology: A Re-Examination of Carnap's Philosophy, La Haye, Mouton Publishers, 1977.

Norton, B.: Environmental Ethics and Nonhuman Rights, Environ. Ethics, 4, 17–36, 1982a.

Norton, B.: Environmental Ethics and the Rights of Future Generation, Environ. Ethics, 4, 319–337, 1982b.

Norton, B.: Environmental Ethics and Weak Anthropocentrism, Environ. Ethics., 6, 131–148, 1984.

Norton, B. (Ed.): The Preservation of Species. The Value of Biological Diversity, Princeton, Princeton University Press, 1986a.

Norton, B.: Conservation and Preservation: A Conceptual Rehabilitation, Environ. Ethics, 8, 195–220, 1986b.

Norton, B.: Why Preserve Natural Variety?, Princeton, Princeton University Press, 1987.

Norton, B.: Toward Unity Among Environmentalists, Oxford, Oxford University Press, 1991.

Norton, B.: Ecology and Opportunity. Intergenerational Equity and Sustainable Options, in: Fairness and Futurity. Essays in Environmental Sustainability and Social Justice, edited by: Dobson, A., Oxford, Oxford University Press, 118–150, 1999.

Norton, B.: Searching for Sustainability. Interdisciplinary Essays in the Philosophy of Conservation Biology, New York, Cambridge University Press, 2003.

Norton, B.: Sustainability. A Philosophy of Adaptive Ecosystem Management, Chicago, University of Chicago Press, 2005

Oksanen, M.: Sustainabilty: A Book Review, Environ. Value., 16, 272–277, 2007.

⁶See the excellent book review of *Sustainabilty* by Oksanen, M. (2007).

Selective bibliography

Papers

- Making the Land Ethic Operational: Toward an Integrated Theory of Environmental Management, in: Beyond the Large Farm: Ethics and Research Goals for Agriculture, edited by: Thompson, P. B., and Stout, B. A., Boulder, Westview Press, 137–160, 1991.
- Epistemology and Environmental Values, The Monist, 2, 1992, 208–226, 1992.
- A New Paradigm for Environmental Management, edited by: Costanza, R., Norton, B. G., and Haskell, B. D., Washington, Island Press, 23–40, 1992.
- On What We Should Save: The Role of Culture in Determining Conservation Targets, in: Systematics and Conservation Evaluation, edited by: Forey, P. L., Humphries, C. J., and Vane-Wright, R. I., Oxford, Clarendon Press, 23–40, 1994.
- Where Do We Go from Here? [with Gene Hargrove], in: Ethics and Environmental Policy. Theory Meets Practice, edited by: Ferré, F., and Hartel, P., Athens & London, The University of Georgia Press, 234–252, 1994.
- Applied Philosophy versus Practical Philosophy: Toward an Environmental Policy Integrated According to Scale, edited by: Marietta Jr., D. E. and Embree, L., Boston-London, Rowan & Littlefield, 125–148, 1995.
- Why I Am Not a Nonanthropocentrist: Callicott and the Failure of Monistic Inherentism, Environ. Ethics, 4, 341–58, 1995.
- Democracy and Sense of Place Values in Environmental Policy [with B. Hannon], in: Philosophy and Geography. Philosophy of Place, Vol. 3, edited by: Light, A. and Smith, J. M., Boston-London, Rowan & Littlefield, 119–145, 1998.
- Pragmatism, Adaptive Management, and Sustainability, Environ. Value., 8, 451–466, 1999.
- Democracy and Environmentalism: Foundations and Justifications in Environmental Policy, in: Democracy and the Claims of Nature. Critical Perspectives for a New Century, edited by: Minteer, B. A. and Taylor, B. P., Boston-London, Rowan & Littlefield, 11–32, 2002.
- Epistemology and Environmental Values, in: Land, Value, Community: Callicott and Environmental Philosophy, edited by: Ouderkirk, W. and Hill, J., New York, SUNY Press, 123–132, 2002.

Concerning Norton

- Callicott, J. B.: On Norton and the Failure of Monistic Inherentism, Environ. Ethics, 18, 219–221, 1996.
- Elliott, K.: Norton's Conception of Sustainability: Political, Not Metaphysical?, Environ. Ethics, 1, 3–22, 2007.
- Hickman, L. A.: Pragmatic Paths to Environmental Sustainability, Journal of Agricultural and Environmental Ethics, 20, 365–373, 2007.
- Holly, M.: A Review of Bryan G. Norton's Sustainability: A Philosophy of Ecosystem Management, Journal of Agricultural and Environmental Ethics, 20, 335–352, 2007.
- Preston, Ch. J.: Epistemology and Intrinsic Value: Norton and Callicott's Critiques of Rolston, Environ. Ethics, 4, 409–428, 1998.
- Steverson, B. K.: Contextualism and Norton's Convergence Hypothesis, Environ. Ethics, 2, 135–150, 1995.
- Westra, L.: Why Norton's Approach is Insufficient for Environmental Ethics, Environ. Ethics, 3, 279–297, 1997.
- Saner, M. A.: Biotechnology, the Limits of Norton's Convergence Hypothesis, and Implications for an Inclusive Concept of Health, Ethics Environ., 5, 229–241, 2000.
- Stenmark, M.: The Relevance of Environmental Ethical Theories for Policy Making, Environ. Ethics, 2, 135–148, 2002.
- Thompson, P. B.: Norton's *Sustainability*: Some Comments on Risk and Sustainability, Journal of Agricultural and Environmental Ethics, 20, 375–386, 2007.
- Welchman, J.: Norton and Passmore on Valuing Nature, Journal of Agricultural and Environmental Ethics, 20, 353–363, 2007.