

FIFTY KEY
THINKERS ON
THE ENVIRONMENT

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HOLMES ROLSTON III 1932-

Holmes Rolston III is widely recognized as the 'father' of environmental ethics as an academic discipline. Although others planted seeds before Rolston, theirs were mainly inspirational. More so than any other, he has shaped the essential nature, scope and issues of the discipline.

Throughout Rolston's many books and articles, he holds that intrinsic value entails duties. In *Environmental Ethics*, he states:

Duties arise to the individual animals and plants that are produced as loci of intrinsic value within the system ... These duties to individuals and species, so far from being in conflict with duties to ecosystems, are duties toward its

products and headings. The levels differ, but, seen at depth, they integrate. Perhaps on some occasions duties to the products will override duties to the system that produced them, but – apart from humans who live in culture as well as in nature – this will seldom be true.¹

Especially influential were Rolston's early, ground-breaking article in the journal *Ethics* (1975), and his mature, comprehensive formulation of his ethical theory in the book *Environmental Ethics* (1988). In 1997, he gave the prestigious Gifford Lectures at the University of Edinburgh in Scotland, published under the title *Genes, Genesis and God* (1999).

Holmes Rolston III was born 19 November 1932, the son and grandson of Presbyterian ministers, whose names he shares. Except for summers spent in Alabama on his mother's parents' farm, Rolston spent his childhood in the Shenandoah Valley in the state of Virginia, where his father was a Presbyterian minister and respected theologian. In these rural places, Rolston grew to love nature and to value simplicity. The Maury River flowed in front of the family home, which was nestled in the woods, and the Blue Ridge Mountains shaped the horizon. The house lacked electricity, and water came from cisterns.

As an undergraduate at Davidson College, Rolston wanted to study nature and so completed his degree in physics (BS, 1953), with occasional excursions into biology. Planning to be a Presbyterian minister like his father and grandfather, Rolston next obtained a divinity degree from Union Theological Seminary in Richmond, Virginia (BD, 1956), and then a PhD in theology and religious studies at the University of Edinburgh in Scotland (1958). For the next decade, he was a minister in the Appalachian Mountains of western Virginia near the Tennessee and North Carolina borders. He and his wife, Jane, have two children, a daughter and son.

In his spare moments while serving as minister, Rolston attended classes at East Tennessee State University, explored the biology, mineralogy and geology of the southern Appalachian Mountains, becoming a recognized naturalist and bryologist. He also worked as an activist to conserve wildlife, to preserve Mount Rogers and Roan Mountain, and to maintain and relocate the Appalachian Trail.

While studying the natural world, Rolston felt a need to study philosophy in an attempt to explain the values he found in nature and to resolve the intellectual conflicts between his religious faith and the non-theistic naturalism of the biological sciences. Leaving

his beloved Virginia, he studied philosophy of science at the University of Pittsburgh. There he began to formulate his theory of the intrinsic value of nature and his objections to the naturalistic fallacy. After finishing a master's degree in 1968, Rolston was appointed Professor of Philosophy and Religion at Colorado State University, Fort Collins, where during the ensuing decades he achieved international academic recognition and currently holds the prestigious position of University Distinguished Professor. In addition to his many academic achievements, he has continued his ordained status in the local Presbytery.

Five concepts frequently recur throughout Rolston's writings: (1) the intrinsic value of nature, which value is non-anthropocentric and even anti-anthropocentric since it is independent of and apart from humankind; (2) ecological-systemic holism; (3) the derivation of duties to nature from the intrinsic value of nature, which logically entails the denial of the naturalistic/is-ought fallacy; (4) the intrinsic value of species as forms, or groupings, of life; and (5) biocentrism, that is, the intrinsic value of and derivative duty to respect every individual living organism.

Central to Rolston's theory of environmental ethics are the concepts 'intrinsic value' and 'holism'. Aldo Leopold proposed holism under the rubrics 'community' and 'land ethic'. Holism is an essential concept in ecology, and has become a key component in every contemporary theory of environmental ethics. In Rolston's theory, ecological wholes are intrinsically valuable. His ethic is explicitly an ethic of duties, duties he derives from intrinsic value.

Rolston clearly names and identifies two 'rules' or 'principles': the Homologous Principle and the Principle of Value Capture.² He also uses at least four other principles, for a total of at least six. Others may need to be added. These six principles are:

- 1 The Homologous Principle: Follow Nature
- 2 The Value-Capture Principle
- 3 The Organic Principle: Respect for Life
- 4 The Species Principle: Preserve 'Forms' of Life
- 5 The Ecosystemic Principle
- 6 The Three 'Environments' Principle: Urban, Rural and Wilderness (or, the Nature-Culture Principle)

By 'nature', Rolston generally means *non-human* nature. He carefully distinguishes 'nature' and 'culture'. Culture is an artifact made possible by human self-awareness and thoughtfulness, which

are found to such an advanced degree in no other species, and which make possible the acquisition and transfer of knowledge, information, science, technology, art, and a host of other human achievements. In contrast to 'deliberative' culture, nature is 'spontaneous' and 'non-reflective'.³ Natural processes are law-like, orderly though also probabilistic, and open to historical novelty, as evidenced in the creativity in evolving ecosystems. Natural selection, combining with genetics, results in the genesis of value.

Rolston acknowledges that humans are in nature and part of nature in many important respects. The biology of our bodies, for instance, is fully natural. He often says that humans (and human culture) 'emerged' out of nature. For Rolston, 'wilderness' is a synonym for the environment of nature wherever it is free of human interventions. Wilderness, rural culture and urban culture make up the present world's three 'environments', each having its own particular intrinsic goods.⁴

Understanding Rolston's metaphysical commitments is essential to understanding his ethic. His explicit commitments are deeply biological and evolutionary. Yet, he parts company with contemporary theoretical evolution when he denies that nature operates by 'nothing but chance'.⁵ Rolston's philosophy, in addition to being deeply biological, is also deeply theistic. The ultimate explanation for the origin, order and historical novelty in nature is God.⁶

Rolston's denial of chance is consistent with his Organic Principle, which is the assertion that every individual organism, from the simplest cell to the most complex multi-cellular organism, is intrinsically valuable and, therefore, worthy of appropriate respect. Unlike inorganic things, living organisms have 'vitality'. In contrast to inorganic things, every living organism has four features: (1) each individual has an identity; (2) it defends itself; (3) it functions for an end (*telos*); and (4) it has within itself, in its DNA, information that is passed on, or communicated, to others via reproduction. By virtue of these traits, organisms are centres of valuing; even when unconscious, what happens to them matters. In addition, natural organic evolution is projective in value in the sense that the values are captured and carried forward in time, producing increases both (a) in numbers (quantity) of individuals and species, and (b) in complexity (quality) of the forms of life.⁷

Denying the is-ought fallacy, Rolston argues for a naturalistic ethic in which morality – including both values and duties – is derivative from the holistic character of the ecosystem. 'Substantive values', Rolston contends, 'emerge only as something empirical is

specified as the locus of value.⁸ Like it or not, all values are objectively grounded and supported by the possibilities and limitations within the Earth's ecosystem.

Rolston concedes that the *concepts* of value essential to holism, namely, the Leopoldian concepts of beauty, stability and integrity, are human and perhaps non-natural. Nevertheless, the *values* are a product of the inter-relationship and interaction of human persons with an objective environment. What counts as beauty, stability and integrity emerges from the interaction of world and concept. Rather than being located solely in human persons, values are collectively relocated in human persons in the environment. The value of the ecosystem is not imposed on it but is discovered already to be there: 'we find that the character, the empirical content, of order, harmony, stability is drawn from, no less than brought to, nature'. Because the substantive, empirical content is in nature, and in nature independent of human and other valuing beings, the value is appropriately and most clearly called 'intrinsic value'. Rolston asserts that '... here an "ought" is not so much *derived* from an "is" as discovered simultaneously with it'.⁹

As a theory of value, ecological holism claims that everything, whether an individual thing or a collective ecosystem, is in some sense morally relevant and valuable. Rolston argues that value is both in the thing and in the system directly and intrinsically, not just indirectly – or instrumentally – as the thing or system is related to humans or other beings that are rational, sentient, conative or alive.

To use a term favoured by Rolston, the value that emerges at the evolutionary ecosystem level is 'systemic'.¹⁰ Rolston asserts that systemic value is intrinsic. In addition, he seems to hold that systemic intrinsic value is qualitatively richer than – greater than – the intrinsic value of the component parts and sub-systems, whether these components are considered as discrete things or sub-systems, or whether their discrete intrinsic values are totalled. In other words, the value of the whole is greater than the sum of the parts; the systemic intrinsic value of the whole exceeds the net sum of the intrinsic values of the individuals, things and sub-systems making up the whole system. Moreover, when the system is compared to any component part or sub-system, the qualitatively richer intrinsic value of the whole system seems to entail that, whenever the health or integrity of the system is threatened, the parts are expendable. The system as a whole captures lower intrinsic values and qualitatively enhances them, thereby exceeding the net sum of their individual intrinsic values.

In support of his notion of natural systemic intrinsic value, Rolston cites research in evolutionary history. He argues that the explanation for the accumulated diversity of species in nature is systemic: nature is organized in such a manner as to produce greater diversity and complexity of life forms. This generalization seems to be true, despite the four or five catastrophic extinctions in the fossil record. The natural tendency of the Earth's ecosystem is to increase species diversity – and to do so without any evident limit. It is this natural value that Rolston calls 'systemic'. Natural systemic values are also intrinsic values, and as such they entail duties and obligations, Rolston argues.¹¹

Systemic value does not prohibit instrumental use of the component parts, provided the health and integrity of the system are not threatened. According to Rolston's Principle of Value-Capture, any human action should not destroy anything of intrinsic value unless the action produces something else of equal or greater intrinsic value.

Conflicts of intrinsic value occur only rarely in nature, Rolston contends, and conflicts between individuals and ecosystems are a problem for culture, not nature. In other words, Rolston claims that a feature of evolution is the generation of increasingly greater kinds and amounts of intrinsic value. When bacteria infect and kill a mammal, for instance, they contribute to greater emergent value. Evolution is producing greater diversity of life forms, greater complexity of life forms, and greater populations of individuals. Except for human intrusions that shut down evolutionary progress, values are enhanced and increased in nature.

Rolston argues that because humans are only members – one of many members – of the biotic community, holism is non-anthropocentric, if not anti-anthropocentric. Moral value is attributed to the natural environment considered as an ecological-systemic whole, independent of humans and human interests, except insofar as humans are naturally part of the whole. In contrast, anthropocentric-humanistic approaches treat ecosystems as resource values to be exploited for human ends. A scientifically enlightened humanist would have no reason not to use the planet as a mere resource according to long-term ecological science and the highest humanistic values.

Rolston rejects the anthropocentric view that ecology is merely enlightened and expanded human self-interest. We preserve the environment, not merely because it is in our best long-term economic, aesthetic and spiritual self-interest, but because there is

no firm boundary between what is essentially human and what is essentially ecosystem. Human and environmental interest merge; egoism becomes 'ecoism'. Since the boundary between the individual and the ecosystem is diffuse, 'we cannot say whether value in the system or in the individual is logically prior'. The individual is not suppressed but enriched.¹²

A scientific ecological fact is that complex life forms evolve and survive only in complex and diversified ecosystems. If 'human' as we know it is to survive, we must maintain the oceans, forests and grasslands. To convert the planet entirely into cultivated fields and cities would impoverish human life. We also ought to preserve the ecosystem to enable the further evolution of the planet, including that of human mental and cultural life.¹³

Echoing Leopold, Rolston maintains that normatively right actions – our duties – are those actions that preserve ecosystemic beauty, stability and integrity. Preserving the ecosystemic status quo, however, may not be entailed because humans can improve and transform the environment. Borrowing a metaphor from contemporary physics, Rolston holds that integrity is a function of a 'field' interlocking species and individuals, predation and symbiosis, construction and destruction, aggradation and degradation. Since human life-support is part of the ecosystem, domestication is enjoined in order maximally to utilize the ecosystem. Biosystemic welfare allows alteration, management and use. 'What ought to be does not invariably coincide with what is.'¹⁴

Regarding species, Rolston contends that our duties are to the species as forms of life rather than to the individual members of the species. The species is the form; whereas, the individual member re-presents the form. 'The dignity resides in the dynamic form; the individual inherits this, instantiates it, and passes it on.' Biologically and ecologically, the individual is subordinate to the species.¹⁵

Although extinctions do occur in nature, natural ones are open-ended, usually producing diversification, new ecological niches and opportunities, new species and ecological trade-offs. In contrast, extinctions caused by humans are dead ends destroying diversity, producing monocultures and shutting down evolution. Species diversity is essential to continuing evolution. Consequently, duties towards species begin whenever human conduct endangers any species. Our duties include preserving not only species but entire ecosystems. This is because, unless preserved *in situ* in their ecosystems, species will not be preserved and evolution will halt.

Scholarly objections to Rolston's thought have taken mainly five

directions. First, ecofeminists and social ecologists contend that Rolston is too hierarchical in his notions of intrinsic value, value-capture and the emergent complexity in evolutionary nature. Second, pragmatists, especially Bryan Norton, have rejected the meaningfulness of the concept of intrinsic value, preferring instead the rubric 'non-instrumental' value. Others, notably J. Baird Callicott and Eugene C. Hargrove, contend that value necessarily has a subjective component, namely, unless someone – a mind or subject – does the valuing, there is no value. Third, most philosophers continue to regard the naturalistic fallacy as legitimate. The fallacy takes a variety of logical forms, and Rolston needs a more detailed analysis of the precise form to which he is objecting. Fourth, Rolston concedes that his philosophy is merely the beginnings of a full theory and casuistry of environmental ethics. Many conflicts, usually involving particular cases as well as broader practical and theoretical issues, still need to be resolved. Finally, the present author has argued that Rolston's theory of ethics produces at most a very weak *prima facie* duty of beneficence that is easily overridden in practice. Strict duties cannot be derived directly from values, including intrinsic values, because an intermediate premise is needed in which the duty is asserted as an obligation to promote the good or prevent the harm. Instead of being a theory about non-consequential duties, Rolston's theory seems to be a consequentialism in which the general obligation is the obligation to produce good.

Notes

- 1 *Environmental Ethics*, p. 188.
- 2 *Ibid.*, pp. 61, 79, *passim*.
- 3 *Conserving Natural Value*, p. 4.
- 4 *Philosophy Gone Wild*, pp. 40–6.
- 5 *Environmental Ethics*, p. 207.
- 6 See *Genes, Genesis, and God*.
- 7 *Environmental Ethics*, chap. 6.
- 8 *Philosophy Gone Wild*, p. 19.
- 9 *Ibid.*, pp. 19–20.
- 10 *Environmental Ethics*, pp. 186–9; *Conserving Natural Value*, pp. 68–100.
- 11 *Ibid.*, pp. 155–7. Rolston cites D.W. Raup and J.J. Sepkoski, *Science*, 215, pp. 1501–3, 1982.
- 12 *Philosophy Gone Wild*, p. 25.
- 13 *Ibid.*, pp. 22–4.
- 14 *Ibid.*, p. 25.
- 15 *Ibid.*, p. 212.

See also in this book

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Rolston's major writings

A full bibliography may be found at: <http://lamar.colostate.edu/~rolston>

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