



AMA Journal of Ethics®

August 2025, Volume 27, Number 8: E611-618

MEDICINE AND SOCIETY: PEER-REVIEWED ARTICLE

Virtue Ethics and Postponing Human Extinction

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Abstract

Existential ethics (extinction ethics) evokes Van Rensselaer Potter's definition of bioethics as a science of human survival that integrates biological principles, the planetary ecosystem, and wisdom. Explored here is a thesis that virtue ethics (character ethics) should supplement deontological, consequentialist, and other approaches to decision-making relevant to extinction. Advances in philosophy, social science, and neuroscience support the idea that virtues such as faith, hope, and love should complement how virtues such as wisdom, justice, temperance, and courage are expressed when deliberating about existential ethical questions in areas such as global warming, nuclear warfare, and rogue artificial intelligence applications.

It has yet to be determined whether Science, as the embodiment of a mechanical force, can rule without invoking ruin.... [T]here must be a very different civilization or there will be no civilization at all.

Sir William Osler¹

A new type of thinking is essential [in the atomic age] if mankind is to survive and move toward higher levels.

Albert Einstein²

From Bioethics to Existential Ethics

Coined by the German theologian Fritz Jahr in 1927,³ the term *bioethics* was rediscovered in 1970 in separate contexts. The public servant Sargent Shriver reportedly introduced the term *bioethics* in his Bethesda, Maryland, living room while discussing plans for an institute to integrate moral philosophy and patient care dilemmas.⁴ The biochemist and oncology researcher Van Rensselaer Potter similarly introduced *bioethics* during a bicycle ride while searching for a word to reconcile medicine with long-term human survival.⁵ For Potter, bioethics was a “science of survival ... built on the science of biology, enlarged beyond the traditional boundaries to include the most essential elements of the social sciences and the humanities with emphasis on philosophy in the strict sense, meaning ‘love of wisdom.’”⁶ It is Potter's definition that concerns us here.

Events since 1970 have magnified Potter's concerns about species survival. The global Living Planet Index, derived from 34 836 monitored populations of 5495 nonhuman

vertebrate species, indicated a 73% decline in the average size of nonhuman vertebrate populations between 1970 and 2020.⁷ Concurrently, the world human population rose by 114%, from 3.7 to 7.9 billion,⁸ and, from 1990 through 2024, atmospheric CO₂ levels rose by 20%, from 354 to 425 parts per million.⁹ The risk to human survival from climate change possibly exceeds that from nuclear weapons,^{10,11} but recent actions by the world's great powers portend a new, global nuclear arms race.¹² Artificial intelligence also poses an array of risks, including the prospect that a machine would eliminate us.^{13,14} Organizations such as the United Nations, the World Health Organization, the World Wildlife Fund, the Union of Concerned Scientists, the Future of Life Institute, International Physicians for the Prevention of Nuclear War, and others foster the idea that humanized science constitutes our best hope for long-term survival.

Potter's definition of bioethics has morphed into **existential ethics** (extinction ethics), which constitutes an evolving field encompassing various concerns and approaches. The Canadian philosopher Todd Dufresne submits that we are heading toward "a democracy of suffering" and must develop species consciousness, epochal consciousness, and globalization of empathy.¹⁵ The Australian philosopher Toby Ord and others advocate for "longtermism," a view that prioritizes consideration of present actions' influences on humanity's future.¹⁶ More recently, the American philosopher Émile Torres published a comprehensive treatise, *Human Extinction: A History of the Science and Ethics of Annihilation*, more than half of which deals with ethics.¹⁷

Explored here is the thesis that existential ethics should incorporate virtue ethics (ie, character ethics) in the effort to postpone human extinction. In what follows, I will review virtue ethics, its relevance to survival on "Spaceship Earth," and its potential enhancement by recent observations in psychology, sociology, and neuroscience.

Virtue Ethics

Virtue ethics examines the character of the actor as opposed to the rightness or wrongness of an action. Its champions through the years include Plato and Aristotle, Pope Gregory I in the 6th century, and William of Auxerre and St Thomas Aquinas in the 12th and 13th centuries. William of Auxerre selected 4 "cardinal" virtues—wisdom, justice, temperance, and courage—from *Plato's Republic* and 3 "theological" (or "transcendent") virtues—faith, hope, and love—from St Paul (1 Corinthians 13:13). Aquinas saw cardinal virtues as mental habits promoted by acting repeatedly in the same way (*habitus acquisitus*) and theological virtues as traits received by divine grace (*habitus infusus*). He ranked wisdom first among the cardinal virtues and love first among the transcendent virtues. In the mid-20th century, the German philosopher Josef Pieper revived interest in Aquinas' account of what he saw as 7 "classic" (Catholic) virtues,^{18,19} but by then, virtue ethics had been long eclipsed by newer theories, such as deontology (duties or rules, including Kantianism) and consequentialism (results or outcomes, including utilitarianism). Renewed **interest in virtue ethics** began in 1958 with an influential paper by the British philosopher Elizabeth Anscombe.²⁰ She, her pupil Philippa Foot,²¹ their pupil Rosalind Hursthouse,²² and others advanced virtue ethics as a supplement to deontological and consequentialist theories of ethics.

Could virtue ethics even replace the other theories on the premise that a person of good character will usually do the right thing? A short answer is no. In the present author's simplification, virtues can be defined as excellences in pursuit of what is good for society and oneself; values, as determinations of what constitutes "the good," informed by virtues; morals, as determinations of right and wrong, informed by values; and ethics, as

determining how best to act, informed by virtues, values, and morals.^{22,23} Hursthouse observes that virtue ethics “fails to provide action guidance when we come to hard cases or dilemmas.”²⁴ Others concur.²⁵ Nonetheless, virtues condition us to make wise choices in tough situations,^{26,27} and choices may reveal more about character than does action.²⁸

Whether there are few or many virtues has been debated since Plato’s *Meno* (circa 385 BCE), but here we focus on the 7 virtues listed above. These seven received support from the Values in Action Classification Project (VIA) conducted by American social scientists led by psychologists Christopher Peterson and Martin Seligman.²⁹ They concluded that, throughout history, most cultures have endorsed 6 clusters of character strengths. With minor modifications—adding “knowledge” to wisdom, combining faith and hope as “strengths of transcendence,” and relabeling love as a “strength of humanity”—these clusters correspond to 7 long-standing virtues.^{23,29} From the 6 clusters, the researchers identified 24 character strengths or “sub-virtues.”^{23,29} Although not without criticism,³⁰ the VIA construct has stimulated multidisciplinary research, which often utilizes functional neuroimaging, as discussed below.

Virtue Ethics and Spaceship Earth

In 1971, the year after coining the term *bioethics*, Potter published the book, *Bioethics: Bridge to the Future*. In it, he expressed “a growing concern that maybe survival is not something to be taken for granted, a concern that maybe there is no one at the controls on the spaceship earth or even in the United States.”³¹ Potter possibly appropriated his metaphor from R. Buckminster Fuller’s 1969 publication, *Operating Manual for Spaceship Earth*,³² which was *au courant* at the time. In Fuller’s allegory, the Earthians’ spaceship came without a user manual, leaving the Earthians to solve a host of problems, including governance, environmental pollution, and overreliance on fossil fuels.

These perspectives prompt various questions:

1. Are **efforts to postpone extinction** worthwhile?
2. If yes, then who should make the key decisions?
3. How should decision-makers go about making decisions?
4. Does it matter whether these people are of good character?

In response to the first question, one can argue that Earth would be better off without us.³³ However, the present author favors an argument from cosmic consciousness (or cosmic significance), agreeing with the evolutionary biologist Stephen Jay Gould that *Homo sapiens* is such a “wildly improbable evolutionary event” that we have a moral responsibility to prolong our sentient, atom-splitting, gene-editing species as long as we can.³⁴ Our extinction would deprive the known universe of a species capable of exploring and appreciating it with awe and wonder, dishonor the memory of our predecessors, and preclude the possibility of a future utopian state.^{35,36,37} Others argue from religious perspectives that “driving ourselves extinct would constitute a complete failure to fulfil our God-given nature”³⁸ or that recognizing “ourselves as part of a larger, irreducible whole ... might mean resisting the temptation to engineer the world around us and to remake it in our own image.”³⁹

In response to the second question, one can argue that decisions about how to try to postpone extinction could be made through greater collaboration among the leaders of the world's great powers.⁴⁰ The present author favors some form of world federalism, wherein management of global and existential threats is vested in a central authority.⁴¹ Inclusive democracy will not work, because people (the *demos*) nearly always place self-interests above those of future generations. Spaceship Earth needs a central authority sensitive to the security needs of all or at least most stakeholders, yet small enough to respond quickly to existential threats.

In response to the third question, one can argue that existing deontic and consequentialist theories of ethics suffice for effective decision-making. However, the present author favors robust support for the nascent field of existential ethics. Torres observes that "the philosophical community as a whole has been slow to address the ethical and evaluative implications of our extinction—a tendency of general neglect that goes back to the early Atomic Age."⁴² Clinical ethicists need familiarity with this field, since existential ethics often pits the interests of the species against the interests of identified individuals.⁴³

Finally, one can argue that it does not matter whether those at the helm of Spaceship Earth are people of virtuous character. Ord uses the term "civilizational virtues and vices" to capture the idea that we must "gain insight into the systematic strengths or weaknesses in humanity's ability to achieve flourishing."¹⁶ Agreeing with Ord, the present author contends that decision-makers for Spaceship Earth should collectively constitute a "best self" embodying many of the virtues as taught by Socrates, Plato, Aristotle, and others through the years.^{44,45,46} Is it even possible to improve on these virtues, given our apparent need for a planetary, power-rebalancing "social contract for the first time in history?"⁴⁷

Recent Advances Pertaining to the Virtues

Could deeper understanding of the virtues from neuroscience and social science perspectives facilitate decision-making by those at the helm of Spaceship Earth?

Researchers throughout the world now apply neuroimaging in studies of social decision-making and moral reasoning pertaining to the cardinal and transcendent virtues. The brain areas most often activated during social decision-making and moral reasoning include the posterior and anterior cingulate cortices, the dorsolateral and ventromedial prefrontal cortices, the ventral striatum, the amygdala, the temporoparietal junction, and the posterior superior temporal sulcus.^{48,49} Neuroimaging studies of the transcendent virtues reveal activation of brain regions that overlap with those implicated in the cardinal virtues but with heavier representation of the limbic system.^{50,51,52} Positive awe, a key component of religiosity, activated the left middle temporal gyrus, the anterior/posterior cingulate cortex, and the supramarginal gyrus in a recent study.⁵³ This overlap of brain regions activated in moral reasoning pertaining to cardinal and transcendent virtues supports the idea that, optimally, transcendent virtues (notably, love) should inform the cardinal virtues (notably, wisdom) in decision-making for the common good.

Research in the psychology, sociology, and neurobiology of wisdom has blossomed since the 1980s, when the German psychologist Paul Baltes and his colleagues defined wisdom as "an expert knowledge system about the fundamental pragmatics of life" permitting "exceptional insight" and "good judgment about practical matters in life,

especially those matters that are complex and uncertain regarding problem definition and solution.”⁵⁴ More recent investigators define wisdom as “a complex human trait” and seek ways to measure it.^{55,56} Whether an emerging strategy to use artificial intelligence to modulate emotional input in practical decision-making (“artificial wisdom”) will promote the common good remains to be determined.⁵⁷

Beyond the scope of this brief review are recent observations in psychology, sociology, and neuroscience relevant to the other classic virtues (justice, temperance, courage, faith, hope, and love). Also beyond this review are findings pertaining to such human flaws as psychopathy, greed, and the propensity to make war against our own kind.^{58,59,60}

Hursthouse concludes her treatise on virtue theory with the observation that, throughout recorded history, we have failed “to achieve *eudaimonia* [the Aristotelian notion of “flourishing” as the endpoint of virtue training] in anything but very small patches to our vices” but should keep on trying.⁶¹ Hence, “Keep hope alive.”⁶¹ Similarly, Torres ends his volume on human extinction by reflecting that the human story “is not over yet, and its ending is ultimately up to us.”⁴² Hence, “May we have the wisdom to do whatever we should.”⁴²

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Citation

AMA J Ethics. 2025;27(8):E611-618.

DOI

10.1001/amajethics.2025.611.

Conflict of Interest Disclosure

Contributor disclosed no conflicts of interest relevant to the content.

The viewpoints expressed in this article are those of the author(s) and do not necessarily reflect the views and policies of the AMA.