


RESEARCH ARTICLE

Bioethics transformed: 40 years of the value of life

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Abstract

This article examines the evolution of bioethics over the past four decades since the publication of John Harris' seminal work, "The Value of Life" (1985). It argues that while the core principles articulated by Harris remain relevant, bioethics has undergone significant transformation across four key domains. First, the expanding frontiers of biotechnology have necessitated engagement with complex issues beyond individual clinical ethics. Second, there has been a widening of the circle of moral concern to encompass nonhuman animals, disability rights, and global health equity. Third, bioethics has become increasingly entangled with public policy and governance. Finally, the field has seen substantial academic proliferation and institutionalization. These developments have pushed bioethics to adapt its frameworks and methodologies while maintaining fidelity to foundational principles. This article concludes by considering the future challenges and opportunities for bioethics in an increasingly complex technological and social landscape.

Keywords: autonomy; biomedicine; biotechnology; history of bioethics; John Harris; moral value; policy

So long as people want to live out the rest of their lives, however long this may be, or looks like being, then they should be given the best chance we can give them of doing so and we should not choose between such people on any other grounds, but treat each as an equal.¹

Introduction

In 1985, the field of bioethics faced profound questions raised by new advances in medical technology. The first genetically engineered vaccines,² advances in end-of-life care, and the birth of Louise Brown in 1978³ were opening new frontiers in medicine, and opening significant new debates in the field. On its release, John Harris' *The Value of Life (TVOL)* was in prime position to make a significant contribution by advocating that the value of human life depends on an individual's ability to value their own existence and make autonomous decisions,⁴ challenging traditional views on the intrinsic value of life and the sanctity of human materials, which perhaps threatened to work against these thrilling advances.

This challenge was prescient. The advances of the early 1980s precipitated a major transformation in the bioethical landscape. The 1990s and 2000s saw a rapid acceleration in biotechnological progress, with developments that would have been difficult to imagine just a decade earlier. The launch of the Human Genome Project in 1990 marked the beginning of a new era in genetics, promising to unlock the secrets of the human genetic code and pave the way for personalized medicine.⁵ The first cloning of a mammal, Dolly the sheep, in 1996 raised the specter of human cloning and the ethical quandaries it would entail.⁶ The derivation of human embryonic stem cells in 1998 opened up new possibilities for regenerative medicine but also sparked intense debates about the moral status of embryos.⁷ More recently, the development of CRISPR-Cas9 gene editing technology in 2012⁸ has given scientists an unprecedented ability to modify the building blocks of life, with applications ranging from treating genetic diseases to

enhancing human capacities. At the same time, rapid advancements in artificial intelligence and machine learning are transforming healthcare, from aiding in diagnoses to personalizing treatments, but also raising concerns about data privacy, algorithmic bias, and the changing role of doctors.⁹

These technological developments have fundamentally reshaped the questions that bioethics must grapple with. Although questions of patient autonomy and the sanctity of human life remain central, the field has had to expand its scope to consider a much wider range of ethical challenges. What is the moral status of a genetically modified embryo? How do we balance the potential benefits of gene editing with the risks of unintended consequences or the exacerbation of social inequalities? What ethical principles should guide the development and deployment of AI systems in healthcare? How do we define the boundaries of the human in an age of neural implants and brain–computer interfaces? These are just a few of the questions that bioethicists must now confront.

Although *TVOL* remains a foundational text that articulates core principles entirely worthy of following still, the ethical questions we face today extend far beyond the clinical realm to encompass a wide range of social, political, and existential concerns. This article will argue that bioethics has undergone a necessary and significant evolution across four key domains: the expanding frontiers of biotechnology, the widening circle of moral concern, a growing engagement with public policy, and increasing institutionalization within academia, while still building upon the key insights laid out in *TVOL*. Per Harry Lesser in his contemporary review:

Probably few people will agree with everything in the book; but everyone seriously interested in medical ethics should read it.¹⁰

Historical context

Bioethics as a distinct discipline emerged in the late 1960s—early 1970s, a period marked by significant medical advances and growing public awareness of ethical issues in healthcare (though certainly it was being practiced before this).^{11,12} High-profile medical scandals such as the 1972 revelation of the Tuskegee Syphilis Study¹³ revealed a shocking disregard for basic ethical principles in medical research, and there was a growing awareness of failings in healthcare provision.¹⁴ Around the same time, the adoption of new methods of mechanical ventilation¹⁵ and new kinds of organ transplantation¹⁶ was raising new questions about the definition of death and the ethical allocation of scarce medical resources. In response to these developments, interdisciplinary teams began to form—in the first instance usually including philosophers, lawyers, theologians, and doctors—to develop new frameworks for medical ethics. This time period also saw the establishment of the first bioethics research centers in the United States, such as the Hastings Centre (1969) and the Kennedy Institute of Ethics (1971),¹⁷ and these were followed at a delay by groups in Britain beginning with the Anscombe Bioethics Centre (1977).¹⁸ Perhaps the most notable of these, for the subject at hand, is the 1986 foundation of the Centre for Social Ethics and Policy at the former Victoria University of Manchester.¹⁹ This group, established by Harris (philosophy), Margaret Brazier (law), Mary Lobjoit (medicine), and Anthony Dyson (theology), came together in the pursuit of a “new center benefit[ing] doctors, patients and ‘the community as a whole’”²⁰ following increasing calls in the early 80s for medical ethics to become a core part of medical training.²¹

This idea of the “community as a whole” underlies the arguments present in *TVOL*. In the foreword to his festschrift, Harris describes the world of medical ethics in the late 70s as “parochial, conservative, and full of doctors and priests”.²² In contrast, *TVOL* is a wide-ranging exploration of the concept of TVOL, drawing on insights from philosophy, law, and medicine. It was one of the first to offer a sustained, philosophically rigorous treatment of the concept of TVOL and its implications for a variety of key bioethical issues of the day, such as the moral status of embryos, fetuses, and individuals with severe cognitive impairments. It also can be thought of as an attempt to cut to the heart of the matter. In Harris’ words:

Not very long ago medical ethics consisted of two supremely important commandments. They were: do not advertise; and avoid sexual relations with your patients. At about the same time as

doctors were doing their best to obey these commandments, moral philosophers were more concerned with the meaning of words than with the meaning of life. Now, not just doctors but all health care professionals are interested in ethical questions as they relate to medical practice, and moral philosophers have once again become interested in and committed to trying to find answers to the most fundamental and substantial moral questions ... This book is an attempt by a philosopher to grapple with and to try to answer some of the most perplexing ethical questions that are raised by medical practice very broadly conceived.²³

Not for nothing has it gone on to remain a key text for students of bioethics for the last 40 years.

Thus, *TVOL* played a significant role in establishing bioethics as a distinctly philosophical field, one that engages not just with narrow, case-based analysis but also deep, foundational questions about the nature of life, death, and morality. In this sense, the book served not just to intervene in the bioethical debates of its time, but also to shape the very direction and character of bioethics as a discipline.

Bioethics has continued to evolve in the decades since *TVOL*'s publication, as new technologies and social realities have posed new ethical challenges. However, the core questions and principles that Harris grappled with in *TVOL*—questions about *TVOL*, the nature of personhood, the balance between individual autonomy and collective welfare—remain as relevant and pressing as ever. In this sense, *TVOL* remains a vital part of the bioethical conversation today as we face questions that were, at best, fictitious at the time of publication.

New frontiers in biotechnology

While *TVOL* primarily focused on ethical issues arising in the context of individual medical decision-making, the emergence of technologies such as genetic engineering, stem cell research, cloning, and AI have raised new and complex questions that transcend that approach to bioethics.²⁴ These developments have forced the discipline to confront new questions about the nature of life, identity, and the limits of technological intervention. Engaging with these issues requires a more expansive understanding of bioethical responsibility that goes beyond individual autonomy.

Genetic engineering technologies are an easy—even obvious—example, but their impact on the field is palpable, with seismic shifts in ethics research focus having taken place in the wake of their emergence.²⁵ These techniques, particularly CRISPR-Cas9, have given scientists unprecedented power to manipulate the building blocks of life. The potential applications range from treating genetic diseases to human enhancement, but they also raise profound questions about the permissibility of these interventions, the nature of human identity, and the future of our species. The prospect of heritable genetic modification challenges our understanding of human nature and the moral status of future generations,²⁶ forcing us to reckon with the potential for exacerbating social inequalities and for creating a new form of eugenics. The birth of genetically modified twins in China in 2018²⁷ brought these issues to the forefront, highlighting the urgent need for global governance frameworks to regulate the use of gene editing technologies.²⁸ This case is a paradigmatic example of the necessity for the field to seriously consider the long-term societal implications of technologies and use cases that we can reasonably predict.

Similarly, stem cell research has opened up new possibilities for regenerative medicine, and for treating a wide range of diseases and disabilities. However, the destruction of embryos involved²⁹ has also renewed debates on fundamental questions about the beginning of life, the value of potential persons, and the weighing of scientific progress against moral considerations.³⁰ Addressing these issues involves questions of justice, access, and the distribution of the benefits and burdens of stem cell research, as well as considering the broader societal and cultural implications of these technologies.

The development of artificial intelligence in healthcare, from diagnostic algorithms to personalized treatment recommendations, has led to a novel set of ethical challenges. When an AI system makes a decision that affects patient care, it implicates not just the individual patient and physician, but also the designers of the system, the institutions that deployed it, and the broader regulatory and governance structures that oversee its use. This raises questions about accountability, transparency, and the potential

for AI to introduce or amplify biases and inequities in the delivery of healthcare. Ensuring that AI is developed and deployed in ways that promote fairness, equity, and nondiscrimination requires a proactive consideration of issues of structural inequality, cultural diversity, and political power that traditional bioethics may have neglected.

These kinds of technology also raise profound questions for our understanding of what it is to be human, and of our moral obligations to future generations. They force us to confront the possibility of altering the trajectory of human evolution—and engaging with these questions has pushed bioethics into new and uncharted territory.³¹

While *TVOL* provides a valuable starting point for thinking about the value of human life and the ethics of medical intervention, the rise of such transformative technologies has precipitated a demand for frameworks that can address societal, political, and even existential questions. Addressing these challenges requires new approaches to guide the responsible development and governance of emerging technologies. As discussed below, this involves engaging with diverse stakeholders, considering long-term and global implications, and developing anticipatory and adaptive governance models that can balance scientific progress with the protection of fundamental human values. It also requires a willingness to incorporate emerging areas of inquiry, such as the ethics of human–computer interaction and new developments in the philosophy of mind. Realizing these values in practice now necessitates a bioethics that is more comprehensive, socially engaged, and able to react to the profound questions raised by our rapid technological advances. One of the most significant ways in which the field has been forced to adapt since the publication of *TVOL* is through the expansion of the circle of moral concern, beyond a focus on individual patients.

Expanding the moral circle

While *TVOL* was primarily concerned with the value of human life in the medical decision-making context, 40 years of developments in bioethics have pushed for a broader understanding of moral status and ethical obligations that encompasses a wider range of beings and issues. This section will explore three major areas in which the circle of moral concern has expanded since *TVOL*: the inclusion of nonhuman animals, the growing recognition of disability rights, and the increasing attention to global health equity and justice.

One notable area of expansion has been the increasing recognition of the moral status of nonhuman animals and the development of animal ethics as a distinct subfield. This shift can be traced in part to the influential work of philosophers like Peter Singer, whose *Animal Liberation*³² endorsed the Benthamite idea that the capacity for suffering, rather than intelligence or species membership, should be the key criterion for moral consideration—“The question is not, can they reason?, nor can they talk? but, can they suffer? Why should the law refuse its protection to any sensitive being?”³³ Singer’s use of this viewpoint challenged the anthropocentric focus of traditional bioethics and called for an expansion of the circle of moral concern to include all sentient beings.³⁴ Although it must be recognized that this book precedes *TVOL* by some years, over the subsequent decades, the growth of the animal rights movement and the development of a distinct academic subfield of animal ethics have provided the idea that animals have intrinsic moral status—and that we have direct ethical obligations to them—increasing traction within bioethics.³⁵ This has led to a growing recognition of the need to consider the interests of animals in relation to biomedical research,³⁶ in the development of more stringent ethical guidelines for their use and treatment, and to engage in broader philosophical debates within bioethics about the extent of our moral obligations to different types of animals.

The expansion of moral concern to include animals represents a significant movement beyond the more individualistic, anthropocentric framework of *TVOL* and its contemporary period within the field. It suggests that *TVOL* and the scope of bioethical responsibility extend beyond the human species to encompass a much wider circle of sentient³⁷ beings, with implications not just for biotechnologies involving animal research but also for broader issues like the environmental impacts of healthcare,³⁸ and the potential moral status of future artificial intelligences.³⁹

Another important area of expansion in bioethics since *TVOL* has been the increased focus on disability rights and the emphasis placed on an ethical imperative to respect and include people with disabilities.⁴⁰ Driven in part by the activism and scholarship of the disability rights movement,⁴¹ this ongoing shift has led to a greater recognition of the value and dignity of disabled lives; and the emergence of a literature focused on critique of practices that can devalue or discriminate against people with disabilities—such as prenatal testing and selective abortion.⁴² It has also prompted a reexamination of more modern core bioethical principles like autonomy and beneficence, highlighting the ways in which these principles have often been interpreted in ableist ways and continue to be so in fields, such as human enhancement.⁴³ Incorporating disability rights into the heart of bioethics requires grappling with the social, political, and structural dimensions of health and healthcare, and recognizing the intersection of bioethical issues with broader questions of justice, inclusion, and human rights.

A third key area of expansion has been the growing attention to issues of global health equity and justice, reflecting a move toward a broader understanding of bioethical responsibility encompassing population and planetary health. The recognition of profound disparities in health outcomes and access to healthcare both within and between countries, highlighted most recently by the COVID-19 pandemic, has underscored the importance of a more global bioethical perspective that addresses issues of equity, justice, and solidarity.⁴⁴ Concepts like health equity and the social determinants of health are becoming increasingly important as bioethics comes to terms with the structural dimensions of health.⁴⁵

Addressing such global health disparities requires expanding the scope of moral concern to encompass the health of entire populations and the structural factors shaping health outcomes. It also intersects with the growing recognition of the ethical implications of climate change and environmental degradation for human health,⁴⁶ necessitating a further expansion of bioethical perspective to encompass planetary health and the interdependence of human and ecological well-being. Furthermore, the expansion of concern to the planetary level requires a reexamination of some of the aforementioned core principles of the modern field. For example, the principle of autonomy may need to be balanced against considerations of collective welfare and planetary sustainability in some contexts,⁴⁷ while the principle of justice may require a pragmatic understanding of distributive obligations that takes into account global health inequities and the differential impacts of environmental harms. These principles remain vital, but this shifting context demands that they are reinterpreted and applied in new ways in order to remain appropriate for the severity of the ethical challenges produced by an increasingly globalized, environmentally threatened world.

This “One Health”⁴⁸ perspective represents a significant departure from the human-centric focus of *TVOL* and much of traditional bioethics, challenging us to adopt a more holistic, systems-oriented approach that grapples with the complex interconnections between individual, population, and planetary wellbeing. This fundamental transformation of the ethical frameworks present at the time of *TVOL* underscores the enduring relevance of the book’s thesis—how do we define and defend the value of human life and the moral status of persons? In a world where the fate of individuals, populations, and ecosystems are increasingly intertwined, and where new entities challenge traditional notions of personhood,⁴⁹ *TVOL* acquires a new significance.⁵⁰ While the specific principles applied to this in the past may have needed updating, the question itself remains fundamental for navigating the increasingly complex ethical landscape of the 21st century and building a more sustainable future.

The move toward doing so has necessitated another key development in modern bioethics: a growing entanglement with public policy.

Bioethics in the public square

Stepping beyond its original bounds to encompass a broader range of social, political, and global issues has highlighted the need for bioethics to engage more directly with public policy and governance, particularly in light of the rapid advancements in biotechnology and the increasing complexity of healthcare systems.

At the international level, organizations like the World Health Organization (WHO)⁵¹ and the United Nations Educational, Scientific and Cultural Organization (UNESCO)⁵² have developed bioethics programs and guidelines to address global health challenges and promote ethical standards in research and practice. There are also a range of governmentally appointed and independent bodies at a national level that issue reports and recommendations to legislators on bioethical matters, such as the Nuffield Council on Bioethics in the United Kingdom, the former U.S. Presidential Commission,⁵³ the German Ethikrat, and so on—these are now firmly established and highly regarded entities in the ethical landscape.

These initiatives reflect a growing recognition of the need for bioethical expertise and input in the development of health policies and regulations that have implications for individuals, populations, and the planet as a whole. The involvement of bioethicists in such policymaking processes represents a significant departure from the field's origins in individual clinical encounters and research ethics, marking a more expansive and politically engaged approach to bioethical inquiry. Rather than a call from the top to provide ethical training for healthcare practitioners, as discussed earlier, we now see a more multidimensional practice of bioethics feeding back into policy itself.

However, the increasing entanglement of bioethics with politics and policymaking also presents significant challenges and opportunities. On the one hand, this development allows bioethicists to have more direct impact on the governance of emerging technologies and to ensure that ethical considerations are effectively and efficiently integrated into the design and implementation of health policies; in order that ethical goals are actually reached. This has had marked success in many instances—the UK's Human Fertilization and Embryology Act (HFEA 1990)⁵⁴ and associated HFE Authority has been an effective mechanism for integrating ethical, scientific, and other expertise into a regulatory structure. By providing expert guidance and critical perspectives on the moral dimensions of public policy, bioethicists can actively steer decision-making processes toward more ethically justifiable outcomes.

On the other hand, increasing the politicization of bioethics also risks compromising the field's independence and credibility. As bioethical issues gain new prominence in public debates,⁵⁵ as they do so around new controversial biotechnologies,⁵⁶ tabloid media focus on emotively charged medical cases,⁵⁷ or in the wake of COVID-19, there is a danger of partisan capture. Political actors and interest groups seek to co-opt bioethical discourse to advance their own agendas, as was particularly visible in the highly publicized U.K. withdrawal of treatment case of Charlie Gard—which drew public interventions from such figures as Donald Trump and the Pope.⁵⁸ This can lead to a narrowing of bioethical perspectives and a hardening of ideological positions, undermining the field's ability to provide impartial and objective analysis. Further, if the field becomes too closely aligned with specific political factions or policy preferences, there could be a risk of losing its capacity to serve as a trusted source of guidance for society as a whole. The maintenance of public trust in the integrity and ideological neutrality of bioethical expertise is crucial for the field's ability to shape public opinion and inform policy debates.⁵⁹ As such, practitioners and academics must navigate a delicate balance between political engagement and scholarly detachment.

One way to strike this balance may be to cultivate a more proactive and anticipatory approach to bioethical inquiry, as has become a common practice in many of the subfields that have branched out as the field has evolved.⁶⁰ Rather than favoring reacting to emerging technologies and policy proposals, bioethicists can work to identify potential ethical challenges and develop frameworks for responsible innovation and governance. This involves close collaboration with scientists, policymakers, and other stakeholders to ensure that ethical considerations are integrated into the research and development process from an early stage.⁶¹

For example, the recent rapid advancement of AI in healthcare has prompted bioethicists to explore ethical guidelines for the design and deployment of AI systems, addressing issues such as bias, transparency, and accountability.⁶² Similarly, the development of CRISPR-Cas9 gene editing technology has raised significant ethical concerns about the potential for unintended consequences and the need for robust oversight,⁶³ leading bioethicists to make significant efforts toward shaping the global governance framework for this technology.⁶⁴ In an even more proactive example, the development of the “neurorights” movement gathers pace at the time of writing, looking to introduce protections into

national⁶⁵ and international⁶⁶ law around concepts such as cognitive liberty and mental privacy before new advances in brain–computer interfaces and cognitive implants become commonplace.

As bioethics becomes increasingly engaged with public policy and governance, the insights of *TVOL* remain highly relevant. The moral status of persons, individual autonomy, and the need for principled restraints on the use of biomedical power provide a stable ethical line for navigating the complex challenges arising from the intersection of science, politics, and morality. However, as the field engages with a more diverse array of social and political issues, it must also work to amplify the voices and experiences of marginalized communities and ensure that the benefits and burdens of biomedical research and practice are distributed fairly. This requires us to challenge entrenched power structures and advocate for policies that priorities the needs and values of those who have been historically excluded from decision-making processes. To do so, bioethicists must engage in a process of critical self-reflection, actively seek out diverse perspectives and experiences, and continue to build bridges across disciplinary and ideological boundaries—much as it began by doing in academic settings.

Academic proliferation and challenges

From its origins within the matrix of philosophy, medicine, law, and theology, the field has, recent years, absorbed expertise from a much wider range of fields, such as public policy, social sciences, environmental studies, computer science, and a myriad of technical biosciences. Just as it has learned from these fellow disciplines, bioethics has established itself more readily within the interdisciplinary modern university; the expansion across the variety of contexts discussed here having been mirrored by the field's increasing institutionalization and professionalization within academia and, to a lesser extent, professional practice. Since the publication of *TVOL*, there has been a notable expansion in the number of bioethics departments and centers, with many existing ones gaining prominence and growing in size. For example, the establishment of the Center for Bioethics at Harvard Medical School in 1989 marked a significant milestone in the field's academic institutionalization. Similar developments occurred at other leading universities around the world, from the aforementioned CSEP (and later Harris' own Institute for Science Ethics and Innovation⁶⁷) at Manchester, the influential Uehiro Centre at Oxford, to the rapidly expanding Centre for Biomedical Ethics at the National University of Singapore, and there have been innumerable excellent groups opening at almost all major universities as we reach the current day.⁶⁸ This international growth is in part in response to the accelerating pace of developments such as genome editing, synthetic biology, and artificial womb technology, which have raised complex ethical questions that require dedicated attention; but is also a product of an increased emphasis on interdisciplinarity and collaboration between the hard sciences and the social sciences.

The acceptance and maturation of bioethics within academia also reflects the recognition that addressing the aforementioned challenges requires building new intellectual and organizational frameworks that can keep pace with the expanding scope and complexity of inquiry necessary. The establishment of dedicated bioethics—and indeed other applied ethics—programs across academia has created new spaces and resources for cross-disciplinary research, training, and public engagement, contributing enormously to our capabilities. Bioethics education will play a crucial role in this process, training future generations of scholars and practitioners to navigate the complex intersections of science, medicine, policy, and justice. Programs in bioethics are increasingly incorporating interdisciplinary perspectives, with courses in fields like anthropology, sociology, and science and technology studies complementing traditional philosophical approaches. This diversification brings with it questions about the field's relationship to its founding principles and texts, including *TVOL*. As it becomes more integrated into the academic mainstream, the discipline must grapple with how to apply these core principles to the complex ethical challenges posed by new perspectives and practices.

The relationship between the field's expanding institutional footprint and its core intellectual and normative commitments also poses challenges. As bioethics becomes more integrated into the mainstream of academic and policy discourse and must balance more external agendas and priorities, it risks eroding the normative independence that has historically been a core strength. The field's central

relationship to the biosciences brings it into contact with the increasing entanglement of biomedical research and powerful commercial and political interests, which may seek to co-opt the field's ability to advocate for the public good. We must also consider factors such as the rise of neoliberalism within the higher education system,⁶⁹ which puts significant pressures on research—particularly within the humanities and social sciences.⁷⁰ Despite its growth, competition for research funding in bioethics—particularly for significant projects—is high, and the increasing impetus of the modern university for such work to self-fund means that much vital research is simply squeezed out in favor of teaching swelling numbers.

Maintaining a strong ethical compass in the face of these institutional pressures will require bioethics to cultivate a more reflexive and self-critical stance toward its own assumptions, limitations, and complicity in the structures of power that shape the production and application of knowledge. This involves fostering a culture of open dialogue, critique, and collaboration within and between bioethics departments and centers, as well as with other relevant fields and stakeholders—work which is provided for in part by the establishment of major organizations such as the International Association of Bioethics and their biannual World Congress, as well as an array of smaller, national, and international groups. That these have proliferated in the decades since bioethics' beginnings as a distinct field shows, in itself, that the discipline has flourished.

It is also crucial to recognize that the institutionalization of bioethics is not an end in itself, but rather a means to fulfilling the field's core modern mission of promoting the ethical and socially responsible development and use of new biotechnologies and practices. In some ways, this mirrors the tension between philosophical abstraction and concrete application that characterized *TVOL*'s approach. Although Harris argued for the importance of engaging with foundational questions about the nature of life and death, he also recognized that "...the proper business of medical ethics is not merely to understand the nature of the moral problems raised by medical practice but to try to resolve them."⁷¹ As such, the growth of academic bioethics must be accompanied by a renewed commitment to public engagement, policy relevance, and practical impact. This requires moving beyond purely academic or theoretical work to develop new models of research, training, and outreach that can effectively bridge the gap between scholarship and practice.

One key aspect of this engagement is the need to grapple with the changing nature of bioethical expertise in an era of increasing specialization and technicalization. As the range of issues and technologies that fall within the purview of bioethics continues to expand, there is a risk that the field could become fragmented into a series of narrow subspecialties, each with its own technical language and domain of expertise. The rise of terminologies such as genetics and neuroethics may signal this beginning already. Resisting this trend will require a concerted effort to maintain a holistic and integrative vision of bioethics.

As bioethics continues to evolve within academia, it is crucial that the field remains grounded in the core principles articulated in foundational texts like *TVOL*. The emphasis on autonomy, consent, and individual decision-making that has become increasingly prominent in bioethics education and scholarship reflects the enduring relevance of these ideas in navigating the complex terrain of contemporary biomedicine—and may help counteract tendencies toward fragmentation. By ensuring that future generations of bioethicists are equipped with a deep understanding of these principles, the field can continue to fulfill its mission of promoting ethically responsible research and practice.

However, we must also instill the skills to apply these principles in new and changing contexts, adapting to meet the challenges posed by rapid advancements in science and technology. This requires a willingness to critically examine and reevaluate established principles and frameworks, while still maintaining a commitment to the core disciplinary values. By striking a balance between fidelity to its foundational principles and openness to new perspectives and approaches, bioethical scholarship can continue to serve as a vital resource.

Concluding thoughts—the future of bioethics

As we reflect on the evolution of bioethics since the publication of *TVOL* in 1985, it is clear that the field has undergone a significant transformation. The expansion of its scope, the engagement with profound

challenges posed by scientific and technological advancements, and the opening up to much broader pressing moral issues have all shaped the trajectory of bioethics over the past four decades.

However, this reflection also prompts us to consider the future of the discipline and the role it will play in an increasingly complex and rapidly changing world. The challenges posed by the politicization of the field, the pressures of institutionalization within academia, and the accelerating pace of technological change are not merely obstacles to be overcome; they are opportunities for bioethics to redefine itself and its place in society. As we look ahead, we are faced with ever more profound questions raised by the shifting boundaries of life and death, the changing nature of the human, and the urgent need to safeguard the value and dignity of all forms of life. Engaging with these questions requires not only rigorous scholarship and innovative thinking but also a deep commitment to justice, equity, and the flourishing of all beings—no longer just the human.

Ultimately, the ongoing relevance and popularity of *TVOL* is not only a testament to the enduring importance of bioethics but also an invitation for the field to continue to evolve, to question, and to lead. The future of bioethics lies not only in its ability to adapt to new challenges but also in its willingness to serve as a moral beacon for society. To leave the final words to John:

“The future of bioethics is the future of humanity.”⁷²

Notes

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20. See [note 19](#), Wilson 2014, 187.
21. Gostin LO. Honoring Ian McColl Kennedy. *The Journal of Contemporary Health Law and Policy* 1997;**14**(1):iv–xix.
22. Harris J. Thought and memory. In: Coggon J, Chan S, Holm S, Kushner T, eds. *From Reason to Practice in Bioethics: An Anthology Dedicated to the Works of John Harris*. Manchester: Manchester University Press; 2015:27.
23. see [Note 1](#), Harris 1985:xv.
24. It should of course be noted that Harris has subsequently engaged extensively with all of these issues. Eg: Harris J. Germline manipulation and our future worlds. *The American Journal of Bioethics* 2015;**15**(12):30–34; Harris J. Intimations of immortality. *Science* 2000;**288**(5463):59–59; Harris J. *On Cloning*. London: Routledge; 2004; Lawrence DR, Palacios-González C, Harris J. Artificial intelligence: The shylock syndrome. *Cambridge Quarterly of Healthcare Ethics* 2016;**25**(2):250–61.
25. Perkel J. CRISPR/Cas faces the bioethics spotlight. *BioTechniques* 2015;**58**(5):223–27.
26. Or indeed, since 2018, the current reality.
27. Cyranoski D, Ledford H. Genome-edited baby claim provokes international outcry. *Nature* 2018;**563**(7733):607–8.
28. Greely HT. CRISPR'd babies: Human germline genome editing in the 'He Jiankui affair'*. *Journal of Law and the Biosciences* 2019;**6**(1):111–83.
29. In some forms of stem cell research. There are forms that involve no (natural) embryonic stem cells, which are less contentious with regard to embryo work but carry their own challenges.
30. Examining the ethics of embryonic stem cell research; available at <https://hsci.harvard.edu/examining-ethics-embryonic-stem-cell-research> (last accessed 9 Jun 2024).
31. It should be noted that bioethics as a discipline accepted this change some years ago and with alacrity, so in the last 20 years there have been more publications than can be counted that explore these areas: Harris' *Enhancing Evolution: The Ethical Case for Making Better People* (Princeton, NJ: Princeton University Press; 2007) being the most apposite. Indeed, my own doctoral studies with Harris were in this area.
32. Singer P, *Animal Liberation*, Avon Books; 1977.
33. Bentham J. *An Introduction to the Principles of Morals and Legislation*. 1789, Ch 17. n.122.
34. I note here that Singer is by no means single-handedly responsible for the growth of animal ethics or indeed of popularising this viewpoint, but this work is undeniably the most visible.
35. Arnason G. The emergence and development of animal research ethics: A review with a focus on nonhuman primates. *Science and Engineering Ethics* 2020;**26**(4):2277–93.
36. Rollin BE. The regulation of animal research and the emergence of animal ethics: A conceptual history, *Theoretical Medicine and Bioethics* 2006;**27**(4):285–304.
37. Or otherwise conscious.
38. Lenzen M, Malik A, Li M, Fry J, Weisz H, Pichler P–P, Chaves LSM, Capon A, Pencheon D. The environmental footprint of health care: A global assessment. *The Lancet Planetary Health* 2020;**4**(7): e271–79.
39. Lawrence DR. More human than human. *Cambridge Quarterly of Healthcare Ethics* 2017;**26**(3):476–90.

40. Garland-Thomson R. Disability bioethics: From theory to practice. *Kennedy Institute of Ethics Journal* 2017;27(2):323–39.
41. Which is too vast to list here, but an instructive introduction can be found in: Series L. Disability and human rights. In: Watson N, Vehmas S, eds. *Routledge Handbook of Disability Studies*. New York: Routledge; 2019.
42. Which is, again, too significant to be done justice here with any one example.
43. Bennett R. The fallacy of the principle of procreative beneficence. *Bioethics* 2009;23(5):265–73.
44. Paremoer L, Nandi S, Serag H, Baum F. Covid-19 pandemic and the social determinants of health. *BMJ* 2021;372:n129.
45. Ahola-Launonen J. The evolving idea of social responsibility in bioethics: A welcome trend. *Cambridge Quarterly of Healthcare Ethics* 2015;24(2):204–13.
46. Sheather J, Littler K, Singh JA, Wright K. Ethics, climate change and health – A landscape review. *Wellcome Open Research* 2023;8:343.
47. Gough I. Climate change and sustainable welfare: The centrality of human needs. *Cambridge Journal of Economics* 2015;39(5):1191–214.
48. WHO. One Health; available at <https://www.who.int/health-topics/one-health> (last accessed 10 Jun 2024).
49. Lawrence DR, Morley S. Regulating the Tyrell corporation: The emergence of novel beings. *Cambridge Quarterly of Healthcare Ethics* 2021;30(3):421–34; Lawrence DR, Brazier M. Legally human? ‘Novel beings’ and English law. *Medical Law Review* 2018;26(2):309–27.
50. see Note 39, Lawrence 2017.
51. WHO. Ethics; available at <https://www.who.int/health-topics/ethics-and-health> (last accessed 10 Jun 2024).
52. For example, the UNESCO Universal Declaration on Bioethics and Human Rights, adopted in 2005, sets out a global framework for bioethical principles and policies: UNESCO. *Universal Declaration on Bioethics and Human Rights*; 2006; available at <http://unesdoc.unesco.org/images/0014/001461/146180E.pdf> (last accessed 9 Jun 2024).
53. And its predecessor the President’s Council. This line of organisations is currently inactive, having not been reinstated during or since the Trump presidency, but we can hope.
54. Human Fertilisation and Embryology Act 1990, as amended 2008.
55. Of course, some issues are perennials in public bioethics; embryo/reproductive questions being the premier example.
56. For instance, the groundswell of debate over Mitochondrial Donation Therapies, when these were under consideration for legalisation in the UK from 2014–2015.
57. Lawrence DR. Repugnance, denial, and fear: Societal challenges for regulation of novel beings. In: Lawrence DR, Morley S, eds. *Novel Beings*. Cheltenham: Edward Elgar Publishing 2022:29–45.
58. Harris J, Lawrence DR. Ethical expertise and public policy. In: Lever A, Poama A, eds. *The Routledge Handbook of Ethics and Public Policy*. Abingdon-on-Thames: Routledge; 2018:76–88.
59. Camporesi S, Vaccarella M, Davis M. Investigating public trust in expert knowledge: Narrative, ethics, and engagement. *Journal of Bioethical Inquiry* 2017;14(1):23–30.
60. Notably, this became Harris’ own practice, as can be traced by many of his subsequent publications; most notably seen in Note 31, Harris 2007.
61. Tigard D. Embedded ethics as preparatory regulation of technology: A new solution to the Collingridge Dilemma? In Lawrence DR, Morley S, eds. *Novel Beings*. Cheltenham: Edward Elgar Publishing; 2022:12–28.
62. Gerke S, Minssen T, Cohen G., 2020 Ethical and legal challenges of artificial intelligence-driven healthcare. *Artificial Intelligence in Healthcare* 295–336.
63. Chan S, Medina Arellano M. Genome editing and international regulatory challenges: Lessons from Mexico. *Ethics, Medicine and Public Health* 2016;2(3):426–34.
64. WHO. *Human Genome Editing: A Framework for Governance*; Geneva, 2021.
65. McCay A. Neurorights: The Chilean constitutional change. *AI & Society* 2024;39(2):797–98.
66. Ienca M. On Neurorights, *Frontiers in Human Neuroscience* 2021;15:701258.

67. Now, sadly, closed.
68. Certainly this is the apparent case in the UK and across Europe, though hard data on the expanse of the field is difficult to come by. A good starting point that shows the expanse of the field can be found in this list: Bioethics Today. Ethics centers, departments & programs; available at <https://bioethicstoday.org/ethics-centers-departments-programs/> (last accessed 10 Jun 2024).
69. Radice H. How we got here: UK higher education under neoliberalism. *ACME* 2013;**12**:407–18.
70. Williams T. Humanities scholars fight back as cuts approach ‘tipping point’; 2023; available at <https://www.timeshighereducation.com/news/humanities-scholars-fight-back-cuts-approach-tipping-point> (last Accessed 10 Jun 2024).
71. see [Note 1](#), Harris 1985. 4.
72. See [note 22](#), Harris 2015, 28.