Epilogue
Medical Progress as Achieving Sustainability

[A]ll progress in capitalistic agriculture is a progress in the art, not only of robbing the labourer, but of robbing the soil; all progress in increasing the fertility of the soil for a given time, is a progress towards ruining the lasting sources of that fertility.

Karl Marx, *Capital*, vol. I, p. 329

By the early 2020s, when this book was written, the idea of medical progress had undergone various transformations and continued to hold different meanings simultaneously. Yet it is also possible to think that the concept's most significant metamorphoses may very well lie in the future. As we have seen, the idea of a single path of historical progress entered a crisis in the twentieth century because of increased awareness that history has no goal, just as there are no laws shaping the historical process. But another essential source of the critique of conventional ideas of progress was rooted in environmental concerns about the side effects of current forms of economic progress and the limits of the natural world. As depicted in Chapter 1, major strands of Enlightenment-era thought represented progress as human mastery over other species and over nature itself. Nature was largely conceived as facilitating growth at the service of progress; little thought was given to "The End of Nature," as the environmentalist Bill McKibben put it in 1989.[1]

In the course of the twentieth century, the shortcomings of this view, and the harms resulting from associated visions of progress, became increasingly evident. The Club of Rome published its landmark publication, *The Limits to Growth* (1972), with the intention of encouraging each reader to think through the consequences of continuing "to equate growth with progress."[2] In 1991, Christopher Lasch singled

[1] Bill McKibben, *The End of Nature* (New York: Random House, 1989).
[2] William Watts, "Foreword," in Donella H. Meadows et al. *The Limits to Growth: A Report for the Club of Rome's Project on the Predicament of Mankind* (New York: Universe Books, 1972), p. 12.

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out the belated discovery that the earth's ecosystems cannot sustain the indefinite expansion of productive forces as dealing "the final blow to the belief in progress."[3] Meanwhile, different ideologies grappled with an increased awareness of the material limits to the ideas of progress and development around which they have traditionally been conceived. Liberalism, for example, even as it is sometimes portrayed as the "evil genius" behind the ecological crisis, sought to pull apart its conceptions of progress and economic growth.[4]

The ecological perspective that animated the critique of linear forms of progress was concerned first and foremost with making visible what such narratives left out, in the form of side effects and externalities, but also with articulating an alternative. And while some forms of progress were the objects of environmentalist ire, the notion was also reclaimed by green movements. The idea of progress – with its well-known political power – could be reinterpreted rather than rejected and integrated into innovative visions of development.[5] In a widely read book published in 1999, John Barry interprets all of green political theory as an immanent critique of the idea of progress, while simultaneously suggesting an alternative understanding of it underpinned by new social and environmental relationships.[6] The term progress easily retains the justice-oriented and emancipatory connotations of "progressive," while opening up to include a more holistic and ecological approach to social change.[7]

But perhaps most significant for the reappropriation of progress by environmental movements was its association with the notion of sustainable development, presented in its modern version in *Our Common Future* (1987) – also known as the *Brundtland Report* – as

[3] Christopher Lasch, "The Fragility of Liberalism," *Salmagundi*, 92 (1991), 8.
[4] Marcel Wissenburg, "Liberalism," in *Political Theory and the Ecological Challenge*, eds. Andrew Dobson and Robyn Eckersley (Cambridge: Cambridge University Press, 2006), pp. 20–21.
[5] Lucas Seghezzo, "The Five Dimensions of Sustainability," *Environmental Politics*, 18 (4) (2009), 544.
[6] John Barry, *Rethinking Green Politics*: *Nature, Virtue and Progress* (London, Thousand Oaks, CA, and New Delhi: Sage Publications, 1999), p. 9.
[7] See Robert Paehlke, "Environmentalism and the Future of Progressive Politics: An Update" in *Explorations in Environmental Political Theory: Thinking about What We Value*, ed. Joel Jay Kassiola (London and New York: Routledge, 2003), pp. 81–103 and Lara Monticelli, "On the Necessity of Prefigurative Politics," *Thesis Eleven*, 167 (1) (2021), 99–118.

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development that "meets the needs of the present without compromising the ability of future generations to meet their own needs."[8] The notion of sustainability emerged as a particularly powerful form of collective obligation that could breathe fresh life into the notion of progress. As sustainability came to represent a kind of moral high ground for the twenty-first century, progress toward achieving sustainability was inherently part of how to overcome the lamentable aspects of the present situation.[9] The association between the terms is so strong that progress came to be a persistent ideological feature of sustainability, and the conceptualization of sustainability as progress became increasingly common.[10] Sustainable development can be defined precisely as the kind of development that allows human progress to continue indefinitely.[11]

The association between progress and sustainability replicates several well-worn thought processes. Historian Aurore Schwab refers to this conceptual linkage, as embodied in the UN's sustainability goals, as an emerging planetary religion, complete with a superhuman actor – planet Earth – as well as collective myths and rites.[12] Schwab's work asks us to reflect on the extent to which a quasi-religious belief in sustainability masks the value conflicts that are a persistent part of human life and offers its own form of eschatological salvation. With regard to the normative assumptions embedded in sustainable progress, many prominent suggestions regarding progress as sustainability come from economists, who are generally sympathetic to the notion

[8] *Report of the World Commission on Environment and Development of the United Nations: Our Common Future* (1987), p. 41, available at https://sustainabledevelopment.un.org/content/documents/5987our-common-future.pdf.

[9] Ming-Jui Yeh, "Discourse on the Idea of Sustainability: With Policy Implications for Health and Welfare Reform," *Medicine, Health Care and Philosophy*, 23 (2020), 155.

[10] Jacobus A. Du Pisani, "Sustainable Development: Historical Roots of the Concept," *Environmental Sciences*, 3 (2) (2006), 83–96.

[11] Alan Holland, "Sustainability," in *A Companion to Environmental Philosophy*, ed. Dale Jamieson (Malden, MA: Blackwell Publishers, 2001), p. 391. See also Benjamin Görgen and Björn Wendt, "Nachhaltigkeit als Fortschritt denken: Grundrisse einer soziologisch fundierten Nachhaltigkeitsforschung," *Soziologie und Nachhaltigkeit*, 1 (1) (2015), 3–21.

[12] See Schwab's ongoing research project, *The United Nations Sustainable Development Goals: An Emerging "Planetary Religion?,"* described at https://orcid.org/0000-0002-6940-4658, as well as N. D. van Egmond, H. J. M. de Vries, "Sustainability: The Search for the Integral Worldview," *Futures*, 43 (2011), 853–67.

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of step-by-step progress. Contemporary sustainable development discourse has been characterized as a "collective capitalist project, based on a vision of continuous progress" overseen by Western scientists and economists in various international financial institutions.[13] However, abstract visions of continuous progress notwithstanding, conceptualizing progress as sustainability also suggests the possibility of new approaches to personhood and to health.

Environmental concerns, while fundamental for the critique of progress in its "classical" version, are not well developed with regard to medicine. That this material should feature in an epilogue, rather than a stand-alone chapter of this book, bears witness to some of the problems with associating medicine and the notion of sustainability. An extensive edited publication, *Sustainable Healthcare* (2013), opened by asking: "Should people working in the health sector be interested in sustainability?" and gave as an answer a resounding "yes." The authors, nevertheless, admit that despite their salience, ideas about sustainability have been slow to catch on in healthcare contexts.[14] As might be expected, I do think there is a potential case for reimagining medical progress as sustainability. In fact, the material presented here suggests that it may well be one further iteration of the idea of medical progress. It builds quite naturally on previous conceptual iterations of progress, though it differs from these in several important respects.

To start with the similarities, some of the most prominent voices calling for green medical progress explicitly refer back to other, preceding critiques of progress discussed in this book. Environmental historian Linda Nash blames the scientific narrative of medical progress, in particular, for obscuring the link between the environment and health.[15] In a landmark book written in 2004, *The Ethics of Environmentally Responsible Health Care*, Jessica Pierce, Andrew Jameton, and Canadan Boulder draw on Daniel Callahan's castigation

[13] John Harlow, Aaron Golub, Braden Allenby, "A Review of Utopian Themes in Sustainable Development Discourse," *Sustainable Development*, 21 (4) (2013), 276.

[14] Knut Schroeder, Trevor Thompson, Kathleen Frith, and David Pencheon, *Sustainable Healthcare* (Chichester, West Sussex: Wiley-Blackwell, 2013), pp. vii, 69, 238.

[15] Linda Nash, *Inescapable Ecologies: A History of Environment, Disease, and Knowledge* (Oakland: University of California Press, 2007), p. 6.

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of economically unsustainable healthcare based on a misguided notion of "infinite progress." The authors further reference René Dubos (discussed in Chapter 2), observe that modern medicine embodies the dream of progress as increasing human material comfort and mastery over nature, and conclude that this dream is turning into a nightmare.[16] And they link Dubos's work on ecosystemic health to their own interests in environmentally responsible healthcare practices. In Pierce, Jameton, and Boulder's view, the work of Callahan et al. pioneered an approach to medicine that does not require constant progress toward unlimited future goals and drew attention to how the obsession with progress can be harmful to medicine and those it purports to serve. In essence, such arguments draw on previous critiques of progress to contend that a medical system designed to cater to potentially infinite health needs is not only conceptually and economically flawed but fundamentally incompatible with environmental scarcities.[17] A sustainable healthcare system, as the above authors and others have formulated it, is responsive to environmental limits and willing to change current healthcare priorities in order to achieve good human and ecological health.

While advocates of green medical progress see themselves as building on an existing body of work, they expand their approaches to personhood and health to include the natural environment. In addition to being fundamentally mortal and existing in a web of human relationships – points emphasized in previous chapters – this strand of thinking further emphasizes the relationships of persons with natural systems. Concepts of the human – as environmental philosopher Val Plumwood argues – must now be rethought together in ecological terms that recognize and respect human differences and continuities with nature and are attentive to how human life in general is embedded in the material, ecological world.[18] If modern biomedicine approaches

[16] Jessica Pierce, Andrew Jameton, and Canadan Boulder, *The Ethics of Environmentally Responsible Health Care* (Oxford: Oxford University Press, 2004), pp. 49–50.

[17] See also P. Tijmes, and R. Luijf, "The Sustainability of Our Common Future: An Inquiry into the Foundations of an Ideology," *Technology in Society*, 17 (3) (1995), 327–36.

[18] Val Plumwood, "Feminism," in *Political Theory and the Ecological Challenge*, eds. Andrew Dobson and Robyn Eckersley (Cambridge: Cambridge University Press, 2006), p. 55.

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the body as a self-contained, mechanical system, the insight that bodies are permeable to their environment requires new approaches to illness.[19] Personhood, therefore, is not simply reconceived as part of a larger network of relationships and organisms that now includes nature; rather, human health has to be fundamentally reassessed in light of its dependence on nature.

As a rule, this shift seeks to correct existing, predominant views of human superiority to and separation from nature. But more integrated views of personhood, health, and nature also challenge head-on views of progress underpinned by such assumptions. For one, advocates for "green" medical progress argue that the conventional timescales we use to assess medical progress are too short by far. Adding an environmental perspective to health results in increased awareness of the time frame in which we measure progress; part of the difficulty inherent in defining what exactly should be sustained requires thinking critically about temporal categories and deciding whether progress should be measured in days, years, or centuries. Once the temporal framework becomes longer, progress easily loses its association with the success of a specific medical intervention or even how an intervention affects the course of a person's life. Instead, the concept of sustainability and green theory generally perceive events in human lives from a multigenerational perspective. Environmental processes such as climate change require that we temporally extend ideas about medical progress to safeguard the health of current and future generations.[20]

Second, green theories of medical progress tend to be critical of claims about the metaphysical status of progress. They note that progress is not linear but rather multifaceted, that technological advances do not always improve well-being, and that regression is a real possibility. Prominent precursors of this line of thinking include Jared Diamond's *Collapse: How Societies Choose to Fail or Succeed* (2005) and Ronald Wright's *A Short History of Progress* (2011). Wright refers to practices that drive environmentally unsustainable growth and that

[19] Nitin K. Ahuja, "The Body Is Not a Machine," *Aeon*, November 11, 2021, https://aeon.co/essays/how-ecological-thinking-fills-the-gaps-in-biomedicine

[20] See Kristine Belesova, Daivd L. Heymann, and Andy Haines, "Integrating Climate Action for Health into Covid-19 Recovery Plans," *BMJ*, 370 (2020), m3169. See also Itsuki C. Handoh and Toshitaka Hidaka, "On the Timescales of Sustainability and Futurability," *Futures*, 42 (7) (2010), 743–48.

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are difficult to slow down or to stop once they have begun, as "progress traps."[21] In Wright's and Diamond's detailed analysis of such processes, they argue that the growth of a society, or its "progress," is tributary to its ability to exploit natural resources. The resultant progress may be rapid and accelerating, but once essential resources are depleted, a dramatic collapse occurs. These findings clash with established visions of progress because they posit a fundamental discontinuity between past growth and possible future trajectories. The notion of a progress trap reveals the rigidities and short-sightedness of existing ideas of medical progress. For instance, technological solutions to medical problems or individual freedom to maximize the pursuit of health may solve some health problems but can nevertheless contribute to catastrophic collective outcomes if due attention is not paid to their environmental consequences.

Finally, in terms of their ethics, green theories of medical progress build quite naturally on previous repudiations of a stereotypical liberal subject, an autonomous agent whose choice-making is inherently valuable. A vision of humans as ecological beings challenges single-minded devotion to the protection of individual rights, in favor of a more ecological or "ecozoic" perspective, that emphasizes the value of different forms of life. In related views of progress, excessive choices are portrayed as having a potentially detrimental relationship to human health (compare, for example, with personalized medicine) because they may threaten the life forms on which individual health ultimately depends.[22] In essence, the relationship between open-ended progress and health is fraught: New technologies with unpredictable consequences, increases in choice, and uncontrolled growth are not necessarily conducive to achieving health and well-being. Instead, humans have to use their creative powers to curb progress's most dangerous forms and preserve and protect the unique attributes of nature by placing a new value on limits.[23]

[21] Ronald Wright, *A Short History of Progress* (New York: Anansi Press, 2011), p. 30.

[22] On green theories where choice is given a more prominent role, see Karsten Gäbler, "Green Capitalism, Sustainability, and Everyday Practice," in *Global Sustainability*, eds. B. Werlen et al. (Cham: Springer, 2015), pp. 63–86.

[23] See Clinton E. Betts, "Progress, Epistemology and Human Health and Welfare: What Nurses Need to Know and Why," *Nursing Philosophy*, 6 (2005), 179.

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All of these philosophical premises have the potential to underpin visions of medical progress that acknowledge the contingencies of any single historical moment and the multiple dimensions of progress. Yet many green health advocates posit a harmony whereby associating the notion of sustainability with medical progress would result in a single outcome: better health for both humans and the planet. Health and sustainable development, global health scholar Ilona Kickbusch has argued, are not only "interdependent, but they are reciprocal."[24] In a similar fashion, Pierce et al. state that the premise for their study of environmentally responsible healthcare is that human health is founded on healthy, stable ecosystems.[25] The ramifications of such assumptions for progress are clear: Progress in human health and in protecting nature are mutually reinforcing. Recent contributions argue that healthcare is "lucky" in this respect because almost everything that helps create a healthier planet has the "co-benefit" of making people both healthier and happier. More specifically, many interventions that improve individual health – such as fresh, local, and mainly plant-based food – are also good for the health of the planetary system – creating what have been termed "virtuous circles."[26] This inference was summarized succinctly in the title of a recent article: "Sustainable Medicine: Good for the Environment, Good for People."[27]

The "lucky" nature of health in terms of its consonance with the normative assumptions of sustainability has not gone unnoticed by multiple stakeholders, including several key industries. As a rule, the healthcare industry is portrayed as ideally positioned to benefit from the synergistic relationship between human and environmental health.[28] Advocates of renewable energies have been keen to

[24] Ilona Kickbusch, "Approaches to an Ecological Base for Public Health," *Health Promotion International*, 4 (4) (1989), 267.

[25] Pierce, Jameton, and Boulder, *The Ethics of Environmentally Responsible Health Care*, p. 1. See also Emily Farrow, "Embedding Sustainability into Clinical Medicine and Medical Education," *Health Management*, 17 (5) (2017), 369–71.

[26] Knut Schroeder et al., *Sustainable Healthcare*, pp. vii–viii, 69.

[27] Trevor Thompson and Tim Ballard, "Sustainable Medicine: Good for the Environment, Good for People," *British Journal of General Practice*, 61 (582) (2011), 3–4.

[28] M. J. Eckelman, Jodi D. Sherman, and Andrea J. MacNeill, "Life Cycle Environmental Emissions and Health Damages from the Canadian Healthcare System: An Economic-Environmental-Epidemiological Analysis," *PLoS Medicine*, 15 (7) (2018), e1002623, 14.

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emphasize the health aspects of their technologies, for example, the fact that they do not cause air pollution, produce no toxic wastes, and have relatively low water consumption.[29] Indeed, the health "co-benefits" of, for example, climate change mitigation have become a watchword and a crucial way of motivating individuals, businesses, and governments to make choices more aligned with climate goals.[30] An Intergovernmental Panel on Climate Change (IPCC) working group report went so far as to frame climate change as precisely that which interrupts a continuous path of medical progress, calling it an "impediment to continued health improvements in many parts of the world."[31] And an editorial published in 2021 in more than 200 health journals worldwide called for political leaders to take urgent action on climate change and thereby address the biggest threat to global public health today.[32] Other climate researchers emphasize important "win-win" benefits for short-term climate and human health brought about by specific, practical emission reductions. Better air quality alone, for example, is arguably enough to create health benefits that would offset the global costs of emission reductions.[33]

The notion of a symbiotic harmony between health and nature revives several long-established thought patterns. While "nature" has often been invoked in relation to medical progress, it has been

[29] See "Public Health Linkages with Sustainability: Workshop Summary" (Washington, DC: The National Academies Press, 2013), https://doi.org/10.17226/18375.

[30] See Marina Romanello et al., "The 2021 Report of the Lancet Countdown on Health and Climate Change: Code Red for a Healthy Future," *Lancet*, 398 (2021), 1619–62.

[31] Kirk R. Smith et al. "Human Health: Impacts, Adaptation, and Co-Benefits," in *Climate Change 2014: Impacts, Adaptation, and Vulnerability. Part A: Global and Sectoral Aspects. Contribution of Working Group II to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change*, eds. C. B. Field et al. (Cambridge: Cambridge University Press, 2014), p. 713.

[32] L. Atwoli et al., "Call for Emergency Action to Limit Global Temperature Increases, Restore Biodiversity, and Protect Health," *BMJ*, (2021), 374, and "More than 200 health journals call for urgent action on climate crisis," *The Guardian*, September 6, 2021, www.theguardian.com/environment/2021/sep/06/more-than-200-health-journals-call-for-urgent-action-on-climate-crisis.

[33] Anil Markandya et al., "Health Co-Benefits from Air Pollution and Mitigation Costs of the Paris Agreement: A Modelling Study," *The Lancet Planetary Health*, 2 (3) (2018), 126–33 and N. Watts et al., "The Lancet Countdown: Tracking Progress on Health and Climate Change," *The Lancet*, 389 (2017), 1151–64.

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constructed differently and associated with various therapies. As depicted in Chapter 1, the Hippocratic school adhered to a broadly ecological understanding of ill health, seeing it as the result of an imbalance between external forces and those within the sick person, and advocated acting in harmony with nature as a way to foster health.[34] In general, Hippocratic–Galenic humoral medicine perceived nature as a powerful agent of recovery and healer of disease.[35] Assigning nature a key role in health promotion continued through Rousseau, the Romantics and, as of the nineteenth century, the popularity of naturopathic healing practices and spa retreats, mud-bathing and vegetarianism, are but some examples of heterogeneous but increasingly popular forms of "nature therapy."[36] As a rule, references to the notion that nature is crucial for human health and well-being are often framed in explicitly historical terms, whereby progress is conceived as a return to nature.[37] Appeals to a more natural, organic, premodern past are precisely the point: If modern society, by its very existence, limits contact between people, plants, animals, and natural rhythms, and creates historically unfamiliar surroundings, there is a net loss to health.

While the health–nature connection is longstanding, it became the focus of sustained scientific attention relatively recently. Today, research across a range of fields emphasizes the extent to which proximity and access to natural settings have beneficial health effects for individuals and communities. The health benefits of nature contact range from increased prosocial behavior to improved mental health, postoperative recovery, and birth outcomes.[38] Researchers from the

[34] See Brigitte Lohff, "Self-Healing Forces and Concepts of Health and Disease. A Historical Discourse," *Theoretical Medicine and Bioethics*, 22 (2001), 543–64.

[35] See Max Neuburger, "An Historical Survey of the Concept of Nature from a Medical View Point," *Isis*, 35 (1) (1944), 16–28, and Hannah Newton, "'Nature Concocts and Expels': Defeating Disease," in *Misery to Mirth: Recovery from Illness in Early Modern England* (Oxford: Oxford University Press, 2018), pp. 33–64.

[36] See Samantha Walton, *Everybody Needs Beauty: In Search of the Nature Cure* (London: Bloomsbury, 2021).

[37] See Cecily Maller et al., "Healthy Nature Healthy People: 'Contact with Nature' as an Upstream Health Promotion Intervention for Populations," *Health Promotion International*, 21 (1) (2005), 52.

[38] Howard Frumkin et al., "Nature Contact and Human Health: A Research Agenda," *Environmental Health Perspectives*, 125 (7) (2017), https://doi.org/10.1289/EHP1663.

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University of Exeter quantified this to conclude that spending at least two hours a week in nature is associated with better health and well-being.[39] Time spent in nature was portrayed both as one of the unfortunate victims of COVID-19 lockdowns and as a health-promoting countermeasure to the pandemic.[40] Increased attention has also been paid to the extent to which natural products such as medicinal herbs and spices have shaped human history; this also involves (re)acknowledging the role of such products for progress.[41] Contact with animals, the consumption of organic foods, free-range grass-fed livestock, and the Paleo Diet – based on consuming foods similar to what may have been consumed in the Paleolithic era – have all been invoked because of the ways in which their "natural qualities" contribute to health and the potential for redefining "progress" in a way that takes into account environmental aspects of well-being. Sadly, writes Loren Cordain in their study advocating the Paleo Diet, "with all of our progress, we have strayed from the path designed for us by nature."[42]

In addition to lauding the health benefits of "naturalness," advocates of medical progress as sustainability emphasize the extent to which current medical practices harm human health. Implicit in this argument is that disparities between past and present ways of living and practicing medicine have themselves contributed to the emergence of serious diseases. In doing so, critics highlight the relatively well-known instances of how environmental degradation – dirty water, lack of sanitation, and air pollution – is bad for health. Air pollution has long been identified as a leading cause of morbidity and mortality globally, and climate change, as mentioned above, has been labeled the single greatest public health threat of the twenty-first century. But

[39] Matthew P. White et al., "Spending At Least 120 Minutes a Week in Nature Is Associated with Good Health and Wellbeing," *Scientific Reports*, 9 (7730) (2019), https://doi.org/10.1038/s41598-019-44097-3.

[40] A government flyer delivered to private residences in Montréal, Canada, in 2020 advised citizens: "allez dans la nature et respirez profondément et tranquillement." Gouvernement du Québec, "Aller mieux en contexte de pandémie COVID-19," 2020, www.quebec.ca/sante/problemes-de-sante/a-z/coronavirus-2019/aller-mieux-en-contexte-de-pandemie-covid-19/.

[41] Afroz Alam, "Spices: The Hoard of Natural Remedies," *Annals of Phytomedicine*, 8 (2) (2019), 7.

[42] Loren Cordain, *The Paleo Diet Revised: Lose Weight and Get Healthy by Eating the Foods You Were Designed to Eat*, revised edition (Hoboken, NJ: John Wiley & Sons, 2011), pp. 10, 43 e passim.

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they also go beyond this to emphasize the paradoxical fact that some of the most widely recognized symbols of progress in modern medicine, resource-intensive curative treatments, for example, come at the expense of environmental pollutants that damage human health.[43]

Healthcare services range between 1 percent and 5 percent of total global environmental impacts, depending on which indicator is considered, and more than 5 percent for some countries.[44] These include wasteful practices (unnecessary plastics and single-use items), pollution (greenhouse gas emissions, for example, from healthcare-related transport and inhaled anesthetics), and energy-intensive hospital activities.[45] A number of studies of the negative environmental impacts of healthcare for individual countries exist, and the problem has been acknowledged by major international organizations.[46] In the American context, for example, a 2018 report noted that healthcare organizations are very far from embracing sustainable practices; the industry produces 7,000 tons of waste daily.[47] Furthermore, the amount of medical waste produced per person per day worldwide grew significantly as a result of COVID-19.[48] This led to a number of observations that there is an urgent need to address the public health

[43] Among the extensive literature on this topic, see Jodi D. Sherman et al., "The Green Print: Advancement of Environmental Sustainability in Healthcare," *Resources, Conservation & Recycling*, 161 (2020), https://doi.org/10.1016/j.resconrec.2020.104882.

[44] Manfred Lezen et al., "The Environmental Footprint of Health Care: A Global Assessment," *Lancet Planetary Health*, 4 (2020), e271–79.

[45] Matthias Meili, "Die Ökobilanz der Spitäler," *Neue Zürcher Zeitung*, October 3, 2021. See also *Health Care without Harm*, https://noharm-global.org/.

[46] On the English case, see *Greener NHS: National Ambition*, NHS England, www.england.nhs.uk/greenernhs/national-ambition/, Arunima Malik et al., "The Carbon Footprint of Australian Health Care," *Lancet Planetary Health*, 2 (1) (2018), e27–e35, Matthew J. Eckelman and Jodi D. Sherman, "Environmental Impacts of the US Health Care System and Effects on Public Health," *PLoS One*, 11 (6) (2016), e0157014, M. J. Eckelman, Jodi D. Sherman, and Andrea J. MacNeill, "Life Cycle Environmental Emissions and Health Damages from the Canadian Healthcare System: An Economic-Environmental-Epidemiological Analysis," *PLoS Medicine*, 15 (7) (2018), e1002623.

[47] Carrie R. Rich, J. Knox Singleton, and Seema S. Wadhwa, *Sustainability for Healthcare Management: A Leadership Imperative* (Abingdon, Oxon: Routledge, 2018), p. 60.

[48] World Health Organization, *Global Analysis of Healthcare Waste in the context of COVID-19: Status, Impacts and Recommendations* (Geneva: World Health Organization, 2022).

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crisis arising from misplaced commitments to medical progress, mainly by promoting the rise of "healthcare sustainability" and green healthcare. A crucial point of connection between these arguments is that fundamentally misguided definitions of medical progress are actively harming health.[49]

Health. Nature. Sustainability. Progress. In the overview presented above, these are repeatedly described as self-reinforcing and good for health. But we have seen in previous chapters that attempts to paint different dimensions of progress as harmonious inevitably fall back onto flawed assumptions about what the health of a holistic entity such as a person requires. Meanwhile, appeals to specific kinds of health/medical progress are inevitably political and underpinned by visions of how to govern and improve human societies. Just as health is not fixed, there is no true "nature" that can be grasped separately from human culture and politics. The idea of medical progress as sustainability is, therefore, a set of political ideas about a particular kind of health and society and reveals various dilemmas and conflicts, not least between some widely accepted social and medical goals.

While the advocates of medical progress as sustainability have focused on the largely positive health effects of our contacts with nature, that is not the only way to read human beings' entanglement with nature. It is possible to understand health services and aspirations for progress as consistently trying to mitigate the potential dangers nature poses to human health. From a health perspective, the natural environment has traditionally been viewed with ambivalence. While clean air, water, and nutritious food are crucial for health, infectious diseases, weather, and geological events regularly sicken, injure, and kill people, often in large numbers. The contact with animals lauded above has an equally long history of being blamed for ill health, from Edward Jenner's pioneering work on the *variolae vaccinae*, or cowpox, to animal sources of COVID-19 contagion. Urban environments can provide improved access to healthcare, physical security, and comparative health advantages.[50] A traditionally recurring assumption of the idea of progress is the validity of the struggle against

[49] See Cécile M. Bensimon and Solomon Benatar, "Developing Sustainability: A New Metaphor for Progress," *Theoretical Medicine and Bioethics*, 27 (1) (2006), 59–79.

[50] Christopher Dye, "Health and Urban Living," *Science*, 319 (5864) (2008), 766–69.

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humans' vulnerability and finitude in their natural environment. If we fundamentally question the association between medical progress and the struggle against death, we are left with the observation that sickness and death are "natural," and it is better for the environment and the planet to accept this and act accordingly. As one disillusioned friend told me when we discussed the issue, the only coherent response to the climate crisis is suicide.

Humans and other species rely on natural cycles, and the consequences of disturbing those cycles are increasingly acknowledged. But exactly how humans experience "nature," and the benefits they derive from this, depends on a great deal of factors, including the meanings ascribed to natural conditions, a human environment, and how the links between them are conceived. "Nature" is an umbrella term that is used colloquially to denote the very different experiences of, for example, an urban park, a mountain view shaped by hundreds of years of human residence, or a mosquito-filled swamp where humans rarely go. A natural environment and the animals and insects that flourish there can be threatening, inhospitable, and inconducive to the health of individuals, while remaining a healthy and thriving ecosystem on its own terms, and thereby furthering the health of the human species. Eating local, organic meat can be a health choice more in tune with humans' traditional diet but have high CO_2 emissions and is at odds with veganism, a different vision of a more "natural" path to health.

At the political level, the desire for better health and the wish to protect nature have no single, predictable outcome. Historically speaking, ecologism has been associated with both nationalistic movements and fascist sentiments, as well as left-wing political ideologies. Many have pointed out that current ecological imperatives call for drastic, unpopular measures, the full benefits of which will only become clear in the long run. Progress toward sustainable healthcare in Western countries may be in tension with equity if environmental costs are transferred to people living in poverty, to future generations, or to other countries.[51] Politically, the lack of a substantive basis within democracy to support sustainability issues has been well canvassed. Democracy is a reflection of the short-term preferences of human persons, and it therefore struggles to incorporate the notion of rights and obligations to

[51] Delia Paul, "Merging the Poverty and Environment Agendas," Brief #11, *IISD Earth Negotiations Bulletin*, (2021), 1–9.

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subsequent generations, and the value of nature in and of itself. Some observers describe what they call an "intrinsic tension" between the concepts of sustainability and democracy.[52] The problem that democracy poses for ideas of medical progress as sustainability is that it must take into account diverse, often conflicting, interests, preferences, and values beyond environmental ones. The incrementalism and localism associated with democratic procedures may simply be insufficient to deal with large-scale global problems.

Finally, taking an earth-centric approach to health seriously might mean rejecting both the concepts of sustainability and conventional approaches to progress. Activist-scholar Leanne Betasamosake Simpson reflects on how the teachings of her Indigenous ancestors reveal that the concept of sustainability is exactly backward. "You don't develop as much as Mother Earth can handle. […] You think about how much you can give up to promote more life."[53] Betasamosake Simpson further outlines how her rejection of the idea of progress is based on her ancestors' nonlinear, expansive linking of cycles, in a way that challenges progressive, temporal logic. She describes the present moment as collapsing into the past and the future simultaneously and thereby generating an ongoing conversation with both time spans.[54] If the future and the past can be seen in the present, this offers not a progressive view of history, but rather evidence of multiple worlds coexisting simultaneously and rich possibilities for imagining different forms of nonlinear progress.

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In a post-post-modern world, the value of health seems to be one normative good on which we can agree. But perhaps the biggest problem relating to the shared agreement about health is that it underpins an inflationary view of medical progress. By inflationary I mean that claims on behalf of medical progress rely on the assumption that the

[52] Ming-Jui Yeh, "Discourse on the Idea of Sustainability," p. 161.

[53] Cited in Naomi Klein, "Dancing the World into Being: A Conversation with Idle No More's Leanne Simpson," *Yes! Magazine*, March 6, 2013, www.yesmagazine.org/peace-justice/dancing-the-world-into-being-a-conversation-with-idle-no-more-leanne-simpson.

[54] Robyn Maynard et al., "Every Day We Must Get Up and Relearn the World: An Interview with Robyn Maynard and Leanne Betasamosake Simpson," *Interfere: Journal for Critical Thought and Radical Politics*, 2 (2021), 154.

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consensus around health is larger than whatever that consensus actually is. Past medical successes, the commodification of medicine, and the persistent idea that we "know" what health is and can achieve it unequivocally, blended together with the hope of overcoming the existential fears and uncertainties of patients, all drive the belief in medical progress. But as an inflationary concept, progress in medicine easily grafts onto the normative high ground of a particular moment, such as the Cold War commitment to progress via science or the heightened environmental sensibilities of today. By uncovering the assumptions about health and personhood that inform a particular vision of medical progress, we lay bare its political nature and the way in which it is used by different actors to galvanize resources that benefit them. In doing so, we are better able to see who profits when medical progress is associated with particular kinds of knowledge, who gets left out, and who is harmed by a particular narrative of progress.

There is a multidimensionality to health and medical problems that makes a notion of progress too closely aligned with any one dimension of health unstable and particularly liable to be affiliated with the interests of a particular set of actors. Medical progress that refers to increases in knowledge, freedom, justice, or sustainability is insufficient on its own and must be incorporated into a more systems-based approach, alive to potential tensions between the different dimensions of health and the difficulty of gaining knowledge of a holistic entity like a person. But such a multidimensional view of progress is not without its own internal contradictions. There are tensions between providing expensive medical care to one individual and ensuring equal care for all, as well as between the technical advances of modern medicine and healthy ecosystems. Faced with different views of medical progress, which all have some claim to validity, there is no way to discover what the definitive view of medical progress should be. Rather, a multidimensional concept of medical progress reveals the shortcomings of utopian visions that discount the tensions between different dimensions of progress.

While it might seem that changing from a vague agreement about medical progress to a more precise disagreement is counterproductive, this is not the case. Better understanding the choices and tradeoffs implied by a particular vision of progress can itself be described as progress. Creating a more complex, but more realistic conceptual framework to approach the idea of progress in medicine reveals the

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contingencies of some of our current ways of thinking. This is particularly important given the huge political and economic capital that comes from being on the side of medical progress. Meanwhile, the notion of progress in medicine has changed in the past and will undoubtedly change again in the future. Political theorist Terence Ball observes that concepts lose their previous meanings and acquire new ones through a process of external challenge and immanent critique; in this way, internal tensions and contradictions within belief systems are exposed, and the arguments that support them are countered.[55] Because of its vagueness, frequent use, and ability to give actions meaning, progress may be even more malleable and capable of reinvention than other concepts. Progress in medicine may once have referred to energy-intensive and wasteful practices that improve the health and life of the few; in the future, it may well come to refer to measures that limit those same practices and promote the life and health of the many.

[55] Terence Ball, "Democracy," in *Political Theory and the Ecological Challenge*, eds. Andrew Dobson and Robyn Eckersley (Cambridge: Cambridge University Press, 2006), pp. 135–36.

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