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Introduction
The Biopolitics of Human Enhancement

1 The aim

People have sought ways to improve their physical and mental capabilities for thousands of years. For those of us who believe that human enhancement technologies include clothes, tools and weapons, the politics of enhancement started in prehistory. The norms of pre-industrial societies that only certain castes or genders could touch specific tools or wear certain clothes were preliminary politics of enhancement. Prosthetic limbs are thousands of years old, and by the 15th century, there were multiple experiments with vaccination around the world. Although it would be appropriate to write a history of the various forms of empowerment that have taken place since the dawn of civilisation, this volume – that now we can present to the lectors – will be on the debates about human enhancement that began in the early 20th century, once modern medicine had begun to suggest actual technologies for human augmentation.

Before examining the relationship between human enhancement and biopolitics (the subject of our work), it is helpful to say a few words about the series in which this volume appears, a series that bears the same title as this first text and which opens with contributions from the best scientific experts on the subject.

2 The story

The modern politics of human enhancement could be said to begin with British biologist John B.S. Haldane's seminal essay, "Daedalus or Science and the Future" (1923). Haldane envisioned a future where science and technology would radically transform human capabilities, blurring the lines between the natural and the artificial. He imagined a future with artificial wombs and genetic engineering and a growing acceptance of enhancement. Haldane also believed these technologies would become a matter of practical politics.

> I can foresee the election placards of 300 years hence, if such quaint political methods survive, which is perhaps improbable, "Vote for Smith and more musicians", "Vote for O'Leary and more girls", or perhaps finally "Vote for Macpherson and a prehensile tail for your great-grandchildren". (Haldane, 1923)

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Haldane was part of a circle of British intellectuals, including Julian Huxley, who later coined the term "transhumanism" (Huxley, 1957). Science fiction authors like H.G. Wells and Olaf Stapledon would begin a century of speculation in print, television and film about the radical changes humanity could undergo. Many of these proto-transhumanists were socialists and feminists, believing that a more egalitarian future would include radically improved bodies and brains. Marxist and scientist John Desmond Bernal, for instance, would write in 1929 that cyborg bodies would be the natural form for a future socialist humanity to take to explore space, prefiguring by more than 30 years the coining of the term "cyborg" in a proposal to NASA for the remote control of astronauts' bodies and brains (Clynes and Klein, 1960).

Despite these visionary premonitions, the defeat of the Third Reich in World War II led to widespread scepticism about "eugenic" plans for human enhancement. This large shadow means that the permissibility of prenatal genetic testing is still hotly debated. However, human enhancement technologies continued to develop.

The counterculture of the 1960s embraced drugs as a method of human enhancement, and in vitro fertilisation began to be widely used for conception. The spread of heart-lung machines in the 1950s led to the spread of organ transplantation in the 1970s and the adoption of brain death protocols. These new technologies in the biomedical field, on the other hand, have meant that difficult questions, such as who should have access to kidney dialysis machines, have led to the establishment of ethics committees in hospitals or that neonatal intensive care units and the increasing fight for legal abortion have led to debates about the limits of extrauterine gestation.

By the 1970s, the contemporary transhumanist movement had begun to emerge. The founder of the cryonics movement, Robert Ettinger, authored *Man into Superman* (Ettinger, 1972) which proposed freezing people for reanimation, but also gender reassignment, redesigned digestive tracts, bodies adapted to extreme climates, and a transition to what he termed "transhumanity". In the 1970s in New York, the futurist Fereidoun M. Esfandiary, aka FM-2030, began publishing books proclaiming this the "transhuman era", in which we are technologically and culturally transitioning from humans 1.0 to post-humanity. FM-2030 believed embracing emerging technologies and cultural change would create an "upwing" politics (Esfandiary, 1973) beyond the 20th-century left and right.

The next stage of an emerging politics of human enhancement would come in the 1990s when explicitly transhumanist organisations like the Extropy Institute and World Transhumanist Association (WTA) were founded. While the Extropy Institute attracted futurists interested in a more libertarian, free-market future, the

WTA would have a broader political base, including left and right on one side and apolitical transhumanists on the other.

Beyond the relatively marginal work of the transhumanists, a robust group of liberal and conservative bioethicists and healthcare policy thinkers began to address enhancement in the 1990s. Successes with animal cloning and embryonic stem cells became politicised, and the Ethical, Legal and Social Issues (ELSI) funding earmarked by the Human Genome Initiative generated growing research on the regulation of genomic medicine. In the 2000s, the Christian Right in the United States poured millions into conservative bioethics organisations to counter what they saw correctly as creeping transhumanism in liberal bioethics. A politically diverse coalition of groups emerged to oppose human enhancement technologies, including religious conservatives, disability advocates, environmentalists, and left critics of biotechnology corporations. Bioconservatives Leon Kass and Francis Fukuyama were appointed to lead the Bush administration's Council on Bioethics (PBC). The PBC's first publication was *Beyond Therapy: Biotechnology and the Pursuit of Happiness*, a robust bioconservative condemnation of life extension, antidepressants, attention-deficit drugs, cognitive enhancement, and designer babies.

Like transhumanism, bioconservatism has many precursors. One of the most influential early critics of transhumanism was Aldous Huxley, Julian Huxley's brother. Aldous was so repelled by the futurist ideas of his time that he wrote *Brave New World* (Huxley, 2004) as a rebuke. *Brave New World* would become shorthand for the bioconservative rejection of genetic engineering, designer babies, mood-elevating drugs, and human enhancement. Bioconservatives advocate for caution towards, or bans on, human enhancement technologies. Many religious responses to human enhancement have been bioconservative. Religious conservatives denounce human enhancement as hubris or "playing God", a distraction from finding happiness and eternal life through faith and virtue. There are also secular bioconservatives (like Aldous Huxley) who believe human enhancement will have unintended consequences and threaten human nature and human dignity. Left-wing bioconservatives attack emerging technologies for exacerbating inequalities or being a slippery slope to eugenics. One of the main aims of this series will be to identify the many variants of these biopolitical ideologies, from bioconservatism to transhumanism.

3 The challenge

Another fundamental dimension of the politics of enhancement will be the regulatory debates about whether potential and existing enhancements should be permitted, how they should be tested, and who should have access to them. These de-

bates touch on fundamental philosophical issues in medicine, such as the distinction between therapy for disease and enhancement beyond the norm. Would a therapy that extends the life of someone who is currently healthy be considered a prophylactic for future disease, a treatment for the disease of ageing, or an unethical experiment? Should cochlear implants for people who are deaf or hard of hearing include the option to hear beyond the normal human range? Many therapies are used "off-label" for enhancement purposes, and the diagnostic criteria for who can access therapies tend to expand over time into enhancement territory. On the other hand, since some experimental therapies can cost hundreds of thousands of dollars, healthcare systems are forced to make difficult triage decisions so that only the affluent have access, like elective cosmetic procedures.

Life-extending therapies are probably the least politically controversial enhancement technologies, and the campaign for a longevity dividend deserves more attention. The life extension movement has long roots in alternative medicine worldwide. Still, in the 1990s, it began to turn from unproven diets and fads to a growing focus on science and the regulatory hurdles to getting longevity therapies approved for general use. The politics of whether we prioritise life extension therapies will have a lot to do with the fiscal capacity of governments as working-age populations shrink and retiree populations grow, a debate we saw become explicit during the COVID-19 pandemic.

In the 2010s, another front, "moral enhancement", opened in the politics of enhancement, focusing on our ability to modify moral sentiments, cognition and behaviour. Bioethicists and liberals Ian Persson and Julian Savulescu (2012) proposed that the threats we face from emerging technologies require attention to the moral rehabilitation of potential terrorists and sociopaths using drugs like oxytocin. Other bioethicists proposed other modalities of moral enhancement, such as psychedelics, while bioconservatives rejected the feasibility and desirability of moral enhancement altogether. These moral enhancement therapies all have political ramifications as well, from their use in criminal rehabilitation and psychiatric treatment to impacts on political sentiments from antidepressants, alcohol, and psychedelics.

This series aims to broaden the focus beyond the American and European debates to discuss the politics and regulation of new therapies worldwide. China, of course, is a global leader in medical research, and Chinese researchers have already pushed some enhancement boundaries, most famously the genetic enhancement of two girls by Jianku He in 2018. Generally, Asia-Pacific societies have fewer qualms about human enhancement than Europe and the United States, which is likely a point of conflict in efforts to harmonise drug approvals or enact treaties banning genetic enhancement.

This scenario for the present volume can be seen as a framework for this colourful picture.

4 The book

The volume, which includes contributions from various authors who differ in their standpoints, philosophical orientations, and sensibilities, attempts to synthesise current orientations on the question of human valorisation concerning the "political" dimension and politics more broadly. For this reason, the volume is divided into two parts. The first part is devoted to the theories of enhancement, the second to the practices, in the belief that it is impossible to have the former without the latter and vice versa. This distinction, therefore, is only methodological.

In the first chapter, Massimo Reichlin will shed light on human empowerment and the possibility of identifying the essential elements of human beings. What are the characteristics that distinguish humans from animals or machines? Do these characteristics have anything to do with consciousness, rationality, agency, free will, or a combination of these qualities? Is this "human difference" something gradual or rather a categorical element? At the other end of the spectrum, the conditions for the departure from the human are also discussed: what conditions might lead us to say that we have entered a post-human state? Can there be good reasons not to do so? By prompting reflection on the limits of being human, the topics of enhancement and artificial intelligence stimulate deeper thinking about our common humanity and a better understanding of ourselves.

From a metaphysical and epistemological perspective, the second chapter (written by Steve Fuller) shifts the focus to the political history of transhumanism. It offers a comprehensive examination of its place within the broader narrative of human evolution. The essay posits the perspective of a humanity in constant flux, with "morphological freedom" emerging as the final phase in the continuum of liberalism. It expands and develops Benedetto Croce's neo-Hegelian concept of "history as the history of freedom" and highlights the central role of transhumanism in this ongoing transformational trajectory.

The last two chapters of the first part are devoted to two specific applications of human enhancement: technofix and disability law. Rune Nydal and Lars Ursin start from the fact that technology is primarily developed and used to solve problems and analyse the technofix objection, which expresses the concern that technological solutions might overshadow the real moral concerns of societal issues. Another fear is that introducing a technological solution can lead to a desensitisation of moral concerns and a loss of awareness and willingness to address society's problems.

Lysette Chaproniere, on the other hand, presents the challenges posed by disability rights and justice movements fighting for access to different types of technology. This perspective is specific to those fighting empowerment from a disability perspective. They need to be able to make a principled distinction between the assistive and other technologies they fight for and the empowering technologies they oppose. This chapter explores four possible explanations for this difference, arguing that none can justify a general rejection of empowerment. In this way, the chapter challenges a central assumption in debates about disability and enhancement that enhancement for a disabled person is to treat and then overcome the disability. People have many different characteristics and abilities, and some disabled people may wish to engage in enhancement that mitigates some of the challenges associated with the disability without removing the disability itself.

The second part of the volume begins with a history of reactions to the issue of human enhancement (Chapter 5) and a reconstruction of the debate on genetic enhancement (Chapter 6), presented by Russell Blackford and James J. Hughes, respectively. Starting from the assertion that an alleged boundary between therapy and enhancement is often posited as morally significant, or at least as a practical and valuable concept for regulatory policy, Blackford asks: can it play either role successfully? Without questioning that theoretical boundaries can be drawn between therapy and empowerment, these are of limited value for the complex purposes of 21st-century regulatory agencies. Instead, Hughes examines the key policy issues associated with regulating genetic enhancement and explores the public opinion, legal framework, and ethical debates surrounding genetic enhancement, including adult enhancement, brain alterations, and hereditary alterations. The chapter examines the challenges of regulating enhancement, particularly in children, and explores the different attitudes to genetic enhancement influenced by factors such as religion and secularism. The analysis also includes the impact of enhancements on issues such as bodily autonomy and reproductive freedom and the effect on society.

Two different chapters are devoted to the problem of the politics of the longevity dividend to emphasise the importance of this topic, to which our series aims to devote an entire volume. Ilia Stambler (Chapters 7 and 8) explores some of the possible reasons why the importance of urgently promoting research, development, and delivery of therapies to improve the degenerative processes of ageing and extend life expectancy in health, which should be universally clear and accepted, has not been recognised by researchers and policymakers. The second chapter on this topic will, therefore, explain how the concept of the longevity dividend, understood in economic terms, can, in practice, motivate and influence people's engagement and investment in longevity. The discussion will identify some common barriers and bottlenecks to developing effective and affordable longevity therapies and offer initial suggestions for facilitating the emergence and uptake of longevity therapies.

Finally, the last paper looks at the newest type of human enhancement in general and neuroenhancement in particular: *Neuralink.* Using this new technology as a starting point, Andy Miah (Chapter 9) develops reflections on identity, performance, and the social hierarchies that arise from these configurations. These questions become increasingly pressing as devices such as Elon Musk's Neuralink become therapeutic realities, bringing uncertain implications such as the capacity for telepathy and human-computer interface through artificial intelligence. The chapter then explores the philosophical, existential, and psychological implications of character-altering neurological enhancements (cognition, morality, and mood), considering the importance of personality continuity as a crucial element of moral status. Key issues of inequality and access to this technology, the sociological changes that may result from this technology, and the benefits of crossing the therapeutic threshold in applying neurological enhancements are addressed. A final reflection on liberal democracies and the politics of enhancement, led by Stefan L. Sorgner, concludes the volume.

While it is true that the enhancement of human performance and capabilities is a topic that has been treated in different tones and different ways since the beginning of the last century, it is also true that understanding this phenomenon, which is sometimes seen as therapy, sometimes as an unacceptable intervention by man and the technology he has developed in the course of nature, is still a topic that needs to be penetrated in depth. All disciplines that deal with the subject in one way or another cannot avoid this "traversal": philosophy, ethics, politics, technology, and so on. The present volume and the series inaugurated by the publisher De Gruyter brings together scholars and researchers from different cultural traditions without – as far as possible – standardised prejudices, in the awareness that complexity can only be understood if it is approached with this method.

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