

Abstract:

This chapter focuses on feminist philosophical engagement with biomedical technologies, such as the development of in vitro fertilisation (IVF), genetic engineering, bionic implants, neural interventions, and synthetic biology. The chapter starts with a short account of the contemporaneous rise of bioethics as a subdiscipline of philosophy, a range of emerging biomedical technologies and the second wave of feminist political action and theory. It outlines some key feminist philosophical approaches to issues in biomedicine: including those focusing on autonomy and choice; care and care work; and the moral significance of narrative, embodiment and phenomenological experience. It ends by identifying some evolving future directions for feminist philosophical contributions to emerging technologies informed by discussion of vulnerability and dependence; disability, neural diversity, and human enhancement.

Keywords:

feminist bioethics, biomedical technology, reproductive technologies, disability, neuroethics, surrogacy, medical tourism, ethics of care, vulnerability, relational autonomy

Chapter 40

Biomedical Technologies

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The Rise of Biomedical Technologies, Bioethics, and Feminist Responses

The history of biomedical technology is nearly as long as the history of medicine. However, the pace of advance in research and clinical applications of biomedical technology has increased exponentially since the start of the twentieth century. Until the middle of the 1950s, philosophical engagement with biomedical technologies was largely restricted to work in the philosophy of science and medicine. However, following revelations of wartime atrocities and the role of doctors and medical researchers in perpetrating these atrocities, the ethical responsibilities associated with medicine and research began to gain attention. Rapid development of medical technologies that were seen to significantly alter the ways that humans could control or alter cycles of birth, life, and death gave rise to a range of ethical, social, and political debates that have been given specific philosophical consideration (Callahan 1973). The contribution of philosophers to public debate about the use of biomedical technologies is one major element of the rise of bioethics as a significant subdiscipline of philosophy during the last half of the twentieth century.

In parallel with the development of bioethics and its engagement with issues of biomedical technologies, second-wave feminism gained significant momentum during the

1960s, and this intersected with concerns surrounding birth control, abortion, and reproductive choice. Central to *feminist* bioethics is attention to gendered power relations and oppressive social forces shaping health care decisions, reproduction, medical research, and access to biomedical technologies. The rise of feminist engagement in bioethics, moral psychology, and epistemology has paralleled the development of medical technologies. Over time, feminist philosophical interventions in bioethical debates have shifted the nature of bioethical debate and have generated distinctive contributions to broader philosophical discussions and to feminist philosophy (Tong 1997; Sherwin 1992; Wolf, 1996; Marway and Widdows 2015).

The feminist philosophical engagement with biomedical technologies overlaps considerably with wider feminist and philosophical engagement with these technologies as well as with debates and approaches within feminist environmental ethics, sociology and politics, critical legal studies, social studies of science and technology, and social theory. Characteristic of feminist engagement with bioethics is a focus on how medical technologies and the policies and practices surrounding them differentially affect women, and on the ways in which medical technologies and the policies and practices surrounding them serve to reinforce or dismantle systems of oppression. This chapter does not attempt to provide a definitive account of what makes a particular response to biomedical technologies a feminist philosophical account; rather, it describes a range of themes and approaches that are undertaken by those who describe their approaches that share family resemblances and engage to varying degrees with arguments and concepts that arise in philosophical, feminist, and bioethical approaches as applied to features of biomedical technology.

This chapter focuses on feminist philosophical engagement with biomedical technologies, such as the development of in vitro fertilisation (IVF), genetic engineering,

bionic implants, neural interventions, and synthetic biology. It also outlines some of the key feminist philosophical approaches to issues in biomedicine.

Choice, Control, Care, and Embodiment: Themes and Approaches to Bioethics and Biomedical Technology

Bioethics as a multidisciplinary area of applied ethics arose at around the same time that second-wave feminism emerged as a social movement and generated a women's health movement. Bioethics tended to focus on medical technologies and health care, specifically on the dyadic relationship between physician and patient. It also acknowledged that many of the arguments around key ethical topics—such as abortion, euthanasia, research, access to health care, and compulsory treatment—hinged on debates in law and political philosophy, and sometimes ontology, as in the case of abortion rights and access to reproductive technologies. Feminists were concerned since the late 1960s with many of the same technologies and practices as bioethics, such as access to the contraceptive pill, abortion, and medical paternalism. However, as Hilde Lindemann (2000) has commented, for nearly two decades bioethicists did not use gender as a category of analysis and feminists did not engage directly with the growing bioethical literature until the early 1990s.

Feminist philosophical engagement with medicine and medical technologies was informed by the rise of bioethics as well as the women's health movement, which sought to empower women's control over their own bodies and to reinstate women as subjects of knowledge about their bodies as well as objects of knowledge. At the same time, feminists drew on the emerging environmental ethics literature to express concern about the ways in which medical technologies signalled the domination of nature and the social, economic, and political forces shaping technology choices. Early explicitly feminist and philosophical

contributions to bioethics reflect this range of influences in approach (Holmes and Purdy, 1992; Sherwin, 1992).

Claims of Scientific Neutrality

Feminist approaches to bioethics have been critical of the claim that science is neutral or value-free and have drawn attention to the ways that scientific concerns have reflected the perspectives and concerns of scientists who, predominantly, have been (white, wealthy, able-bodied) men, until recently. While scientists may strive for objectivity, their actual practices are shaped by their own experiences and perspectives, which go unchallenged so long as the experience of a largely homogenous group dominates science. For example, science has tended to view women's bodies primarily in terms of their differences from an implicitly normalised male body, and therefore has understood and explained these differences as deriving from women's reproductive functions. Feminists have criticised the way that bioethics has also tended to reduce feminist concerns in health and medicine to concerns about reproduction and fertility control. Despite that concern and some clear examples of works that go beyond this focus (Wolf 1996), a large proportion of feminist bioethics writing has been devoted to issues relating to reproduction, birth control, and reproductive technology.

Choice

During the 1980s there was a significant bioethics literature on ethical issues relating to fertility control, reproductive technology and abortion, and the role of medicine, religion, and societal values in decisions surrounding these issues. Some feminist bioethicists drew on the language of liberalism in response to the religious or authoritarian moralism and paternalism underlying traditional medical practices. These feminists challenged medical paternalism and

advocated patient autonomy and women's choices in relation to their bodies (Tong 1997). Liberal feminists frequently extended the language of civil rights movements to highlight the importance of women's authority to make decisions about their own bodies and health care, even where such choices affected the interests of men or the wider society—for example, women's choices concerning fertility control or abortion (Purdy 1996). These feminists rejected the view that the direct physical dependence of the developing foetus on the pregnant woman justified privileging the interests of the future child (or of the future child's father) over the interests of the woman in her bodily autonomy.

Control

The development of IVF and associated techniques to provide medical alternatives for otherwise infertile couples to achieve a pregnancy is arguably the first topic that generated significant feminist philosophical response to a biomedical technology. Feminist philosophers argued that while the ultimate decision of whether or not to undergo IVF should be the prerogative of the woman who would carry the pregnancy, they also critically assessed the ways in which patriarchal influences may shape those women's choices (Lorber 1989) and the ways in which presenting the option of IVF to women reinforces oppressive social norms that associate women's worth with their capacity to bear and raise men's children (Warren 1988).

By contrast to liberal feminist responses to bioethical debate about fertility control and abortion, radical feminists attacked the dominant knowledge and power structures shaping reproductive technology choices (Overall 1987) and the ways that these serve to sever relationships between human and nature or to treat biological capacities as tools for economic or social dominance (Meyering 1982). By “medicalising” human biological processes, such as menstruation, fertility, pregnancy, breastfeeding, and menopause, the bodily processes that

are typical of women's bodies become problems that require a medical solution (Rogers 1999). Such solutions reinforce the expertise of medical practitioners over the women whose bodies are the subject of their research and provide a new avenue for economic interests to invest in technologies to address the purported medical problems. Regulation of access to reproductive technologies tended to reinforce gendered power dynamics and heteronormativity as well as class, for example, restricting access to IVF to medically determined sterile heterosexual couples with the financial resources required to pay for treatment.

Relationality and Care

Feminists have also been critical of the way that dominant approaches to bioethics tend to individualise patients' concerns, focussing on patient choice, informed consent, and autonomy. The emphasis on informed patient choice as an expression of personal autonomy has been criticised within feminist philosophy for failing to recognise that autonomy is developmental and arises through interpersonal and social relations of dependence and interdependence (Nedelsky 1989; Code 1991). Feminist philosophers have approached the limitations of bioethics' understanding of autonomy as informed choice broadly in two ways.

Some have sought to subject the concept of autonomy to careful ethical and moral psychological critique, with the aim of developing a more plausible conception of relational autonomy that can be used to critically evaluate the social, cultural, and institutional contexts that shape personal autonomy (Meyers 1989; Mackenzie and Stoljar 2000). This approach has led to a shift from a focus on the provision of information (such as live birth rates, effects of super-ovulatory drugs, complications of multiple births) to allow women to make informed decisions to a focus on the social and financial impacts of assisted reproduction. These include discussion about justice in access to reproductive technologies given the costs of egg recovery, embryo transfer, and embryo freezing and whether such costs should be covered by

a universal health insurance system in light of the value of parenting genetic children (Downie 2011; McLeod 2017). Similarly, this broader focus on the context of reproductive technology choices shifted attention from the medical intervention to the legal and regulatory context, such as discussions about who should have control over frozen embryos in the event of a relationship breakdown, and whether or on what grounds IVF clinics could legitimately refuse to provide IVF treatment to unmarried women, same-sex couples, postmenopausal women, or those who sought to use IVF as part of a contracted or surrogate parenting agreement (Bailey 2011).

The second approach, influenced by Carol Gilligan's (1982) work on the ethics of care, emphasised approaches to moral reasoning that are thought to arise from women's involvement in relations of care (e.g., parenting, caring for those unable to care for themselves, taking responsibility for others) in analysing how new reproductive technologies raise ethical issues. An ethics of care approach rejects the impersonal moral calculations of the rational, atomised chooser in favour of an attitude of care and attention to maintenance of relationships (Tronto 1993). Amongst feminist philosophers, many care theorists are thought to emphasise what Tong refers to as a *feminine* ethic of care (e.g., Noddings, 1984), while others (e.g., Tronto 1993; Held 1993; Kittay 1999) use a care ethic to demonstrate the paucity of liberal accounts of the citizen for dealing with matters of justice in access to health care, including those involving biomedical technologies such as medical tourism and transnational commercial surrogacy (Parks 2010).

Narrative, Embodiment, and Phenomenology

Feminist bioethics, more so than mainstream bioethics, is interested in the practical implications of normative claims for the lived experience of the people affected by the technology, policy, or practice. This arises in part from the feminist observation that

experience is gendered and that the experience of those who are marginalised cannot be assumed from the claims of those in dominant positions (Donchin and Scully 2015). Feminist bioethics also draws on feminist epistemology and its commitment to epistemic justice and humility (Ho 2011, McLeod 2002). The embodied experience of the person whose condition or impairment is the subject of biomedical technology or intervention is of particular interest to feminist philosophers working on these issues and is, as a default, recognised as having privileged access to knowledge about what it is like to live a life shaped by that condition or impairment.

Feminist philosophers have drawn on narrative accounts of identity and agency to understand how neurotechnologies, for example, shape an individual's sense of selfhood, or of being the author of one's own actions (Baylis 2013; Mackenzie and Walker 2014). These philosophers start from the experience of patients who have been treated with a neural technical intervention and who state that they no longer feel themselves, that they are in some sense alienated from their true self, in order to assess whether our normative concepts of identity, agency, or authenticity are up to the task of explaining what is happening to the subjective experience of patients, and therefore how we should ethically respond to those experiences.

Feminist philosophers working in the poststructural tradition have drawn attention to the ways that the sexed identity of the woman who is the subject of biomedical interventions is constituted through social discourses such that her embodiment is both the ground of her lived experience and the effect of those discourses. There is no knowable "nature" of that body outside discourse (Diprose 1994). Margrit Shildrick (1997), similarly, offers a feminist postmodern response to reproductive technologies that acknowledges the fluidity of identities and the embodied investment of women in reproduction to ground their status as agents in using new reproductive technologies (Mills 2016). On these approaches the embodiment of

women is subject to legal and medical discourses that contribute to their oppression; equally these discourses can be challenged and subverted within an ethics of embodiment.

Current and Future Directions

Some of the many strands of feminist philosophical engagement with biomedical technologies discussed previously are becoming less distinct in current discussions as insights from different positions serve to modify or nuance some of the claims of others. Similarly, some positions first identified by feminist theorists – such as the moral importance and inevitability of human dependence, and the inadequacy of informed choice making as the paradigm for autonomous personhood – have become accepted within “mainstream” bioethics (Beauchamp and Childress 2001). At the same time, feminist philosophical engagement with biomedical technologies has become more expansive.

Neurotechnologies and Regenerative Medicine

As mentioned previously, the rise of neurotechnologies to identify and intervene in atypical neural activity, through deep brain stimulation or neural implants, for example, has generated philosophical discussion about how the concepts of agency, identity, and authenticity are to be understood (Mackenzie and Walker 2014; Baylis 2013). What is striking about the feminist philosophical engagement with these debates is that, unlike much of the traditional approach to these questions in analytical philosophy, they proceed from the case histories and narratives of actual patients, rather than through counterfactual thought experiments (e.g., Parfit 1984). These feminists are concerned with the practical identity of patients who have received neural interventions and understanding how these medical technologies serve to challenge theoretical assumptions.

Given the rapid developments in neuroscience in gene technologies and in regenerative medicine, it is likely that the development and use of these technologies will converge and in doing so they will raise new philosophical questions about how these developments disrupt assumptions about our moral agency, identity over time, and subjective selfhood, as well as our understanding of what it is to be human, conscious, or a member of the moral community. Recent work on the development of brain organoids or “mini brains,” for example, promises a better model of the brain for testing drugs and brain development (Shepherd 2018). The value of these organoids as models for impaired brains or for reflecting the physical process of brain development will be questioned by those who understand mental capacities as shaped by both our embodiment and our physical and social engagement with the world. Feminist philosophers will also question how these organoids will be used in developing treatments, who will have access to those treatments, and whether an organoid may be transplanted into a living person’s brain. Already they have been transferred into mouse brains to allow for further development (Mansour et al. 2018).

Disability, Therapy, and Enhancement

Disability bioethicists like Jackie Scully (2008) and Anita Ho (2011) have drawn on the experience of people with disabilities to challenge understandings about how we ought to respond to disability. Scully, for example, describes disability bioethics as “the particular moral understandings that are generated through the experience of impairment” (2008, 9). This approach to disability serves to reshape how we understand the ethical landscape of disability from a focus on impairment to a recognition of moral understandings and a source of knowledge that is not available without the experience of impairment. Once the practice of disability bioethics is understood in this way, concerns about technologies aimed at

addressing disability become problematised. At the same time the stated aims or goals of some of these technologies seem to be based on a misapprehension of the problem.

Instead of asking how well a cochlear implant or the bionic eye will approximate “normal vision,” the question should be what a person with a hearing impairment or a vision impairment wants or needs to know about the way that the world around them is organised such that they can identify what would be useful to them, for example, to make them less disadvantaged in access to the various benefits that others can readily enjoy. If this approach were to be followed by technology designers, then there may be a more successful uptake of technologies, and less philosophical ink would be spilled in assessing whether a particular technology should be viewed as a “therapy” or as an “enhancement” beyond species’ typical function (Karpin and Mykitiuk 2008).

Vulnerability and Capabilities

For more than a decade there has been growing attention given to the moral and political significance of human vulnerability, understood as both an inescapable part of being human and a characteristic of some individuals who are particularly susceptible to a range of harms (Butler 2004; Luna 2009; Fineman 2010; Mackenzie et al. 2014). Vulnerability is associated with a range of bodily conditions (being very young, being very old, being a person with a disability, being pregnant, being a person of colour, having a cognitive impairment, etc.) and with a state of dependence. Given the ethical concern to protect those who are thought to be more vulnerable than others, it is likely that a range of biomedical technologies will be developed to address these vulnerabilities. In a world where work and employment is threatened with disruption by automation, ubiquitous digital surveillance, and social robots, it is likely that a future area of focus for feminist philosophers concerned with assessing the ethical significance of biomedical technologies will be in evaluating which technologies and

under what circumstances these technologies support the development capabilities (Nussbaum 2006) and which may serve to generate pathogenic vulnerabilities and dependence (Dodds 2014). It is likely that those technologies developed by or to address the concerns articulated by those thought to be vulnerable will be more able to support vulnerable people and enhance capabilities than those designed to address the social problem of vulnerability. Nonetheless, the complex interplay of vulnerabilities will require careful and ongoing ethical evaluation in the range of contexts in which these as-yet-unimagined technologies will be deployed.

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