
2018

Bioethics & Vulnerability: Recasting the Objects of Ethical Concern

Michael Thomson

Follow this and additional works at: <https://scholarlycommons.law.emory.edu/elj>

Recommended Citation

Michael Thomson, *Bioethics & Vulnerability: Recasting the Objects of Ethical Concern*, 67 Emory L. Rev. 1207 (2018).

Available at: <https://scholarlycommons.law.emory.edu/elj/vol67/iss6/6>

This Article is brought to you for free and open access by Emory Law Scholarly Commons. It has been accepted for inclusion in Emory Law Journal by an authorized editor of Emory Law Scholarly Commons. For more information, please contact law-scholarly-commons@emory.edu.

BIOETHICS & VULNERABILITY: RECASTING THE OBJECTS OF ETHICAL CONCERN

*Michael Thomson**

ABSTRACT

Mainstream bioethics has long been challenged for its focus on the technological developments of biomedicine and principles of individual ethics. It is argued that the focus on these particular objects, and the delisting of the social context within which the ethical is constructed and experienced, limits the extent to which bioethics provides a contesting counter-weight to modern biomedicine. In response, this Article promotes Martha Fineman's vulnerability theory as a new framework for bioethical deliberation. Fineman's foundational concern with the embodied and embedded experience of being human puts the social at the heart of analytical enquiry. Further, a focus on the institutional structures within which we are all embedded provides a framework for assessing state responsiveness to its embedded citizens. Recognizing that mainstream bioethics has historically resisted the incorporation of other frameworks, this Article argues that the current turn to the social in the life sciences provides an important new context within which we might successfully reimagine bioethics and its objects of ethical concern.

* Professor of Law, School of Law, University of Leeds and Faculty of Law, University of Technology Sydney. I would like to thank Martha Fineman for comments on an early sketch of my ideas. I first met Martha nearly twenty years ago at Cornell Law School, and we have worked together on a number of projects since. Given this longstanding friendship—and the fact that Martha has recently joined the Centre for Law & Social Justice and the School of Law, University of Leeds—I am particularly pleased to be contributing to this special issue. Martha has quickly become a key member of our school's community. She interacts with faculty and students with the same encouragement and generosity that I have known and benefited from for the last two decades. Her transformative scholarship and her energetic commitment to the importance of academic community are shaping what we do in both the Centre and School. Returning to the Article, I would also like to thank other members of the Centre for Law & Social Justice who took part in a Centre roundtable on an earlier draft and who continue to help to make the School an exceptional place within which to work. Thank you to Beverley Clough, Christopher Dietz, Jennifer Hendry, Amanda Keeling, Samantha Lewis, Stu Marvel, and Mitchell Travis. I am also grateful to Catherine Cruse-Drew and those who attended "The Ethics of Vulnerability," held at University College Dublin from November 23 to 25, 2017, and a seminar held at the School of Law, University of Bristol on December 13, 2017. Finally, thank you to Joshua Warburton for his research assistance.

INTRODUCTION

Standard accounts of the emergence of bioethics are typically anchored in the progressive politics of the sixties.¹ In these narratives, bioethics is cast as a response to the Nuremberg trials and a series of abuses committed in the name of research in the decades that followed.² These originary tales position bioethics alongside the civil rights movement. It is a counter-cultural force protecting the rights of individuals, checking the excesses of (some) researchers, and an increasingly technological, commercial, and industrialized health system. As the bioethicist and historian Albert Jonsen argued, early bioethicists were “pioneers” who “blazed trails into a field of study that was unexplored and built conceptual roads through unprecedented problems.”³ The pioneers “radically change[d] the practice of scientific research in America.”⁴ Since these early days, bioethics has grown to attain a particular place in the governance of science and technology. It has “spawned a new profession and seeded novel social institutions.”⁵ It acts directly through structural requirements for ethical review, as well as indirectly through the ways in which bioethics has come to shape public deliberation. It has also influenced processes of legal reasoning and governance, with law becoming increasingly undifferentiated from bioethics and both “seen as normative modes that can preempt and control biomedicine.”⁶ As José López concluded over a decade ago, “In little over 30 years, bioethics has managed to position itself as a key node through which a variety of social, political and scientific activities are refracted.”⁷

However, the operation and effectiveness of bioethics has long been questioned, with a “cottage industry of sceptics” keeping pace with the growth of the field.⁸ Critics have challenged dominant accounts of the emergence of

¹ See, e.g., ALBERT R. JONSEN, *THE BIRTH OF BIOETHICS* (1998); DAVID J. ROTHMAN, *STRANGERS AT THE BEDSIDE: A HISTORY OF HOW LAW AND BIOETHICS TRANSFORMED MEDICAL DECISION MAKING* (2d prtg. 2009).

² Henry K. Beecher, *Ethics and Clinical Research*, 274 *NEW ENG. J. MED.* 1354 (1966).

³ JONSEN, *supra* note 1, at viii.

⁴ Albert R. Jonsen, *Beating Up Bioethics*, *HASTINGS CTR. REPORT*, Sept.–Oct. 2001, at 40, 44 (reviewing M.L. TINA, *BIOETHICS IN AMERICA: ORIGINS AND CULTURAL POLITICS* (2000), and WESLEY J. SMITH, *CULTURE OF DEATH: THE ASSAULT ON MEDICAL ETHICS IN AMERICA* (2000)).

⁵ MLT Stevens, *The History of Bioethics: Its Rise and Significance*, in *REFERENCE MODULE IN BIOMEDICAL RESEARCH I* (3d ed. 2014). Stevens continues: “It has sown think tanks, educational programs or courses in universities, law and medical schools, hospital consultancies, research review committees, national policy commissions, professional associations, and generated a massive publication roster.” *Id.*

⁶ MARIE-ANDRÉE JACOB, *MATCHING ORGANS WITH DONORS: LEGALITY AND KINSHIP IN TRANSPLANTS* 37 (2012).

⁷ José López, *How Sociology Can Save Bioethics . . . Maybe*, 26 *SOC. HEALTH & ILLNESS* 875, 875 (2004).

⁸ Chris Herrera, *Is It Time for Bioethics to Go Empirical?*, 22 *BIOETHICS* 137, 137 (2008).

bioethics and its ability—and willingness—to check the “overreach” of science and technology. Here, the bioethics enterprise is cast as a mode of permissive governance rather than a contesting presence and voice. In the most cutting of these critiques, bioethics is the “public relations division of modern medicine,”⁹ lambasted as medicine’s “showdog rather than a watchdog.”¹⁰ This Article focuses on the important charge within this wider criticism that mainstream bioethics fails to account sufficiently for the social; that is, “the social, political and economic arrangements that simultaneously create and constrain us.”¹¹ This is understood as at the heart of bioethics’ failure to live up to its originary narratives and sufficiently contest the power and reach of modern biomedicine.

In response, I argue for the mobilization of Martha Fineman’s vulnerability theory as a new framework for bioethical analysis and deliberation. Fineman argues for a reorganization of our political discourse to respond to our shared vulnerability, which is “universal and constant, inherent in the human condition.”¹² The aim of this Article is not to replace mainstream bioethics, but to enrich it with the “embodied and embedded”¹³ *vulnerable subject*: a subject whose embodied vulnerability and social embeddedness creates inevitable dependency on others.¹⁴ While calls to expand “the matrix of bioethical thought” are not new, there has over the years been little change in the “style of thought, or the ideologies” of mainstream bioethics.¹⁵ Nevertheless, it is argued that the

⁹ Jonathan B. Imber, *Medical Publicity Before Bioethics: Nineteenth-Century Illustrations of Twentieth-Century Dilemmas*, in *BIOETHICS AND SOCIETY: CONSTRUCTING THE ETHICAL ENTERPRISE* 16, 30 (Raymond DeVries & Janardan Subedi eds., 1998).

¹⁰ Raymond De Vries, *How Can We Help? From “Sociology in” to “Sociology of” Bioethics*, 32 *J.L. MED. & ETHICS* 279, 289 (2003). It is important to approach such criticism with balance. Every discipline has its origin myths, and given the complexity of the historical moment that saw the emergence of interdisciplinary bioethics, it would be surprising if there were a single account of the development of the field. Further, all professions are stratified and segmented with the actions of elites often directed at the messy business of securing jurisdiction and longevity. See ANDREW FRANCIS, *AT THE EDGE OF LAW: EMERGENT AND DIVERGENT MODELS OF LEGAL PROFESSIONALISM* (2011). Much criticism homogenizes bioethics, and the actions of these elites have become an easy and at times myopic target for critique. As De Vries et al. state, social scientists “tend to speak of bioethics as if it were a monolithic entity, with a single perspective and mode of inquiry, reinforced by a cadre of leaders whose position and expertise are unchallenged – an orthodox professional group capable of enforcing such tight discipline that the ‘field’ speaks with one voice on all issues.” Raymond de Vries et al., *Social Science and Bioethics: The Way Forward*, 28 *SOC. HEALTH & ILLNESS* 665, 667 (2006).

¹¹ Barry Hoffmaster, *Introduction to BIOETHICS IN SOCIAL CONTEXT* 1, 1 (Barry Hoffmaster ed., 2001).

¹² Martha Albertson Fineman, *The Vulnerable Subject: Anchoring Equality in the Human Condition*, 20 *YALE J.L. & FEMINISM* 1, 1 (2008).

¹³ Martha Albertson Fineman, *Vulnerability and the Institution of Marriage*, 64 *EMORY L.J.* 2089, 2091 (2015).

¹⁴ Martha Albertson Fineman, *Vulnerability, Resilience, and LGBT Youth*, 23 *TEMP. POL. & C.R. L. REV.* 307, 318 (2014).

¹⁵ Renée C. Fox, *Is Medical Education Asking Too Much of Bioethics?*, *DAEDELUS*, Fall 1999, at 1, 11.

“new biosocial moment”¹⁶ emerging in the life sciences may provide the conditions of possibility for the reorientation and revitalizing of bioethics. In areas such as neuroscience, epigenetics, and pro-social models of evolution, the body is increasingly figured as responsive at a molecular level to the environments within which it is embedded. As these biosocial knowledge claims proliferate, attending to the social in ethical debate becomes not only more pressing but also possible if strategic alliances are built across diverse disciplines. Thus, this Article identifies vulnerability theory as a response to a long identified weakness in bioethics, and also provides the mechanism whereby incorporation into bioethical thought and practice may be achieved.

This Article starts by outlining the foundational proposition that the objects of ethical concern are not preordained; they were not “always already” there waiting to be discovered and mobilized. This is achieved by setting out a particular genealogy, whereby the dominance of analytical philosophy and processes of institutionalization within medicine lead to a focus on certain objects and a neglect of the social as a *core* concern for analysis.¹⁷ Vulnerability theory is then introduced and the potential for incorporation into mainstream bioethics is identified through leveraging increasing cross-disciplinary concern with the biosocial—that is, with the “embodied and embedded” experience of being human.¹⁸ Here this Article details the social turn in the life sciences, with developmental neuroscience and neuroethics used to illustrate this increasingly prevalent thought style, its possibilities, and the limitations of current mainstream ethical responses.¹⁹ Finally, the potential for vulnerability theory to recast our objects of ethical concern is illustrated.

Before proceeding, it is important to clarify the bioethics that is the focus for this discussion. Reference is made across the literature to “mainstream” bioethics, distinguishing a core from feminist and other critical accounts.²⁰ This

¹⁶ Maurizio Meloni, *How Biology Became Social, and What It Means for Social Theory*, 62 SOC. REV. 593, 595 (2014).

¹⁷ For clarity, the claim here is not that the social is never an object of concern, or engaged as a factor within analysis, but that it is not consistently a *core* or *dominant* focus.

¹⁸ Fineman, *supra* note 13, at 2091.

¹⁹ In LUDWIK FLECK, GENESIS AND DEVELOPMENT OF A SCIENTIFIC FACT (Thaddeus J. Trenn & Robert K. Merton eds., Fred Bradley & Thaddeus J. Trenn trans., 1979), Fleck introduced the concept of the “thought collective” (*Denkkollektiv*) and the more familiar “thought style” (*Denkstile*). *Id.* at 39. Fleck defined the thought collective as a “community of persons mutually exchanging ideas or maintaining intellectual interaction, we will find by implication that it also provides the special ‘carrier’ for the historical development of any field of thought, as well as for any given stock of knowledge and level of culture.” *Id.* (emphasis omitted). A thought style is the set of beliefs and values that is common to a given collective.

²⁰ RENÉE C. FOX & JUDITH P. SWAZEY, OBSERVING BIOETHICS (2008); FEMINIST BIOETHICS: AT THE CENTER, ON THE MARGINS (Jackie Leach Scully et al. eds., 2010); Swathi Arekapudi & Mathew K. Wynia, *The*

term recognizes that while bioethics is an increasingly diverse field, it is still possible to identify a “mainstream” in terms of preoccupations and approaches even as the focus of bioethical analysis broadens. This is illustrated below in the context of neuroethics, and such criticism has also been levelled against innovations such as public health ethics. In referring to bioethics, this Article refers to the mainstream conception, which, importantly, also shapes how bioethics is practiced in the public sphere. Influence on public debate—shaping dominant accounts of the ethical in public and institutional discourse—places demands on bioethics to assess the tools it mobilizes in fulfilling its public roles.²¹ The focus on mainstream bioethics and the arguments made here should not, however, be read as a dismissal of the significant breadth of voices and approaches in the field as a whole, including feminist, reformist, and post-conventionalist bioethics.²²

I. “BIOETHICS IS NOT JUST BIOETHICS”²³

According to Daniel Callahan, bioethics is concerned with the “determination . . . of what is right and wrong, good and bad, about scientific developments and technological deployments of biomedicine. What are our duties and responsibilities in the face of those developments?”²⁴ While Callahan’s definition continues to reflect the parameters of contemporary mainstream bioethics, the statement lacks history and context. In this, it may be taken to suggest that this definition and the particular objects it identifies as ethically important are self-evident and natural, rather than the result of specificities of time and place, including the “turf-wars”²⁵ and “boundary-

Unbearable Whiteness of the Mainstream: Should We Eliminate, or Celebrate, Bias in Bioethics?, 3 AM. J. BIOETHICS 18 (2003).

²¹ This has been recognized in the context of bioethics globalizing ambitions and associated intellectual imperialism, but should not be contained to this arena. See Subrata Chattopadhyay & Raymond De Vries, *Bioethical Concerns Are Global, Bioethics Is Western*, 18 EUBIOS J. ASIAN & INT’L BIOETHICS 106 (2008); Stuart Rennie & Bavon Mupenda, *The Ethics of Globalizing Bioethics*, 2 ETHICS BIOLOGY ENGINEERING & MED. 147 (2011).

²² See, e.g., MARGRIT SHILDRICK, *EMBODYING THE MONSTER: ENCOUNTERS WITH THE VULNERABLE SELF* (2002); MARGRIT SHILDRICK, *LEAKY BODIES AND BOUNDARIES: FEMINISM, POSTMODERNISM AND (BIO)ETHICS* (1997) [hereinafter SHILDRICK, *LEAKY BODIES*]; *ETHICS OF THE BODY: POSTCONVENTIONAL CHALLENGES* (Margrit Shildrick & Roxanne Mykitiuk eds., 2005); *FEMINIST BIOETHICS: AT THE CENTER, ON THE MARGINS*, *supra* note 20.

²³ Renée C. Fox & Judith P. Swazey, *Medical Morality Is Not Bioethics—Medical Ethics in China and the United States*, 27 PERSP. BIOLOGY & MED. 336, 338 (1984) (capitalization added).

²⁴ Daniel Callahan, *The Social Sciences and the Task of Bioethics*, *DAEDELUS*, Fall 1999, at 275, 276.

²⁵ ANDREW ABBOTT, *THE SYSTEM OF PROFESSIONS* 102, 153–54 (1988).

work”²⁶ that shape all professional projects and claims to expertise.²⁷ Indeed, the endeavor that Callahan describes is the product of a very specific set of alliances and jurisdictional scuffles. These explain why and how we end up with Callahan’s vision, rather than the bioethics conceived by Van Rensselaer Potter, the Wisconsin oncologist who first proposed a modern definition.²⁸ Potter conceived of bioethics as a bridge: between present and future, nature and culture, science and values.²⁹ Potter’s expansive ecological and medical vision was superseded by the much narrower understanding reflected by Callahan. It is important to ask how—from Potter’s open and inclusive starting place—we ended up with the particular disciplinary parameters we have today. Specifically, why have certain objects become of significance to bioethics while others have not?

There are a number of important structural and contextual elements that should feature prominently in any genealogy that seeks to track the route taken from the project’s³⁰ first tentative steps as an interdisciplinary and collaborative (“big tent”³¹) enterprise when it first emerged in the United States in the 1960s,³² to the form bioethics takes today and its reach as an expansive “governance practice.”³³ It is important, for example, to acknowledge the relationship

²⁶ Thomas F. Gieryn, *Boundary-Work and the Demarcation of Science from Non-Science: Strains and Interests in Professional Ideologies of Scientists*, 48 AM. SOC. REV. 781, 782 (1983).

²⁷ For relatively recent examples of the mobilization of Abbott and Gieryn’s theories in the context of law, medicine, and areas of ethical controversy, see Michael Thomson, *Abortion Law and Professional Boundaries*, 22 SOC. & LEGAL STUD. 191 (2013), and Sheelagh McGuinness & Michael Thomson, *Medicine and Abortion Law: Complicating the Reforming Profession*, 23 MED. L. REV. 177 (2015).

²⁸ See VAN RENSSELAER POTTER, *BIOETHICS: BRIDGE TO THE FUTURE* vii (1971). While Potter is credited with the first modern definition, the term “bioethics” was first used in 1927 by Fritz Jahr. See Fritz Jahr, *Bio-Ethik: Eine Umschau Über die Ethischen Beziehungen des Menschen zu Tier und Pflanze [Bio-Ethics: A Panorama of the Human Being’s Ethical Relations with Animals and Plants]*, KOSMOS, no. 24, 1927 (Ger.).

²⁹ POTTER, *supra* note 28, at vii; Henk A.M.J. ten Have, *Potter’s Notion of Bioethics*, 22 KENNEDY INST. ETHICS J. 59, 59 (2012).

³⁰ I refer to bioethics as a project. This locates bioethics within the sociology of the professions where professions are understood as the result of professionalization projects; that is, the social, political, and legal strategies that allow for the mobilization of knowledge claims for occupational closure and the attendant financial and social rewards. MAGALI SARFATTI LARSON, *THE RISE OF PROFESSIONALISM: A SOCIOLOGICAL ANALYSIS* (1977).

³¹ De Vries et al., *supra* note 10, at 676.

³² Duncan Wilson, *What Can History Do for Bioethics?*, 27 *BIOETHICS* 215, 215 (2013).

³³ Jonathan Montgomery has recently conceptualized bioethics as a “governance practice.” Montgomery argues that rather than continuing the somewhat limited and introspective debates that ask what bioethics *is* (that is, ongoing discussions of whether it is a field, discipline, and so forth), we should address “what it does. We should be concerned to understand the nature of bioethics as a Foucauldian ‘discipline’, a discursive technology of social control, and look for a normative framework for critique that is sensitive to the way in which bioethics asserts its jurisdiction in matters of public significance, not merely private morality.” Jonathan Montgomery, *Bioethics as a Governance Practice*, 24 *HEALTH CARE ANALYSIS* 3, 10 (2016).

between bioethics and law, particularly when the subjects are often co-located—at least in the United Kingdom—and much criticism of bioethics concerns foundational values that are as much the preoccupation of jurisprudence and legal practice as they are of bioethics.³⁴ Nevertheless, the focus here is on two formative elements: the emergence of analytically trained philosophers as the “dominant force in the field” in the 1970s,³⁵ and its contemporaneous institutionalization within medicine.

Bioethics emerged in the United States, and much critical commentary is directed at the U.S. experience.³⁶ Here, David Rothman accounts for the importance of time and place:

The fit between the movement and the times was perfect. Just when courts were defining an expanded right to privacy, the bioethicists were emphasising the principle of autonomy, and the two meshed neatly; judges provided a legal basis and bioethicists, a philosophical basis for empowering the patient. Indeed, just when movements on behalf of a variety of minorities were advancing their claims, the bioethicists were defending another group that appeared powerless—patients.³⁷

More specifically, Rothman has linked the emergence of philosophy as the dominant discipline to the public debate that took place in the 1970s around the use of invasive therapies for premature infants and newborns with disabilities. In particular, Rothman pinpoints the case of the “John Hopkins baby” where the parents of a child with Down syndrome refused permission for surgery to repair an intestinal blockage.³⁸ The child was placed in the corner of the hospital nursery and left to starve to death, a process that took fifteen days.³⁹ Following action by some hospital staff, and a subsequent film that generated significant moral outrage, hospital directors announced that they would instigate an

³⁴ I am grateful to Stu Marvel for making this point and directing attention to the need for research in this area.

³⁵ Daniel Callahan, *At the Center*, HASTINGS CTR. REP., June 1982, at 4, 4.

³⁶ While international treaties and conventions point to the universal claims of bioethics, jurisdictional experiences and approaches differ significantly. See Montgomery, *supra* note 33.

³⁷ ROTHMAN, *supra* note 1, at 245. Rothman continues: “All these advocates were siding with the individual against the constituted authority; in their powerlessness, patients seemed at one with women, inmates, homosexuals, tenants in public housing, welfare recipients, and students, who were all attempting to limit the discretionary authority of professionals.” *Id.*

³⁸ *Id.* at 191. It is interesting that a similar case helped to shape early bioethical debate in the United Kingdom. See Raanan Gillon, *Medical Ethics in Britain*, 9 THEORETICAL MED. 251, 256 (1988).

³⁹ ROTHMAN, *supra* note 1, at 191. For an account of the case, see James M. Gustafson, *Mongolism, Parental Desires, and the Right to Life*, 16 PERSP. BIOLOGY & MED. 529, 529–30 (1973).

interdisciplinary review board to advise on difficult cases.⁴⁰ While interdisciplinary, it was philosophy that dominated: “[T]he John Hopkins case helped to ensure that philosophy, not the social sciences, would become the preeminent discipline among academics coming into the field of medicine.”⁴¹

In the United Kingdom, Duncan Wilson has identified the pioneering academic medical lawyer Ian Kennedy’s 1980 *Reith Lectures: Unmasking Medicine* as the point at which the discipline formally debuted.⁴² Kennedy’s vision was clearly imported from the United States and brought with it the philosophical bias.⁴³ While Rothman narrates a path whereby doctors (and hospital administrators) invited philosophers (and others) into medical decision making, Wilson’s account of the development and institutionalization of bioethics is more prosaic, relying on the managerialism and politics of the 1980s. Wilson argues that the emergence of bioethics in the United Kingdom owes much to the ascendancy of audit culture and the birth of “audit society”⁴⁴ seen at the time. Further, while Ian Kennedy may have imported a U.S. model of bioethical enquiry, Wilson argues that its success in the United Kingdom owed much to the fact that it aligned with the Thatcherite project to weaken the power of the traditional professions.⁴⁵ This analysis directs us to Tina Stevens’ argument that a key question must be why bioethics specifically was “selected for institutionalization by biomedical power structures and society more generally.”⁴⁶

Bioethics should be understood as one of a number of possible “outsiders” that existed on both sides of the Atlantic at this time. Any one of these might have been incorporated in the search for interdisciplinarity in decision making. While Stevens highlights the presence of the responsible science movement,⁴⁷

⁴⁰ ROTHMAN, *supra* note 1, at 192–93.

⁴¹ *Id.* at 221.

⁴² Duncan Wilson, *Who Guards the Guardians? Ian Kennedy, Bioethics and the “Ideology of Accountability” in British Medicine*, 25 SOC. HIST. MED. 193, 195–96, 201–02 (2011) (citing Ian Kennedy, *The Reith Lectures: Ian Kennedy: Unmasking Medicine*, BBC (Nov. 5–Dec. 10, 1980), <http://www.bbc.co.uk/programmes/p00gqlz0>).

⁴³ *Id.* at 204.

⁴⁴ *Id.* at 201 (quoting MICHAEL POWER, *THE AUDIT SOCIETY: RITUALS OF VERIFICATION* (1997)).

⁴⁵ *Id.* at 202.

⁴⁶ Stevens, *supra* note 5, at 3.

⁴⁷ Stevens details how bioethics provided an opportunity to dissipate the post-war *responsible science movement’s* influence: “That influence saw a subsection of scientists and physicians seeking public involvement in interrogating research trajectories or clinical practice that they themselves found troubling. . . . [This] largely subside[d] with the bureaucratization of ethical scrutiny. The emergence of an infrastructure of bioethical examination . . . assisted in disciplining professional discourse as well as framing public understanding.” *Id.* at 1.

Charles Bosk has argued that bioethics provided an alternative to a more forceful challenge to medicine that was led by consumer and patient activists. This activist challenge was “more confrontational in tone, more insistent on structural change, and more focused on the politics of health care than was the bioethics movement.” As he concludes, “By assimilating bioethics, organised medicine was able to defang this other, broader challenge.”⁴⁸ More generally, and returning to Stevens, in “selecting” bioethics, medicine redirected political challenge into a form of inquiry that “facilitated civic management through guidelines and regulations rather than activism or advocacy.”⁴⁹

Delisting the Social

The dominance of philosophy and the early alliance with (or institutionalization within) medicine have impacted the practices and styles of thought of bioethics. The dominance of philosophy has created “selectivity towards a formalistic, procedural, disembodied and universalistic way of identifying and resolving bioethical dilemmas.”⁵⁰ At the same time, and in the context of the institutionalization within medicine, bioethics has failed to interrogate how “moral problems are generated and framed by the practices, structures, and institutions within which they arise.”⁵¹ In both regards, of particular note is the claim that this has led to a delisting of the social—that is, a narrowing of what is identified as ethically relevant. Rothman ties this directly to the emergence of philosophy as the dominant voice, which meant that “principles of individual ethics, not broader assessments of the exercise of power in society, would dominate the intellectual discourse around medicine.”⁵²

An important facet of this argument follows from the success of principlism, which deserves a genealogical account of its own given its significant influence in shaping bioethics. For now it is sufficient to briefly acknowledge its impact. Principlism was first formalized as a decision-making approach by the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research—the Belmont Report—in 1979.⁵³ The approach has subsequently become closely associated with Tom Beauchamp and James

⁴⁸ Charles L. Bosk, *Professional Ethicist Available: Logical, Secular, Friendly*, DAEDELUS, Fall 1999, at 47, 64.

⁴⁹ Stevens, *supra* note 5, at 1.

⁵⁰ López, *supra* note 7, at 878.

⁵¹ Hoffmaster, *supra* note 11, at 2.

⁵² ROTHMAN, *supra* note 1, at 221.

⁵³ OFFICE OF THE SEC’Y, NAT’L COMM’N FOR THE PROT. OF HUMAN SUBJECTS OF BIOMEDICAL & BEHAVIORAL RESEARCH, THE BELMONT REPORT (Apr. 18, 1979).

Childress, and their globally influential *Principles of Biomedical Ethics*.⁵⁴ The approach is premised on the identification of common principles that are claimed to transcend cultural, theological, and intellectual differences. Beauchamp and Childress have successfully promoted autonomy, non-maleficence, beneficence, and justice as a “toolbox” for deliberating ethical issues in health care.⁵⁵ While the claims of the authors are carefully circumscribed, the four principles have come to dominate developments in bioethics.⁵⁶ It is argued that this has contributed to the narrowing of the project. Adam Hedgecoe, for example, argues that bioethics tends to ignore social and cultural factors because in championing a core set of “universal ethical principles,” social and cultural elements are “regarded as ‘epiphenomena’ and unimportant.”⁵⁷ Further, within principlism autonomy has been elevated to “first amongst equals,”⁵⁸ with enquiry dominated by an often “uncritical deference to autonomy.”⁵⁹ This has led many to argue that this has “marginalised other issues that might have rightfully fallen under its remit, *i.e.* social inequality, gender, professional power and race and ethnicity.”⁶⁰

Questioning the choice of objects of bioethical concern can be framed as an important aspect of a broader enquiry around whether we have ended up with a sufficiently contesting bioethics. In this vein, Jeremy Garrett has characterized the dominant bioethical approach as “modest clarification and weed clearing.”⁶¹ While a necessary and important task, Garrett challenges the centrality of this

⁵⁴ TOM L. BEAUCHAMP & JAMES F. CHILDRESS, *PRINCIPLES OF BIOMEDICAL ETHICS* (7th ed. 2013).

⁵⁵ *See generally id.*

⁵⁶ Richard Huxtable, *For and Against the Four Principles of Biomedical Ethics*, 8 *CLINICAL ETHICS* 39, 41 (2013).

⁵⁷ Adam M. Hedgecoe, *Critical Bioethics: Beyond the Social Science Critique of Applied Ethics*, 18 *BIOETHICS* 120, 125 (2004).

⁵⁸ R. Gillon, *Ethics Needs Principles—Four Can Encompass the Rest—and Respect for Autonomy Should Be “First Among Equals,”* 29 *J. MED. ETHICS* 307, 310 (2003).

⁵⁹ Jeremy R. Garrett, *Two Agendas for Bioethics: Critique and Integration*, 29 *BIOETHICS* 440, 442 (2015).

⁶⁰ López, *supra* note 7, at 879 (citation omitted). Hoffmaster provides an account of the weaknesses that these factors result in, detailing how the justificatory apparatus of traditional bioethics: “(i) assumes that real-life moral problems come sorted, labeled, and ready for the manipulation of rules, principles, or theories; (ii) disregards the extent to which moral concepts and norms derive their meaning and their force from the social and cultural surroundings in which they are embedded; (iii) neglects the ways in which moral problems are generated and framed by the practices, structures, and institutions within which they arise; and (iv) ignores the means by which social and cultural ideologies, and the power relationships they entrench, can both perpetuate moral inertia and effect moral change.” Hoffmaster, *supra* note 11, at 2–3.

⁶¹ Garrett, *supra* note 59, at 440. Garrett argues that the dominant mode of work in the field is “value clarification” for four reasons: (a) such clarification is “a genuinely necessary and important task,” (b) it is a “relatively modest and easy task,” (c) because of the “ideological commitment to individual autonomy,” and (d) it is a part of a “larger retreat to ‘neutrality’ It at least appears to be a neutral, apolitical, tolerant, and autonomy-respecting agenda.” *Id.* at 442–43 (emphasis omitted).

approach, which he claims derives in part from the ideological commitment to autonomy. Garrett cites Tristram Engelhardt who points to a lack of critical and normative force, arguing that rather than providing normative direction, bioethicists “engage in a form of value-clarification” providing a “cluster of social services that support institutional governance.”⁶² Duncan Wilson is equally critical in the context of bioethics in the United Kingdom. He argues that bioethics has been just as concerned with legitimating research as it has with pursuing public accountability. Ethics, he argues, is “ultimately about bridging divides, not exacerbating: deriving workable solutions without fundamentally questioning the forms of power or control invested in modern biomedicine.”⁶³ Addressing the current analytical reach and effectiveness of bioethics is essential for the future of the project on both sides of the Atlantic. As Garrett concludes:

[B]ioethics needs reorientation. *Mere* value clarification puts the field on the path of least resistance instead of the path of greatest value and responsibility. Not only does it sell bioethics short, the product that mere clarification actually delivers is too often conceptually and normatively inadequate: shallow and ill framed⁶⁴

To recap, bioethics and the institutions within which it is embedded promote the project as a counter-weight to the potential overreach of researchers and an increasingly technological and commercial biomedicine. Nevertheless, the bioethics project has attracted sustained criticism. A claim running through such criticism is that the dominance of analytical philosophy and the alliance with medicine means that bioethics tends to miss—or misdiagnose—the most important ethical moments, as it delists the social context within which ethical encounters take place. This is reflected in a preoccupation—captured in Callahan’s definition—with individual ethical principles and technological developments. These criticisms are longstanding, and have not been addressed by the development and diversification that has taken place in the field.⁶⁵ The

⁶² *Id.* at 440–41.

⁶³ Duncan Wilson, *Creating the “Ethics Industry”*: Mary Warnock, *In Vitro Fertilization and the History of Bioethics in Britain*, 6 *BIOsocieties* 121, 137 (2011).

⁶⁴ Garrett, *supra* note 59, at 447.

⁶⁵ Public health ethics provides an interesting example. This subfield casts itself as a departure from the typical concerns of bioethics, particularly the focus on autonomy. Its success in this regard is somewhat limited and has been questioned by a number of scholars. Jeremy Garrett uses public health ethics as one of two examples that he claims illustrate the limits that follow when bioethicists see their role as “*mere* value clarification.” Garrett, *supra* note 59, at 442. Acknowledging the multiple emerging issues in public health ethics, Garret writes: “As society grapples with these diverse challenges, the value-clarifying bioethicist steps in to tidy up. We are told, almost invariably, that the central value conflict is between social utility and individual liberty. . . . But what the *mere* value clarifier fails to offer is a substantive argument about what we should, or should not, actually do. Instead, he or she retreats into the shadows leaving others to do the heavy lifting. Without further normative direction, these others naturally default to prevailing social norms that are often crudely understood and applied.

following Part introduces vulnerability theory as an analytical framework that has the potential to recalibrate our understanding of what is ethically important—that is, to recast the objects of ethical concern.

II. EXPANDING THE MATRIX OF BIOETHICAL THOUGHT: VULNERABILITY THEORY

Vulnerability has long been a focus for philosophical inquiry, particularly within continental European thought.⁶⁶ In bioethics, it is an emerging—if controversial—value.⁶⁷ Here vulnerability is often cast as it is elsewhere: in functional terms where it is seen as a characteristic of particular individuals or populations.⁶⁸ This may reflect how vulnerability emerged in bioethics, first appearing in the Belmont Report on the use of human subjects in clinical and behavioral research.⁶⁹ Nevertheless, it has subsequently been identified as a core value in the Universal Declaration on Bioethics and Human Rights.⁷⁰ Article 8 recognizes respect for human vulnerability and personal integrity as fundamental values.⁷¹ Inclusion in the Declaration has been part of the developing and broadening understanding of vulnerability in bioethics; yet, as Henk ten Have notes, the growing body of academic literature “does not make clear how vulnerability should be understood, interpreted, and applied.”⁷² While some question its utility—arguing it is too vague, too narrow, or too broad⁷³—

For public health issues, the upshot is that this normative void is quickly filled by . . . the prevailing assumption that restrictions on individual liberty are only justified in order to prevent harm to others. This assumption casts a cloud of suspicion over public health initiatives from the outset, while firmly entrenching a particular view of liberty as a default value.” *Id.*; see also Marie Fox & Michael Thomson, *Realising Social Justice in Public Health Law*, 21 *MED. L. REV.* 278 (2013).

⁶⁶ See Danielle Petherbridge, *What’s Critical About Vulnerability?: Rethinking Interdependence, Recognition, and Power*, 31 *HYPATIA* 589 (2016).

⁶⁷ For a detailed account of the developing relationship between bioethics and vulnerability, see HENK TEN HAVE, *VULNERABILITY: CHALLENGING BIOETHICS* (2016).

⁶⁸ Doris Schroeder and Eugenijus Gefenas provide a clear example of this particular understanding of vulnerability in this context. As they state: “To be vulnerable means to face a significant probability of incurring an identifiable harm while substantially lacking the ability and/or means to protect oneself.” Doris Schroeder & Eugenijus Gefenas, *Vulnerability: Too Vague and Too Broad?*, 18 *CAMBRIDGE Q. HEALTHCARE ETHICS* 113, 117 (2009).

⁶⁹ OFFICE OF THE SEC’Y, *supra* note 53.

⁷⁰ UNESCO, *Universal Declaration on Bioethics and Human Rights* (Oct. 19, 2005), http://portal.unesco.org/en/ev.php-URL_ID=31058&URL_DO=DO_TOPIC&URL_SECTION=201.html. The declaration was adopted by member states of the United Nations Educational, Scientific and Cultural Organization in 2005.

⁷¹ *Id.* at art. 8.

⁷² Henk ten Have, *Respect for Human Vulnerability: The Emergence of a New Principle in Bioethics*, 12 *BIOETHICAL INQUIRY* 395, 395 (2015).

⁷³ See Carol Levine et al., *The Limitations of “Vulnerability” as a Protection for Human Research Participants*, 4 *AM. J. BIOETHICS* 44 (2004).

others have described it as essential for the development of contemporary bioethics,⁷⁴ perhaps even “the single most important idea that will shape” the future of the project.⁷⁵ Regardless of this developing presence, there remain “significant controversies concerning the epistemological status of the notion, its content and scope.”⁷⁶

Responding to these controversies, this Article argues for the deployment of Martha Fineman’s vulnerability theory in bioethical deliberation. Fineman’s intellectual and political project can be seen as part of a broader trend which has seen corporeal vulnerability emerge as a motif within feminist political theory.⁷⁷ In a variety of ways, these new “ethical ontologies”⁷⁸ address our embodiment and the specificity of our experience as a means of rearticulating state responsibilities and our obligations to others. Acknowledging this body of work, this Article focuses on Fineman’s attention to the “embodied and embedded” experience of being human which underpins her theory. It is argued that this aligns with an emerging biosocial terrain in the life-sciences and gives it greater potential traction in terms of the dynamics of incorporation outlined in the next Part. In this regard, this Article also acknowledges Fineman’s disciplinary expertise in law and the continuing relationship between law and bioethics.

For Fineman, vulnerability is a “universal, inevitable, enduring aspect of the human condition.”⁷⁹ It is part of our shared humanity that we all age and may be struck down by illness and natural or man-made disaster. This embodied starting point reflects “the fact that we humans exist in a world full of often-unpredictable material realities.”⁸⁰ While risks can be mitigated, “the possibility of harm cannot be eliminated.”⁸¹ Accepting this ontological vulnerability, our bodies and their strengths, weaknesses, and abilities nevertheless exist on a remarkable range. Thus, our vulnerability is “both

⁷⁴ Jacob Dahl Rendtorff, *Basic Ethical Principles in European Bioethics and Biolaw: Autonomy, Dignity, Integrity and Vulnerability – Towards a Foundation of Bioethics and Biolaw*, 5 MED. HEALTH CARE & PHIL. 235, 237 (2002).

⁷⁵ ten Have, *supra* note 72, at 396 (quoting Warren Reich, *The Power of a Single Idea*, in *BIOETICA OU BIOETICAS NA EVOLUCAO DAS SOCIEDADAS* 380, 380 (Maria Patrão Neves & Manuela Lima eds., 2005)).

⁷⁶ *Id.* at 395.

⁷⁷ See, e.g., JUDITH BUTLER, *PRECARIOUS LIFE: THE POWER OF MOURNING AND VIOLENCE* (2004); ADRIANA CAVARERO, *HORRORISM: NAMING CONTEMPORARY VIOLENCE* (2009).

⁷⁸ Ann V. Murphy, *Corporeal Vulnerability and the New Humanism*, 26 HYPATIA 575, 578 (2011).

⁷⁹ Fineman, *supra* note 12, at 8.

⁸⁰ Martha Albertson Fineman, *The Vulnerable Subject and the Responsive State*, 60 EMORY L.J. 251, 267 (2010).

⁸¹ Martha Albertson Fineman, *Equality, Autonomy, and the Vulnerable Subject in Law and Politics*, in *VULNERABILITY: REFLECTIONS ON A NEW ETHICAL FOUNDATION FOR LAW AND POLITICS* 13, 20 (Martha Albertson Fineman & Anna Gear eds., 2016).

universal and particular; it is experienced uniquely by each of us.”⁸² A defining element of Fineman’s theory is the recognition that not only are we universally vulnerable, but we are also each “differently situated within webs of economic and institutional relationships.”⁸³ This directs us to attend to the fact that we are both embodied *and* embedded. Our embeddedness in social, economic, and institutional relationships shapes how resilient we are in experiencing and responding to our vulnerabilities. It follows that there is a duty on the state and others to provide us with the assets or tools to be resilient when our vulnerability is made manifest.⁸⁴ Fineman’s political project therefore aims to leverage a more responsive state; one obligated to address the differences in resilience that differentials in socioeconomic, educational, environmental, and other factors can create.⁸⁵

Those engaging with vulnerability theory in legal studies have often been most concerned with the second part of the “embodied and embedded” dyad—that is, as a social justice project it mandates that we engage with how “[l]ives are supported and maintained differently.”⁸⁶ The focus here, however, is the relationship between our embodied and embedded experience and a more material concern with our embodied experience. As just noted, Fineman directs us to attend to the formal and informal institutions within which we are located. As the life sciences increasingly challenge the traditional division between the biological and the social, a vulnerability analysis can be interpreted as mapping this, mandating that we look to the various environments (social and physical) that bodies and lives are located within and which constitute and sustain us. Addressing this at both a material and theoretical level challenges ethical analysis in two important and related ways. First, it unsettles the autonomous, self-governing and bounded liberal subject that dominates the legal, policy, and ethical imaginaries. Second, and related to this, it broadens our conceptions of dependency and responsibility. Before introducing the contemporary social turn in the life sciences, the next Part positions bioethics as a Foucauldian discursive formation. This justifies exploration of the increasing interdisciplinary attention to our embodied and embedded experience.

⁸² Fineman, *supra* note 80, at 269.

⁸³ *Id.*

⁸⁴ Whether ontological vulnerability creates either a political or normative obligation to act is debated. See Petherbridge, *supra* note 66.

⁸⁵ Fineman, *supra* note 14, at 318.

⁸⁶ BUTLER, *supra* note 77, at 32.

III. BIOETHICS AS A DISCURSIVE FORMATION

While feminists,⁸⁷ sociologists,⁸⁸ disability⁸⁹ and race scholars,⁹⁰ and others have sought to broaden the matrix of bioethical thought, little has progressed in terms of the preoccupations and styles of thought of mainstream bioethics.⁹¹ This continues to be lamented from both within and outwith bioethics.⁹² However, just as mainstream bioethics is the product of a specific configuration of political and professional concerns at a particular historical moment, so change is likely to be equally dependent on specific conditions. In this regard, José López has argued that we should consider bioethics as a *discursive formation*.⁹³ This requires us to “think[] about the relationship between socially sanctioned knowledges and their wider social, cultural and political conditions of possibility.”⁹⁴ As noted briefly above, bioethics and the specific form it has taken is a product of a particular moment in the history of biomedicine, its interaction with social movements, and the changing dynamics of the regulatory state. The project and its legitimacy are dependent on this history. As López continues, bioethics’ legitimacy and authority do not derive from the validity of its cognitive claims, rather these are “secured through the way in which it is embedded in an ecology of socially sanctioned knowledges (e.g. law, medicine,

⁸⁷ See FEMINISM AND BIOETHICS: BEYOND REPRODUCTION (Susan M. Wolf ed., 1996).

⁸⁸ See De Vries, *supra* note 10, at 279.

⁸⁹ See SHILDRICK, LEAKY BODIES, *supra* note 22; Adrienne Asch, *Disability, Bioethics, and Human Rights*, in HANDBOOK OF DISABILITY STUDIES 297 (Gary L. Albrecht et al. eds., 2001); Jackie Leach Scully, *Disability and Vulnerability: On Bodies, Dependence, and Power*, in VULNERABILITY: NEW ESSAYS IN ETHICS AND FEMINIST PHILOSOPHY 204 (Catriona Mackenzie et al. eds., 2014).

⁹⁰ See John Hoberman, *Why Bioethics Has a Race Problem*, HASTINGS CTR. REP., Mar.–Apr. 2016, at 12; Kari L. Karsjens & JoAnna M. Johnson, *White Normativity and Subsequent Critical Race Deconstruction of Bioethics*, AM. J. BIOETHICS, Spring 2003, at 22.

⁹¹ In terms of the example of gender, and more generally, this has again been linked to the field’s initial jurisdictional alliances, scuffles, and boundary-work. Hilde Lindemann has, for instance, argued that bioethics’ difficult relationship with gender and feminism is a result of its equally difficult relationship with philosophy. Hilde Lindemann, *Bioethics’ Gender*, AM. J. BIOETHICS, Mar.–Apr. 2006, at W15. Lindemann’s argument is that compared to philosophy, bioethics is often treated dismissively. In response, it aligns itself with medicine, avoiding processes of feminization, and as a result it is prevented from attending to the needs of women. *Id.* Similar arguments are made regarding the field’s relative youth, which again leave it seeking legitimacy through alliance with conservative disciplines (such as medicine and law). See, e.g., Helen Bequaert Holmes, *Closing the Gaps: An Imperative for Feminist Bioethics*, in EMBODYING BIOETHICS: RECENT FEMINIST ADVANCES, at 45, 49 (Anne Donchin & Laura M. Purdy eds., 1999); Susan M. Wolf, *Erasing Difference: Race, Ethnicity, and Gender in Bioethics*, in EMBODYING BIOETHICS: RECENT FEMINIST ADVANCES, *supra*, at 65. This boundary-work means that feminist bioethics remains on the periphery having to start afresh each time it seeks to speak to the mainstream. Stevens, *supra* note 5, at 6 & n.20.

⁹² See Catriona Mackenzie, *The Importance of Relational Autonomy and Capabilities for an Ethics of Vulnerability*, in VULNERABILITY: NEW ESSAYS IN ETHICS AND FEMINIST PHILOSOPHY, *supra* note 89, at 33; Alistair Wardrope, *Relational Autonomy and the Ethics of Health Promotion*, 8 PUB. HEALTH ETHICS 50 (2015).

⁹³ López, *supra* note 7, at 878.

⁹⁴ *Id.* at 882.

economics, moral and political philosophy, and political liberalism), as well as practices of governance and self-government.”⁹⁵

López’s project is the recuperation of the sociological in bioethics—something of a return to the “big tent” origins of the field. Addressing bioethics within this frame, he argues that sociology needs to link its own “ethical object . . . to wider social processes,” building alliances or bridges.⁹⁶ As he concludes: “[W]e might consider the value of exploring what are the social practices and discourses (e.g. human rights discourse, cultural citizenship, multiculturalism, cosmopolitanism, practices of the self) with which sociology might establish alliances in order to democratically establish legitimacy for its ethical object.”⁹⁷ In promoting vulnerability theory as a new bioethical framework, this Article promotes the exploration of productive alliances mediated and enabled by the increasing attention to the socially embedded body. The argument is that the social body emerging in the life sciences and the embedded corporeality of vulnerability theory can provide a theoretical and normative point of contact. If bioethics is dependent on particular social, cultural, and political conditions of possibility, it is possible that the emergent and disperse interest in the socially embedded body may be harnessed to allow a reimagining of bioethics. The new biological imagination may prove key in this. As Maurizio Meloni suggests, rather than an object of boundary-work—used to draw lines between disciplines—“biology has become a boundary object that crosses previously erected barriers, allowing different research communities to draw from it.”⁹⁸ Within the shift in biological thinking, it is new understandings of the body that provide the particular point of potential alliance. This challenges not only past biological models, but also the traditional liberal subject of law, policy, and ethics. As Jörg Niewöhner writes: “The individual, skin-bound, autonomously and rationally captained body is replaced by a body that is heavily impregnated with its social and material environment. It is a body deeply embedded in manifold temporal and socio-spatial scales reaching from evolutionary to real time and from the molecular to ‘culture’.”⁹⁹

⁹⁵ *Id.* at 888.

⁹⁶ *Id.* at 891.

⁹⁷ *Id.*

⁹⁸ Maurizio Meloni, *From Boundary-Work to Boundary Object: How Biology Left and Re-entered the Social Sciences*, 64 *SOC. REV. MONOGRAPHS* 61, 61 (2016).

⁹⁹ Jörg Niewöhner, *Epigenetics: Localizing Biology Through Co-laboration*, 34 *NEW GENETICS & SOC’Y* 219, 224 (2015) (citation omitted).

The next Part introduces the “social”¹⁰⁰ or “environmental”¹⁰¹ turn in the life sciences, arguing that this provides new challenges and possibilities for bioethics. The current “biosocial moment” has been identified as “one of the most exciting phenomena of our time,”¹⁰² and is prompting a thawing in the hostilities between social and life sciences—a thawing which may allow for an expansion and reinvigoration of bioethics. This becomes possible as the humanities and social sciences are slowly dropping their traditional “biophobia”¹⁰³ and “becoming more open to biological suggestions, just at a time when biology is becoming more social.”¹⁰⁴ These developments add new weight to calls for social context to be at the heart of bioethical enquiry and are provoking the disciplinary changes that may enable this to happen.

IV. THE NEW BIOLOGICAL LANDSCAPE AND DEVELOPMENTAL NEUROSCIENCE

It is increasingly documented that we are undergoing a profound renegotiation of the boundaries between the social and the biological at a material level. Thus, “biology has become porous to social and even cultural signals to an unprecedented extent.”¹⁰⁵ Across the life sciences a biosocial world is being narrated, albeit one that remains dominated by hype and controversy.¹⁰⁶ This biosocial world is evident in the socialization of gene functioning, the development of pro-social models of evolution, increasing emphasis on symbiotic processes that are multi-species in nature, attention to microbial life and its place within imagined networks of ecological life, and so forth.¹⁰⁷ While it is too early to talk of a paradigm-shift or Biology 2.0, it is noted that “the simultaneous concurrence of all these social tropes in biology is unprecedented.”¹⁰⁸

¹⁰⁰ Martyn Pickersgill, *Neuroscience, Epigenetics and the Intergenerational Transmission of Social Life: Exploring Expectations and Engagements*, 3 *FAMS. RELATIONSHIPS & SOC'YS* 481, 482 (2014).

¹⁰¹ Hannah Landecker & Aaron Panofsky, *From Social Structure to Gene Regulation, and Back: A Critical Introduction to Environmental Epigenetics for Sociology*, 39 *ANN. REV. SOC.* 333, 334 (2013).

¹⁰² Meloni, *supra* note 16, at 593, 595.

¹⁰³ Lee Ellis, *A Discipline in Peril: Sociology's Future Hinges on Curing Its Biophobia*, *AM. SOCIOLOGIST*, Summer 1996, at 21; Jeremy Freese et al., *The Potential Relevance of Biology to Social Inquiry*, 29 *ANN. REV. SOC.* 233, 234 (2003).

¹⁰⁴ Meloni, *supra* note 16, at 594 (emphasis omitted).

¹⁰⁵ *Id.*

¹⁰⁶ *Id.* at 601.

¹⁰⁷ *Id.*

¹⁰⁸ *Id.* at 595 (emphasis omitted).

The last two decades of research in neuroscience have been at the forefront of the epistemic changes in the life sciences. Research has rewritten our understanding of the brain from “an isolated data processor . . . to a multiply connected device profoundly shaped by social influences.”¹⁰⁹ With the emergence of “social neuroscience, the argument is not only that the brain is sculpted by the external world, but it is also that it is a device specifically designed to create social relationships, to reach out for human relationships and company.”¹¹⁰ In this regard, there is a focus on how brain physiology directs us to consider the social.¹¹¹ In this section, neuroscience is mobilized to provide a focused case study, as its history means it has penetrated popular, legal, and policy spheres. It has also engaged bioethics in a way that is helpful to consider as we discuss the limits of current practice and the possibilities afforded by vulnerability theory.

A key aspect of our developing understanding of the brain is the notion of plasticity; the brain that responds to the social world at a structural level. Understandings of the brain as plastic emerged from experiments on the rehabilitation of humans following brain injury and stroke. These, and primate experiments, showed that the damaged brain could remap itself, transforming our understanding of the brain, which became “plastic, mutable, open to transformation . . . in response to external inputs.”¹¹² While these external factors may be negative, occasioning injury and loss, the scientific claims can

¹⁰⁹ *Id.* at 594.

¹¹⁰ *Id.* at 598.

¹¹¹ See R.I.M. Dunbar, *The Social Brain Hypothesis and Its Implications for Social Evolution*, 36 ANNALS HUM. BIOLOGY 562 (2009); Robin I.M. Dunbar, *The Social Brain Hypothesis and Human Evolution*, in OXFORD RESEARCH ENCYCLOPEDIA PSYCHOLOGY (2016). Meloni identifies four strands that form the core of social neuroscience: (a) the ability of infants to identify faces and thus their possession of an “unlearned” or innate ability to distinguish the social domain from the physical world (see the “face-specificity hypothesis”); (b) studies of acquired personality deficits that are limited to the social or moral sphere and which arise through injury or disease are similarly taken to indicate a dedicated neurological network directed towards the social; (c) mirror neurons are a class of neurons that are believed to be activated when we copy another, or are copied by another, in performing a task or action. While the existence of mirror neurons in humans is highly controversial, they are also highly influential and are promoted as evidence of neural circuitry for imitation and empathy; and (d) empirical work is promoting an evolutionary basis for the design of neural structures. Specifically, studies that point to positive social interactions being experienced as pleasurable and experiences of rejection and isolation being analogous to physical pain, are taken to indicate a neuro-anatomy designed to reinforce social connection and cooperation. Meloni, *supra* note 16, at 599–600.

¹¹² Nikolas Rose & Joelle Abi-Rached, *Governing Through the Brain: Neuropolitics, Neuroscience and Subjectivity*, CAMBRIDGE ANTHROPOLOGY, Spring 2014, at 3, 6. The importance of this plasticity was matched by the discovery of the growth of new nerve cells in the brain. Developments at the end of the twentieth century challenged the belief that neuron development occurs only in the initial years of life. This rewrote a dominant understanding of the static brain, but also extended the reach of the new epigenetics as it was suggested that growth may be stimulated or inhibited by social and environmental factors. *Id.* at 12.

also direct us to consider obligations to provide positive environments where flourishing and opportunity can be enhanced. Thus, our embodiment becomes affected for both good and ill, depending on the environment within which it is embedded. This clearly marks a significant shift in scientific understanding, and, like the social biologies more generally, it also mandates that we rethink our understanding of and response to disadvantage and inequality at the levels of theory, law, and policy. Here, the new biological landscape challenges the distinctions frequently drawn between natural and social inequalities. In some key theoretical propositions, for instance, “natural” disadvantages are seen as unavoidable (“the genetic lottery”) and beyond the remit and responsibility of the state. Thus, we have the Rawlsian distinction between natural goods (like health) and social goods (like health *care*), in which only social goods are subject to distributive principles directed towards greater social justice.¹¹³ The new social biologies fundamentally challenge such premises and support models of social justice that attend to corporeality or concepts such as health equity or health justice.¹¹⁴

While these claims are potentially transformative, there is nevertheless good reason for a thorough critical appraisal of claims and their application. There has, for example, been a scientific and policy focus on the child and the effects of the early years environment and parenting. Here, a series of studies with rats and their pups are taken to show that early life experiences (most often associated with maternal behavior) can shape brain form and function.¹¹⁵ This may impact the lifespan and shape the maternal behavior of those offspring, and hence affect the gene expression of a third generation. In the literature and policy, the interpretation of the evidence moves seamlessly from animal experiments to implications for human behavior and biopolitical governance.¹¹⁶ A companion piece to this Article written with Samantha Lewis details how developmental neuroscience has inspired a wealth of public policy initiatives ostensibly directed at the infant brain and its social environment.¹¹⁷ Yet, overwhelmingly these initiatives have been directed at the family and, indeed, the mother. Concern for the developing brain is funneled to interventions in the

¹¹³ See JOHN RAWLS, *A THEORY OF JUSTICE* (1971).

¹¹⁴ Obvious beneficiaries in this regard are capability theorists, particularly those whose work attends to health. See, e.g., SRIDHAR VENKATAPURAM, *HEALTH JUSTICE: AN ARGUMENT FROM THE CAPABILITIES APPROACH* (2011); JENNIFER PRAH RUGER, *HEALTH AND SOCIAL JUSTICE* (2010).

¹¹⁵ Frances A. Champagne et al., *Variations in Maternal Care in the Rat as a Mediating Influence for the Effects of Environment on Development*, 79 *PHYSIOLOGY & BEHAV.* 359, 359 (2003).

¹¹⁶ See Rose & Abi-Rached, *supra* note 112, at 12.

¹¹⁷ Sam Lewis & Michael Thomson, *Social Justice & Social Bodies* (Apr. 2, 2018) (unpublished manuscript) (on file with author).

family that vary in the degree to which they are either helpful or punitive. This is mediated by the degree to which the family is believed to be a “problem” or “troubled.”¹¹⁸ These knowledge claims have, for example, been implicated in the increase in early forced adoption cases in the United Kingdom.¹¹⁹ The companion article argues that this dominant focus for the policies has its origins in the partiality of some of the scientific studies and in the long-standing place of the child and the maternal–child relationship in governing practices. It should not be surprising that the thought style of the new social biologies is shaped by familiar preoccupations with the family, maternal responsibility, and the generational transmission of problems.

Neuroethics: A Contesting Ethics?

The social biologies and the social policies that have drawn upon their knowledge claims have been subject to significant critical debate within sociology, social policy, and science and technologies studies. These and other disciplines have provided a robust engagement with the underlying scientific experiments, knowledge claims, and the movement of such claims in to the wider world. However, mainstream ethics has been less critical, and it is important to understand this response before moving on to outline how vulnerability theory might address biosocial developments with more sensitivity to the potential benefits and pitfalls of the developing claims. Here, it is possible to draw on early attempts to define neuroethics. These tend to cast the new field as a natural continuation of the originary tales outlined at the beginning, and in the process name check the usual suspects of Nuremberg, Tuskegee, and so forth.¹²⁰ Of particular note, however, is how these accounts peg out the parameters of what is of ethical significance using familiar concerns with principles of individual ethics—notably autonomy—and technological developments. An interesting example in this regard is Jonathan Moreno’s early attempt to set an agenda for neuroethics in *Nature Reviews*:

The last decades of the twentieth century saw the rise of modern genetics. Now, many regard the initial decades of the twenty-first century as an era that promises explosive growth in our knowledge of the brain. . . . But whereas the ethics of genetics was in many ways a new conversation, the philosophical discussion of mental function and

¹¹⁸ *Id.*

¹¹⁹ DAVID WASTELL & SUSAN WHITE, BLINDED BY SCIENCE: THE SOCIAL IMPLICATIONS OF EPIGENETICS AND NEUROSCIENCE 111–27 (2017).

¹²⁰ Judy Illes & Stephanie J. Bird, *Neuroethics: A Modern Context for Ethics in Neuroscience*, 29 TRENDS IN NEUROSCIENCE 511, 513–14 (2006).

behaviour is an ancient tradition that both informs and complicates the emerging field of neuroethics.¹²¹

Asserting these historical continuities, Moreno identifies a familiar set of concerns for ethical analysis: free will, personal identity, consent, and enhancement.¹²² Each appears to avoid a core engagement with the question of social context. As Moreno concludes, “[N]euroethics is in some ways old wine in a new bottle. There is no reason for surprise here, but some reason for comfort.”¹²³ As the legitimacy of neuroethics has been asserted this is a recurring claim. Judy Illes and Stephanie Bird, for example, make similar claims noting that neuroethics is not new but rather a “modernized field . . . founded on centuries of discussion of the ethical issues associated with mind and behaviour.”¹²⁴ While subsequent boundary and role defining work is at times more developed,¹²⁵ it nevertheless generally coalesces around the themes of technological innovation,¹²⁶ the autonomous self,¹²⁷ and the bioethical role of value clarification.¹²⁸

The structural context for these statements is important. Challenging the current form and critical reach of mainstream bioethics requires not only an interrogation of its concepts and intellectual preoccupations, but also its history and its position within the modern university. Applied ethics such as bioethics are adaptive—responding with differing degrees of success to emerging markets for their expertise.¹²⁹ This has been a response, in part, to institutional and market imperatives that reflect the history of the project. A difficult relationship with philosophy,¹³⁰ and its ability to generate income through knowledge exchange programs, has seen it established within universities as freestanding units and cost centers. This contributes to an overlaying of the entrepreneurialism increasingly expected within the neoliberal university and

¹²¹ Jonathan D. Moreno, *Neuroethics: An Agenda for Neuroscience and Society*, 4 NATURE REVS. 149, 149 (2003).

¹²² *See id.*

¹²³ *Id.* at 153.

¹²⁴ Illes & Bird, *supra* note 120, at 511.

¹²⁵ DEBATES ABOUT NEUROETHICS: PERSPECTIVES ON ITS DEVELOPMENT, FOCUS, AND FUTURE (Eric Racine & John Aspler eds., 2017).

¹²⁶ Neil Levy, *Introducing Neuroethics*, 1 NEUROETHICS 1, 1 (2008); John R. Shook & James Giordano, *Neuroethics Beyond Normal: Performance Enablement and Self-Transformative Technologies*, 25 CAMBRIDGE Q. HEALTHCARE ETHICS 121 (2016); Dan J. Stein & James Giordano, *Global Mental Health and Neuroethics*, 13 BMC MED., 2015, at 44.

¹²⁷ Shook & Giordano, *supra* note 126.

¹²⁸ Levy, *supra* note 126; Shook & Giordano, *supra* note 126.

¹²⁹ In the United Kingdom, it is possible to find diploma and postgraduate courses on pharmacy ethics, policing ethics, food ethics, dental ethics, business ethics, and so forth.

¹³⁰ *See* Lindemann, *supra* note 91, at W17.

older style boundary-work. In this regard, Fernando Vidal notes the “extremely rapid professional and institutional consolidation . . . of the energetically self-promoting field of neuroethics.”¹³¹ As he continues provocatively, neuroethics thrives on hype, overstating “neuroscientific findings, legitimizes the *neuro* disciplines, and places itself at the forefront of [the] research field.”¹³² As such, and as with bioethics early incorporation within medicine, neuroethics embeds itself in the neuro-disciplines which comes to structure its approach and critical reach, as ethical problems are shaped by the “practices, structures, and institutions within which they arise.”¹³³

V. VULNERABILITY: RECASTING THE OBJECTS OF ETHICAL CONCERN

This Article argues that bioethical analysis would be enriched, and the relevance of the project revitalized, if it engaged with understandings of universal or ontological vulnerability that have emerged in social, political, and legal thought. Specifically, attention has been directed towards Martha Fineman’s development of vulnerability theory with its origins in legal scholarship and her focus on the formal and informal institutions within which we are embedded. In seeking to reinstate the sociological in the bioethical, López argues that other modes of thinking “are not likely to dislodge mainstream bioethics unless they connect their model of ethical analysis and negotiation to wider individual and collective practices.”¹³⁴ Similarly, it is argued here that growing concern across a very diverse field of disciplines with our embodied and embedded experience should be strategically exploited as corporeality and environment merge, generating ethical obligations. Exploring common ground across different social practices has the potential to democratically establish legitimacy for new ethical objects.¹³⁵ In looking to build alliances in this context, it is not difficult to draw out shared concerns with the body, social organization, and the distribution of resources even as we acknowledge that how the

¹³¹ Fernando Vidal, *Brainhood, Anthropological Figure of Modernity*, 22 HIST. HUM. SCI. 5, 8 (2009).

¹³² *Id.* at 9. Returning to Moreno’s early attempt to set the agenda for neuroethics, he finishes his identification of possible areas of inquiry with “Mind wars.” Moreno, *supra* note 121, at 153. While recognizing that “military applications of neuroscientific developments are rarely mentioned in the literature” and is only able to cite one exception, he goes on to argue that neuroethicists working in a post-September 11 world “will need to join the ranks of atomic physicists and geneticists in fighting a moral crucible. If the neurosciences are indeed poised for their own great leap forward, such will be the burdens of success.” *Id.* Thus, we see the bringing together of the hype of neuroscience and the paranoia of contemporary national security, with neuroethicists then promoted as essential to navigate a world of new threats on the same scale as those born with the Manhattan Project. Such claims support charges of an expansionist agenda.

¹³³ Hoffmaster, *supra* note 11, at 2.

¹³⁴ López, *supra* note 7, at 891.

¹³⁵ *Id.*

relationships between these factors are configured differs across these fields. Perhaps most importantly, vulnerability theory and the social biologies both challenge the liberal subjects of law, policy, and ethics “with its notion of skin-bound self and autonomy, steered through life by the individual mind and brain.”¹³⁶ This adds a further dimension and impetus to Fineman’s pointed question: “[I]f our bodily fragility, material needs, and the possibility of messy dependency they signify cannot be ignored in life, how can they be absent in our theories about equality, society, politics, and law?”¹³⁷ However, we still need to ask what a vulnerability approach might add to bioethical deliberations.

As already noted, the companion article with Samantha Lewis addresses responses to neuroscientific claims where particular understandings of developmental processes have provoked policy responses that target certain families for intervention. This has included the removal of children. Knowledge claims from developmental neuroscience dovetail with longstanding biopolitical concerns with the child, the responsibilities and duties of parents (particularly the mother), and the translation of this to population level concerns.¹³⁸ However, looking at a broader embeddedness pushes these concerns outwards, challenging the privatization of responsibility. This is one of the strengths of a vulnerability analysis and its offering to bioethics. The focus on the formal and informal institutions that we are embedded within counters the dominant focus on individual ethics, and autonomy in particular. As Stevens argues, “[T]he expansion of biomedical decision-making arenas to include ‘outside’ (bioethical) input, . . . involved a narrowing of one kind or another, a narrowing that always facilitated or was facilitated by adherence to principlist methods and solutions.”¹³⁹

To further illustrate both the limitations of the current mainstream approaches—particularly the narrowing identified by Stevens—and the benefits of the proposed expansion of analytical tools, it is worth returning to Jonathan Moreno. In his early attempt to map an agenda for neuroethics, he provides an example from developmental neuroscience:

Investigators at the University of Wisconsin reported that members of a group of men who were abused as children and had an alteration to the gene responsible for producing monoamine oxidase A (MAOA), were nine times more likely to commit criminal or anti-social acts than

¹³⁶ Jörg Niewöhner, *Epigenetics: Embedded Bodies and the Molecularisation of Biography and Milieu*, 6 *BIOsocieties* 279, 290 (2011) (citation omitted).

¹³⁷ Fineman, *supra* note 80, at 263.

¹³⁸ Lewis & Thomson, *supra* note 117.

¹³⁹ Stevens, *supra* note 5, at 6.

control subjects. If this or other neurotransmitters are roughly associated with socially offensive behaviour, even under less extreme environmental insults, they could be brought into the controversy over preimplantation genetic diagnosis. Prospective parents might therefore test embryos for the MAOA marker before implantation to avoid giving birth to a child with this particular criminality.¹⁴⁰

Moreno's response, published in an offshoot of one of the world's most influential journals, elides the social context of abuse and channels discussion towards the appropriate use of medical technologies. This brings us back to Callahan's technologically focused definition of the role of bioethics—what Paul Farmer has called “quandary ethics”; that is, the focus on individual patients and situations that may arise in the context of “too much care” in industrialized nations.¹⁴¹ It chimes with the persistent criticism that bioethics delists or simply fails to identify the social as a relevant ethical object. Vulnerability theory, however, aligns with neuro-developmental claims that the social and physical environment may shape the future health, opportunities, and resilience of children and mandates that we assess the institutional structures within which children and young people are embedded. This would include health, early years, social welfare, and educational provision, as well as the family.

To emphasize the wider ethical horizon that vulnerability theory offers bioethics, it is worth addressing the question of dependency, a feature of both our ontology and vulnerability as an ethic of responsibility.¹⁴² In this regard, we should acknowledge the origins of Fineman's current work in her theorizing of care and dependency. Indeed, Henk ten Have characterizes Fineman's theory as “[v]ulnerability as dependency.”¹⁴³ Fineman has persuasively argued for the development of our thinking around care through a focus on our inevitable dependency—the fact that we will all be dependent on others at various points during the life course.¹⁴⁴ This involves direct dependency as well as “derivative dependency”; in the practices of caring, we in turn become dependent on others for care and support.¹⁴⁵ This leads to a critique of the place of the family in social

¹⁴⁰ Moreno, *supra* note 121, at 151.

¹⁴¹ PAUL FARMER, *PATHOLOGIES OF POWER: HEALTH, HUMAN RIGHTS, AND THE NEW WAR ON THE POOR* 204–05 (2003).

¹⁴² Lise Nelson, *Engaging Butler: Subjects, Cernment, and the Ongoing Limits of Performativity*, in *PERFORMATIVITY, POLITICS, AND THE PRODUCTION OF SOCIAL SPACE* 62, 73 (Michael R. Glass & Reuben Rose-Redwood eds., 2014).

¹⁴³ TEN HAVE, *supra* note 67, at 101.

¹⁴⁴ See Fineman, *supra* note 12, at 9 n.24.

¹⁴⁵ *Id.*

and political life. As Fineman argues, those providing care need resources and are thus derivatively dependent: “Society is structured in such a way as to make the private family the primary source of those resources, resulting in great inequalities”¹⁴⁶ Thus, while Fineman identifies the family as a source of nurturing and care, it is also a political mechanism through which responsibilities are privatized and inequalities erased. Although families are cast as different from other (public) institutions—imagined as altruistic, and constituted through and sustained by bonds of affection—she argues that “any serious consideration of the family reveals that it is a very public institution, assigned an essential public role within society. The family is delegated primary responsibility for dependency.”¹⁴⁷

Although Fineman is addressing the social organization of care and the distribution of its burdens, this analysis is equally relevant when we understand dependency in the context of the new social biologies, where bodies are porous and respond to their environments. As commentators have noted, many of the new knowledge claims have been reduced to a focus on the family, and within this, a recasting of the maternal body as the first and most important environment.¹⁴⁸ This maneuver is familiar and unsurprising: the enduring trope of the hostile female body is recast and rearticulated in contemporary scientific discourse mandating renewed surveillance and censure.¹⁴⁹ Thus the private family continues as a means by which responsibility for dependency is privatized. This insulates political and ethical debate from seriously considering the societal implications of dependency:

Burying dependency within the family is necessary to the construction of simplistic solutions to widespread poverty and inequality that rely on individual responsibility and assume both the desirability and the availability of a position of independence and self-sufficiency for individual and family alike, an ideology of autonomy that bears little relationship to the human condition.¹⁵⁰

¹⁴⁶ *Id.*

¹⁴⁷ Martha Albertson Fineman, *Cracking the Foundational Myths: Independence, Autonomy, and Self-Sufficiency*, 8 AM. U. J. GENDER SOC. POL'Y & L. 13, 15 (2000).

¹⁴⁸ Sarah S. Richardson, *Maternal Bodies in the Postgenomic Order: Gender and the Explanatory Landscape of Epigenetics*, in POSTGENOMICS: PERSPECTIVES ON BIOLOGY AFTER THE GENOME at 210, 211 (Sarah S. Richardson & Hallam Stevens eds., 2015).

¹⁴⁹ Neuroethics appears to be disinterested in these developments. This might reflect the problematic position of gender and feminism within mainstream bioethics. See FEMINISM & BIOETHICS: BEYOND REPRODUCTION, *supra* note 87, at 20.

¹⁵⁰ Fineman, *supra* note 81, at 18.

A vulnerability approach broadens the horizon of what is considered ethically significant. This is achieved, in part, by challenging the ideal of the autonomous “skin-bound[ed] self”¹⁵¹ as we recognize the inevitability of dependency. This has the potential to provoke a more contesting bioethics at the very point one is needed. This approach is in stark contrast to current mainstream bioethical approaches. Moreno, for example, does little to challenge the dominant ideologies that see dependency buried in the family as abuse and its consequences become reduced to questions of the appropriate use of screening technologies—a perhaps textbook case of social questions ignored in the pursuit of “quandary ethics.”¹⁵² This traditional bioethical approach can be explained in three ways. First, it is the product of the commitment to the “skin-bounded” autonomous liberal subject, a subject who looks increasingly anachronistic.¹⁵³ Second, and related to this, it is a direct result of being satisfied with “old wine in a new bottle”—failing to seek out approaches that are attentive to new scientific contexts.¹⁵⁴ Thus, neuroethics is preoccupied with free will and enhancement rather than the radical political potential of the social brain. Third, it can be seen as a consequence of the dominant mode of value clarification where, as Garrett argues, bioethics “reinforces and legitimizes the reigning ideologies that it ostensibly only seeks to clarify.”¹⁵⁵ Reflecting on Moreno’s manifesto, it is easy to be persuaded by accounts that characterize mainstream bioethics as insufficiently attentive to the social and insufficiently contesting—a governance practice serving merely as a methodology for the “social processing” of biotechnological developments.¹⁵⁶

CONCLUSION

What is of ethical relevance and importance is not a given, and the ability to shape understanding and priorities is a significant responsibility. It is questionable the degree to which mainstream bioethics has met this responsibility, and theorists are increasingly considering alternative modes of analysis. This has included a turn to vulnerability theory in bioethical thought.¹⁵⁷ Its popularity derives, in part, from the philosophical debate that has promoted the concept and the potential impact of its political mobilization. Nevertheless, controversy has arisen as accounts of vulnerability challenge key assumptions

¹⁵¹ Niewöhner, *supra* note 136, at 290.

¹⁵² FARMER, *supra* note 141, at 204–05.

¹⁵³ See Niewöhner, *supra* note 136, at 290.

¹⁵⁴ Moreno, *supra* note 121, at 153.

¹⁵⁵ Garrett, *supra* note 59, at 447.

¹⁵⁶ Stevens, *supra* note 5, at 8.

¹⁵⁷ TEN HAVE, *supra* note 67; ten Have, *supra* note 72, at 396.

and preoccupations in bioethics. Henk ten Have argues that ontological vulnerability is simply unintelligible within the logic of mainstream bioethics:

If respect for persons as autonomous agents is a basic ethical principle, then the vulnerability of the human condition does not make sense. It does not lead to action and intervention. It . . . is hard to reconcile with moral agency. Therefore, it is difficult to give a positive meaning to vulnerability.¹⁵⁸

This lack of intelligibility is met by a subversion of arguments regarding our universal vulnerability where it comes to mean “diminished autonomy” or “self-determination.”¹⁵⁹ Of course, this obscures fundamental arguments around our universal or ontological vulnerability, the implication that vulnerability is therefore prior to the ethical, and the positive obligations this creates.

Nevertheless, vulnerability is a developing presence in bioethical debate, and this may signal an appetite for change. This increasing presence, not least its inclusion in the Universal Declaration on Bioethics and Human Rights, are first steps. The argument presented here is that this can be built on if we understand bioethics as a discursive formation and identify and leverage growing concern across very different disciplines with the socially embedded body. Thus, while the failure of bioethics to attend to the social has been seen as limiting its analytical reach, and its impact on science and technology, the biosocial may see the project revitalized as we witness a critical recasting of our understanding of the relationship between our embodied selves and the environments we are embedded within.

¹⁵⁸ ten Have, *supra* note 72, at 403.

¹⁵⁹ *Id.* at 399.