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Heart Feminism

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Abstract

This paper considers wide-ranging heart-centered approaches to understanding bodies, objects, and personhood. It puts these into tension with other ways of approaching questions of life and embodiment, especially ones inspired by neuroscience, to argue that thinking with the heart has value for feminist theory. The heart that is my object traverses scale, and is in a sense a series of objects—ranging from heart cells, to hearts and circulatory systems, to women interpellated into heart health, to public debates on personhood that mobilize fetal heartbeats and contested cases of women on life support. I draw on biological and lay ways of understanding the heart, and on mundane intimacy of knowledge of the heartbeat as a sign of life and personhood. Articulating the body through the heart provides opportunities to theorize the body and the object in new ways, pushing back against rhizomatic and egalitarian aspirations and toward nuanced accounts of power. The engagement with the heart is speculative and wide-ranging, a provocation for feminist theorists to think with the heart.

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Introduction

When feminist theorizations of the body have foregrounded particular body parts, whether the uterus (Martin, 1987), the gut (Wilson, 2004a), or bones (Fausto-Sterling, 2005), they have rendered feminism and the body in distinct ways. The same goes for feminist analyses of ways of understanding messaging and signals, such as hormones (Roberts, 2007) and epigenetics and metabolism (Landecker, 2011). In what has broadly been characterized as the "age of the brain," the "neuroscientific turn" has been a particularly rich area for transdisciplinary scholarship (Littlefield & Johnson, 2012). In this paper, I consider wide-ranging heart-centered approaches and put them into tension with other ways of understanding life, the body, and personhood, particularly those focusing on the brain, to argue that thinking with the heart has value for feminist theory. Heart feminism both complements and challenges neurologically inspired theorizations, and I draw especially on these to put my own project into relief as I ask: what might an analysis starting from the heart and circulatory system offer?

Drawing the heart into feminist theory is of course not completely novel. Feminist biologists Lynda Birke (1999) and Anne Fausto-Sterling (2004) have led some way toward theorizing feminism and the biological body through the heart. They do so by interrogating metaphors in early modern medicine and contemporary pop medical books (Birke), and by attending to the ways that the body's hypertensive response to the stress of racism can be a resource for theorizing the body beyond genetic determinism (Fausto-Sterling). Other theorists usefully draw together patient accounts and ontological questions within biomedical understandings (Mol, 2002; Shildrick, 2012). My own consideration follows from theirs—not replacing social inquiry with physiological inquiry, but bringing the biological body productively into the scope of feminist analysis through foregrounding the heart.

As the title of my paper suggests, I am inspired by Elizabeth Wilson's "gut feminism" method: "a feminism that is able to think

innovatively and organically at the same time" (Wilson, 2004a, p. 86). Wilson's engagement with the neurological body through the gut is tremendously generative, not least because it decenters the brain (a theme I will return to in this paper's conclusion). My project is necessarily historically situated, but its periodization is somewhat ambiguous: I draw on current biomedical knowledge of the heart, which is itself a product of layered historical periods, as present-day biological understandings of the heart have great continuity with earlier periods. Notably, none of the biology that I describe is cutting edge or contested within the field.[1] I also seek a more epistemologically eclectic mode of engaging with the body than Wilson does, engaging with mundane clinical encounters and broader intuitions about aliveness that can become enrolled in public debates. As Angie Willey has argued, biological data is one way among many that feminists can engage with the body (Willey forthcoming). From my perspective, the mundane intimacy of knowledge of the heartbeat is as worthy of attention as are scientific understandings of the heart. The heart that is accessible to directly embodied experience and to clinical encounters matters as much as the one that comes into view in cardiopathophysiology. Heart feminism's mode thus also resonates with Hillary Rose's early eighties argument that feminists should ground our epistemology in "hand, brain, and heart": which is to say not only in the "abstraction of male and bourgeois thought," but also in activism and caring labor (Rose, 1983).

This paper emerges out of and in conversation with object-oriented feminism (Behar, forthcoming). Like much of that emerging body of work, I am interested both in nonanthropocentric materiality and in actually existing women and feminist politics. I draw on knowledge gleaned from science, but also from debates in mass media, and from mundane knowledge—of our own heartbeats, of those with whom we are intimate, and of heartbeats that ground clinical encounters. Object-oriented feminism (OOF) tends to analyze blatantly artificial objects, of engineering or of art, which facilitates a foregrounding of both the importance of matter and the inseparability of matter and meaning. Indeed, OOF does not

assume the need to take sides on or overcome the matter/meaning divide that has been a founding "imaginary prohibition" of new feminist materialisms (Ahmed, 2008), perhaps because in art and engineering, matter and meaning are not divided in the first place. Even though my object of analysis here is the undeniably real and material heart, it is also the symbolic and socially situated heart, and my approach to it is an OOF-inspired one. Biological understandings of the heart fascinate me, but they do not provide the grounding for my understanding the world. Instead, my method is to draw on physiology to raise questions as an artist might: in light of a specific and particular materiality to hand, what if we see the world like this?

The heart that is my object traverses scale, and is in a sense a series of objects—ranging from heart cells, to hearts and circulatory systems, to women interpellated into heart health, to public debates on personhood that mobilize fetal heartbeats and contested cases of women on life support. I am interested in the heart both as an object itself and an object within a network of objects, and think that the tension between its boundedness and its permeability can provide analytical resources for speculative engagement with how objects relate to each other in a nonanthropocentric posthumanist philosophy. New feminist materialists tend to look at scientific accounts and find the world as they would have it be: boundaries are always being broken down, whether by microbes (Hird, 2009a) or by quantum entanglements (Barad, 2007). Yet I am also interested in how ways of understanding the body through the heart can push back against rhizomatic and egalitarian aspirations and challenge us to account for contours of power in more nuanced ways.[2]

I want to consider how the heart can *articulate* the body.[3] Etymologically, "articulation" is derived from the ancient Greek *arthroi*, which, as Shigehisa Kuriyama (1999, p. 135) points out, referred to both the divisions of the body into distinct form and of sounds into lucid language. For ancient Greeks, breaking down the body into muscles and bones rendered the articulated body. Many in both contemporary medicine and feminism have articulated women's bodies through our

reproductive and affective parts. This paper takes up the heart, a nonreproductive somatic organ, as an opportunity to articulate women's bodies in new ways.

Starting with the heart of course does not replace articulations of the body that start elsewhere. I am not suggesting that we *forgo* analysis of breasts, brains, or uteruses to focus on the heart. Open-ended processes of articulation are far more interesting than efforts toward authority and accuracy that seek to close discussion down (see Latour, 2004). This is an important difference between analogic thinking made possible through this type of articulation, and ontological arguments that promise unifying explanations-of-everything. Scientific knowledge is always mediated and partial, and so feminist engagement with biological knowledge claims about the body should both avoid ceding too much epistemic authority to them, and avoid making totalizing claims of our own (Haraway, 1988).

Thinking with the heart

The conventional admonition against thinking with the heart makes me think that there must be something interesting going on in there. The phrase "thinking with the heart" is, after all, often used to belittle stereotypical ideas about how women think. When Evelyn Fox Keller's (1985) foundational feminist science studies critiqued the ways that "thinking like a scientist" gets conflated with "thinking like a man," she framed it around a binary of alienation from the object versus empathy with the object. This might well be characterized as thinking with the head of cool rationality versus thinking with the heart of emotion. The head is (conceptually) able to disconnect from others who make demands on the subject; the heart is not.

Neither the head nor the heart is as local as this opposition between them implies. Elizabeth Wilson (2004a) has alerted us to the fact that the neurological system extends well beyond the brain, calling us to pay attention to the neurons outside the brain, especially in the gut. The

dispersed nervous system that Wilson is interested in is itself an aspect of the heart: the heart, too, is fully innervated—a major site of autonomic nerves. Moreover, the pervasiveness of the neuro and circulatory systems are linked, because the arteries and their small branches that lead to the capillaries (arterioles) are innervated as well. The capillary network is distributed even further than this, proximate to every cell in the body. The domain of the heart is thus much larger than that instantly recognizable organ: the circulatory system makes the heart's work necessarily dispersed.

The heart is at once a well-bounded organ and one that is easily recognizable even if grown in tissue culture: heart cells in culture beat. But at the same time, the heart is crucially a transit point—its function is deeply integrated with the peripheral artery system and also the body as a whole. And the environment. And behavior. The heart's function is constantly modifying in light of everything. An articulation of the body through the heart should be fragmented and emergent.

Electrical

One thing that is distinct about heart cells is the phenomenon of atrial and ventricular syncytium. A network of muscle cells is interconnected by contiguous bridges of cytoplasm, so electrical excitation can travel between cells. This is part of what Stefan Helmreich (2013) has emphasized as the "excitable" nature of heart cells. When one cell contracts, it can transmit electricity so that cells in its area all contract together. This is why heart cells grown in petri dishes will beat in unison.[4]

Although popular perception of electricity is as something that comes from a power grid and out of a socket in a wall rather than something that courses through our bodies, the heart's electrical aspect plays a more important role in how the heart is generally understood than it might seem. Electrical impulses of the heart make possible the instantly recognizable inscriptions of electrocardiograms (referred to as ECGs or EKGs). This mode of understanding the heart emerges out of a particular

history: ECGs were among the inscription devices that emerged in the nineteenth century "to translate bodily movements or sounds into readable, visual graphics" (van Dijck, 2005, p. 5), and ECGs are one of the founding technologies of cardiology as a field and 20th century scientific medicine more broadly (Lawrence, 1992). As composer and theorist Tara Rodgers has pointed out, "by the turn of the twentieth century, electrocardiographic waveforms presented the heart's electrical activity as, quite literally, signs of life. Medical experts could determine from the shape of waveforms whether electrical activities in the body were normal or pathological (as in cases of cardiac arrhythmia); moreover, an unvarying baseline (or flatline) symbolized life's absence" (Rodgers, 2011, p. 519). ECGs do not provide a direct representation of the heart, but they remain a commonplace way of visualizing both the heart and life. The ECG's readout is a highly constructed inscription that pervades medical care and media images, and has become a more common way to visualize the work of the heart than images of the organ itself.

Any of the ordinary heart cells has an intrinsic rhythm and could set the rhythm for the organ, but the electrical excitation that spurs contraction generally follows a particular conductive route.[5] The sinoatrial (SA) node will induce contraction more quickly than any given heart cell would, and since heart cells' rates are linked, the SA node's rate becomes the effective rate, following a pathway from the atria, through the atrioventricular node, to the ventricles. This is something that gives the heart a bit of a hierarchical reputation, this SA node acting as the "pacemaker." To draw on the terms of Deleuze and Guattari (1987), this articulates the heart as principally striated space, not smooth.

Yet there is again a tension here. Broadly, too much regularity in the ECG trace can be a sign of pathology, too (Malik, 1996)—small variations in pacing suggest responsivity and vitality. On a deeper level, since there are backup nodes and any heart cell could conceivably set the rhythm, there is an underlying democratic aspect to the electrical network of the heart as well. There is a slow-beating rhizomatic system beneath the unidirectional directed flow of electricity. Now, that underlying rate

only becomes perceptible in pathological situations, for example when the SA node fails. It is generally too slow to be "productive," which is to say, to meet the needs of the organism. Here, the democratic impulses of both Deleuze and Guattari and of radical feminist theory are checked. In relationships among equal objects, is a recognized benevolent dictator a means of promoting productive order amid the tyranny of structurelessness (*pace* Joreen, 1972)? Or, to read the same phenomenon more negatively, is underlying democracy only possible in states of pathology?

Hydraulic

Moving out a layer in scale from the cellular to the organ and the circulatory system, the heart is also in an important sense hydraulic—that is, fluid mechanics is part of how it can be understood. Hydraulics pertains to liquids in motion under pressure, and the heart pumps liquids under pressure. It consists of two positive displacement pumps (right and left, pulmonary and systemic circulation) operating together. The pumping chambers are collapsible and have a more-or-less fixed volume, with some flexibility. When healthy, the two pumps work in tandem, both pumping out the same quantity so that there is no accumulation or starving.

Hydraulic systems are oddly retro in our cyber moment: they are not where the hot questions are, for feminists or for scientists. The flow of blood through this pump and the circulatory system is relentlessly unidirectional. Lynda Birke (1999) has pointed out that the ways that the heart is understood—in terms of the industrial revolution's steam power—make it an interesting question what the heart would have looked like if engineering had taken a different direction. The availability of replacement valves for this organ at the center of life gives it a deeply cyborg quality, a site of what Donna Haraway (1991, p. 152) has canonically flagged as a contemporary "leaky distinction" between organism and machine.

There is an odd duality here: the heart is an exemplar both of an

autocratic boss and a replaceable brute laborer (Birke, 1999) in a flexible economy era that has little room for acknowledging either of those kinds of work. For Barbara Ehrenreich (1983), cardiology narratives of the 1950s provided a script for critiquing masculinity of that era, brimming with moralistic assumptions about stressed-out breadwinners and demanding housewives. These narratives have little purchase in today's post-Fordism, and our understandings of the body and medicine have transformed along with our economy (Cooper, 2008; Martin, 1994). In a neoliberal era characterized by "the dual movement of capital and life toward flexibility" (Sunder Rajan, 2012, p. 9), the heart is not up to speed.

The high level of feminist interest in the neuro- compared with the cardio- might be not only a reflection of the trendiness of the neuro broadly, but also the resonance of the heart and cardiovascular system with old-school engineering. Feminist and neuroscientist Deboleena Roy gives a chapter on feminism and neuroscience an epigraph from Deleuze and Guattari in which they argue that "the brain itself is much more a grass than a tree" (as cited in Roy, 2012, p. 175). So treelike in its figurations, the heart and circulatory system can be well-indicted in Deleuze and Guattari's (1987) terms as the rhizomatic's opposite, the arborescent. Of course, the unidirectional ideal is not perfectly achieved—regurgitation can happen in pathological situations, for example when valves do not fully close and blood flows back into the chamber from which it came. But the heart overwhelmingly privileges unidirectional flows that have retrograde connotations to a postmodern sensibility. In an era in which the heart becomes seen as a replaceable part through artificial valves and pacemakers or xenotransplantation (Birke, 1999), the heart's hydraulic aspect makes it something of an old-fashioned machine. There is something almost steampunk about dwelling on an organ so visibly mechanical.

The hydraulics of the heart combine masculine and feminine, active and passive. On the one hand, the heart is a muscular organ, and as such, macho. William Harvey, the influential 17th century physician who characterized the systemic circulation of the blood, strove to describe the

heart mechanistically, eschewing the sensual—and yet he used metaphors not only of gears, but also of the Lord and the Sun (see Otis, 2011). According to Bryan Turner (2003), for Harvey the heart's function as a pumping muscular organ operated according to a phallic model, patriarchally ministering to a feminine body. Yet heart-as-sovereign is only part of the story.

In contrast to the penis, the heart must not only send out its principal fluid, it must also receive it. The heart sends blood out by contracting, and because the system is in a loop it need not suck blood back in. It just sends it away, no need of beckoning it to return. By opening again, the blood flows on back. The hospitality of this opening, making space for blood to return, should be understood as agential (cf. Aristarkhova, 2012). Not making enough space for blood to return is a major cause of heart failure. So, physiologically, the heart's receptivity is as important as its thrust. In this way, paying attention to the heart can present an opportunity for theory: thinking about receptivity beyond democratic exchange or domination. What if *receptivity* is understood as a central component of an object's action? Theoretical approaches that foreground the agency of objects, such as actor-network theory, tend to be action-oriented. How can a *passivity* that is not *submission* be appreciated?

Responsiveness and responsibility

When we speak of the burdens on our hearts, that phrasing generally connotes affect rather than physiology. But of course the demands on the heart are not merely emotional. One of the disease processes that I am most interested in is heart failure—this is a key disease category in my previous work about race and heart disease (Pollock, 2012). The heart is emblematically responsive to load. It changes its rate and volume according to the demands of the body beyond it, and its responsiveness can get it into trouble. It generally cannot grow new cells in response to injury (Claycomb, 1992)—this is why heart cancer is so extraordinarily

rare—and so its cells enlarge and "remodel" to accomplish more work. For example, if blockages in the vessels or high peripheral pressure make it harder to circulate the blood, the heart's cells will increase in size and the heart's capacity will also increase. But this is a temporary fix. It is called compensating. As soon as this cellular remodeling and hypertrophy starts, it is a sign of problems to come. Compensating is a prelude to *de*compensating.

Decompensation means that after the temporary respite offered by the heart's compensatory efforts, the success starts to break down. Either not enough blood can be accommodated by the chambers within the heart's now bulky muscle, or not enough can be expelled from the enlarged chambers, and insufficient oxygenation of the peripheral body leads to shortness of breath and fatigue, first with activity and then even at rest. From the perspective of the human organism, this is "heart failure," and becomes a leading cause of death. But from the perspective of the heart, it is the excess burden of the human organism, rarely intrinsic to the heart, which causes the failure. The obligation to respond to load and the hopelessness of being able to do so forever is fundamental to characterizing the heart's action. What if the heart and its failure can become ways of thinking about objects in the world? What does a model of an object that is *intrinsically burdened* and *thus doomed* do for an object-oriented analysis, and for feminist theory?

This inevitably doomed character of the heart might also inform our affective relationship to thinking with the organ. One primary affective valence of the heart—sentimentality—is another way in which the heart seems retro. Carol Emslie and her colleagues (2001) have characterized a gap between "the feminine image of the heart as the centre of emotional life" and "the masculine representation of the heart as a machine" (p. 208) and, indeed, as a metaphor for the Fordist body. Since both sentiment and Fordism are out of fashion in both economy and biology, contemplation of how the heart works can thus jar contemporary common sense about the nature of the body. As Margrit Shildrick (2012) has richly explored, for patients who have received heart transplants, biomedical

framings of the heart as an unproblematically transplantable pump can be hard to square with questions of identity provoked by the experience of incorporating the heart of another.

The heart as hydraulic is inextricable from metaphors of other hydraulic systems. Plumbing metaphors have informed medical understandings of what should be done to reduce the risk of heart attack—such that angioplasty is powerfully analogized with cleaning out pipes (Jones, 2013, p. 26). Lynda Birke points out the constant analogies with household plumbing, a domestic space that one must manage, often with outside help but which in theory one could manage oneself. When the heart goes wrong, she suggests, it does so in ways that are like the mishaps in otherwise flowing domestic plumbing and happy marriages. Individual responsibility for maintaining the heart is an onerous burden that ignores race, class, and other social inequalities, in a way that is not dissimilar from the burden of maintaining a home and a marriage moralistically placed on the poor—and especially poor women—in a neoconservative state.

Although this individual burden of responsibility for disease is not unique to heart disease, "narratives about [heart disease] are especially individualized and moralized" (Weiner, 2011, 1766). Coronary artery disease (CAD) is the dominant mode of understanding blockages in the plumbing of the heart, and CAD is surgicalized and pharmaceuticalized in ways that individualize obligations to address risk factors in a terrain of stratified exposure to harms and unequal access to care (Pollock & Jones, 2015). In her analysis of lay and epidemiological understandings of race and heart disease, sociologist Janet Shim describes a conversation with an epidemiologist who explains the disproportionately high cardiovascular risk of black women using evocative terms that conflate poor household management with inadequate care for the heart: "there is a black culture—welfare moms, or whatever—with low education who maybe missed out on the public health messages of the past ten years" (Shim, 2014, p. 3). The hydraulic heart is thus loaded with pressure, and grappling with that is inseparable from consideration of broader ways of understanding both

industrial and domestic spheres.

Just as individuals are burdened with the obligation of maintaining the heart as a plumbing system, they are also burdened with maintaining it as an electrical system. Whereas the maintenance of the hydraulic system of the heart generally involves lifestyle interventions, pharmaceuticals, or surgeries, the maintenance of the electrical system of the heart generally involves the implantation of devices. These include pacemakers, which maintain a minimum heart rate, and internal defibrillators, which are designed to detect dangerous arrhythmias and automatically shock the heart into regular rhythm. These devices transform the lives that they prolong, and rejection of them is often framed as tantamount to suicide (Pollock, 2008).

Amid unequal exposure to social environments that diminish heart health, there are constant demands to take individual responsibility to bolster cardiovascular fitness and to use pharmaceuticals, procedures, and devices to extend the heart's function as long as possible. At the same time that we might use cardiovascular disease incidence as a window into structural inequality, we must also be critical of health discourse as a moralistic imperative and driver of neoliberal medicine. Drawing on the position that Jonathan Metzl and Anna Kirkland have provocatively framed as "against health" (2010), might heart feminism need to be *for* thinking with the heart, but *against* heart health?

Vital sign

Because we can feel our own heartbeat, and that of others with whom we are intimate, the heartbeat has been and will remain powerful as a way for lay people to answer the question of who is alive. In medicine, the centrality of the taking of the pulse has ancient roots (Kuriyama, 1999, pp. 18-35), and in ordinary clinical encounters, the pulse remains a primary "vital sign."

Contemporary American personhood is generally solidly brain-centric. As Joe Dumit (2003) has argued, the brain is normally the organ

that defines our personhood in our "form of life": when we ask a question about identity and find an answer that we can locate in the brain, we are generally satisfied that we are in the right place. Yet, at the beginning and end of life, cardiological criteria and neurological criteria can come to bear on personhood as a feminist issue. When those criteria conflict, or when the heartbeat is perceptible but neurological data is not, the salience of the heart as the locus of life and personhood is renewed. This is true in intimate contexts, as the perception of the beating heart informs how we relate to each other as organisms and beings, and in public contexts, as the heartbeat is compellingly and problematically enrolled in discourses of "right to life" and "right to die."

Listening to the fetal heartbeat

Several recent proposed anti-abortion laws in numerous U.S. states have had a peculiar characteristic: they have foregrounded the fetal heartbeat (Culp-Ressler, 2013). Feminist scholars have long highlighted the way that the ultrasound image of the fetus has been important in conceptualizing the independent personhood of the fetus (for example Newman, 1997; Petchesky, 1987), and many anti-choice laws have been enacted to capitalize on that association, by requiring women seeking abortions to undergo a sonogram first. These fetal heartbeat laws are novel in that they privilege sound rather than (or in addition to) the image. Historians of sound have argued that "sound has power and is woven into a host of other social, political, and economic power relations" and that "mediation introduces other elements of power" (Suisman, 2009, p. 3). Fetal heartbeat legislation is a dramatic instantiation of this.

In this legislation, the dividing line is not when the fetal heartbeat is understood to exist, but rather, when it is "detectable," by abdominal ultrasound or more controversially by transvaginal ultrasound (in which the technician inserts a condom-covered wand-like probe into the vagina, a mode of governmentality that can evoke sexual assault). The process of detecting fetal heartbeats is called auscultation, like listening with a

stethoscope, but the fetal heartbeat isn't really "heard"—it is a sound produced by the devices of listening, for a specific audience.[6] The fetal heartbeat as heard through ultrasound devices is as completely mediated as fetal images, but, especially in early pregnancy, can be experienced by the pregnant woman as more intuitively legible (Howes-Mischel, 2015). In the sonic effect of the fetal heartbeat, there is an effective and affective articulation of an individualized fetal heart. Although the fetus's circulatory system is completely intertwined with that of the mother, the individuation of that proto-organ is a compelling line for the individuation of the fetus as a person.

Comparative literature scholar Laura Otis (2011) connects the appeal of seeing the heart as the source of life and consciousness with the Borges story "The Circular Ruins," in which the main character wants to dream a man into existence. He first dreams an audience of students and selects one to focus on, but that method fails to produce a full-formed man. It is not until he tries a new method, starting with the beating heart and working his way out, that he is successful. The anti-abortion activists who support fetal heartbeat legislation and Borges are both, from very different starting points, pointing us to a deep observation: the appeal of the heart as the location of the phantasmic origin of personhood.

Although the fetal heartbeat must be technologically mediated, using heartbeat to determine life is not newfangled in the least. As Otis argues, even though the brain generally is thought of as the locus of personhood, the heart ultimately trumps because knowledge about the brain is just too new. A central part of the appeal of the heart as the center of life is what Otis (2011) calls "the principle of movement" (*der Prinzip Bewegung*): that which we can perceive as moving is, in the absence of other evidence, that which is alive, and even before we do research or learn science that tells us that this wobbly weird object, the brain, is the center of life and consciousness, the heart is an intuitively appealing locus of life because it perceptibly moves. In this way, I would argue that the recent focus on the perceptibility of the fetal heartbeat hearkens to the medieval idea that quickening marks the entry of the soul

into the fetus.[7] Monitoring fetal heartbeat during childbirth has long been part of choreographing the process of literal separation of mother and baby (Cartwright, 1998). This fetal heartbeat legislation capitalizes on that deep intuition and conventional clinical relation, and it marshals technology to force that perception to an earlier stage.

At the same time that we oppose the anti-feminist ends toward which the fetal heartbeat is being mobilized, how can we maintain curiosity about the evocative power of that technologically mediated sound?

Waiting for cardiopulmonary death

As much as the presence and absence of a heartbeat signifies life and death, it is not the ultimate arbiter of it. To a significant degree, the brain has won as the ultimate arbiter of death, even though that goes against the common sense of most people who have spent time in a room with bodies categorized as "brain dead." Family members and even medical personnel can struggle to align a strongly held belief that the person is no longer there with the warm body before them (Lock, 2004). In bioethical debates about end-of-life issues, the gap between brain death and cardiological death is often front and center. The category of "brain death" is unnecessary in the overwhelming majority of deaths because cardiopulmonary death and brain death do generally coincide. The need for criteria to articulate death in these rare ambiguous cases helps to reopen questions about where we understand life and personhood to be located.

In widely discussed "right-to-die" cases, the "personhood" and "life" of women are in fraught relation. Occasionally this is intertwined with the beginning-of-life questions addressed above, as in the 2014 case of Marlise Muñoz, a woman in Texas who was kept on life support even after being declared "brain dead" because of the hospital's interpretation of a Texas law stating that life support may not be withdrawn from a woman known to be pregnant.[8] More broadly, as Karla Holloway (2011) points out, public conflicts over the question of whether personhood survives the

loss of brain function are deeply intertwined with gender.[9] Holloway observes that all of the memorable right-to-die cases are about women: "It is certainly true that men have faced the same medical dilemma. But it is the stories of women that make it from the private to public consumption" (Holloway, 2011, p. 18). It makes sense that it is the cases of women in which private bodies on life support become what Holloway calls "public texts": women are the ones whose independent personhood—and so whose ability to make decisions for themselves—is in question. Thus, it is up for debate whether our personhood continues when the brain does not function but the heart still beats.

In our era, the brain has almost completely superseded the heart as the locus of life and personhood. And yet, the heart has not been completely eclipsed. Every now and then, the heart re-emerges as the locus of life and personhood—especially at the beginning of life, and at the end—and it behooves feminists to pay attention. In these "right to life" and "right to die" cases, the heart is generally enrolled on the reactionary political side, so heart feminism cannot mean taking the heart's side. It does, however, necessitate taking the heart seriously. The political right draws on the power of the sonic effect of the heartbeat. The right does not invent that power, but it enrolls it toward particular social and political ends that are not inevitable. How does the beating heart inform how we understand aliveness and relate to each other as organisms? How might we enroll it in other modes of relationality?

Cardiocuriosity, or why "I heart feminism"

As I come toward an end, if not quite a conclusion, I would like to underscore the value of thinking with the heart by returning to the complementarity and contrast between the cardio- and the neuro-. As noted in the opening, the title of my paper hearkens to Elizabeth Wilson's "Gut Feminism" (2004a), a text that is part of her body of work about feminism and the neurological body (2004b). In Wilson's important work on neurological feminism, she argues that feminists should critically

engage with biology. She critiqued feminism's tendency toward astuteness about "the body" but ignorance about anatomy, arguing: "feminism's relations to biological data have tended to be skeptical or indifferent rather than speculative, engaged, fascinated, surprised, enthusiastic, amused, or astonished" (Wilson, 2004a, p. 69). In the decade since the publication of "Gut Feminism," engagement with biological data has become more prominent in feminist theory, especially in work that considers cutting edge life sciences (such as the special issue of *differences* edited by Roosth and Schrader (2012) and neurofeminism (Bluhm, Jacobson, & Maibom, 2012).

I too believe that there is value in these modes of engagement, and I want to suggest that feminist neurocuriosity can be complemented by cardiocuriosity. For example, when I approach heart disease, I share Wilson's interest in moving beyond soma/psyche binaries – neither soma nor psyche is prior and acting in relationship with the alien other part. Wilson (2004a) convincingly argues that even Sigmund Freud's work posited that "hysterical paralysis" happens in the body at the same time that it happens in the psyche. On one level, feminist attention to the psycho-somatic nature of heart disease offers an interesting complement to this case, in part because of associations between heart disease and maleness (Pollock, 2010; Riska, 2004). And yet I also think that, more fundamentally, the heart may offer a less closed-down site for analysis of the immanence of the psyche and the soma than the brain does.

The heart and heart disease provide particularly apt venues for feminist engagement with the body in medicine because they offer opportunities to critique medicine not at its contested mental illness fringes, but at its stable somatic illness core. Wilson's intervention is founded on a critique of feminists' adoption of a particular kind of Freudian model that allowed "feminists to think of bodily transformation ideationally and symbolically, without reference to biological constraints" (2004a, p. 69). Wilson is centrally interested in countering the notion, which she describes as dominant in feminist theorizing, that organic processes—including mental illnesses such as bulimia—are "purely ideational"

(2004a). In contrast to mental illness, heart disease cannot be said to be purely ideational. Mental illness is less contested now than it used to be, but it still lacks the epistemic solidity of heart disease. In contrast to psychiatric disease, critiques of medicalization of heart disease do not extend to challenging its very existence, to denying that problems with our hearts can make us sick and die. At the same time, a scan of my heart cannot mechanize my very subjectivity in the way that a scan of my brain can.

For both the cardio- and the neuro-, any account that separates the emotional from the machine-like will be inadequate. Heart attacks due to plaque buildup in the arteries or due to stress and strain might have an analogous relationship between organic versus hysterical paralysis in Wilson's analysis of Freud (2004a), but without the anxiety about "is it real?" Or, to be fairer to Freud, who did consider the psychological to be real, without getting tripped up by the question "is it biological?" Heart attacks, no matter their cause, are biological events. The undeniability of the existence of some biological reality to heart disease is one reason that thinking through the nature of the immanence of soma and psyche here can be particularly productive. Where arguments about the complicatedly psycho/somatic character of psychiatric disease can be misinterpreted as suggesting their spontaneous invention or unreality, or alternatively can give the impression of a biological basis of mental states that diminishes the role of the social, heart disease can foreground embodied experience that is at once social and biological.

The neuro- has become a prominent way for theorists to grapple with embodiment, around which has formed a growing body of work that often interestingly inverts notions of control that have long been associated with the brain, and highlights instead distributed networks. In this paper, I have striven to eschew the tendency to debunk or celebrate scientific knowledge claims, and to see whether another organ with other ways of articulating the body can open up new insights.

Heart feminism as I have articulated it here has been quite speculative. In my discussion of the heart as focal point for object-

oriented feminist theorizing, I have highlighted just a few aspects of the heart: containing certain dualities— bounded and dispersed, autocratic and receptive, emotional and machine-like, and operating according to plural models—as an electrical system, as a hydraulic system, and as a vital sign. The heart provides powerful ways of understanding bodies simultaneously as somatic, symbolic, and political-economic entities. These understandings are sometimes hierarchical and even oppressive, but it behooves feminists to take the heart seriously. Grappling with the heart in these ways both complements and challenges feminist analyses that draw on other ways of understanding the body. This is not an exhaustive list of characteristics of the heart, nor of how cardiologically engaged theorizing can contribute to feminist conversations. There are more opportunities here, if other feminists take up the call to think with the heart. Starting with the heart, what more can be done?

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Notes

[1] Textbooks, such as Lilly (2003), are fine points of reference.

[2] Hird (2009b) provides a good overview of new feminist materialisms, though I would not include Haraway in the list, as she does. As

anthropologists Heather Paxson and Stefan Helmreich (2014) point out, "new materialist tactics often veer toward universalizing metaphysical claims about the nature of 'matter' as such and also, at times, take scientific truth claims about the world at face value – a move that we consider a step backward for STS" (p. 169). The universalizing tendencies of ontology and the tendency to take scientific accounts as representations of the world as it is are also a step backward for feminist theory.

[3] This is a concept that I began developing in Pollock (2010).

[4] This is something that made this cell type particularly appealing to early tissue culture scientists seeking to understand vitality outside the organism (Landecker, 2007).

[5] By reading cardiophysiology and critical theory together in this section and the next, my approach resonates with what Sophia Roosth and Astrid Schrader (2012) have called "feminist theory out of science," which for them "does not imply that feminist theory emerges from science," but "rather, that the world is already theory all the way down" (pp. 1-2). My project, too, works "by holding scientific theory in tension with critical theory," "send[ing] relays between the critical and the empirical, the semiotic and the material" (Roosth & Schrader, 2012, p. 2).

[6] Consider the contrast with the Pinard horn or "midwife's trumpet:" when a practitioner puts one side of this simple amplifying device on a pregnant woman's body and their own ear to the other side, the practitioner can directly both hear and feel the fetal heartbeat (Kitzinger, 1997, p. 223). The pregnant woman cannot share this experience hearing and feeling of the heartbeat with a midwife's trumpet, but with ultrasound she, together with the practitioner operating the device, becomes part of the heartbeat's audience. Listening by ultrasound is indirect for all concerned, and even when the media product is a sonic beat, it is not an amplification but a

sonogram: whether sound or image, it is a representation made from inaudible echo. Ultrasound is by definition outside the range of human hearing. Its frequencies cannot be heard unless it is translated into our range, in this case through medical imaging.

[7] This moment of "quickening" corresponds to the contemporary notion of feeling the baby kick for the first time – the first time that the pregnant woman can directly sense fetal movement. This moment broadly receives less focal attention today as other forms of fetal individuation precede it, but remains an important part of how pregnant women experience the individuation of the fetus.

[8] Here, the decision to privilege cardiovascular death over brain death palpably instantiated the denial of the woman's personhood. As a column in *The New England Journal of Medicine* noted, "Many observers had a hard time escaping the conclusion that Texas was using this woman's dead body as the ultimate incubator, treating her as a means to an end rather than an end in herself" (Ecker, 2014, p. 890).

[9] In her book *Private Bodies, Public Texts*, Karla FC Holloway writes about the case of Terri Schiavo, a Florida woman living in a persistent vegetative state whose case became the site of a sensational legal battle between her husband and parents over what was framed as "right to die" versus "right to life." The case reached its apex in 2005 when Schiavo's feeding tube was removed in accordance with her husband's wishes. "Terri Schiavo's extraordinarily public and riveting narrative depended on her fitting into stereotypical categories most often associated with women. She was portrayed as a daughter and a wife in the many retellings of her story. Her tragic situation incorporated all of the historic versions of female helplessness that social histories rehearse. Quite literally, Schiavo could not speak, think, or act on her own behalf. Although these are extreme versions of bias, she fit neatly into those extremes as well as the narratives that we have traditionally attached to the female gender"

(Holloway, 2011, p. 18). In the decision to remove the feeding tube, Schiavo's subjectification and subjectivity were constituted in relationship to state power (Anderson, 2005, p. 6), but also simultaneously in relationship to kin relations and to cultural notions of womanhood. Thus, Schiavo's personhood or lack thereof is inextricably gendered.

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