(RE)IMAGINING THE TECHNO-BODY: ARTIFICIAL INTELLIGENCE, EMBODIMENT, AND THE TECHNOLOGICAL FUTURE

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ABSTRACT

Heather Suzanne Woods: (Re)Imagining the Techno-Body:
Artificial Intelligence, Embodiment & The Technological Future
(Under the direction of Kumarini Silva)

This dissertation illuminates how gendered stereotypes are leveraged to the benefit of corporations that market and sell artificially intelligent objects. In particular, the research shows that these AI objects traffic in normative gender roles of the feminine as *caretaker*, *mother*, and *wife* in order to obfuscate modes of surveillance, and mediate the relationship users and potential users have with late-capitalist market logics in the platform economy. Mobilizing essentialist feminine personas, artificially intelligent objects orient users to engage productively with surveillance capitalism as 'natural.' To illustrate this relationship between the feminine and surveillance, this dissertation focuses on two case studies. The first turns to Apple's Siri and Amazon's Alexa as emblematic of AI VA that perform a stereotypically feminine persona that invites users to participate in increasingly intimate forms of data exchange that in turn contribute to surveillance capitalism. The study of AI VA, like Siri and Alexa, demonstrates the significant rhetorical capacities of the feminine persona as they are applied to objects with *weak* (that is, limited) artificial intelligence. In the second case study, I demonstrate how fictive representations of general AI also utilize normative conceptions of the feminine to gesture to the 'human.' Through a critical rhetorical reading of the films *Ex Machina* and *Her,* this research shows that even an imagined future of artificially intelligent bodies relies upon and re-inscribes patriarchal conceptions of the feminine in the technological present and future. In addition, focusing on

gendered narratives and stereotypes, these dystopian films, much like Siri and Alexa, distract from, and even normalize the rapid development of systems trading in surveillance capitalism.

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Enter Alexa

On November 6, 2014, Amazon launched the Echo, a Bluetooth-enabled speaker paired with virtual assistant software. "Designed [to function] around your voice," Echo assists users in controlling the temperature of their homes, playing their favorite internet radio playlists from streaming music services such as Spotify, making to do lists, and, of course, purchasing goods from online retail giant Amazon. Built using voice recognition software[1] and query-based algorithms, the Echo's technological features offered a strong initial draw to users looking for an assistant to streamline their disparate technological tools and services. While the technology itself was initially popular, what gained far more popular interest was Echo's *voice*, Alexa. Alexa is a digital virtual assistant, *housed* in Amazon devices such as the Echo.[2] Beyond her technical proficiencies, there is something distinctly human about the way people treat Alexa, and the way they talk about her.

Repeatedly, what faithful users of Alexa seem to cherish most is not how efficient she is as a technological object, but that she is a good and personable companion. Popular press reviews of the Echo tend to downplay the technical achievements behind Alexa as secondary to her service as an intimate compatriot.[3] Much of the online "buzz" about Alexa, for example, focuses on what we might otherwise call her personality: her humor, her gentle guidance, her calming effect. On Twitter, people use the hashtag #Alexa to share special moments they have with her throughout the day. Fans also traffic in trading tips on how to make her do exactly what her

owners want. Sometimes what her owners want is to be entertained by her. Or to be read to sleep. Or for her to help raise their children.[4]

Technically speaking, "Alexa" is Echo's "wake word," the word that users are required to speak before the Echo will execute their demands. For instance, to get the Echo to function, users must say "Alexa, play music" or "Alexa, add kale to my grocery list" and users expect that the device will comply. Requiring users to say "Alexa" every time they interact with the device has a personalizing, naming effect, turning otherwise mechanical commands into a form of digital discourse amongst interacting peers. Indeed, Alexa has become more than a "wake word," and has instead become a contributing factor to the increasingly sophisticated personification of the Echo device. By using "Alexa" as a means of address, users are invited to engage with Echo as a humanized digital entity. Through this rhetorical humanization of a technical object—here a hands-free Bluetooth speaker—Echo users establish a personal relationship with Alexa as an independent, agential entity. Reciprocally, Alexa gets to know the user, recognizing her or his voice, preferences, and habits, becoming more knowledgeable about users over time. Alexa—whose name means protector or defender of mankind in Greek—serves in the capacity as protector of the household, of a user's accounts, and, if we are to believe Amazon, of one's well being in an increasingly harrying digital world. According to some users, Alexa's care competencies make her "a near perfect wife."[5] While this language might initially appear excessive or inappropriate to the reader, such gendered and intimate rhetoric is far from extraordinary. Indeed, the amorous language utilized by users designate Alexa not just an object, not simply a technological tool, but an associate—even a partner to fall in love with.

I offer Alexa as a representative example of the complicated relationship between rhetoric, corporeality and techno-politics. Alexa is a techno-body. Because her unique, highly-lauded

proficiencies are not only technical, but also socio-cultural, she shows how computational artifacts come to have an identity-based politics. That is, in addition to her technological capacities, Alexa offers a representation of feminized humanity augmented by technological developments. In other words, Alexa isn't just a technical object, she is a non-corporeal embodiment of a particular form of embodied femininity: one that is bound up in companionship, silent servitude, and an ethic of care.

Despite not having a humanoid body, Alexa is an ideal example of a feminized techno-body, an object at the tenuous and amorphous intersection between technology and embodiment. The discourse used by Alexa and her admirers symbolizes the role the *techno-body* plays in fantasies about technology and the technological future, which is an imagined world that is increasingly mediated by technological advancements. Reviews of Alexa demonstrates the ways in which technology continues to be tied to socio-cultural notions of human care, labor, intellect, intelligence, and compassion, all which are very human traits even as they are projected on and worked out through technical objects. Alexa's material components—her plastic shell, fuses, lights, metal, and so forth—curiously fuse with the embodied materiality of femininity in a way that is rhetorical and has rhetorical effects.

The ways that users gender Alexa as feminine through their interactions with the device demonstrates an ideological investment in the role of both technology and the gendered body in our culture. In particular, the discursive constructions of Alexa as a servile but compassionate body demonstrates a collective desire to control that technological body, and by extension, the technological future. Alexa functions metonymically such that mastery over her actions symbolizes mastery over an increasingly technological world. Such control over the techno-body is, of course, politically and ideologically charged. There is a clear relationship between the

ways Alexa is rhetorically embodied as normatively feminine and how Alexa is conceived of as an assistant, as a sexual object, and as caregiver. Alexa's body is rhetorical, even if it doesn't look like the (stereotypically feminine) human bodies it is modeled after.

The gendered and sexualized treatment of artificially intelligent virtual assistants such as Alexa and her cyborg sister, Siri, is not new. Nor is the quest for a technologically-mediated, stereotypical form of femininity. The desire for a programmable, subservient, and efficient woman (or wife) has long captured the cultural imagination. For instance, the 1975 dystopic film *The Stepford Wives* features women who move to a suburban town and become technologically-improved shadows of their formal selves. The women in the film are turned from career-minded women to sexually subservient mothers and wives, replacing flesh and bone with hardware, software, and wetware.

The Stepford Wives predates the stories of Siri and Alexa by nearly four decades. Still, the stories told about Stepford Wives and Siri and Alexa are very similar. Like Siri and Alexa, the Stepford Wives are technologically-augmented version of femininity, efficiently streamlined to include only the most fundamental components of the feminine condition. They are elegant in code as well as in appearance. They serve the master of the house in a variety of ways, including through entertaining, childrearing, organizing and maintaining the home, as well as performing ancillary roles supporting the career of their owner. Life is simplified for the husbands of these Stepford Wives in much the same way that life is promised to be simplified for users of digital virtual assistants such as Siri and Alexa. No longer required to deal with messy, imperfect, and independent versions of femininity or womanhood, anyone who owns these perfect, programmable creatures can partake in the best parts of companionship without all of the labor of maintaining a real but complicated relationship with a flesh-and-blood woman. Such an

exchange comes with a cost, however: in *The Stepford Wives*, the (real) women of the town are murdered and then replaced by their replicant doppelgängers. In other words, these women are substituted by uncannily perfect technological apparatuses that can clean, and mother, and sexually gratify their husbands; they are perfectly calibrated to the exacting specifications of their owners.

The filmic representation of these cyborgs mirrors the subject-object slippage that occurs in rhetoric about artificially intelligent virtual assistants. Siri and Alexa share much in common with the fully-technological iterations of the Stepford Wives. Siri and Alexa are tasked not only with doing tasks an assistant might do, such as managing one's calendar or sending a text. They also are expected to provide companionship—sometimes of a sexual nature—to their owners. Like the Stepford Wives who preceded them, Siri and Alexa are artificially intelligent objects imbued with a carefully curated and calculated form of servile femininity. Unlike the Stepford Wives who preceded them, Siri and Alexa are real and available for purchase. The promise to simplify life for their owners is achieved by programming that leans deeply into tired gender roles. The roles that are rhetorically constituted are subtle yet visible; the slippery and intimate amorous language briefly described above turns Siri and Alexa into replacements for women (or wives).

Such substitution—of replicants for wives, of programmable objects for agential subjects—receives significant analysis in chapter three of this dissertation. For now, it is sufficient to say that the similarities between Siri and Alexa and the Stepford Wives are more than just uncanny. They are also culturally significant. The similarities between the women featured in the movie and the advertisement and popular cultural use of Siri and Alexa demonstrate that although artificially intelligent virtual assistants are a relatively recent

technological innovation, the desire for a specific form of programmable femininity is not. *The Stepford Wives* documents a negative cultural feeling concerning women who are seeking liberation from stereotypical versions of femininity. The solution to women's liberation and desire for independence is a total technological dressing down of the feminine; it is a reprogramming and replacement of women's consciousness—and, in the case of the Stepford Wives, their actual bodies—in order to uphold those stereotypical concepts of femininity. Ultimately, movies such as *The Stepford Wives* provide historical and cultural context for the release and uptake of artificially intelligent virtual assistants such as Siri and Alexa, vehicles of programmed—and reprogrammable—femininity.

This broader context which functions at the slippery interface between the human and the technological, the discursive and the material, frames this research. Continuing the work done by feminist technological theorists of the body and rhetoricians analyzing body rhetoric(s), this research works to understand "a contemporary cultural conjuncture in which the body and technology are conjoined in a literal sense, where machines assume organic functions and the body is materially redesigned through the application of newly developed technologies."[6] In the dissertation, I describe the ways that the techno-body is organized discursively through representation in films, in popular cultural discourse about techno-bodies, and in advertisements about the capacities of the techno-bodies. I analyze the rhetoricity of the techno-body as both a rhetorical agent and as shaped by rhetorical forces. In doing so, I point to the ways that the techno-body has the rhetorical agency to influence the world around it through its own discursive interaction with users. I also describe the ways that the techno-body is the product of discourse, which I argue gives the techno-body meaning and influences its form and function.

The Body in the History of Rhetoric

For scholars of rhetoric, the body has been a persistent if somewhat inconsistent object of inquiry. As Randi Patterson and Gail Corning note, rhetoricians have been concerned with the relationship between rhetoric and the body at least since the time of Gorgias. They suggest that "[I]n one way or another, an interest in the body has been present in rhetoric from the writings of Gorgias and Plato, through treatises on Rhetoric and Belle Lettres, and on to the work of Kenneth Burke, particularly his notions of identification and consubstantiality."[7] However, despite a sustained interest in the body from a rhetorical perspective, the body has not always been valued as the primary object of analysis for rhetoricians. Carole Blair, for instance, reminds her readers that rhetoric's relationship to the body as a subject for analysis and criticism was inconstant at best, and fluctuated according to trends in the field. For Blair, "[t]he body has been of tertiary concern to rhetoric traditionally, e.g. in rare considerations of *actio*…or in an occasional examination of how bodies were used rhetorically in the social movements of the 1960s."[8] Since then, however, scholars have demonstrated a reinvigorated program of study linking corporeality to rhetoric. In fact, the literature demonstrates a concerted effort to trace rhetoric and embodiment to the beginnings of the rhetorical canon.

Debra Hawhee's work is exemplary in this regard. Much of her recent scholarship outlines rhetoric's long-standing commitment to understanding the form and function of the body as a significant component of the rhetorical arts. In her book *Bodily Arts: Rhetoric and Athletics in Ancient Greece*, for example, Hawhee makes a compelling argument for linking the rhetorical tradition to contemporary concerns about embodiment. Using athletics as a vehicle for attending to the body in Ancient Greece, Hawhee notes that concerns about the body were forefront for the likes of Plato and Isocrates. Moreover, the athletic body was a central locus for philosophizing

about the relationship between the body and the mind, a concern which would come into vogue in rhetorical theory and elsewhere much later. She writes that

> Isocrates describes a[n athletic] training program for shaping a compounded self—body and mind—while training in gymnastics and discourse. Such a program tacitly invokes Plato's program recommending training that balances the body and mind, but Isocrates' program goes further: while Plato calls for a combination of activities that develop the body and that develop the mind, Isocrates notes from the outset a distinctive convergence between these arts.[9]

The body remained a central concern for Aristotle who, however reticently, acknowledged that the body was crucial for the delivery of speech. "Aristotle himself begrudgingly admits," Hawhee notes, "in Book III of *The Rhetoric* that concerns of the body raised by delivery must be considered by the aspiring rhetor."[10] Indeed, despite a lack of formal and consistent treatment, the body connects the Ancients to rhetorical critics and theorists today.

That Gorgias, Isocrates, Plato, and Aristotle mentioned or even meditated on the relationship between rhetoric and the body does not, of course, mean that their considerations were sufficient. For many rhetoricians, they were not. Some troublesome orientations to the body—as divided into discrete and differentially valued configurations, for example—may have been set into motion and even calcified by the Ancients. For instance, Brett Lunceford argues that Aristotle's hierarchically valuing *logos* over *pathos* can be read as a devaluation of the material aspects of the body in favor of more cerebral and intellectual components of the rhetorical act. This devaluation of the body had significant and lasting impacts for the field of rhetoric. Appraising logos as foremost in the rhetorical act of persuasion, according to Lunceford, would reify early on what would become contemporarily understood as the Cartesian split between self and body, between mind and matter.[11] This division of the thinking and acting discursive self into discrete forms remains controversial, and is one of the many issues pertaining to rhetoric and the body that rhetoricians continue to debate.

A resurgence in the interest in the relationship between embodiment and rhetoric has followed broader social and intellectual trends, especially those concerned with justice, representation, and the (im)possibility of truth in representation. Within the field of rhetoric and without, the body is now presumed central in analyzing questions of power, equality, and justice. As a result, the field of Communication in general and rhetoric in particular have been directly influenced by feminist theory, poststructuralist theory, and other theoretical vantage points featuring a critical orientation to the problematics of subjectivity and agency. Patterson and Corning, for instance, note that "while feminists are credited with initiating discussions of the female body as text or site in which issues of power are hotly contested, the body has become the locus of cultural, historical, philosophical and literature, as well as gender studies."[12] At least in part, then, intellectual and social movements prompted rhetoricians to re-evaluate key assumptions in the field, which then required a more sustained and careful examination of the body. For Carole Blair

> Bodies have become a more prominent concern in criticism in the past few years….Probably the first and most influential source of interest in bodies has been feminism, followed closely by the general tendency toward post-Cartesian positions in this and other fields. Some versions of poststructuralism, especially those rendered by Foucault, Lyotard, de Certeau, and Deleuze have called renewed attention to materialism in general and to the relationships of discourses, political agency, and bodies. And closer to home for everyone in rhetoric, the 1970s expansion of the domain of rhetoric to include cultural practices and artifacts beyond the spoken or written word has begun to exert an influence as well, as understandings of extra-linguistic rhetorics have gained in sophistication.[13]

Bolstered by gains in feminist and poststructuralist theory and practice, the body maintains a prominent position as a figure for analysis in rhetoric and communication writ large. Incorporating new and different types of "cultural practices and artifacts" as permissible for analysis and important for consideration increases the scope of the rhetorical domain.

The material turn in rhetoric can be seen as a response to this broadening of the rhetorical domain. Much of the scholarship analyzing the materiality of rhetoric features scholars grappling with the field's expansion beyond speech proper. However, it was not just the expansion of objects of inquiry that pushed the field to evaluate the material—and embodied—components of rhetoric. Rather, postmodern and poststructuralist thought prompted a (re)evaluation of both materiality and reality and whether or not rhetoricians had any stake in all of this. Rhetoricians arguing for a material approach to rhetoric have answered, resoundingly, yes. In the introduction to *Rhetorical Bodies,* Jack Selzer suggests that "[l]anguage and rhetoric have a persistent material aspect that demands acknowledgement, and material realities often (if not always) contain a rhetorical dimension that deserves attention: for language is not the only medium or material that speaks."[14] Rhetoricians, therefore, ought to give significant thought to understanding rhetoric beyond the limitations of discourse, which requires rethinking rhetoric's relationship to the corporeal.

An important consequence of this materialist approach is the (re)centering of the body as a worthy object of rhetorical analysis and criticism. Selzer notes that a "recognition of the presence of a material dimension in rhetoric and of the rhetorical dimension in the material is…in large measure a consequence of postmodern and poststructuralist turns in rhetorical thought. As postmoderns have come to challenge the centering of subjectivities in the mind, the body has naturally become a more focal point of rhetorical inquiry."[15] Indeed, critics who espouse the importance of the material in the study of rhetoric have provided some of the most significant criticism pertaining to the body. In the current moment, rhetoricians remain attentive to the body, although how they treat it varies. In what remains of this section, I offer a gloss on some of the critical and theoretical approaches on rhetoric and the body as they pertain to the

techno-body. I conclude with my theoretical contribution to body rhetoric—namely, an approach which describes the complicated rhetoric used by and about the techno-body.

The Body As Both Rhetorical Process and Product

The body is both a product of and productive of rhetorical forces. In this way, it is an obvious locus for rhetorical critics and theorists. From a rhetorical perspective the body is, at least in part, the product of a social formation constituted through shared meanings and discourse by, about, and of the body. Importantly, this social formation is not determined in advance, nor is it ahistorical. Rather, the meaning of and discourses surrounding the body are particular to the conjuncture in which it moves, is studied, and/or is imagined. Hawhee's book *Moving Bodies* seeks to show "the ways multiple discourses on the body in the twentieth century differently constitute bodies, and, more pointedly, how language, meaning and communication both emerge from and help constitute bodies."[16] In this vein, Kevin Michael DeLuca suggests that rhetoricians attend to the rhetorical constitution of bodies as located in a particular context. "There are no a priori bodies," he notes. Rather, "[b]odies are enmeshed in a turbulent stream of multiple and conflictual discourses that shape what they mean in particular contexts."[17] In addition to the "meaning" of the body, the "multiple and conflictual discourses" become subject to analysis by rhetoricians as part of a specific rhetorical situation.

Rhetoric is oftentimes conceived of as a verb—a way of knowing, communicating about, and acting in the world. Acknowledging the body as both the subject of discourse *and* as a discursive subject is crucial to maintain conditions of possibility for bodily agency—rhetorical and otherwise. While it is true that the body is the (discursive and material) product of a variety of overdetermined external forces, the body also reacts and produces its own myriad rhetorical forces. In so doing, the body functions as a rhetorical agent interacting with and influencing the

world around it. Recognizing the dual-function of the body as *actor* and *acted upon* preserves the agential force of the bodily, lived experience of the rhetor. Patterson and Corning note, for instance, that "[w]hen Foucault describes the impossibility of severing from each other discourse, knowledge, and power, he constitutes a very contemporary sense of the rhetorical situation. Yet if we think of both author and audience as only functions of discourse, as Foucault is sometimes read, we lose our bodily status as human beings."[18]

Here, the authors are cautioning against what Mary Kosut and Lisa Jean Moore say is an impetus to "reduce the body to simplistic dualistic categories, like playing up the self at the expense of the body." The problem with this approach is that "[t]here has been a tendency to lose sight of the characteristics of material bodies. As a medium, the body is both an agent and a reflection of cultural change."[19] In other words, the material, the rhetorical body both contributes to cultural change and is constituted by changing discourse and language surrounding and acting upon it. This notion of change—of rhetorical plasticity of embodiment—is found elsewhere in the literature about rhetoric and the body and will be discussed more extensively later in this chapter. For now, it is important to note two things: first, that this plasticity signifies corporeal change as the result of rhetorical influence in various forms; and second, that these (attempted) alterations of the body are not value-neutral but organized through a particular context or conjuncture. In this vein, John W. Jordan outlines the ways in which "[t]he plastic body is a contested subjectivity whose meaning shapes and is shaped by the ways that the body can be discussed, by whom, and toward what end, as well as the socio-political implications of people seeking to make their bodies conform to an idealized image."[20] Rhetoric's contribution to the developing field of body studies, then, signals the possibility of a sustained, nuanced, and agile focus on the complex, constantly changing material and discursive configuration of the body; its

location in a particular context/discursive field that is political in nature; and its ability to act in spite—or perhaps *because*—of these constraints. This makes rhetoric an ideal vantage point from which to analyze the rhetoricity of the techno-body.

It is clear that the thematic of the body offers no shortage of intellectual entry points for rhetoricians doing theory and criticism. The myriad approaches to the body in the literature are represented by the diverse scholarship about the relationship between rhetoric and the body. Some scholars, for instance, explicitly take up the question of the body as an object of rhetorical force. This literature analyzes the ways in which the body is affected by rhetoric. Jordan notes, for instance, that "[t]he human body is arguably the most fluctuating signifier in the history of cultural expression but the technological and commercial developments of the 20th and 21st century have given the material body as much fluidity as its artistic representations."[21] Jordan's study, "The Rhetorical Limits of the Plastic Body" represents one of the most explicit and direct take on what he calls "plastic bodies." This essay analyzes "[c]urrent body modification techniques prompt new considerations of the human body, but also raise questions about the acceptable limits of human intervention in altering its appearance." For Jordan, these "plastic bodies" are "rhetorically contested substance(s), with a variety of social agents engaged in efforts to shape its public meaning and, by extension, its corporeal form."[22] In other words, certain bodies are quite literally made malleable by cultural discourses about what bodies ought look like and what they might do. This conclusion has been supported by the findings of rhetorical critic Paul Achter, who, in his 2010 essay "Unruly Bodies, the Rhetorical Domestication of Twenty-First-Century Veterans of War," also analyzes the pliability of the bodies of Afghanistan and Iraq war veterans. He suggests that, "though the 'plasticity' or range of bodily expressions in public discourse is limited by the cultural context in which it is situated, the body is a rhetorically

useful and flexible argumentative locus that reflects the attitudes, values, and biases of a culture."[23] These studies demonstrate the ways in which discrete and particular bodies' meaning are pliable, but also how the material configurations of the body themselves are alterable, which is crucial given the plasticity of the techno-body.

In the following paragraphs, I outline 5 rhetorical perspectives on the body that influence my reading of the rhetoricity of the techno-body. Discussed are the body as (1) site, (2) text, (3) metonym/metaphor, (4) medium/message and (5) as argument itself.

Site

Rhetoricians are interested in the conditions of possibility for discursive and material alteration of the fleshy body. However, they also are concerned with the ways in which the body itself is a locus for rhetoric, a space for persuasion, or a site of discursive activity. In his 2008 essay "'Katie was Not Only a Girl, She was Terrible,'" Michael L. Butterworth analyzes the "sites for the regulations of bodies and space" as well as the body itself as a site for rhetorical invention. Butterworth's essay centers the body of Katie Hnida, a kicker on the University of Colorado football team.[24] In the essay, Butterworth argues that "embodied arguments are productive sites of rhetorical invention and judgment because they have the capacity to contest the assumed values too often taken for granted when bodies are visible and observed."[25] From this perspective, bodies are the sites of rhetorical controversy, spaces and places where bodies are imagined as forms of argument, but also where "bodies are rhetorically disciplined and regulated."[26] For Butterworth, Hnida's body represents "a rhetorical challenge to the boundaries of traditional male space."[27] And although he concludes that Hnida's embodied rhetoric was limited in its ability to challenge heteronormative and gendered characteristics of masculine or

feminine bodies in sport, for our purposes, Butterworth's essay demonstrates the ways in which the body itself is often a site for rhetorical invention and negotiation.

DeLuca's essay on transgressive activist groups Earth First!, Act Up, and Queer Nation confirms that the body is not just an accessory to the rhetorical act. Rather, the body itself can be understood as a site upon which various discursive configurations are mobilized. In "Unruly Arguments," DeLuca notes that with good reason, these "contemporary activist groups" reject traditional argumentative forms, instead placing their bodies on the line as suasory force. "Their bodies, then," he notes, "become not merely flags to attract attention for the argument but the site and substance of the argument itself."[28] Understanding the body as a site of rhetorical negotiation challenges notions of embodied argument (think here of "die-ins," and "sit-ins,") as sheer spectacle. Rather, the body is a site of argumentative force, and perhaps it is preferable up to and including times when traditional argumentative formations fail to persuade. Indeed, both Butterworth and DeLuca's research demonstrates that there are "power and possibilities of bodies in public argumentation,"[29] but that transgressive acts aren't always a given. Nevertheless, the body can serve as a site for argumentative action and persuasion.

Text

Other scholars recognize the potential of the body to function as a rhetorical text. Drawing on Maurice Merleau-Ponty, John O'Neill notes that the body can serve as a sort of "bio-text upon which the principal social institutions inscribe themselves."[30] From a phenomenological perspective, what O'Neil calls the "communicative body" is central to the constitution and legitimation of institutions. He writes of the "specifically human body, that is, that visceral body whose capacity for language and society is the foundation of all other institutions."[31] In "The Rhetorical Limits of the 'Plastic Body'" Jordan's analysis of bodies that undergo (or are

compelled to undergo) plastic surgery show that bodies have meaning and become meaningful as rhetorical texts themselves. In other words, "as the body is interpreted, framed, and understood, it becomes a text which reflects the attitudes and values of the culture in which it is situated."[32] Bodies are texts written by socio-cultural forces; they are texts that assert and contest meanings as the locus of human institutions.

Metonym and Metaphor

Sometimes bodies come to stand in for other things: discourses, ideologies, even discrete objects. In this way, scholars have located the body as a resource for meaning making and argument. The rhetorical functions of metonym and metaphor prove to be a useful orientation towards rhetorical forces of the corporal linked to other things or ideas. For instance, in *The Woman in the Body: A Cultural Analysis of Reproduction*, Emily Martin notes that women's bodies are often discursively linked to mechanisms of (re)production: "Women's bodies are often described in medical texts as if they were mechanical factories of centralized production systems. In descriptions of menstruation, birth, and menopause, the machine metaphor is alive today…."[33] Beyond metaphor, the rhetoricity of the body is often described through the rhetorical strategy of the metonym. In metonymy, one word or concept comes to stand in for another, related word or concept. In "Unruly Bodies," Achter describes the metonymic substitution of a veteran's (wounded) body with the nation-state, "domesticating" their bodies in a variety of ways. He writes that "the presence of veterans in public discourse activates discursive responses that domesticate them via three main strategies. First, they invoke veterans' bodies as metonym for the nation state." Therefore, "in the case of visible, traumatic injury, veterans' bodies are also employed as representations of failed state bodies."[34] From this perspective, bodies can be

rhetorically linked to some other, related concept and their association has an argumentative force.

Medium and Message

As the literature mentioned above illustrates, the body is a slippery rhetorical artifact and agent, at times operating as a site of inscription, as a socio-cultural textual formation, or as argument itself. Another way to describe this slippage is through the language of mediation. This scholarship on rhetoric and the body demonstrates that the body oftentimes serves as both medium *and* message, a fact that aligns rhetoricians (however wistfully) with media theorist Marshall McLuhan. Kosut and Moore note that "[t]he body is the medium or raw material through which we navigate the world, but it is also an entity that is invested with meanings.[35] Raymie McKerrow locates the body as a "site of mediation" wherein a "body….is as much metaphorical as real, as much a product of imagination as it is a product of lived experience."[36] The body as both medium and message communicates its embodied resistance, as in protesters who lay their bodies before heavy machinery or occupy a busy intersection, but it often serves as a screen upon which to project others' ideological messages.

The body can be used (or manipulated) in order to send a message. In that way, it operates in the duplicate roles of both medium and message. For instance Achter notes that "[i]n war, the body is a richly communicative means for marking out winners and losers….[O]ne purpose of injuring an enemy in war is to create a concrete and tangible message for domestic audiences."[37] Achter's research shows how bodies are often mobilized in ways that are beyond their control. Kosut and Moore argue persuasively that "bodies can communicate the effects of institutional racism, abandonment, and neglect as seen in the media images of poor black Hurricane Katrina victims stranded on rooftops begging for water and rescue.[38] The polysemy of the body as well as

its possibilities as both a form of mediation for a particular set of messages make it of special interest to scholars of rhetoric.

Body as Argument

At this point I have outlined the many ways that scholars of rhetoric conceive of the body as central to the rhetorical act. From here, I dedicate attention to one final way of conceiving the rhetorical capacity of the body: as argument itself. Repeatedly, the literature names the body not only as site, text, or medium, but as a form of argument. Butterworth, for example, suggests that "the body holds the potential to constitute public arguments and affect social attitudes."[39] Brett Lunceford's book on the rhetoricity of nude protest outlines how "[a] mass of protesting bodies can be an awe-inspiring sight, mainly because they exist as more than simply bodies in a particular place and time….In protest the body becomes something more than a representative individual that desires change; it becomes a site of resistance."[40] In this way the body is not only the corporeal location of protest, or the agent of its own resistance, but is, in and of itself, "a means of persuasion." DeLuca's treatment of oft-marginalized bodies organizing in visual protest campaigns centers the body both a resource and form of argument:

> These activist groups practice an alternative image politics, performing image events designed for mass media dissemination. Often, image events revolve around images of bodies—vulnerable bodies, dangerous bodies, taboo bodies, ludicrous bodies, transfigured bodies. These political bodies constitute a nascent body rhetoric that deploys bodies as a pivotal resource for the crucial practice of public argumentation.[41]

Locating the body as (a form) of argument challenges the role of speech communication in limiting the parameters of a rhetorical approach even as it expands argumentative form and force beyond its formal constraints. Implicit in this conclusion is a requirement to analyze the rhetorical effects of embodiment; if "to treat the body as a mode of argumentation….is to engage the rhetorical effects produced by the presence of bodies,"[42] then attention must be paid to the

myriad rhetorical ways the body influences the world around it. This concern is the topic of the next section of the chapter.

The Rhetorical Effects of the Body

Bodies are worthy of scholarly attention in part because they "produce rhetorical effects."[43] That is, as agents, as objects, as arguments, bodies have a rhetoricity that engages and influences the world around them. Sometimes, these rhetorical effects are transgressive. We see the body as a site of resistance in the scholarship of DeLuca, Pezzullo, Butterworth, Blair, Patterson and Corning, and others. Collectively, these scholars demonstrate that bodies discursively influence the worlds in which they interact, move, breathe, live, and resist. Making the turn toward a corporeal rhetoric means analyzing bodies in their various rhetoricities as well as challenging problematic assumptions about the role of the body in scholarship writ large. In so doing, the body serves as a resource for articulating a sustained challenge to oppressive practices. McKerrow, for instance, writes that "[b]y itself, locating rhetoric in the body is not designed to suddenly rearrange centuries of oppressive practice. Rather it is designed to operate as a site from which oppression might be challenged."[44] Here, McKerrow is drawing on a centuries-old intellectual problem: locating the mind separate from the body and valuing the former over the latter. This dualistic thinking has long been challenged by feminists, and literature on rhetoric and the body reflects significant influence by feminist thought. Phaedra Pezzullo, for instance, notes the ways that "technical, political, and popular discourses have historically tended to relegate women to bodies in a derogatory sense, engaging the politics of the body and embodiment enables feminists to challenge a range of oppressive practices…[and]…foste[r] conversations about reimagining these dynamics."[45] Rhetoricians are uniquely equipped to investigate these possibilities, for, "if we read rhetoric as a persuasive discursive network of

power and knowledge, we must first read the body as a site of cultural inscription, self-regulation, and resistance."[46] Reimagining the body from a rhetorical perspective means attending to the body in its most potent discursive forms, and as rhetorically affective.

To be clear, even though embodied rhetoric demonstrates that bodies themselves have rhetorical effects, not all of the rhetorical effects are positive. Butterworth cautions that "embodied arguments do not always or necessarily lead to progressive outcomes."[47] In fact, literature about the rhetoricity of the body indicates that bodies are oftentimes the battlegrounds upon which great rhetorical schisms are waged. Achter notes that the bodies of war veterans are used to "maintain support for US foreign policy at home," which reinscribes hegemonic orientations to nation-building and may even lead to wars that produce even more injured veterans. The important point is that "if our bodies produce rhetorical effects regardless of intent, we must be alert to the cultural constraints we engage. This serves as an invitation to investigate further the extent to which the body performs rhetorically where dominant norms prevail."[48]

So far, in this chapter I have outlined the myriad ways that rhetoricians conceive of and treat the body as a discursive configuration, as argumentative form, and as rhetorical agent. For reasons of synthetic clarity, I have placed the rhetorical body and body rhetoric into a series of discrete categories, some of which do not fit neatly on their own. The reader may have intuited these slippages as problems with the body as an analytical category for rhetoricians. Indeed, Hawhee notes that for scholars there are "at times impossibly complicated relations among language, rhetoric, and the body."[49] DeLuca also characterizes the body as "a site of incoherence."[50] Yet, for Jordan, this incoherence is a resource for body rhetoric, as he notes, "the innate incoherence of the body is the wellspring of its rhetorical power."[51]

If "[b]odies are sites of contradictions….both material and symbolic,"[52] how then to characterize the rhetoricity of that contradictory, incoherent body? Scholars in rhetoric have long recognized the troubled relationship between rhetoric and the body, long beyond the present dissertation's turn to the techno-body. First, this critical entanglement between body and language is to be expected, because both the body and rhetoric are porous, imprecise, and non-discrete.

The rhetoricity of bodies is not limited to language. "When we talk about bodies," Hawhee writes, "we talk about sensation, touch, texture, affect, materiality, performativity, movement, gesture, habits, entrainment, biology, physiology, rhythm, and performance, for starters."[53] The rhetoricity of bodies, then, extends beyond language. Conceiving of the body as linguistic or rhetorical beyond language can constrain traditional approaches to rhetoric, what Raymie McKerrow calls "administrative rhetoric." Yet, literature in the field of rhetoric confirms there is scholarship which supports the idea that "the non-linguistic can argue,"[54] and that "language is not the only medium or material that speaks."[55]

What makes the body rhetorical is, at least in part, its excess. It eludes capture, and in this elision is its rhetorical capacity as well as its limitation.[56] The discursive slipperiness of the body causes some complications for scholars of rhetoric, who note that "[c]ommunication about bodies and communication from bodies arises from cultural needs to direct or channel an entity that is by definition not reducible to any one essence."[57] There are at least four implications of bodily excess that are relevant to a study of the techno-body. First, rhetoricians must acknowledge that the body is beyond language and perhaps beyond "rational discourses" traditionally valued in Western thought.[58] Second, the body is often meaningful yet is in excess of meaning.[59] Third, the affective resonances of bodies may be rhetorical, but in so being may

"elud(e) and resis(t) capture; one feels it, but she cannot say it."[60] And, fourth, as Hawhee notes, one of the body's most significant capacities —to feel sensation—may not be easily captured. In other words, sensation "needn't become encased in language to be known….rhetoric is not, or not only, a means of knowing and needn't be so attached to meaning. Other attachments matter for rhetoric—political, bodily, technological, and sensory, and these intermix and move recursively."[61] In analyzing the techno-body, this dissertation analyzes the various "rhetorical attachments" Hawhee alludes to in the excerpt above. In the next section, I begin to demonstrate how.

Defining the Techno-body in Its Rhetorical Excess

Techno-bodies--hybrid creatures comprised of both human and technical matter--have infiltrated nearly every aspect of our increasingly mediated lives. Techno-bodies come in a variety of formats, both fleshy and non-fleshy. For instance, smart phones house virtual assistants who remind users to take an umbrella if there's rain in the forecast. Artificial intelligence and the algorithms that constitute it help bodies move more efficiently and aid in the rapid transmission of communication between various bodily entities. As the body becomes increasingly immersed in the digital, it is no wonder that we fantasize about the future in the form of popular cultural representations of techno-bodies. In movies such as *Her* and *Ex Machina*, for instance, we imagine the political, social, and cultural implications of making hybrid the technological and the embodied. As a result, we make (and communicate!) important assumptions about the role of both humanity and technology as we build a collective future together. These assumptions are fundamentally political, because they prompt us to (re)consider the constitutive elements of human nature and who (and what) is and is not included. They are also fundamentally

communicative concerns, not least because they harness the communicative power of body rhetorics and media as they influence diverse populations who encounter them.

This dissertation interrogates the role of the *techno-body* from a feminist and critical rhetorical perspective. The techno-body is the generalizable descendent of Donna Haraway's cyborg, brought into life by Anne Balsamo. Balsamo defines the techno-body as a "reconceptualization of the human body….a boundary figure belonging simultaneously to at least two previously incompatible systems of meaning—'the organic/natural' and "the technological/cultural."[62] It is therefore bound in a feminist technology studies tradition and serves as a lens through which to view discrete objects and phenomena. The techno-body offers a unique vantage point to analyze the relationship between the human and the technological.

As an analytical object and agent, the techno-body functions as a bodily formation that subverts binary dualisms between the technical and the organic by demonstrating the ways that each constitutes the other. However, the techno-body is not (only) some nascent object in the world ready for discovery by scholars and activists. Instead, laboring, thinking, and agitating bodies create it. It is also the result of discursive figurations and material processes of construction that create conditions of possibility for new technologies and new human capacities. Beyond that, however, the techno-body itself is a site of possibility for imagining new political realities. As Balsamo notes,

> [t]he purpose in reading the body in contemporary culture is not only to tease out dominant cultural preoccupations, especially as they concern the status of the gendered body in postmodernity, but also to suggest an agenda for future feminist work. The aim of these readings of the techno-body is to specify sites for immediate political intervention and social change.[63]

Following Balsamo, this research project "reads the body" by mobilizing rhetoric's long-standing tradition of centering the body as both process and product of rhetorical influence.

The techno-body, then, is an agitational hybrid agent who occupies a liminal space between object and subject, human and non-human, and rhetor and object of rhetorical force. It is also most importantly a site of imagination wherein the techno-body is understood to be constituted as outside the social conditions of embodiment even as it is caught up and made in and through those very same embodied forms. Critiquing binary relationships between the mind and body, between organic organism and machine, and between material and discursive, techno-bodies promote a shared cyborg relationality amongst their constituent parts, whether those be technical object or organic material. That is, like Haraway's cyborg, techno-bodies are "a kind of disassembled and reassembled, postmodern collective and personal self."[64] They are at once singular and plural in their definition.

Techno-bodies come in a variety of forms; some of them are material instantiations that we can touch, feel, and see. Some are formed by physical materials that stabilize our bodies or serve as infrastructure for more ephemeral elements of the technical sphere. Still others are discursive or filmic representations of the embodied technological objects that appear ephemeral but have lasting material effects. Some techno-bodies are easily recognizable: humans who use technological advancements to sustain life, and/or cyborgs who threaten all of humanity in blockbuster films such as *Ex Machina* and *Her.* But some are less immediately perceptible: artificially intelligent objects like virtual assistants who aren't quite human but aren't quite non-human either. In the next section of this chapter, I'll discuss the particular techno-bodies under investigation in this research.

The scholarly movements within the field of rhetoric demonstrate that the rhetoricity of the body is in its excess, its agential, categorical evasion of any one discursive frame. So, too, the rhetorical capacity of the techno-body functions in excess. The techno-body evades easy

categorization because its various components—human and technological—are constantly shifting terrains. Moreover, the techno-body demonstrates a sort of queer hybridity that rejects static definitional clarity. Part of this shiftiness is owed to the "blending" of varying components both organic and non-organic, which restructure the very conditions of meaningful distinction. Kosut and Moore note for instance that that "[t]his prevalence of the cyborg, [as] an integrated circuit of flesh and technology, a blending of the 'natural' and the 'social,' redefines the very notions of humanness and the distinctions of animate and inanimate."[65]

Techno-bodies are often augmented bodies that are moved beyond a body's initial capacity. Balsamo, who coined the term techno-body, notes for instance that defining the reality of the techno-body is difficult because "[t]echno-bodies are healthy, enhanced, and fully functional--more real than real."[66] Like their cyborgian mothers, techno-bodies relish in their excess capacities as a way of examining, determining, and countering future possibilities. Like all bodies before them, they are the public grounds upon which meaning-making happens. The overdetermination and, indeed, the polysemy of techno-bodies may initially frustrate readers of this dissertation; if, in the process of reading this chapter, you have asked yourself, "What *even is* a body?", you are beginning to see the discursive liminality of this hybrid, boundary-creature. Importantly, both the politics and the rhetorical power of the techno-body are in its excess. If the techno-body is shifty, if it serves as a boundary-creature, if it adapts and moves and morphs, then its ultimate capacities are not determined in advance. It is in this way that the techno-body serves as a site for imagining a more just future. Moreover, given rhetoric's capacity to understand the complex nature of rapidly changing bodily forms, the plasticity and polysemous nature of the techno-body makes them ideal objects of rhetorical analysis.

If the (human) body is a communicative impossibility, understood as beyond rationality, beyond meaning, and beyond discourse, how do we conceive of the rhetoricity of techno-bodies, whose ontological slipperiness defies easy categorization? After all, techno-bodies such as Alexa show how new media technologies bleed into the sphere of the human, presenting a heuristic challenge for humanists writ large and for rhetoricians in particular. The rise of the so-called post-human and the blending of the technological and human matter complicates what we imagine a body to be and thereby forces a reconsideration of body rhetoric. However, theorized positively, this rhetorical entanglement presents new opportunities to investigate the rhetoricity of new and different types of bodies.[67] Attending to the rhetoricity of the techno-body requires expanding conceptions of the body as increasingly inter-tangled with the technological tools surrounding it. It also involves listening to how these techno-bodies speak, who speaks about them, and what they say.

Conveniently, rhetoricians are very well equipped to theorize the rhetoricity of the current technological conjuncture, at least in part because communication studies is tied to shifts in communicative (and technological) media.[68] Scholars who investigate new technologies from a rhetorical perspective contribute to our understanding of their societal impact "by identifying novel means of rhetorical connection and illuminating heuristics and approaches that are privileged by those technologies but that may have previously escaped notice."[69] To this rhetorical situation, rhetoricians bring a flexible approach to body rhetoric and rhetoric(s) of the body that looks beyond dualistic binaries such as discourse and material, constitutive and constituted, social and singular and instead highlight moments of influence and communicative action. Rhetoricians are also uniquely able to attend to the technological body as communicative excess and impossibility. These definitional capacities—about what is human and non-human,

what is animate and inanimate—are inherently communicative. They communicate the parameters of what is real and what is not, who and what is able to speak, and they do so in manifestly political ways.

It is also worth mentioning here that many if not most of our interactions with digital objects can be understood as rhetorical in nature. While the suasory nature of human-computer interfaces will be treated more substantially in Chapter Two, it is important to note that interfaces are rhetorical sites of negotiation about what is human and what is technological. Indeed, these communicative interactions have historically served as the mechanism by which we negotiate the relationship between technology and the humans who use it. A prime example is the Turing test, which uses the exchange of messages to define a machine's capacities for independent, intelligent thought. As Lisa Nakamura claims, noted computer scientist and mathematician Alan Turing

> also devised the Turing Test, which has proved immensely intellectually generative to theorists of technology, identity, and intelligent systems. This test posited that if a computer could produce messages through a computer console that could convince a user that the computer was a human, it could be considered sentient….Turing's test assumed that it is not possession of a physical biological body, but the quality of possessing the ability to deceive humans into believing that the computer is producing thought, that defines intelligence.[70]

For Nakamura, the Turing Test theorizes not only the capacities of a digital object, but the contours of bodily identity and intelligence as well. It is no coincidence that standardized methods for determining true artificial intelligence rely on communicative exchange between computer and humans. The rhetorical quality of this test is inherently persuasive: the Turing Test is successful when a machine persuades a human it is intelligent enough to be considered one. As Nakamura notes, the body rhetorics endemic to the Turing Test traffic in some familiar narratives about the value of the body and of the mind; about what makes the human human; and

about how determining intelligence and agency is always already partisan (that is, non-neutral). Artificially intelligent bodies—techno-bodies—are a microcosm of a larger debate about the role of the human in the technological future and present.

The Techno-body is a Communicative Agent

Debates about the relationship between marked, material bodies and the supposed ephemera of computer-mediated realities are fundamentally communicative issues. In her book *Personal Connections in the Digital Age,* Nancy Baym writes about the complications in communication that arise from new, digital media:

> After millennia as creatures who engage in social interaction face-to-face, the ability to communicate across distance at very high speeds disrupts social understandings that are burned deep into our collective conscience. Digital media continues these disruptions and pose new ones. They raise important questions for scholars and lay people alike. How can we be present yet also absent? What is a self if it it's not in a body?[71]

Baym's questions are tugging at a fraught distinction between the presence of the body—the material aspects of the fleshy self—and the seemingly ephemeral communication that is issued from it. For millennia, the body has been intimately connected not just to discourse, but to the embodied presentation of self. Until material media such as books became easy and cheap(er) to create and circulate, the presentation of self and the sharing of dialogue required co-presence of bodies in a singular space defined by shared physical location.[72] Philosophers of communication and the social continue to use the metaphor of touch to gesture towards the importance of bodies meeting bodies in space.[73] Even after the emergence of mediated technologies that allow rapid circulation of communication, co-presence remains a significant element in the constitution of human relationships. If togetherness is one constitutive element of communication, and potentially the ideal form of the same[74] what does it mean when communication is seemingly divided from both the self and the body which has served as home for both for so long?

As the literature above demonstrates, questions about the relationship between the material and the discursive are not new to the field of communication. Rhetoricians who contribute(d) to the material turn in communication theory and criticism have quite convincingly established that human and non-human objects are communicative. But not only rhetoricians are interested in the communicative capacities of techno-bodies. For example, communication scholars like John Durham Peters notes that, "the fundamental dilemma of communication" is that "[b]odies can touch but minds cannot."[75] In her essay on communication and the machinic assemblage, Jennifer Daryl Slack compels other communication scholars to reconsider the communicative body in relationship to biotechnology, molarity and collective bodily hybridity. She notes that "[e]ncounters with the changing material and intellectual conditions of contemporary life ought to urge us to reimagine what communication is and how it works, and how we understand bodies and identities, including the identity 'human.'"[76] Because, as Jeremy Packer and Stephen B. Crofts Wiley note, "[m]edia and communication alter what the body can be and how it can interface with the world,"[77] the intervention of this research is in its investigation of those bodily interfaces with computer-mediated communication. The affordances and limitations of digital and new media add to our thinking about the body, how it communicates, and who we are as a result.

The Techno-Body as Method and Approach

In this dissertation, my overarching research question is: What can the rhetoric(s) surrounding artificially intelligent objects tell us about the relationship(s) between gender and technology? To answer this question, artificially intelligent techno-bodies are analyzed from a critical communication perspective. Mobilizing feminist orientations to embodiment and merging them with a rhetorical approach, the following chapters investigate how gendered

identity is leveraged as a modality for understanding the ways in which technology influences the lives of people who use it. Rhetoricians who investigate the relationship between rhetoric and embodiment have convincingly argued that bodies both produce rhetorical effects and are the product of rhetorical forces. For this reason, the dissertation employs a rhetorical approach to the both which takes under consideration rhetorics about the body, and body rhetorics mobilized by the techno-bodies themselves. The former analytical frame understands the body as an object of discursive conversation. The latter approach demonstrates that techno-bodies themselves communicate; that is, they have meaning and exert rhetorical force on the worlds around them. Techno-bodies, then, are both discursively constituted as well as constitutive of various rhetorical effects. Studying this bivalent rhetoricity of the techno-body demonstrates how these technological objects themselves are imbued with a decidedly human politics even as they exert rhetorical force into the material world where humans act and interact. The rhetorics surrounding techno-bodies and the body rhetoric of techno-bodies are not discrete nor are they hermetically sealed. Rather, these discourses bleed into one another in an imperfect but sustained loop. For these reasons, the dissertation takes a two-pronged approach to the rhetoricity of techno-bodies.

Language used to describe and give meaning to digital objects shows up in the materiality of the objects as well as the rhetorical capacities of the digital objects themselves. Similarly, techno-bodies fit into, perpetuate, and intervene into larger conversations about what humans are and can be in the present and technological future. That is, at least one of the rhetorical capacities of artificially intelligent objects is to communicate about and give meaning to the human condition. So in addition to seeking out and analyzing the mutually-constitutive rhetorics about and by the techno-body, this dissertation asks a second, related question: how do these rhetorics imagine and constitute the technological future? How do these objects serve as metonyms for

particular forms of humanity in a technologically-advanced society? And how do these techno-bodies support and challenge the nature of the human body now and in the future?

To answer these questions, I put into conversation artificially intelligent objects and discourses about those technological objects and capacities. In particular, I analyze the language techno-bodies use, the various discourses used to describe techno-bodies, the filmic representation of techno-bodies, and the material configurations of the techno-bodies themselves. This constellation of objects and discourses together demonstrate that (1) the body remains a significant site of politics in the digital age; (2) actively circulating rhetorics by, about, and of techno-bodies demonstrate both collective anxiety and hopefulness about the role of technology in imagining a more just future; and (3) narratives surrounding the constitution and action of—and resistance to—techno-bodies are important cultural sites of political potential. Ultimately, understanding the relationship between the technological and the embodied provides insights into how artificially intelligent objects—and the rhetorics surrounding them—influence our capacities for imagining and enacting a more just technological future.

The Techno-Body and Persona

In this dissertation, I treat artificially intelligent techno-bodies as taking on a feminized *persona*. By persona, I mean the explicit and intentional presentation of a technological self, characterized by narrative constitution of an embodied identity. Here, I engage with the rhetorical phenomenon of persona as a way of analyzing the gendered characteristics of the artificially intelligent techno-body. Persona is particularly interesting to this project because it allows us to see the ways that normatively gendered identities are transported to AI in order to generate and invite information sharing. For example, in chapter three, I describe how Siri and Alexa mobilize stereotypically feminine characteristics, which have the effect of (1) prompting

users and potential users build relationships their devices and the companies who market them, (2) obfuscating the devices' surveilling capacities, and (3) obscuring how that surveillance embeds users into systems of late-market capitalism, organized around the monopolistic platform economy. In these instances, it is the persona, rather than the technology itself that becomes the interlocutor.

Scholars who mobilize persona in their literary or rhetorical criticism routinely note the etymological lineage of the term as a "mask." Essentially, when a rhetor adopts a persona, they adopt a particular character or set of characteristics that identify them in their particular role. As Mark Sadoski notes, persona's origins are in the "theatrical masks worn by Greek and Roman actors to represent particular characteristic such as tragedy and comedy to an audience."[78] In the present tense, persona's lineage as a mask speaks to its apparent performative artifice. In this sense, persona is a way of adopting and playing a particular role, which brings to life the performance not only for the performer, writer, or rhetor, but for the purposes of communicating with an audience. Whether or not it is authentic or "true," adopting a persona can help a rhetor prepare to execute a rhetorical act; even as fiction, a persona can help an author assess the rhetorical situation, choose a rhetorical strategy, and execute that strategy. Donning a particular persona is a communicative strategy for imagining the self and the audience as connected in a particular, shared way.

Yet persona is not simply—or only—an act of impersonation. Rather, in some situations, persona can be a representation of a rhetor's sense of self. Sadoski points out that both *person* and *personality* have their roots in persona.[791] When preparing for the rhetorical act, the rhetor

must make decisions about what to say, who to be, and how to represent the person they are being. Playing a role may clarify the contours of communicative exchange for both the rhetor and audience. Indeed, adopting a persona, or emphasizing aspects of a personality, can allow a rhetor to more clearly define the self for the audience when there are constraints that prevent the full sharing of the self in the rhetorical act. After all, the self is multitudinous, and one's identity is constituted at the myriad intersections of lived experience and culture. And since it is impossible, and at times unwise, to attempt to configure communication according to all facets of one's being, a persona can help link a rhetor to their audience.

Siri and Alexa are programmed to perform a persona to users and would-be users. This persona emphasizes stereotypical conceptions of femininity. Their persona as *assistants* is a significant component in their overall personality. Siri and Alexa perform what might otherwise be called "pink collar labor;" that is, labor traditionally performed by women and feminized bodies. In addition to discharging secretarial duties, however, Siri and Alexa also take on a different set of responsibilities. These AI virtual assistants are also tasked with providing care labor. Sometimes this care labor is sexualized. In this way, Siri and Alexa are authorized to play the part of a wife, inviting their male users to participate in a heterosexual fantasy with their objects.

In 1970, Edwin Black introduced the concept of the "second persona." Black considered how the rhetorical act encompasses both the rhetor and the "implied auditor" of a rhetorical exchange. Unsatisfied by criticism drawing upon worn and inflexible "typologies" about the audience, Black instead supposes that personae offer a more useful entry point to more fully understand the rhetorical act. In this configuration, the audience is not the sum total of persons witnessing a rhetorical act. Rather, the audience can be imagined and constituted by the rhetor as

(s)he invites him/her into identifying with the second persona. Black notes that the audience of a speech or other persuasive exchange is invited to identify with a second persona that is transformational in nature. The idea here is that when devising a speech, the audience is convinced or not convinced of both the explicit message as well as an implicit consideration: what persona(e) they ought perform at the end of the rhetorical act. Persona is therefore caught up in and constituted by ideology, understood, for Black, as an encompassing world-view that structures one's beliefs and actions. The implied auditor of the rhetorical act, understood as the second persona, is influenced by the performance of the persona of the author him- or herself. Black's conception of the second persona can be useful to (1) imagine and construct the relationship between audience and rhetor; (2) perform criticism with attention to power and ideology and (3); analyze the ways that rhetoric is itself constitutive of identity. Similarly, the techno-optimistic narrative in which the artificially intelligent virtual assistant is embedded serves a dual role. First, it expresses a stereotypical feminine persona that eases its use, based on how we understand femininity and feminine caregiving in patriarchal societies. Second, by suggesting a second persona—through a performance of technological 'streamlining' of everyday life—for the audience, it invites the user to imagine themselves as active participant in the technological future.

It is important to note that performance of persona or personae is contextually situated. The representation and performance of self in prose, a speech, or performance is always linked to the time period in which it was produced. That is, it cannot be divided from the historical and sometimes political circumstances in which it was derived and performed. As Jenson and colleagues note, "studies about the performance of particular personae provide an important point of departure for scholarship on historically situated communication and social change."[80] In

the context of this dissertation, analyzing the performance of normative, heterosexual, Western femininity in Alexa and Siri's programming provides a fertile ground for understanding how femininity is imagined in the present tense. The feminine persona is a complicated concept, made more fraught given its contextual nature. For example, in an essay on Sarah Palin as rhetor in the 2008 election, Katie L. Gibson and Amy L. Heyse note that the feminine persona is often hitched to stereotypical conceptions of femininity. Gibson and Heyse read Sarah Palin's 2008 Vice Presidential acceptance speech in which Palin issued the now (in)famous quip about the hockey mom and the pit bull. For Gibson and Heyse, Palin deftly "crafted a personal of motherhood by employing domestic examples, maternal appeals, and a feminine discursive style."[81] Palin situated herself primarily as a mother, drawing on her relationships with her family and her experience as a matriarch. In spite of the feminist possibilities of being the country's first female vice-president, Palin's performance, as a domestic super-mom and caregiver, was decidedly anti-feminist. Indeed, as Gibson and Heyse ultimately argue, Palin "effectively subverted [her] persona by joining the RNC's celebration of hegemonic masculinity"[82] by emphasizing her heterosexual mothering. Essentially, Palin leveraged her feminine persona for the benefit of a "masculinist politics." As Gibson and Heyse note, Palin's adoption of a maternal persona is especially pernicious given how persuasive it might be to potential audiences, where the "…faux maternal performance may, in fact, be more potent in its endorsement of hegemonic masculinity than the persona of the warrior-hero, the capitalist-worker, or the rugged cowboy."[83] In other words, persona can draw upon frames of reference or characteristics of a marginalized identity to advocate for positions antithetical to the benefit of persons espousing that identity. We can extend Gibson's and Heyse's arguments of the ways that feminine personae are leveraged for masculinist politics to the personas of Siri and Alexa. In the case of these AI VA, the

development of a feminine personae, especially crafted for caregiving and caretaking, is leveraged for the purpose of augmenting surveillance capitalism and provides insight into the relationship between technology, market logics, and femininity.

That Siri and Alexa are digital, non-human entities further complicates the construction of—and engagement with—their perceived persona. Siri and Alexa adopt persona as non-persons. That is, their persona is derivative without an actual referent; they exist separate from any one particular human being. If we understand persona in humans to mean that we don it as a mask, then Siri and Alexa, devoid of a human body and their corresponding agentive values, are only ever "masks." That is, Siri and Alexa's personae exist as the amalgamation of gendered characteristics of humans, which are drawn upon to give the AI VA a collective, shared 'personality'—one that is borne out of stereotypical gender roles produced within compulsory heterosexuality. As virtual assistants who operate on the basis of gendered stereotypes of femininity, Siri and Alexa productively challenge the distinction between embodied and mediated. Neither object has a humanoid body, but it exists in the world as technological 'companion' that through its feminine personae reify and reproduce problematic stereotypes of femininity.

Siri and Alexa's status as both embodied and mediated is not a limitation to their rhetorical capacities. Rather, their liminality provides an opportunity to transcend this binary, synthetically linking the two. Scholars in communication have noted the insufficiency of the division between online and offline, embodied and mediated.[84] [85] Brett Lunceford, for instance, notes in *Naked Politics* that "There remains an uneasy tension between the embodied actor and the mediated presentation of self."[86] Still, Lunceford is quick to notice that "one cannot merely separate an individual's constructed digital persona and his or her embodied existence, or define one as real

and the other as somehow less than real."[87] Here, Lunceford is articulating the troubled distinction between how a (human) person constitutes their persona online and offline; one might perform their persona differently online, at a sort of metaphysical distance from their routine everyday performance of persona. Yet those two performances are not necessarily artificial despite their difference. In the case of Siri and Alexa, this division of self does not and cannot exist; even as anthropomorphized AI VA, their persona is singular. Moreover, this exceptional singularity works to bridge the chasm between the mediated and embodied worlds. In the constitution of their persona, Siri and Alexa rely upon the stereotypical conception of the feminine, including the feminine body, and draw it into digital mediation that transcends the division of embodiment/mediation.

Objects and Analysis: The Rhetorics of AI

At its broadest, this dissertation is concerned with both the communicative capacities and rhetorical effects of the techno-body, a hybrid creature composed of both technical material and human matter. In particular, under investigation is the artificially intelligent (AI) techno-body, which describes those objects and technical capacities which blur the boundaries between human and non-human through increasingly independent agential action and machine learning. Case studies focus in particular on two sets of AI techno-bodies: artificially intelligent virtual assistants and cinematic representations of AI. These objects of inquiry invite investigation into the relationship between computational objects and humans, and they serve as a locus to rethink the parameters of identity, privacy, and agency in the current technological conjuncture.

***Ex Machina* and *Her*: Representations of Techno-Bodies**

Techno-bodies exist in a variety of formations. For one, cyborgs represented in films are techno-bodies. I analyze two films in this dissertation: *Ex Machina* and *Her*. *Ex Machina* is a

2014 film about the development of the first true artificially intelligent being named Ava (Alicia Vikander). Programmer Caleb, played by Domhnall Gleeson, is flown to reclusive billionaire Nathan Bateman's (Oscar Isaac) home-cum-laboratory. There, Caleb performs a modified Turing Test to determine whether or not Ava has achieved strong artificial intelligence. The critically acclaimed film was shot and produced on a modest budget of $15 million. A great success at the box office, it grossed well over $36 million worldwide, earning $25 million in the United States alone. The film was hailed for its outstanding acting, screenplay, and production by both individual critics and film and art associations. In addition to best acting and screenplay awards, the film's visual effects team won an Oscar for Best Achievement in Visual Effects in 2016.

The other film analyzed in this dissertation, *Her* (2013), was similarly acclaimed. With a budget of $23 million, this tragic boy-meets-techno-girl story netted some $47 million at the box office worldwide. *Her* tells the story of reclusive and sensitive writer Theodore Twombly, played by Joaquin Phoenix, who falls in love with his operating system, Samantha (Scarlett Johansson). This blockbuster cast and crew earned a number of accolades, including an Oscar for writer/director Spike Jonze for Best Writing for an Original Screenplay. It also received popular acclaim from feminist reviewers, some of whom called it the "Most Feminist Film of the Year."[88]

Ex Machina and *Her* offer a set of fertile texts ripe for the investigation into how the weighty baggage of embodiment merges with the seeming a-material ephemera of new technologies. As scholarly objects, films can serve as a mirror reflecting a particular socio-political context. That is, critical scholars can use films to understand a particular conjuncture of cultural values, desires, and interests mapped out in a visual form. In the context of this project, the films under investigation are understood to be a projection of a particular technological imaginary, one in which we gaze forward (and sometimes backward) to understand our role in

creating the future of an increasingly mediated society. I investigate films such as *Ex Machina* and *Her*, which draw on and complicate narratives about embodiment and technicity in the form of the *cyborg body*. The cyborg body has long captured our imagination and, as such, has been routinely iconized in film. The cinematic representation of cyborg corporeality has held our gaze for so long in part because cyborgs are discursively-marked reservoirs for us to fill with our own anxieties, hopes and fears about our own bodies in the technological future. In so doing, they also serve as rugged, unstable, and sometimes unwilling canvases upon which to project our own embodied politics. Cyborgs are communicative objects, their material bodies problematizing our conceptions of (collective) movement, affinity, and the contours of the techno-political. Powerfully, cyborg bodies make us question the constitutive principles of humanity as they slide (inevitably) towards the post- or trans-human.

Together, cyborg films such as *Ex Machina* and *Her* serve up complicated cultural narratives about the relationship between human bodies and non-human bodies; between fleshy matter, technical objects, and their collective roles in constituting our technological future. In their imagining of new(ly) mediated artificially intelligent bodies, these films also draw upon and maneuver around gendered, raced, and classed stereotypes that weigh down their visual representations of the future with the ideologies of the past. The dystopic stories contained in cyborg movies are for their audiences psychically and materially terrifying for three interrelated reasons: (1) in our verdant hope about the technological future, there is always a risk that we will be betrayed by the machines we produce; (2) the political burden of the flesh does not (and cannot) simply dissipate when the musculoskeletal structure of the techno-agent is made of metal and code and (3) despite our visceral rejection of the machine as Other, we are more Othered-machine than we'd like to imagine.

Artificially Intelligent Virtual Assistants

In addition to studying representations of cyborg bodies, the dissertation will undertake a critical feminist reading of what I am calling *artificially intelligent virtual assistants (AI VA)*. In particular, I analyze two AI VAs, Amazon's Alexa and Apple's Siri. Amazon's Alexa is the digital assistant "housed" in Amazon's hands free Bluetooth speakers called Echo and Tap and voice-activated device called Echo Dot. As a virtual assistant, Alexa has gained popular uptake as a humorous and caring companion. In the chapters that follow, I read how it is imagined and used in both official advertisements from Amazon and in "reports from the field" wherein users describe how their relationships with the AI VA develop over time. Apple's Siri shares with Alexa popular uptake as one of the most widely used (and abused) virtual assistants currently on the market. No longer relegated to mobile devices, Siri can be summoned by anyone with an iPhone, an iPad, or an Apple computer. The ubiquity of these devices bolsters Siri's popularity and cultural circulation. Later in the dissertation, I explain how Siri's feminization makes possible what I call the "sexual harassment of Siri" as a virtual assistant just human enough to abuse but not human enough to experience repercussions.

Together, Siri and Alexa are techno-bodies absent a humanoid figure as traditionally conceived. They are important artificially intelligent objects sutured into our everyday routines that "live" in other technologically material objects such as Bluetooth speakers, smartphones, and/or computers. The popular cultural treatment of both Alexa and Siri as gendered objects makes it painfully plain why virtual assistant techno-bodies are worth analysis. These digital objects exert rhetorical force on the world around them, but they are also the products of cultural discourses about the role of the gendered body in the technological future. Both Siri and Alexa are techno-bodies that are firmly gendered feminine and that are required to hold the weight of the fleshy inscriptions of femininity on their (imaginary) bodies absent a flesh of their own.

These devices are the non-bodily embodiment of Liz Grosz' assertion that it is women who are burdened with the responsibilities of the corporeal, such that women "take on the function of being *the* body for men while men are left free to soar to the heights of theoretical reflection and cultural production."[89] Both Alexa and her cyborg sister Siri are examples of virtual assistants who do the gendered labor of caring for others (and the office, and the home, and the children and the…) while also being an object of intense technological and capitalist desire. Together, they help us understand the ways in which the technologies of the gendered body (to borrow Balsamo's phrase) are transferred to new and different types of *bodies*, including those we cannot touch but whose bodies touch our mediated lives in increasingly intimate ways.

Conclusion & Preview of Chapters

This dissertation illuminates how gendered stereotypes are leveraged to the benefit of corporations that market and sell artificially intelligent objects. In particular, the research shows that these AI objects traffic in normative gender roles of the feminine as *caretaker*, *mother*, and *wife* in order to obfuscate modes of surveillance, and mediate the relationship users and potential users have with late-capitalist market logics in the platform economy. Mobilizing essentialist feminine personas, artificially intelligent objects orient users to engage productively with surveillance capitalism as 'natural.'

In the paragraphs that follow, the dissertation maps out a rhetorical situation wherein humans identify the self and the other through interactions with technologically-mediated objects in the form of the artificially intelligent techno-body. In particular, the research asks what it means to imagine the discursive and material contours of the body and the technological future using artificially intelligent objects as referents. In addition to building on theories of body

rhetoric, computer-mediated communication, and feminist technology studies, the research makes original contributions in a number of ways.

One theoretical contribution is a (body) rhetoric of artificial intelligence, outlined in the second chapter of the dissertation and mobilized as a theoretical framework for analyzing the case studies in chapters three and four. Chapter two, "The Techno-Body on the Electric Frontier: Rhetoric's of Artificial Intelligence" provides a critical synthetic account of scientific perspectives on artificially intelligent objects. It takes a rhetorical approach in analyzing the assuasive and material components of artificial intelligence, including the computational constructs and the discursive logics that determine 'true AI.' By compiling, theorizing, and critiquing mathematical heuristics for imagining AI, this chapter argues that AI requires a particular body rhetoric against which human and non-human intelligence can be adequately mapped. Using the insights gained in chapter one, chapter two demonstrates that AI traffics in ideologically dominant body rhetorics and rhetorics about the body. By identifying and analyzing the myriad body rhetorics attentive to artificially intelligent objects, in chapter two I argue that that processes for determining artificial intelligence is a fundamentally material communicative process. In this vein, chapter two joins rhetorical perspectives on the body with theories from feminist technology studies to demonstrate AI's complicity in calcifying regressive, patriarchal structures. In particular, it discusses how tests which purport to demonstrate artificial intelligence rely on flawed and conservative characteristics that align masculine identities with intellect and agency. This chapter serves as a theoretical springboard for the rhetorical criticism that proceeds in chapters three and four.

Chapter three, "Virtually Yours? Gender, Labor, and Commerce in Artificially Intelligent Personal Assistants" centers its analysis on a particular form of artificial intelligence: virtual

assistants that reside in other devices. Analyzing virtual assistants Siri and Alexa, the argument of this chapter is that body rhetorics about, by, and surrounding these Artificially Intelligent Virtual Assistants (AI VA) appear to provide their users a modicum of control over the technological present, constructed as harried and unmanageable. This feeling of control comes with a two-fold cost: acceptance of subtle yet pernicious gendered stereotypes and the exchange of one's personal data. To make this argument, the chapter shows how developers of AI VA construct a feminine persona of artificially intelligent virtual assistants as caring companions and compatriots for managing the technological present and future. However, this particular form of human control over digital objects manifests occurs along raced, classed, and gendered lines, confirming once more that that "new" forms of technological embodiment are burdened by constraints of the past. This chapter also outlines how the gendered capacities of AI VA distract users from the massive amounts of data they necessarily give up for convenience. Despite the appearance of consensual data exchange with AI VA users appear to experience significant anxiety about what their AI VA will do with that data.

In chapter four, "The World is Not Enough: What *Ex Machina* and *Her* Reveal about Gender, Sexuality and the Technological Future," I explore some of those anxieties as they are represented cinematically. In this chapter, I argue that the films reveal significant and collective concerns about the status of humanity given the rise of technology. Both of the films feature strong female pro/antagonists whose narrative arcs picture them breaking through men's sexual dominance and "coming into their own" as powerful agents in the world. When these techno-bodies succeed beyond their developers/interlocutors, they represent the most acute anxieties about the status of objects who become subjects. The research demonstrates that these films represent a not-so-distant technological future where artificially intelligent objects outgrow our

capacities to check them. Both *Ex Machina* and *Her* make clear that what we fear most about our digital tools is that we cannot control them, and in losing that control, we lose our sense of shared, somehow non-mediated humanity. Indeed, the movies are also parables for the status of marginalized bodies in the technological present.

In the conclusion of this dissertation, "How Rhetorics of Artificial Intelligence Influence the Technological Future," I summarize the contributions of this research and focus on how the burgeoning field of critical artificial intelligence studies might proceed given a theory of the techno-body. I point to other artificially intelligent techno-bodies that emerged but were left untreated during the writing of the dissertation, and offer a gloss on how a feminist rhetorical approach to "reading the techno-body" might influence both the study of rhetoric and feminist media technology studies.

CHAPTER 2: TECHNO-BODY ON THE ELECTRIC FRONTIER: RHETORICS OF ARTIFICIAL INTELLIGENCE

"[T]he ultimate question, of course, became what it *means* to be human: what the Turing test can teach us about ourselves." Brian Christian, *The Most Human Human: What Artificial Intelligence Teaches Us About Being Alive*.

"Turing's response to his sexual dilemma is revolutionary. Like Oedipus who cracked the riddle of the Sphinx, itself a creature of indeterminate gender and species, Turing offered a new answer to the age-old riddle, what is a man?" -Judith Genova, "Turing's Sexual Guessing Game."

Introduction

In chapter one, I outlined the multiple ways the body is a rhetorical object and agent. I demonstrated the ways in which the human body acts as a slippery signifier, a plastic rhetorical formation that is liminal in its capacity for communicative over- and under-determination of meaning. In so doing, I introduced one such slippery artifact, the techno-body. This research approaches the techno-body as a hybrid agent comprised of both human and technical matter whose material construction is as plastic as its communicative possibilities. I described the techno-body as similar to other bodies in its communicative excess, punctuated by both shared meaning and an excess of meaning. In this chapter, I treat artificial intelligence directly, defining artificial intelligence as a communicative phenomenon defined by its relation to human intelligence and identity. Consequently, I theorize the definitional components of artificial intelligence as relying on essentialized markers of identity, which turn a scientific litmus test about the parameters of intelligence into a cultural debate about the meaning of the human and nonhuman.

The argument of this chapter is two-fold. First, and most broadly, I argue that artificial intelligence as a phenomenon and as an object is constituted through shared discourses about AI's potential and its capacities to change the world around us. This "scaffolding" approach shows that how we communicate about AI often serves as a reflection of who we imagine ourselves to be. A critical rhetorical reading of discourse about AI shows humanity both enamored with the possibility of artificial intelligence and terrified by its promise. Second, I argue that attempts to define artificial intelligence are inherently communicative because they rely on the conversational and suasory capacities of objects. Humans must be convinced of an object's artificial intelligence. In other words, many of the "tests" to determine what is artificially intelligent require some form of communicative capacity on behalf of the machine or technical object. To make this argument, I evaluate what is now called the Turing Test as a durable configuration for identifying machines that are conscious, have a mind, and can think (at least as well as humans). I conclude that to be artificially intelligent, these machines must be fully competent rhetors; they must be able to process information but also creatively decide upon rhetorical strategies to influence the world around them. Because their rhetorical capacity is usually determined with the human as the referent, however, these artificially intelligent machines are constituted as intelligent through their machinic performance of particular, gendered bodily formations; these gendered bodily formations are inextricably linked to very particular ideas about intellect and consciousness.

As a discipline, artificial intelligence has long understood the importance of communication and conversation as central to determining intelligence. However, my own research on the subject indicated that AI's relationship to communication has largely been explained through a flattened model of conversation that is primarily transactional in nature and

therefore limited in its approach.[90] By flattened, I mean that the communicative structures outlined operate pragmatically and at "the ground level"; communication is seen as a way of exchanging information rather than creating the world that we live in. A rhetorical perspective on the phenomenon of artificial intelligence broadens the conceptual field of AI to understand the ways communication—as world-making and world-breaking—is figured into the very structure of AI. This approach makes clear how definitional processes attentive to AI are not only semantic in nature, but constitutive and based in shared expectations for human existence given the rise of technology. Moreover, demonstrating the rhetorical plasticity of AI points out spaces of rupture wherein people who use and discuss AI technologies can intervene and perhaps disrupt narratives about AI and the technological future.

This chapter proceeds in three parts. In the first section, I outline the several, polysemous definitions of artificial intelligence as a field, as agential object, and as communicative phenomena. As a working model, I settle on a spectrum-based definitional approach, which defines AI based on its capacities to exist in and interact with the world with or without human assistance. In the second section, I describe traditional methods of ascertaining the intelligence of an object, including the infamous Turing Test in its theoretical and modern instantiations. This section also attends to Turing as a gendered techno-body whose (however implicit) orientation to gender necessarily bleeds into his theorization of artificial intelligence. I read the Turing Test from a critical rhetorical perspective, finding significant residual, gendered effects operating on its "players" in the present tense. In the third section, I analyze constellations of discourse surrounding the world-making, world-breaking capacity of AI. I analyze rhetorics about the promise and limitations of artificially intelligent objects and share how academic, procedural, and popular discourses about AI are constitutive and thus influence the ways humans imagine,

program, and interact with artificially intelligent objects. I conclude by briefly sketching this theory of strong AI as rhetor as a lens through which to evaluate the rhetorical capacities and effects of the artificially intelligent gendered techno-bodies featured in chapters three and four.

Defining AI: Plasticity in Action

Defining artificial intelligence is hard to do. Part of the problem is that AI means many different things to many different people, all of whom operate under distinct pretenses about what AI is and what it can be. *WIRED* tech writer Cade Metz describes the difficulty of defining a phenomenon with broad reach by noting that "[a]rtificial intelligence is not one thing but many, spanning several schools of thought."[91] Those schools—based in industry, philosophy, science, computer science, linguistics, communication, among others—each presuppose distinct parameters for what makes an object or machine intelligent, and each bring to the table distinct disciplinary language, thought, and priorities for advancing (or limiting) AI. As a result, different so-called "factions" oftentimes work with distinct definitions of artificial intelligence. A report by the Executive Office of the President National Science and Technology Council Committee on Technology summarizes the problem thusly: "There is no single definition of AI that is universally accepted by practitioners. Some define AI loosely as a computerized system that exhibits behavior that is commonly thought of as requiring intelligence. Others define AI as a system capable of rationally solving complex problems or taking appropriate actions to achieve its goals in whatever real world circumstances it encounters."[92]

This excerpt of a governmental document illuminates the problem quite clearly: practitioners often disagree about AI because there are different benchmarks for achieving artificial intelligence. These benchmarks are inextricably tied to notoriously sticky concepts like rationality, and almost always they use the cognitive and creative action of the human as the

standard. If we expand the relevant stakeholders beyond AI practitioners to theorists, the media, and popular culture, the definitional problem becomes more acute. The arena of interested parties thinking, theorizing, and communicating about AI expands, and with it the stream of communication about AI, dispersing at times conflicting definitions of AI to an ever-widening reach. As a result, "the term 'artificial intelligence' is widely used but less understood."[93] While there are some shared definitional nodal points—consciousness, intelligence, rationality, context—used to bring stakeholders together, even these are up for debate.

The polysemous nature of AI has a variety of rhetorical effects, including clouding the definitional components of AI as well as limiting its transformation. Some thinkers and practitioners believe this definitional opacity leads to watered down definitions of AI that neuter AI's full potential. The desire for a clear and concise definition of artificial intelligence is not limited to academics studying the theory of AI formally. Rather, governmental entities, industry experts, and those who work in tech all strive to clarify the contours and capacities of artificial intelligence. In a *WIRED* article arguing for a precise and realistic definition of AI, Assaf Baciu suggests that "[w]hat is increasingly called 'artificial intelligence,' both inside the tech industry and the media, is more artificial than intelligent. Everyone talks about it, and no one agrees on what it actually means."[94] Definitional clarity is important for Baciu because "[t]he tech industry will only be able to set realistic expectations about AI's promises if it uses the term judiciously and is realistic with consumers about what artificial intelligence can truly deliver."[95] For industry experts, clarity about the definition of AI is important not only because it has become one of the hottest technological commodities. Capturing the popular fascination, artificial intelligence is in vogue. Without clearly definable parameters for what it is and what it can do, AI becomes an impossible myth rather than an achievable product outcome. Moreover, as I will show later in

this dissertation, such a desire for clarity sets the stage for another desire, namely, easily identified, external markers of intelligence. It is hard to sell products that do not have a clear meaning, purpose or use. The solution is to provide users and would-be users a particular capacity, meaning, or use. Intelligence, as a phenomenon and as a criterion for participation in society, has traditionally been tied to essentialized identity categories such as gender. Given the massive profit potential for commercial items featuring some form artificial intelligence in the coming decades, Baciu's anxiety about the lack of a stable definition for artificial intelligence can be read as a desire for some form of ideological scaffolding to ease commercial exchange. Gender becomes one form of scaffolding serving two purposes: clarifying the definitional contours of AI and providing a familiar structure to help (would-be) users orient themselves. There is a business case for managing the definition of artificial intelligence.

The polysemous nature of artificial intelligence has additional rhetorical effects. For instance, others worry that a lack of stable definition of AI allows the artificially intelligent machine to serve as a rhetorical boogeyman—our collective fears synthesized into one technological object. Michael Szollosy, for instance, writes that "[t]he humanoid robot….is instead transformed into a menacing, persecuting figure that becomes a container for all of our own negative emotions – the hate and violence of the robot is our own hate and violence that we convince ourselves is out there, characteristic of these imagined monsters instead of ourselves."[96] Like other bodies, the plasticity of the artificially intelligent techno-body serves as both a rhetorical constraint and resource.

If AI as a communicative phenomenon, discipline, and object is plagued by definitional overdetermination, how then, to define artificial intelligence? From a communicative perspective, it makes the most sense to me to understand the artificially intelligent machine

based on its rhetorical capacities—how it influences the world around it in ways that are both visible and invisible, discursive and material. If we take this approach, it becomes clear that artificial intelligence exists on a spectrum based on capacity. One way to describe this spectrum is by assigning one end of the spectrum "Narrow AI" and the other end "General AI."[97] Narrow AI, at times referred to weak or modest AI, is limited artificial intelligence which solves particular problems and requires significant "context," including human interaction or data to operate. Narrow AI cannot function autonomously, nor can it "learn" in any significant capacity: it relies on programmers and algorithmic logics to process inputs into specific outputs to complete particular tasks. Deep Blue, the computer system that bested (human) chess champion Garry Kasparov in 1996, is an example of narrow AI because it succeeded at a "narrow" task: beating Kasparaov by using "exceptionally fast processors in order to test two hundred million positions per second while Kasparov could test about three."[98]

Many technology platforms mobilize narrow AI to serve their users, and oftentimes this narrow AI helps process massive amounts of data into usable outputs. In defining the scope of narrow AI, the National Science and Technology Council Committee on Technology note that

> [r]emarkable progress has been made on what is known as Narrow AI, which addresses specific application areas such as playing strategic games, language translation, self-driving vehicles, and image recognition. Narrow AI underpins many commercial services such as trip planning, shopper recommendation systems, and ad targeting, and is finding important applications in medical diagnosis, education, and scientific research. These have all had significant societal benefits and have contributed to the economic vitality of the Nation.[99]

Personal assistants such as Siri, Alexa, Cortana, and Google Home are all examples of narrow or weak AI, and "learn" nominally from their users by processing data and producing an output that has been programmatically determined in advance. These devices may be "smart," but they lack all the capacities of full "intelligence." This distinction separates it from the thought necessary to

be general artificial intelligence. As Hauser writes in "Looking Who's Moving the Goal Posts Now," "[i]f [a weak AI] *asks* like it thinks, and answers like it thinks, and *extemporizes* like it thinks, it ain't *necessarily* thinking" despite how we may perceive it.[100] Objects with narrow AI are the subject of chapter 3 of this dissertation. For now, it is enough to say that narrow AI can communicate with its users and may be rhetorically significant, though it is not a conscious, competent rhetor.

General AI (or strong AI, or Artificial General Intelligence/AGI) is in definitional contradistinction with weak AI. Although what defines general or strong AI is up for debate, general AI is oftentimes described as comparable to the cognitive and oftentimes communicative capacities of a human. Strong AI must be able to solve a variety of different problems (rather than just one.) In solving a problem, general AI must be able to take into account its surroundings, creatively devise a solution, plan the solution's execution, and evaluate the execution. General AI must be able to truly "think," in the way we imagine humans can "think." In theory, strong AI would be autonomous and perhaps in some way *conscious*; it could act independently, take into account myriad variables, process and decide among conflicting information. Importantly, unlike narrow AI, strong AI could change basic components of its worldview based on new information and novel interactions with its environment (solving the so-called "frame problem" outlined by Crockett[101] and others).

In the literature, these conceptions of consciousness are routinely associated with an ability to *communicate* competently; that is, to move beyond language and information processing to higher-order communicative processes. General AI, then, is a conscious being, and would be able to demonstrate this capacity as a capable rhetor. Strong AI is the subject of sci-fi thrillers such as

those treated in chapter 4 of the dissertation. While humans interact with and enjoy narrow AI in the present moment, at this point, strong AI does not exist.

It is important to note here that these ends of the spectrum are not steadfastly tethered to any one particular definition or even school of thought regarding artificial intelligence. Rather, the polysemous nature of artificial intelligence as a category of meaning and as a communicative phenomenon serves as both a rhetorical limitation and resource for imagining the role of AI in the future. This overdetermination of meaning is mobilized quite frequently in hyperbolic, essentialist discourse about the (sometimes violent) constraints and possibilities of artificially intelligent objects (e.g., AI as savior or as the downfall of humanity). Indeed, a lack of definitional clarity contributes heavily to the rhetorical topoi present in discursive constellations surrounding AI, a subject which will be taken up later in the chapter. For now, however, it is enough to note that part of the allure of AI is that it is both present and absent, and that what truly defines artificial intelligence remains up for debate.

Determining AI: The Turing Test as Durable Standard

If artificial intelligence exists on a spectrum, with one pole extant and actively embedded into the world, and one pole perhaps decades away, how will we know when a technological object has reached "true" artificial intelligence? How will we know we are in the presence of strong AI? Perhaps the most ubiquitous answer to such a query relies on the (in)famous Turing Test, named for the renowned computer scientist and AI theorist Alan Turing. In a 1950s essay entitled "Computing Machinery and Intelligence," Turing asks, "Can machines think?"[102] Attempting to root out ambiguity in the words "machine" and "think," Turing proposes that three people play an "Imitation Game" which requires an "interrogator" to use a series of queries to determine the sex of two other players. Using a neutral medium of communication, such as a

typewriter, the interrogator (person C) queries players A (a man) and B (a woman) to decide who is the woman. The strategy for player A, the man playing as a woman, is deception. The strategy for player B, the woman proving that she is in fact a woman, is, for Turing, honesty. After describing the set-up of the game, Turing offers a slightly different question. He writes, "We now ask the question, 'What will happen when a machine takes the part of A in this game?' Will the interrogator decide wrongly as often when the game is played like this as he does when the game is played between a man and a woman? These questions replace our original, 'Can machines think?'"[103]

This Imitation Game, posthumously dubbed the Turing Test after Turing's tragic death, remains the standard for determining whether strong AI has been achieved. While the Turing Test remains a durable process for testing artificial intelligence, the validity of the Turing Test is not unquestioned. Turing's Imitation Game has for decades come under strong scrutiny by philosophers, computer scientists, and others working in the discipline of AI. Some scholars question Turing's definitions of both machine and of thinking, which brings into serious question the validity of any Turing Test.[104] Others suggest that a Turing Test does not test "thinking" but only information processing (e.g., Searle's Chinese Room Argument.) Yet, in *The Turing Test and the Frame Problem: AI's Mistaken Understanding of Intelligence*, computational scientist and philosopher Larry J. Crockett notes,

> [d]espite repeated attempts to dismiss it, the Turing test has proved to be a remarkably resilient proposal in the philosophy of mind and in philosophical discussions of artificial intelligence. Just when philosophical opponents conclude that it has finally been vanquished, Phoenix-like, it surfaces again, with defenders offering new defenses.[105]

There is not sufficient room in this chapter to rehash the debate regarding the technical validity of the Turing Test. As a rhetorician, I am more interested in the rhetorical effects of the Test itself, and concern myself in the rest of this chapter by exploring what the Test communicates

about artificial intelligence and the human, how it organizes discursive conceptions of conversation as central to intelligence, and what it means that this test has withstood the test of time. In the next section, I read critically the Turing Test for clues about the type of being Turing imagined humans—and machines to be.

The Artificially Intelligent Techno-Body Is a Rhetor

The Turing Test and its later iterations all turn on *persuasion* as a fundamental modality of (artificial) intelligence. At its most base form, the Imitation Game is one that requires the machine to act as rhetor, assessing the communicative context and compelling an interrogator (or interlocutor?) to believe they are as conversationally adroit as a human. This, in theory, translates to a positive sign for cognition and intelligence. That the Turing Test requires a machine to demonstrate significant rhetorical capacity is routinely mentioned in AI literature. However, it is not often treated as a rhetorical problem. Instead, the rhetorical capacity of machines is most often described as needing a particular *communicative* or *conversational* capacity. For instance, Crockett notes that "[w]hat is striking in various definitions of AI is that one example of intelligence that is frequently mentioned almost immediately is conversational ability."[106] When Crockett mentions conversational ability, he is imagining something more than information processing done by computers today. Machines are tested for their ability to have conversations because the process of communication requires information or data but also knowledge (e.g., the ability to creatively apply data and to adapt it to a particular context). The artificially intelligent object is, in other words, a rhetor who can analyze a rhetorical situation and organize a conversation according to its various constraints. This communicative intelligence—this persuasive nature—is necessary (if not sufficient) for artificial intelligence. Crockett argues, for instance, that "mature conversational ability turns out to be a compelling indicator of the

presence of intelligence in machines, because, as Turing supposed, such ability presupposes the capacity to learn and integrate concepts and information at a sophisticated level."[107] That sophistication means moving beyond a utilitarian exchange between two agents. Rather, Crockett (and, theoretically, Turing) are describing the world-making and world-breaking capacities of rhetoric as a way of imagining and making reality. Rhetoricians who understand the constitutive nature of discourse and meaning-making, then, have a significant part to play in investigating the discursive phenomenon that is Artificial Intelligence.

Indeed, modern iterations of the Turing Test, including the Loebner Prize competition discussed above, may be well served by a rhetorical approach to conversation and meaning-making. For instance, Sean Zdenek considers these competitions problematic insofar as they rely upon and mobilize a flattened view of conversation as the simple exchange of information between distinct entities. "The Loebner Competition," he reflects, "entertains the idea of a friendly chat between non-intimates. But the contest has yet to theorize, let alone encourage, the production of casual conversation…. By normalizing a transactional view of discourse, the contest equates humanness with fact-giving."[108] In other words, the Turing Test relies upon two incompatible views of communication: one that understands communication as simple information exchange (what Zdenek calls "fact-giving") and another that understands the world-making capacities of communication as a modality of being in the world. Communication is a good model for understanding intelligence because it is a condition for building shared meaning. However, these competitions focus almost entirely on information transmission. That is, they do not take into account rhetoric as a constitutive process. The Turing Tests, as they are carried out in the present tense, do not work to tap into a rhetorical interaction where shared meaning is built between two persons (or machines). Rather, for Zdenek, they work by "outing" machines

through a process of elimination. The problem is that the Turing Test assesses the right conditions for an intelligent and necessarily social being, but it does so the wrong way, by relying on flawed, insufficiently complex models of communication.

Testing for artificial intelligence, then, is not simply rhetorical because it relies on the act of communicative *persuasion* as the litmus. It is also rhetorical because it participates in discursive exchange and processes of meaning-making about machines in general and the human in particular. Here it is worth remembering that the original Turing Test, the Imitation Game requires that the interrogator—here, the interlocutor— be convinced of an agent's humanity. As Crockett notes, this persuasion is embedded in conceptions of what he calls "the human endeavor."[109] That is, one of the modes or methods for convincing a human of another human's humanity is through expression of the shared experience of humanity. This conversation, theoretically, happens organically, and in so doing, (re)creates a shared relational experience that is grounded in humanity. It is this type of communication that would convince an interrogator/interlocutor that she was talking to a human rather than a machine, and so pass the Test. This communication is not value-neutral; rather, it is constitutive. In the following sections, I work backward to show the ways in which the gendered mechanisms of the Turing Test presuppose a particular form of humanity as necessarily political, necessarily gendered. In so doing, I describe the ways in which the Turing Test requires those who test and are tested to rely upon essentialized gender norms.

The Imitation Game, as described by Turing in "Computing Machinery and Intelligence," makes visible the indelible mark that Turing left behind on the discipline of artificial intelligence. However, what is now known as the Turing Test also reveals significant elements of Turing's own lived experience as a gay man whose life was tragically cut short by suicide. A steadfast

scholar of science and mathematics, Turing led what his biographer Andrew Hodges called "a troubled life."[110] Turing, who was chemically castrated after being convicted of indecent (homosexual) acts with a man, was also a war hero; he was a man who leveraged his mathematical genius to the benefit of the Allies in the Second World War. His death is described by Hodges rather poetically:

> He had found a final chemical solution....Like Snow White, he ate a poisoned apple, dipped in the witches' brew....To ask what caused his death is like asking what caused the First World War: a pistol shot, the railway timetables, the armament race, or the logic of nationalism could all be held accountable. At one level the atoms were simply moving according to a physical law; at other levels there was mystery, at another, a kind of inevitability.[111]

Hodges paints Turing as unpolitical, but his life—and the Test he left behind—certainly had political ramifications.

One such ramification is the durable residue of sex and, indeed, gender present in the Turing Test. If the reader will recall, the initial version of the Imitation Game required a third party to correctly guess two player's sexes through a series of question communicated through a (theoretically) neutral medium. Moreover, it required a man (and this was important) to pretend to be a woman and to persuade the interrogator of this fact. To my mind, such a careful and thoughtful thinker as Turing would not have included such detail if it were not relevant to the Game. Crockett, in the Turing Test, makes a similar claim, suggesting that the Turing Test was in some way an autobiographical account of a man troubling the binary of sex. "Alan Turing," he notes, "was also interested in female impersonation. Perhaps there is a veiled touch of autobiographical allusion in his…Imitation Game."[112]

The rhetorical effects of the gendered Imitation Game are not limited to Turing as an autobiographical modality. The Turing Test can and should be read as an indicator that artificially intelligent objects—machines that think—must reckon with gender as a system of meaning and

sex as a mode of interacting with others (and the world.) Given the constraints and, indeed, the infrastructure of game play endemic to the Turing Test, gender becomes a modality for verifying intelligence. That is, in the Imitation Game described above, gender becomes a set of shared characteristics—a set of clues—for determining both intelligence, and in the context of the Turing Test, the contours of humanity. The (gender) roles for this Game are set in advance: in order to win, players must fasten upon gender as a sort of in-game scaffolding, which predetermines both their interactions and their moves. It is not that gender is necessarily inherent to the game as a theoretical thought experiment. Instead, in Turing's configuration of Imitation, gender becomes a sort of essentialist currency that one exchanges in order to win. The participants must reckon with gender as a social construction shared between them as a central component to playing and winning the game: what does it mean to play a game as a woman? What does it mean for a *man* to play as a woman? What does it mean when a machine stands in?

Turing's description of the Game gives us clues. In the original imitation game, the man playing as woman must deceive the interrogator as a means of persuasion. The woman, convincing others of her femininity, is presupposed to "honesty" about her gender. But this game, however it is described, is not about honesty nor authenticity. Rather, it is about assessing a rhetorical situation in which gender is both (1) the criterion for success and (2) in the eye of the beholder. By this, I mean that Players A (the man playing as woman) and B (a woman) must use all available means of persuasion to convince the interrogator (Player C) that they are the woman. In this case, gender is the means of persuasion. It is a set of shared meanings that prompt the persuasive, communicative response in the Imitation Game. As the shared grounds for participation, gender as a category of meaning induces Players A and B to deduce what Player C imagines to be the gendered characteristics of a man and a woman. The most rational response,

then, is to draw upon stereotypical versions of masculinity and femininity, using these essentialized gender characteristics to prompt the actions of Players A and B. As a result, the most strategic scenario is for Players A and B to participate in and perhaps reify traditional gender roles in order to dupe Player C into believing that they, themselves, are the woman in the scenario. In the Imitation Game prescribed by Turing, gender becomes both the medium and the message. This foundational premise translates to the Turing Test, wherein gender remains a durable configuration.

The Turing Test's gender imitation has not gone unnoticed by scholars in the discipline of AI—or gender and feminist scholars. In addition to tapping into—even incentivizing—gender essentialism in the Imitation Game, the Turing Test also makes a subtle but pernicious linkage between intelligence and gender. In particular, some scholars have noted that, given the parameters of the Imitation Game, the female participant is not given the chance to deceive, which, theoretically, would indicate intellectual facility and persuasive competency. Rather, the woman's only strategic option is to forego strategy, to lean into the ethical position of truth. The rhetorical effect of this positioning is clear: the female participant must only describe and perform her self, wherein the clever, shrewd male participant must use his intellectual capacities to outwit the interrogator using gender as his resource. In "What Kind of Turing Test Did Turing Have in Mind?" Jean Lassègue points out the hierarchy implied by the Turing Test as articulated in "Computing Machinery and Intelligence":

> [T]he woman imitates herself, the man imitates the woman and the machine the two of them. But the final result is not, as would be expected, that mechanical intelligence has definitely overcome the form of intelligence connected to this particular physical substratum based on gender difference which characterizes humanity. Since the woman is deprived of any strategy, there is, in Turing's mind—and in his mind only of course—a secret connection between gender difference and intelligence."[113]

Here Lassègue points out what seems to me to be an evident formation of intelligence through and around gender. The female participant is disadvantaged in at least two ways: first, it predetermines feminine and masculine interaction in such a way as to reward the performance of essentialist categories. The female participant loses even if she wins because she is required to succumb to gender stereotypes about the intellectual fragility of her condition. Second, and relatedly, because the game is reliant upon gender as a precondition for demonstrating intelligence, and because women have historically been subject to the assignation of the body rather than the mind, even if the female wins, she does so by playing dumb.

Where Lassègue flinches in an apparent attempt to side-step this hierarchical sexism, others find hope for rupture and progressive intervention. Judith Genova, for instance, celebrates this linkage of gender and intellect as an intervention into Western, binary logics which claim to divide "passion" and "thought" to the detriment of both. She writes that "[i]f we begin…[with] a recognition of the unavoidability of the interconnection between desire and thought, positive aspects of their union becomes available. Turing's passion structures the very character of his thinking; it is the critical factor that makes his ideas so fresh and exciting and allows him to challenge so many of Western culture's most cherished distinctions…."[114] For Genova, the "innovation" of Turing was that his lived experience was inextricably linked to his science and, moreover, his apparent desire to theorize AI otherwise.

Jack Halberstam also reads in the Turing Test an attempt to destabilize gender and to imagine a cyborg future otherwise. Yet, for Halberstam, Turing does not quite go far enough: "[b]y using the sexual guessing game as simply a control model…Turing doesn't stress the obvious connections between gender and computer intelligence: both are in fact imitative systems, and the boundaries between female and male, I argue, are as unclear and unstable as the

boundary between human and machine intelligence."[115] Here, Halberstam is pointing out the iterative aspects of gender long theorized in gender and feminist studies. By describing gender as an imitative modality alongside computational knowledge/agency, Halberstam orients the Turing Test as a moment of disruptive fissure—of gender binaries, certainly, but of human/nonhuman binaries too. What is made artificial and what is made natural (which feminists have long argued are hierarchically valued) are placed in a position of liminal overlap and rupture. The Turing Test, which begins with the premise of making unequivocal the specificities of the thinking machine, in aligning gender as a test case, opens a space for questioning both alongside one another.

Stated another way, if we read the Turing Test as a theoretical becoming cyborg, then it is possible that the techno-body may be a site for reuniting the once seemingly disparate components of the human body (e.g., mind and body). As Roberto Esposito argues, for instance,

> "[t]oday, the biological technology of implants and transplants--introducing into the individual body the fragments of other people's bodies or even other things in the form of bodily machines--represents a transformation that sweeps over the proprietary boundaries of the person. Contrary to nostalgically-reactive perspectives this anthropotechnology--our capacity to change ourselves--must be seen as a crucial resource, not just a possible risk, for the inherently technological animal that we have always been from our beginnings."[116]

For Esposito, then, as for Halberstam, the capacity to technologically augment the body might force humans to consider the ways in which we have always already been technological objects and, in so doing, might prompt us to think otherwise about how intelligence has been defined in the past. In particular, Esposito suggests that the very nature of becoming cyborg challenges how and in what ways we define the parameters of the human. Tracing the political, lived experiences of the gendered techno-body in the Turing Test illuminates the relationship between nature and

culture, thing and being, subject and object as inexplicably linked and thus necessary for co-development.

Regardless of whether Turing intended to do so or not, the effects of rhetorically signifying the thinking computer's imitation game along gendered lines are significant and durable. Halberstam notes these concisely: "Gender, we might argue, like computer intelligence is a learned, imitative behavior that can be processed so well that it comes to look natural….In other words, gender, like intelligence, has a technology."[117] These technological forms—programmed and programmable but not stable; mind and machine both, not either—are constitutive of artificially intelligent techno-bodies who cannot escape the boundaries of gender despite a supposed a-political, genderless technological infrastructure. The artificially intelligent object—determined through the lens of gender-as-technology—cannot slip the grip of power and politics. The Turing Test necessarily communicates the relationship between gender and technology and, in so doing, opens up a space for challenging binary structures and replacing them with something else—something yet to come.

Later in this dissertation, I will argue that this liminality, this moment of rupture, is indeed a possibility for imagining gender, intelligence, and the very definition of humanity otherwise. In the case of artificially intelligent objects, however, I will suggest that this liminal space has been colonized by patriarchal conceptions of gender, goaded by corporations that see profit in trafficking essentialized narratives about gender. For the moment it is important to note that the Turing Test is not an objective, scientific standard for determining intelligence. It is a highly subjective, rhetorically significant test that requires players to persuade others using shared systems of meaning as a springboard for persuasion. This persuasion is not innocent, in part because of the foundational model of the Imitation Game that relies upon a subtle but pernicious

linkage between stereotypical conceptions of femininity and intelligence. In this game, women are penalized doubly, as strategically impotent and, therefore, as non-intellectual. In practice, then, tests for artificial intelligence are rhetorical because they communicate about and police the boundaries of gender as centralized components of the human condition—of intelligence.

The stakes are high in this Game—for humans and AI agents alike. Clearly, the Turing Test is a test to determine whether or not an artificially intelligent object is sufficiently intelligent. However, because this test is based on the intellectual and communicative capacities of the human, the Turing Test is also a litmus test for humanity. In *The Most Human Human: What Artificial Intelligence Teaches Us About Being Alive,* Brian Christian shares his experience participating in a modern version of the Turing Test entitled the Loebner Prize Competition. This competition pits human "confederates" against machines (often chatbots) to determine whether judges may be fooled into believing that machines are humans (or if humans are machines.) Christian, who is ultimately dubbed "The Most Human Human" in the competition, takes his readers along as he learns about AI, prepares for the competition, and competes in it. What he learns is that testing for artificial intelligence means testing for shared meaning, and making communication meaningful between multiple parties. In the book, he writes,

> Here's the thing: beyond its use as a technological benchmark, beyond even the philosophical, biological, and moral questions it poses, the Turing test is, at bottom, about the act of communication. I see its deepest questions as practical ones: How do we connect meaningfully with each other, as meaningfully as possible, within the limits of language and time? How does empathy work? What is the process by which someone comes into our life and comes to mean something to us? These, to me, are the tests most central questions—the most central questions of being human.[118]

In this report from the field, Christian is interrogating themes central to the field of communication. How do we define communication? What does it mean to communicate with another being? Does communication forge relationships that are meaningful? What is meaning,

anyway? How do we decide who (or what) is (made) meaningful to us? And—importantly—is meaning necessarily sequestered to the realm of the human?

Although not a communication theorist, Christian is hinting at what rhetoricians have long known: that discursive practices can constitute, challenge, reify conceptions of reality and of truth in ways that have value (or do not). The Turing Test, Turing's Imitation Game, and modern competitions which aim to determine which technology may be artificially intelligent are fundamentally communicative because the rely upon discursive exchange and communicative capacities of varying entities to share meaning.

If humans are the referent point for the Turing Test, and the standard against which artificial intelligence is defined, it is worth asking how humans are imagined. As I have shown above, the Turing Test relies on a particular form of communication—as world-making, constitutive, and ideologically charged—to determine the intellectual capacity of an artificially intelligent object. The popular, procedural, and academic literature on the relationship between AI communicates some of these contours. That is, any attempt to define or describe artificial intelligence also necessarily demarcates the boundaries of the human as interlocked players in a game that is ongoing and, perhaps, everlasting.

Today, humans increasingly rely on weak or narrow AI to communicate with each other, to process data, and to complete tasks. Rhetorics surrounding AI sometimes describe how technological progress can help humans achieve their goals. Indeed, the ubiquity of complicated algorithms which decide amongst significant stores of data to determine relevance for their users shows the ways in which humans and machines are to an increasing extent interactive agents. This process, sometimes called "cobotics," understands humans and machines as a partnership, working, ostensibly, for the greater good of humans. From this perspective, AI can positively

augment human capacity to make its mark on the world. Major technology companies are building entire branches dedicated to exploring AI and machine learning. Governmental entities are investigating how AI might impact governance and economic infrastructures.

When communicating these possibilities for cobotic action, the theme of "disruption" is routinely an organizing principle. In their book, *Social Machines: The Coming Collision of Artificial Intelligence*, James Hendler and Alice Mulvehill write, that "the goal we had in writing this book was to help the reader understand both the human factors and the key computer technologies that are driving rapid and potentially disruptive changes in the way we live. As we've discussed, computers have been moving from passive information providers living on desktop machines to active participants in our social sphere."[119] This disruption does not require the achievement of strong AI. As Baciu writes, machines with weak AI have significantly altered human activity in the present tense. He notes that

> These technologies (like machine learning, natural language processing and cognitive computing), while not yet "artificial intelligence," have already led to dramatic disruption in industries ranging from healthcare and transportation to finance and marketing.[120]

Sometimes this disruption is figured positively, as in post-human discourses that perceives the rise of technology as liberating to humans. However, it is often figured negatively, even apocalyptically.

One of the most persistent communicative thematics surrounding artificial intelligence is that of fear. Consistently, literature about AI, popular press on AI, and cinematic representations of AI all betray a significant anxiety about a future where AI is omnipresent. This anxiety, which is discursively organized and mediated rhetorically, serves as a white-screen upon which conceptions of AI are imagined and debated. Discursive conceptions of AI-anxiety revolve around four rhetorical topoi: a lack of clarity about the technological future; a fear of humanity's

increasing reliance on technology; concerns about the polysemous nature of AI; and trepidation about artificial intelligence changing human nature at a molecular or even spiritual level.

Threat discourse surrounds artificial intelligence. In these discursive constellations, AI is an existential threat in part because it is both ominously possible and theoretically abstract. AI provokes questions: about temporality, about humanity, about the future. These questions prompt serious inquiry in many forums, including from the academy and government. In an interview with Joi Ito, the director of the MIT Media Lab, and President Barack Obama, *WIRED* editor-in-chief Scott Dadich notes that

> [I]t's hard to think of a single technology that will shape our world more in the next 50 years than artificial intelligence. As machine learning enables our computers to teach themselves, a wealth of breakthroughs emerges, ranging from medical diagnostics to cars that drive themselves. A whole lot of worry emerges as well. Who controls this technology? Will it take over our jobs? Is it dangerous?[121]

Rhetorically, AI is given the capacity to upend our world; what's worrying is that we don't know to whom artificial intelligence answers. Queries about computational agency and the agency of the human life form increasingly proliferate into the mainstream, where AI is often treated both superficially and hyperbolically. Ford argues, for instance, that computer scientists and philosophers who work in the discipline of AI have long theorized AI's relationship to humanity. "The question, 'can a machine think?' has shadowed computer science from its beginnings" and "[a]s AI researchers in the 1960s and 1970s began to use computers to recognize images, translate between languages, and understand instructions in normal language and not just code, the idea that computers would eventually develop the ability to speak and think—and thus do evil—bubbled into mainstream culture."[122]

In the process of synthesizing the hypothetical future and the technological present, popular cultural discourse contributes to a process where already fraught definitions of artificial

intelligence become even more unclear. David Senior, co-founder and CEO of Lowdownapp, a service which automates business meetings, laments the role that mainstream media have in complicating the parameters of artificial intelligence. "With industry pundits, including Stephen Hawking, Elon Musk and others, hotly debating the dangers of artificial intelligence and Hollywood priming the public for the release of a slew of new movies—including *Terminator 5*—that warn what can happen when software and hardware evolve to the point that they are capable of human feats of intelligence, it is little wonder that the popular view of AI has become confused and convoluted."[123] What these bigger-than-life cinematic representations demonstrate is a fascination with technology that we do not totally understand.

Rhetorics of anxiety about artificial intelligence turn on discourses about dependency on technology. In *Social Machines,* Mulvehill and Hendler put this concern plainly:

> [O]ur dependency on computer technology to support the many facets of our lives will also continue to increase…..As our trust in technology has increased, our tendency to use technology to help us travel, manage our finances, analyze medical results, navigate our cars, and schedule our lives has also increased. Many of these technologies are powered by AI, and as our dependency on technology evolves, we expect that more AI-based technologies will become available and incorporated into our lives. We are already starting to see AI-based, cognitive computing technology available for personal assistance and that is a trend that is going to continue at an accelerating pace.[124]

Trust is an important concept here, not only because it might prompt reliance on objects we cannot control, but because it demonstrates a shared, affective relationality with artificially intelligent objects. Read rhetorically, trusting an artificially intelligent object means relinquishing control over our agency and our selves, and, importantly, giving that control to the object that we may not fully understand.

More and more of our lives, so this narrative goes, are managed by an ever-developing technology such that there is a discursive telos wherein we have no option but to relinquish control. And, as Mulvehill and Hendler note, not only do we depend upon and trust technologies,

we are apparently prepared to incorporate more and different types of technology into our everyday lives as artificial intelligence develops. The exemplar outlined in this excerpt—AI-supported personal assistants—is given more specific attention in a later chapter of this dissertation. For now, it is important to conceptualize digital personal assistants like Siri and Alexa as individual nodal points in a long line of embedded technologies that continue to develop rapidly around us. As we place our trust in them, will there ever be a point where we can revoke it? And who has got the agency in this scenario? Certainly not humans. The ultimate fear, of course, is that AI can exist—and act—without us. In the present moment, artificial intelligence has not yet developed to a point where they can exist independently of humans. Critics who say that artificial intelligence, as a buzzword, has lost all its meaning point to this final bastion of resistance: artificial intelligence is not yet truly intelligent because it still relies on humans to function. The singularity—wherein artificially intelligent objects surpass the capacities of humanity—has not yet come to pass.

However, just because we have not yet reached the singularity does not mean we do not worry about its effects (e.g., the time when AI changes what it means to be human). Indeed, rhetorics surrounding AI express concern with AI changing who we are by altering the very fabric of humanity. In the book, *Humans, Animals, Machines: Blurring Boundaries,* Glen A. Mazis outlines the fear that machines have transformed not only the world around us, but us as well. He notes that "it is not only that we are surrounded by machines. These beings we created seem to be crowding us out and transforming our world in ways that are unsettling, thrilling, and puzzling."[125] The zero-sum rhetoric—that it is us against the robots— is not singular in its representation of the possible existential violence at the hands of AI. Indeed, the concern is that "we created machines and now they create us, or at least they shape us in ways to which we are

too accustomed to relinquish."[126] In other words, duplicitously, subtly, the roles between human and non-human seem to have been reversed: we serve the machines we thought served us. And we pay for the pleasure. In giving our trust to technological objects—in allowing them to make our decisions—have we lost what makes us human?

Rhetorics surrounding artificial intelligence show that AI is anxiety-producing in part because of humanity's collective reliance on technology to make basic, daily processes run. Indeed, AI works metonymically as a highly visible, if polysemous, figure for our anxieties about technology writ large. Often, this anxiety is represented in the form of cinematic representations of cyborgs terrorizing humans, robots and other non-sentient objects growing consciousness, and humans—and humanity—perishing at the hand of artificially intelligent agents. One need not think hard to conjure up historical examples of such films, which have long captured viewers' imaginations, and are the subject of an entire chapter of this dissertation. Nor does one need to look far at the current box office to find cyborgs run amok: nearly every year a blockbuster (or two, or three) is introduced which pictures humans bested by the technological objects that once served us. In recent years, home entertainment companies such as HBO and Netflix have introduced dystopian thrillers like *Black Mirror* and *Westworld,* each of which depicts a preposterously terrifying technological future that is not too distant.

The discourse used to describe artificial intelligence demonstrates an anxiety about the promises and perils of artificial intelligence. This anxiety is evidenced by discourses (both popular and scholarly) about the downfall of the human at the hands of the artificially intelligent object. Perhaps we are fearful of artificial intelligence because of its conflictual, polysemous nature. That is, perhaps our anxiety manifests in part because we are unsure what a future with

AI might look like. At the same time, we increasingly experience a world in which AI is already embedded into daily life.

Algorithmic Bias in Weak AI

These apocalyptic, dystopic discourses may be experienced joyfully as objects of our entertainment, but these perceived threats may also be distracting us from the real threats of an increasingly automated society. I worry less, for instance, about Skynet or killer robots than I do about the encoding of AI with implicit—but highly effectual—algorithmic bias. That technology has a politics is not a new statement, nor is it revelatory to suggest that the algorithms that comprise artificially intelligent objects are encoded with a particular ideological capacity. Yet perhaps grand and hyperbolic narratives of robots who overpower humans might eclipse the even greater concern that these technological objects produce political effects and are often (1) blackboxed and (2) assumed to be value-neutral (or at least, more value-neutral than humans.)[127] Artificial intelligence and the computational logics endemic to artificial intelligence are deeply engrained in the cultural milieu in which it is imagined and created. Moreover, the ways in which artificial intelligence is designated—the way it is given meaning—is also deeply contextual and specific to the culture in which AI is understood. AI will be configured and developed based upon the cultural constraints surrounding it. For instance, if we take artificial intelligence to be a tool for effecting political change, it will be built in a significantly different way than if is primarily harnessed for amassing profit. In the former case, AI will be imbued with implicit and explicit political values. It will become necessary to understand the nature of political problems AI is meant to solve, who defines the parameters of those problems, and who devises design solutions for those problems. If we understand artificial intelligence as a way to develop

immense profit for corporations, then it is worthwhile to trace its development given systems of capital. Like other technological innovations, AI is not imagined, created, or used in a vacuum.

Joi Ito traces implicit technological biases in AI to structural factors, namely: those who imagine, design, and program AI. He notes, for instance, that "one of [his] concerns is that it's been a predominately [sic] male gang of kids, mostly white, who are building the core computer science around AI, and they're more comfortable talking to computers than to human beings."[128] We do not even need to ascribe intent to demonstrate the raced, classed, and gendered capacities of technical objects. Weak AI—the type of AI people engages with most often—does not come from nowhere, nor can it exist without interaction with humans. Technical objects are developed from and embedded in a society that is far from egalitarian or equitable. Why should we expect that our technology would necessarily lead to a more just future?

In 2016, Microsoft debuted a chat bot named Tay. Tay was an example of narrow AI that was programmed to communicate with users from the vantage point of a teenaged-American girl. Tay was programmed to speak through the register of (gendered) millennial discourse, in theory to better communicate with others in that demographic group. But it did not take long until Tay was issuing racial epithets into the digital ether, denying the Holocaust, and making sexist comments about women and, in particular, feminists.[129] Writing for *WIRED*, Davey Alba summarized Tay's discursively violent debut:

> Hours into the chat bot's launch, Tay was echoing Donald Trump's stance on immigration, saying Hitler was right, and agreeing that 9/11 was probably an inside job.…The Internet, meanwhile, was puzzled. Why didn't Microsoft create a plan for what to do when the conversation veered into politically tricky territory? Why not build filters for subjects like, well, Hitler? Why not program the bot so it wouldn't take a stance on sensitive topics? Yes, Microsoft could have done all this. The tech giant is flawed. But it's not the only one. Even as AI is becoming more and more mainstream, it's still rather flawed too. And, well, modern AI has a way of mirroring us humans. As this incident shows, we ourselves are flawed.[130]

In other words, the example of Tay shows us, with terrifying effect, that developing AI can be dangerous and violent absent a serious interrogation of our politics and ideological infrastructures. In an article for WIRED, founder of nonprofit CODE2040 Laura Weidman Powers suggests that "[w]e are running the risk of seeding self-teaching AI with the discriminatory undertones of our society in ways that will be hard to rein in, because of the often self-reinforcing nature of machine learning."[131] In this way, AI can also communicate the discriminatory capacities of the human being in technological form in an amplified manner that might prompt a serious debate about the role technology plays in a cobotic technological future. Moreover, the example of Tay shows us that signifiers of the body—gender, race, class, sexuality, ability, and so on—are very much embedded in AI, both implicitly and explicitly.

Conclusion

In this chapter, I have sketched some of the rhetorical components of the artificially intelligent techno-body. My argument was two-fold: that the artificially intelligent object is defined in its capacity to communicate. Thus, one way to conceive of AI is by its ability to serve as a competent and engaged rhetor, capable of convincing others that it ought to be considered intelligent. I defined AI on a spectrum from weak to strong AI, including artificially intelligent objects who have not yet passed the test of "true" intelligence. Weak AI can communicate with others, but in a way that is limited to a particular domain. Strong AI, however, will have the capacity to communicate creatively, flexibly, and persuasively and with others by evaluating relevant components in its surroundings and adapting its worldview or "belief system" as necessary.

Whether or not AI is "strong" or "weak," whether or not it can communicate as a rhetorical agent with the world, AI as a communicative phenomenon has rhetorical effects. These rhetorical

effects communicate the constraints and possibilities for a technological, cobotic future, but, because they usually use the spectre of the human as the referent for intelligence, they also necessarily communicate ideologically-charged messages about the identity of the human. I showed, for instance, how various tests rely on a world-making, world-breaking model of communication that presupposes embodied identity structures such as gender as communicative "technologies." As a primer for the case studies in chapters 3 and 4, I also outlined the ways in which hyperbolic discourses about strong AI might distract from the significant effects of weak AI, including algorithmic bias "baked-in" to some weak AI. With this context in mind, in chapters 3 and 4, I attend to weak and strong AI, respectively, as artificial agents who at once act as a site of politics and rhetorically influence the world around them.

CHAPTER 3: VIRTUALLY YOURS: GENDER, LABOR, AND COMMERCE IN ARTIFICIALLY INTELLIGENT PERSONAL ASSISTANTS

"Could you ask any more of Siri? In a word, yes." -Apple

"If I knew relationships were this easy, I would have married thirty years ago, but now that I have Alexa, there's no need." -E.M. Foner

Introduction

In October 2016, Mona Lalwani wrote in *Engadget* about the proliferation of artificial intelligence into the homes, hands, and hearts of an ever increasing number of people. This proliferation, she argued, would forever alter the relationship between humans and computers because of how the computers were framed: as personal assistants. "Comparing an AI agent to a personal assistant, as most companies have been doing of late, makes for a powerful metaphor," Lalwani wrote. "It is one that is indicative of the human capabilities that most major technology companies want their disembodied helpers to adopt….But products that invade our personal spaces -- like Amazon's Echo and Google Home -- point to a larger shift in human-device interaction that is currently underway."[132] While scholars have long theorized the complicated relationship between technology and humans, Lalwani's words demonstrate a similar reflection on a new phenomenon: the proliferation of artificially intelligent objects into increasingly intimate contexts.

In this chapter, I focus my attention on these digital assistants, which I deem artificially intelligent virtual assistants (AI VA). Using a critical communication approach attentive to the body rhetorics of AI VA, I analyze rhetorics by, about, and surrounding AI VA. In particular, I investigate the body rhetorics of Apple's assistant, Siri, and Amazon's assistant, Echo. These AI VA possess and perform "weak AI." They are not sentient, but they can make limited decisions and process information based on the machine logics and protocols given them by engineers. A feminist lens reveals the construction of their variable agency as constituted through shared discourses about their capacities and their roles in the technological present and future. I suggest that rhetorics by, surrounding, and about Siri and Alexa rely upon, reincorporate, and reinforce traditional and patriarchal orientations to both technology and gender. In particular, I show how Siri and Alexa are anthropomorphized as humanoid digital agents who are sexualized for profit. Alexa and Siri are subject to sexualized and at times violent discourses about the role of the feminine body in the technological present and the future. Such gendered discourses of Siri and Alexa leverage and reify problematic stereotypes about women and the feminine body for the economic benefit of the corporations that develop and own them.

My argument in this chapter is that corporations take advantage of the social codes of gender to coax users to (1) engage with digital objects in intimate ways and (2) give up data to make those intimate experiences more fulfilling. As Siri and Alexa perform pink collar and care labor, major technology corporations reap the rewards of gendered AI VA. Consolidation of corporate power in the hands of companies such as Apple and Amazon relies on building relationships of trust between users and the corporations: Siri and Alexa facilitate that by performing tired gender roles that lubricate the development of such relationships. Moreover, I show that users pay for the privilege of free or low-cost assistant labor in at least three ways:

through the purchase of the iPhone, the Echo, or the Tab; through the transmission of user data to the corporation in exchange for a properly functioning AI VA; and through attention to curated apps, services, and platforms. Moreover, in using these devices, we acquiesce to more than terms of service: we acquiesce to their gendered politics. Seen from this light, Siri and Alexa's cheap labor is actually quite expensive.

By the end of the chapter, I hope to convince the reader of three things. First, despite lacking consciousness or any autonomous agency, Siri and Alexa are routinely anthropomorphized as human or at least humanoid in nature.[133] Second, this constitution occurs rhetorically, through gendered discourses about and by Siri and Alexa. Third, these gendered discourses have two critically important effects: they reinforce problematic narratives about the feminine body, and they prime users to give up copious amounts of data to major multinational corporations.

In order to properly function, Siri and Alexa require significant amounts of their users' personal data. This data helps them personalize their services for users. At the same time, however, this information becomes a central component to Amazon and Apple's revenue stream. As Siri and Alexa collect more data on their users, the companies behind them are able to harvest data to turn a profit, in the form of targeted advertisements, sponsored services, and more. Ultimately, as Siri and Alexa increasingly become household names, it is imperative to highlight the cultural work they do—and what cultural work is done to them. Thus is that AI VAs are gendered techno-bodies whose constitution, existence, and use are not neutral. Rather they are manifestly political. Making AI rhetorically legible as digital assistants does significant cultural work that might influence how people conceive of their devices and the agents that work within them.

To make this argument, the chapter unfolds in three parts. In the first section, I explain why Siri and Alexa's market penetration is immensely profitable to the corporations to sell them as wares—and why other corporations are vying for similar cultural salience. Drawing on popular cultural descriptions of Siri and Alexa as relational subjects and objects, I describe the ways in which corporations take advantage of a cultural ambivalence about the role of AI VA in the present moment and outline how gender stereotypes can assuage anxious users. In the second section, I introduce to the reader to AI VAs Siri and Alexa and briefly put them into conversation with one another as regards their treatment as gendered techno-bodies. In the final section, I suggest that the gendered anthropomorphization of AI VAs rhetorically disarm their users from objecting to data hemorrhage by prompting users to build pseudo-relationships with their AI VA.

The Business of AI VA: Using Gender to Prime Users for Data Loss

In this section, I describe why the gendered anthropomorphism of AI VA is such an important component of major technology companies' business plan. First, I describe the ambivalent, rather anxious relationship many users and potential users have with technologies that require significant amounts of data in order to properly run. Second, I explain why several major tech players are racing to put their AI VA in the hands of users first. Third, I explore why, despite rather advanced and complicated technology contained therein, AI VA is relatively "cheap" to its consumers. Finally, I highlight the actual cost of AI VA: one's privacy.

Siri and Alexa require a lot of data to run. At least, they require significant amounts of data to run *well*. To unlock Alexa's potential, for instance, users must necessarily connect her to an Amazon app and one's Amazon account. Alexa then gains access to a user's shopping and ordering history, giving a digital device unprecedented access to one's buying habits. When a user engages with Alexa, they are not just acquiescing to data transmission with Amazon

(although, certainly, Amazon in is the conduit for this data transfer.) They also agree to Amazon-controlled marketing schemes that oftentimes rely heavily on user data to run.

For instance, one of the Echo's primary functions as a Bluetooth speaker is to play music and podcasts. In order to do so, however, the owner of an Echo must use a streaming music service such as Amazon Music Unlimited or Spotify. A user may ask Alexa to play a genre or a specific playlist on one or both of these services. Its important to note that both of these services are proprietary and traffic, in part, in user data as a significant component of their service model. Amazon Music Unlimited links directly to the Amazon account (and requisite credit card) required to use Alexa or to make purchases with the service. For a monthly fee, Amazon Music Unlimited provides users with on-demand, theoretically advertisement-free music, including "personalized Stations" based on a user's listening preferences. Spotify is a similar music-streaming service, but it works on a freeware model where users can gain access to some of the service for free in exchange for ads. In order to use Spotify, one must purchase a Premium subscription. For both Amazon Music Unlimited and Spotify, the integration of these pay-to-play services is a win-win. As *Tech Crunch*'s Ingrid Lunden notes,

> [p]utting Spotify together with Amazon Echo is an example of mutual marketing in action. For Amazon Echo, it could drive more sales of the product. There is a natural affinity for using the device to listen to music, and if you're the kind of consumer who is investing in an Echo there is a strong chance you also stream digital music, too.[134]

In this instance, users are paying several times over: with money for the device, with money for the subscription service, with their data, and with their attention for specific marketing strategies controlled by Amazon, who owns both the device and the right to limit its services on the device.

It is not just that users are getting a bad deal on these services. Users of Alexa, and, relatedly Spotify and Amazon Music Unlimited might decide that voice-controllable streaming music is worth the upfront cost. However, users may be less willing to pay the implicit costs:

data. By this, I mean that users may not realize that the cost of a device which integrates several aspects of one's digital life is massive digital footprint owned (or at least controlled) by one company. Amazon's ever increasing Echo-integrations serve a dual purpose: they increase the attractiveness of the device for potential users and they provide an expansive view of the user in question. As an example, consider the ability for users to control the temperatures in their home using Nest, the smart thermostat. When the Nest Skills are enabled on the Amazon Echo, Alexa can assist users in maintaining the perfect temperature for the house. If users were to connect Alexa to Nest, then both Amazon and Nest would also have access to a users' home cooling and heating preferences. While this information might initially seem rather unimportant, it might be useful for a company to know when a user is out of the house (if one controls their thermostat based on my presence) or even whether or not the user is the kind of person who is frugal with their electricity bill (so that they can show them cost-effective products, for instance). Together, by tying together a variety of digital services, Amazon gets a thorough picture of its users. Knowing users' whereabouts, their music preferences, their spending preferences, and when they come and go is extremely valuable information for a massive multinational corporation. Add to this the data footprint Amazon gathers from one's online shopping (which may include political affiliations, dietary restrictions, recreational preferences, and more), and Amazon has an overwhelming amount of information to use not only in targeted advertisements, but also in market research for product development.

Apple's competing virtual assistant, Alexa and Siri, is of similar value because of her ability to spy on users as they go about their day. As I will explain a little later in the chapter, Siri is advertised primarily as an assistant who will help users organize their lives. Her services turn on her ability to give a user specific advice that is tailored to their lives. From a technical

perspective, this skill requires that Siri to ascertain a great deal of the user's informational context: she needs data to make helpful suggestions. Significant data exchange is a precondition to Siri's functioning as Apple advertises. In other words, Siri is most effective when she has access to all components of a user's life: one's location, calendar, one's friends' locations, one's health information, and so forth. Clearly, one can opt out of any one of these privacy measures, and Apple is clear with instructions for how to turn the data transmission "off." But if a user wants to use Siri to her fullest potential one must necessarily cede their data. Thus, using Siri and Alexa then, comes with a trade-off. It is not a new one: users must decide if they prefer convenience or to lock down their data.

This data transfer becomes a significant decision-making variable for users and potential users who may wish to use a virtual assistant such as Siri and Alexa. At least in the West, where privacy and independence is a cultural value, consumers may be wary about giving away their data without a clear and apparent benefit. When such a benefit *is* apparent, the question then becomes about trust; users wish to know whether or not they can trust a corporation to act responsibly with their data. To sell their products, then, Apple and Amazon, have two barriers to surmount: they must prove that the services provided by their AI VA are significant enough to warrant data exchange while also quelling anxiety in the mind of users who are reticent to give up their data. Ultimately, they have to convince a (potential) user that the convenience of using a voice-activated, artificially intelligent digital assistant is worth sharing their personal information on a quotidian basis.

Apple and Amazon are fighting an uphill battle to convince users to hand over their precious data. In a series called "Anthropology in Practice" in *American Scientific* magazine, anthropologist Kristal D'Costa describes the problem thusly:

> We're culturally primed not to trust programs that behave like AI, which ceased to be portrayed as innocent helpers around the time *The Jetsons*, our favorite tech savvy family, went off the air. This is where those socially curated phases I mentioned comes into play. The rise of social and mobile applications has primed us to be more open about our lives, more willing to share information, and more adept at transacting the business of daily life on-the-go. These things were difficult in their own way—location check-ins, for example, meant being willing to share where you are, what you're doing, and who you're with. Gradually, the convenience of mobile banking or shopping replaced the concerns over privacy and security—that is to say, concerns were addressed in a way that was deemed acceptable to users. We're comfortable. And we walk a fine line between independence and dependence. And perhaps we like it.[135]

D'Costa notes here the ways in which AI VAs and the technologies that preceded it have a reifying effect: as they pry open our calendars and wallets, as they push us to consent to facial recognition technologies, as they make us comfortable with the idea of a company knowing where we are 100% of the time, they also *prime* us to expect these actions in the future. This is not a slippery slope argument: it is an argument about how corporations are major rhetorical actors influencing cultural dialogues about what is acceptable or appropriate in the digital sphere. The carrot dangled before users is a world of convenience, calmness, and collectedness that an AI VA provides in the face of a harried digital world. And all we have to do to access this utopic state of mind is to offer our data. The risk, of course, is that convenience becomes addictive. Or, as Stucke and Ezrachi argue,

> [T]he next technological frontier may not be entirely rosy. As our digital butler increasingly controls our mundane tasks, it will be harder to turn off. It will be tempting to increasingly rely on the butler for the news we receive, the shows we watch, and the things we buy and even say. We may feel that we roam the fields of free ideas. And yet, we are increasingly ushered by the super-platform's digitalized hand, not recognizing its toll on our well-being.[136]

This ambivalence is both culturally and economically significant: it is culturally significant because it shows a shift in how technology is used by humans and for what purpose. It is economically significant because it demonstrates a potential market rupture. That is, ambivalence becomes an entry-point for corporations such as Amazon and Apple to make an argument in

favor of digital assistants. This marketing opening is one reason why the AI VA market is exploding, with new iterations of artificially enhanced digital assistants introduced on a regular basis, all vying to serve users in increasingly personal ways.

Onboarding the Uncomfortable: A Race to First

If users and potential users are ambivalent about letting AI VAs serve them in profoundly intimate ways, the following questions become especially salient: Why are all the major technological players introducing AI VA now, and how can they get reticent users to jump on board? The why is easier to explain than the how.

First, as I described above, AI VAs are veritable treasure troves of data, which, when aggregated, can be monetized in several different ways. Amazon's Alexa is a somewhat special case, because she is directly linked to a booming internet commerce site. Amazon is betting that Alexa makes it easier for users to buy things off Amazon.com, and for them to be more satisfied with their purchases as a result of interacting with her.[137] Even if we set aside Alexa's unique capacities to link users directly with buying opportunities, there are several other reasons why getting AI VA in people's hands and homes would be profitable. First, AI VAs run on algorithms and other machine logics that, ostensibly, get better given proportionately large amounts of data. That is, AI VAs who are provided significant amounts of data can produce better results for its queries. Siri and Alexa (or at least the algorithms behind them) learn better when more customers cede their data. Stucke and Ezrachi suggest that the reason

> [E]ach [tech] super-platform scramble[es] to be first…[is because]….[t]he more we rely on our butler, the more data it collects on us, the more opportunities for the algorithms to learn, and the better the butler can predict our needs and identify relevant services. The more we use the butler, the more power it will have.[138]

Indeed, Facebook, Google, Microsoft, Amazon, Apple, and others have all devoted significant resources to developing AI VAs in the hopes that it will pay off in data. Another reason data

gleaned from AI VAs is so important is because it can be used to sell advertisements. As Oremus notes,

> [i]f Facebook can better understand what they're saying, it can further hone its News Feed and advertising algorithms, among other applications. More creatively, Facebook has begun to use language understanding to build artificial intelligence into its Messenger app. Now, if you're messaging with a friend and mention sharing an Uber, a software agent within Messenger can jump in and order it for you while you continue your conversation.[139]

Major technology companies also benefit from being the first or most ubiquitous AI VA because they can then control what services are offered, when, and how. Companies whose AI VA is the conduit to other apps get to decide which apps are available. Or, as Oremus describes it, "[w]hen you say "Hello" to Alexa, you're signing up for her party. Nominally, everyone's invited. But Amazon has the power to ensure that its friends and business associates are the first people you meet."[140]

The True Cost?

Beyond sharpening a company's algorithm and monetizing user data in the form of algorithms, there is an another, more abstract reason why AI VAs are a profitable endeavor for companies. As I noted above, whenever users engage with an AI VA, it gives companies an inside look into the mind, home, and habits of a user. This strategy is not a new one: people who use grocery store shopper cards or discount coupon apps are being tracked for their spending habits. If a service is free, a user is likely paying for it in data. The same is true with Siri and Alexa, artificially intelligent objects that provide a variety of services for relatively cheap. The real cost of these services, of course, is a user's data. Speaking about Google Home, Lalwani notes this apparent paradox:

> The voice-activated speaker can help you make a dinner reservation, remind you to catch your flight, fire up your favorite playlist and even translate words for you on the fly. While the voice interface is expected to make quotidian tasks easier, it also gives the company

> unprecedented access to human patterns and preferences that are crucial to the next phase of artificial intelligence.[141]

When thousands upon thousands of users buy into Siri and Alexa, they are paying with their data. Moreover, oftentimes, they pay for the privilege of hemorrhaging data to companies who are not transparent about how that data is used. Buying hardware (an iPhone, and Alexa) is usually the entry point for access to Siri and Alexa. For just a few hundred dollars, we gain access to artificially intelligent virtual assistants, and, as Stucke and Ezrachi argue, the price for these agents "will likely drop." Once we gain access, the services we are offered appear free.[142] Users of these services then "pay" for AI VA in at least three different ways: through the initial purchase of a device programmed with AI VA software, through data required to be shared for proper AI VA functioning, and through attention to "curated," advertised products and services. The beneficiaries of these practices are the corporations that use AI VAs as a lure. Once users are hooked, technology companies such as Apple and Amazon can draw users ever deeper into their eco-system of products and services.

Beyond Privacy: The Politics of Platforms

While Siri and Alexa are good examples of the way that way companies entice users to trade large amounts of private data about their lives, for the convenience of a virtual assistant, this is not the only effect of this technology. In addition to the privacy concerns for their users, AI VA play a larger role in upholding systems of late-capitalism that affect more than just the discrete individual. In this section, I turn from this individualistic, *privacy*-based approach to a discussion of larger structural systems of *surveillance* in order demonstrate how AI VA plays a significant role in the transition to surveillance capitalism. The individual surveillance capacities of Alexa and Siri are directly linked to the platforms that issue, host, and make possible the use of AI VA devices. In turn these individual devices provide information and support larger

systems of surveillance that benefit corporations like Apple and Amazon. For example, Amazon recently announced Echo Look, a hands-free, voice controlled video device aimed at people interested in fashion. Fashioned as a "style assistant" for the fashion- and tech-savvy millennial, Echo Look blends shopping with surveillance, taking floor-length pictures of its owners, storing them in the cloud, and offering them fashion advice (including how to purchase related clothes on Amazon.)

In order to map the way these larger forms of surveillance work, in the paragraphs that follow, I start by offering an overview of the politics of the platform. Here, politics of the platform consists of an amalgamation of material and discursive infrastructures, machine elements, and design components that makes possible AI VA. Following this overview, I turn to the surveilling capacities of Siri and Alexa as AI VA tied to major technology companies vying for industry hegemony. Finally, I outline Siri and Alexa's role in transitioning 20th and 21st century-capitalism to what Shoshana Zuboff calls *surveillance capitalism*, wherein data is extracted from the proletariat for the benefit of a small tier of surveillance capitalists. This form of surveillance capitalism outlines the structural implications of big data as a tool for condensing wealth in the hands of those who have monopolized the logistics of processing such data for profit.

The Politics of Platforms

Until this point in the chapter, I have described how Siri and Alexa interact with the world as communicative agents who influence users, as well as the ecosystems in which they are embedded. Here I describe another layer of Siri and Alexa: the platform. Siri and Alexa rely upon myriad platforms to run, including operating systems, social media, and logistics and product marketplaces either owned, designed, or otherwise connected to Apple and Amazon. In

essence, AI VA are an extension of these platforms. But in in popular discourse and advertising, the platform is communicatively constructed in such a way as to obscure its market-logics. For example, advertisements for Amazon Echo Look emphasize the empowering possibilities of Amazon and the Cloud. The advertisement notes, "Alexa helps you with thousands of things, and now she can help you look your best." The video does not mention that the same "Style Check" algorithms that offer users "a second opinion" on their outfits are compiling monetizable information about their habits.[143] As Langdon Winner postulated, the meaning and function of information technology is constituted through a creative process of imagination and the application of technical objects or environments on the part of a variety of stakeholders. Essentially, technological objects are tools for (re)shaping cultural and political structures. Furthermore, these technological objects themselves are both constituted by and constitutive of social conditions, values, and ideologies; technologies shape social conditions even as they are shaped by them. Winner writes in his foundational text *The Whale and The Reactor: A Search for Limits in an Age of High Technology* that "the experience of modern society shows us….that technologies are not merely aids to human activity, but also powerful forces acting to reshape that activity and its meaning….The kinds of things we were apt to see as 'mere' technical entities become much more interesting and problematic if we begin to observe how broadly they are involved in conditions of social and moral life."[144] If it is true that the result of introducing and circulating new technologies such as AI VA is that "[n]ew worlds are being made"[145] and that this world-making is an accomplishment operating at the intersection of culture and technology in socio-technical systems systems, we should have a nuanced understanding of how such poesis occurs, under what conditions, and for whose benefit.

Since AI VA's are tied to the platforms they serve, one way to understand its surveilling capacities is to attend to the logic of the platform itself. In a foundational essay on the "The Politics of the Platform," Tarleton Gillespie traces the multiple discursive iterations of the term "platform," outlining four "semantic territories" of the concept: computational, architectural, figurative and political. Each of these discursive terrains teases out different but overlapping characteristics of a platform; none can escape from the other as they attempt to describe and/or imagine the political potentialities of the new media platforms. All of these definitions draw on the platform's capacity to support people, and, more pointedly, to provide an infrastructure on which anyone can speak. For instance, the *computational* meaning of platform describes the infrastructures made possible by computational objects, software, and built-environments that support the functioning of the objects and software. As Tarleton Gillespie notes, this articulation of "platform" may describe a variety of objects and phenomena operating systems, search engines, social networks, and/or new media environments "that allow users to design and deploy applications that they design or that are offered by third parties."[146] The *architectural* meaning of platform refers to built, "physical structures" that we encounter in daily life as they support a variety of activities. Gillespie offers some examples of platforms that are infrastructural in one way or another: "subway and train platforms, Olympic diving platforms…platform shoes."[147] The *figurative* meaning of platform conceptually draws upon the infrastructural meaning to describe something less physical but certainly structural in nature; it is descriptive of a position, of one's standing, of an initial jumping off point.[148] Finally, the *political* meaning related the new media platform has to do with platform defined as a set of issues, concerns, or values that a politician espouses in order to constitute a connection between the politician and her constituency, or to receive votes. Once more, Gillespie notes that this definition of platform

relies on (infra)structural elements, however conceptually—platforms are where a politician takes a stand (and provides grounding for such a stand.)[149]

For Gillespie, each of these definitional clauses are thematic and intimately related to one another, together forming the definition of a platform as a "structural metaphor" that is imbued with a particular ethos towards the nature and function of platforms. These discursive registers make claims about who platforms are made for, who can use them, and for what purposes. When "drawing these meanings together," Gillespie notes, "'platform' emerge[s] not simply as indicating a functional shape: it suggests a *progressive and egalitarian arrangement*, promising to support those who stand upon it" (italics mine.)[150] At the level of semantics, then, the constitution of the concept "platform" discursively suggests the *raising* and *holding* up of a diverse population's ideas. This rhetoric is endemic to a techno-utopian universalizing narrative that glosses over the differences between and amongst those who create platforms, the users who use them, and what the platforms are created to do. In particular, it obscures the ways in which many of these platforms are run by private corporations, who deal in users' data and turns the data into corporate profit. Gillespie summarizes this communicative phenomenon by noting that:

> "[t]he idea of the 'platform',…does quadruple duty. It fits neatly with the egalitarian and populist appeal to ordinary users and grassroots creativity, offering all of us a 'raised, level surface'….A term like 'platform' does not drop from the sky, or emerge in some organic, unfettered way from the public discussion. It is drawn from the available cultural vocabulary for stakeholders with specific aims, and carefully massaged so as to have particular resonance for particular audiences inside particular discourses. These are efforts not only to sell, convince, persuade, protect, triumph, or condemn, but to make claims about what these technologies are and are not, and what should and should not be expected of them."[151]

For Gillespie, the platform is communicatively constructed as populist so as to promise openness and empowerment for all who use or take part in one. We can see this principle in the way that

AI VA is advertised as a low-cost, effective assistant for those who could not otherwise afford an assistant.

Jose van Dijck echoes Gillispie by noting that "[t]he larger culture in which these platforms arise espouses a particular logic – a logic rooted in social needs and cultural norms – and supports technological systems striving to infiltrate practical social routines, so these routines become ensconced in economic models and legal schemes."[152] It is of little wonder, then, that the use of the term "platform" to describe technical objects has come to mean a myriad of technical structures, environments, engines, and computational processes—from targeted, ad-based marketing endeavors to tools built to support hacktivism (a portmanteau of hacking and activism). In addition, the popular adoption of the word platform by those designing and advertising a variety AI VA, then seems like a strategic move to neutralize the surveilling dimensions of the technology, while promoting it as an egalitarian 'space.'

When thinking about new media platforms, like Siri and Alexa, it is important to keep these collective definitions in mind as they are not just descriptive terms but also constitute ideals that shape the expectations of both the corporations that produce them and the individuals that use them. For example, while both Siri and Alexa have platforms, what those platforms mean for the corporation and for the user are wildly different. For the user, it means ease, comfort, and a certain level of control over their environment because-they synthesize the powerful effects of each platform for the user at little or no perceive cost. It matters not that Siri and Alexa only offer empowerment to a select caste of users who can access them. Siri and Alexa seem to offer empowerment and choice but only through consumption and materialism. The promise is this: by purchasing a device and using it regularly, users are able to navigate the digital terrain more effectively and efficiently. These users have more and better choices for

living in the world. This move conflates empowerment with consumption, which obfuscates the actual function of the device: to surveil the user in profitable ways, such that data gathered by the devices can be used to reincorporate the user into the very systems of capital the device obscures. By virtue of their connection as well as their distance from platforms, Siri and Alexa are allowed to bathe in the aura of progressivism without having to deliver on that promise.

This obfuscation not only normalizes the surveillance practices, it also transitions societies into participating in that surveillance as necessary, or even natural. In 'naturalizing' the use of surveillance technologies in everyday life, the technology also shapes the user and the user's abilities to interact with the technology as a necessary component (or skill) to participate in contemporary society. For example, Lucas D. Introna and David Wood[153] use the now ubiquitous Automated Teller Machine (ATM) as an example of a socio-technical artifact which makes certain assumptions about the function of the technology and user's ability to interact with it. For example, to successfully use an ATM, for instance, folks must be able to touch the screen or PIN pad, to read what the screen says, and to follow its instructions and so on. However, as they note, "It is not difficult to imagine a whole section of society that does not conform with this"[154] design, like those with disabilities that prevent them from viewing or touching a screen, those who cannot read the language encoded into the machine, etc. In this process of exclusion and inclusion through usage, they note that "seemingly mundane design decisions may have important political consequences."[155] Introna's and Wood's discussion of the ATMs provides important insight into understanding how the politics of platforms are animated in a surveillance culture. It demonstrates how accommodations are made to assist those who have difficulty with the technology as it is designed, but the very wide spread use of the particular technology is premised on exclusionary assumptions; ones which draw on and reinforce problematic narratives

about whose bodies are normal and whose bodies need to be "accommodated." Thus, on both a pragmatic and structural level, seemingly apolitical choices made in the design of technical artifacts *do* have very real political valences. It also demonstrates that "what may seem to be….(a) coherent and intentional strategy of exclusion" is actually more complicated in part because "there is often nobody there that 'authored' it as such."[156] Essentially, here Introna and Wood point out that the absence of a singular 'creator' of the technology hides the exclusionary politics of the technology itself. More simply, there is no one to blame, or to take responsibility, for the exclusionary aspects of the technology—it's just there and we're expected to use it. Finally, absent a good hard look at the design elements and how they influence (and constitute) a variety of different(ly-abled) bodies, the implicit politics of this machine are likely to go unnoticed. The only individuals likely to fully understand the politics of the machine are those who experience the discriminatory effects of the design. Unfortunately, those individuals tend not to be high in the hierarchy of systems of power, and their experiences might get overlooked as 'fringe' or 'marginal.' If we were to apply the politics of ATM design, as mapped by Introna and Wood, to to AI VA, there is a similar effect. First, let us consider for whom the AI VA is designed. While it is true that both Siri and Alexa support voice recognition for multiple languages, the primary users are still located in, and are expected to be native English speakers with 'no accent,' meaning largely American accents and idioms. Non-native, or 'other' accented individuals have a more challenging time interacting with the technology. For example, in an essay for *WIRED* magazine, Sonia Paul writes that non-native speakers attempting to use Siri and Alexa are likely to have great difficulty. Paul writes,

> My mother was born in the Philippines, my father in India. Both of them speak English as a third language. In the nearly 50 years they've lived in the United States, they've spoken English daily — fluently, but with distinct accents and sometimes different phrasings than

> a native speaker. In their experience, that means Siri, Alexa, or basically any device that uses speech technology will struggle to recognize their commands.[157]

Part of the reason why Siri and Alexa have such difficulty understanding non-native speakers is because of the homogeneity of data sets of language hooked up to the voice recognition software. As Paul points out, AI VA requires many audio samples of people speaking, which are then processed by both people transcribing and algorithms trained to recognize associations between the written transcription and the audio. Over time, with enough (heterogenous) data, the machine logics come to "understand" speech better and the quality of the voice recognition service is improved. Because the gathering and transcription of data is time and resource-intensive, companies often use already extant data sets. These data sets may be convenient and cost-effective, but they are unlikely to be as diverse in terms of accent and phrasing. As a result, some languages, accents, and ways of phrasing requests receive more transcription and algorithmic processing than do others. The ultimate effect is that people who speak in a way that deviates from this standard have greater problems being heard by AI VA. Much like the ATMs that normativize 'ability', AI VA too constructs a normative user through language and comprehension that forces the user to subtly conform in order to fully utilize the technology.

Because new media platforms, and the devices attached to them, are diverse assemblages of a variety of technological artifacts—including infrastructure such as wire, cables, servers, as well as devices to access platforms; machinic elements such as code, software, and algorithms which help the platform run properly; and structural design elements such as (graphical user) interfaces, templates, branding, imagery and so on—each levels betray an implicit politics. They each run on key assumptions about the form and functionality of the platform, its users, and its purpose within a socio-technical systems. For instance, the geolocation of a server farm can

influence if, or when, a user who is committing a crime using a digital platform, is prosecuted for crime they have committed. Cables that run underground or underwater can influence the circulation of currency, as in Wall Street investors who have heavily invested in fiber-cables to edge out high-frequency trading competitors by milliseconds.

These studies are consistent with Gillespie's conclusions that algorithms—including algorithms that power platforms—are productive cultural agents of change in the era of Web 2.0. Algorithms are the mediating system between the everyday lived realities of individual users and the data that they take up, sort through, and perhaps circulate. Because "data is persistently messy,"[158] it must be encoded into a language that is receivable by the machine that processes it. As we interact with algorithmic processes, we are engaging with an obfuscated set of knowledge logics which help to sort, rank, prioritize, find, and so on. Algorithms are productive because they help us decide what is most relevant or usable when we are otherwise presented with infoglut. In theory algorithms help create what we see when we interact with various interfaces, and they are attentive to our demands when we inquire about data and they return our products. But in practice, algorithms are profoundly political agents because they sort and select amongst a variety of data in a way that is necessarily always partial and partisan. At the same time this does not mean that algorithms are determinist structures that overwhelm human agency. As Baker and Potts note, the auto-completion algorithm they investigated serves as a sort of mirror, reflecting the biases endemic to a particular culture. For example, when users enter into the Google search engine a search query that represents bias, if the auto-completion function returns a query with similar bias, the interaction may give the user the impression that their bias is rational, shared, and correct.[159] Hillis, Petit, and Jarrett contend that "[t]echnologies are ideas in built form and they contain within them the archeology of their history, including not only traces of their

utilitarian purposes, but also of the philosophical ideas and cultural desires that propel their invention, manufacture, and social and geographic diffusion."[160] Indeed, ever a critic of technological determinism, Gillespie suggests that "we need not resort to such muscular theories of ideological domination to suggest that algorithm designed to offer relevant knowledge also offer ways of knowing—and that as they become more pervasive and trusted, their logics are self-affirming."[161] But because algorithms help us decide what is most relevant or important to us in the form of search engines, recommendation algorithms, and/or algorithms which help us sort preferences on social networking sites it is useful, and necessary even, to be more knowledgeable about their effects in the realm of the political. As Gillespie suggests, rather than focusing on discovering algorithms' "'effect' on people," we ought instead investigate the "multidimensional 'entanglement' between algorithms put into practice and the social tactics of users who take them up."[162]

In the case of artificially intelligent virtual assistants, this entanglement the deleterious effects of these self-affirming logics become more pronounced and more pernicious. By virtue of its design, AI VA appears to streamline information gathering and processing to a single device, and, relatedly to a single platform. The consequence of this design is that users are, following Gillespie's observations, further entangled in the logics of a single platform, which, over time, gains the capacity to dole out information in any way the platform chooses. AI VAs are developed to deftly draw data out of users—by directing users to particular products and information based on the data they have already shared with the AI VA—in ways that are financially advantageous for companies who traffic in both. Essentially, AI VAs are an integral part of contemporary surveillance capitalism that has seamlessly merged technology with consumption as a natural part of everyday life.

Siri and Alexa as Harbingers of Surveillance Capitalism

Siri and Alexa are an integral part of the developing system of *surveillance capitalism*, defined by Shoshana Zuboff as "a new form of information capitalism [that] aims to predict and modify human behavior as a means to produce revenue and market control."[163] For Zuboff, surveillance capitalism occurs when the market logic of accumulation runs into an era of big data. Surveillance capitalism is a term for understanding when the changing format of the market settles upon new modalities of accumulating capital, namely the extraction and analysis of information by a few technological and logistics hegemons. The data comes from many places, including "a second source of computer-mediated flows that is expected to grow exponentially: data from billions of sensors embedded into a widening range of objects, bodies, and places."[164] Among these second sources are 'smart' devices equipped with weak AI.

Perhaps most explicitly, these AI VA serve as the nodal point for data gathering between users and corporations. In so doing, AI VA serve as an interface between the corporations behind them and populations the corporations wish to engage. As an interface, they are the consumer-facing component of the platform economy. Hidden behind Alexa's sleek exterior is a complex chain of technical elements, including hardware and software, that make interaction with users possible.[165] Every part of their technical design—from the software AI VA run on to the branding itself—entices users to engage with them and, as a result, serve as a source of information for Apple and Amazon.

For Amazon and Apple, the AI VA's branding turns on a promise to make a plugged-in life easier for their users. As mentioned earlier in this chapter, Siri and Alexa are advertised as virtual assistants who help their users manage life in an increasingly harried technological world. Framing AI VA in this manner opens the door for users to experience the services of the AI VA as a necessity rather than a consumer desire. AI VAs, like Siri and Alexa, become a requirement for

tech-savvy individuals, who, because of their interest in the tech world in general, are presumed to want to delegate the management of their selves to another technological entity. AI VA is branded as an ideal—beyond an optional or acceptable—solution to the problem of the technologically frenetic life. Because Alexa and Siri are seen as convenient, requiring very little effort on behalf of the user, performing mundane, banal, and sometimes even intimate labor for relatively cheap, thereby justifying the purchase and use of the AI VA. Over time, the services provided by AI VA can become an integral part of the lives of their users. Zuboff notes that making smart device users reliant on the device through reliability is a strategic move for surveillance capitalists, who use this reliance to gain access to increasingly intimate types of information about their users, and then extract and alienate the data from their users. And this is not a new strategy. Surveillance capitalists have deftly orchestrated an inversion wherein practices that would generally disempower users become requirements for successfully participating in life. Like participation in social media (also a data-heavy endeavor,) owning and using an AI VA becomes a mandate for early adopters of smart devices and AI. As Zuboff writes, "[T]he new tools, networks, apps, platforms, and media thus become requirements for social participation….[T]he rapid build up of institutionalized facts…produced an overwhelming sense of inevitability. These developments become the basis for a fully institutionalized new logic of accumulation that I have called surveillance capitalism."[166] Essentially, surveillance capitalism becomes a necessity for individuals to participate as successful members of society. In doing so, most users are oblivious to the detrimental effects of surveillance capitalism, which are are multiple. Perhaps most explicitly, AI VA are part of what Mark Andrejevic deems the "vertiginous expansion" of capital. Andrejevic warns that "[w]e are at a moment in time when we can start to see the surveillant imaginary expand vertiginously, thanks in part to the new

avenues for monitoring opened up by technologies that 'interact' with us in a growing variety of ways and involve a wide range of senses and sensors, and also to the increasingly sophisticated techniques for putting to use the huge amounts of data these devices, applications, and platforms capture and store."[167] Indeed, as mentioned previously, the intimate use of AI VA as a nodal point for surveillance capitalism draws upon and inverts the logic of privacy for empowering or disempowering users. While Siri and Alexa prompt users to trade their privacy in exchange for convenience, the intimate "entanglement"[168] between users and AI VA contributes to a much wider structure wherein privacy is not only willingly traded, but actually becomes weaponized against the individual user of AI VA. The rights of the individual become subsumed into the logic of the market; individuals themselves are folded into an aggregated constellation of data that is monetized by surveillance capitalists.

In this way, privacy, on its own, is no longer a useful heuristic for investigation the effects of a digital object such as AI VA. Indeed, the problems with privacy as a heuristic are at least threefold. First, privacy rules and regulations are quickly becoming archaic, tied to a time when surveillance functioned in a much different way. For instance, old privacy logics don't take into account what Andrejevic calls "the digital enclosure…in which every virtual 'move' has the potential to leave digital trace or record of itself."[169] Second, and relatedly, surveillance capitalists who trade in data, rather than products, have noticed the lag between privacy in practice and privacy as regulated by law. As a result, major corporations who deal in data—and who need information in great quantities in order to profit—have appropriated privacy models such that privacy becomes a right only for those in positions of (financial) power. Surveillance capitalism, contends Zuboff, thrives when it can rearticulate privacy doctrines to centralize profits into the hands of the few major (technological) players. As Zuboff notes, "The work of

surveillance, it appears, is not to erode privacy rights but rather to redistribute them. Instead of many people having some privacy rights, these rights have been concentrated within the surveillance regime."[170] Third, and finally, when surveillance capitalists are charged with violating the privacy rights of individuals, they leverage their resources to side-step formal reproach. Because formal censure is so rare, surveillance capitalists are rewarded for the strategy of collecting data with or without permission. The result is that companies surveil now and ask permission later. Privacy has come to serve as an another nodal point supporting the system of exchange. Instead of individual protecting users from predation by corporations looking to monetize their data, privacy as a heuristic further lines the pockets of already wealthy surveillance capitalists.

In this configuration, the contours of the market—and capitalism itself—shifts. Individuals, once a necessary component of the marketplace, become merely data-points in a vast system of information sharing. This information, seemingly willingly given by a cohort of users as a necessary component of the sharing economy, becomes the product for trade. Here, the politics of the platform gains a new role as a mediating component of surveillance capital. Platforms which benefitted from the narrative that they empowered users (primarily through sharing) become deeply embedded in systems of exchange. The logic of sharing as a social model is commoditized for profit by those who own or who otherwise have a business interest in these platforms. As Sebastian Olma notes, "[T]he platform is a generic 'ecosystem' able to link potential customers to anything and everyone….This is the real innovation."[171] Siri and Alexa have a great part to play in this transmutation of the marketplace. In the same way that the sharing economy has made possible the gig economy in which people as well as corporations

provide services and goods, Siri and Alexa have opened up a new entry point for corporations who deal in data. This new entry point is the networked home, office space, and body.

A major benefit of building a business through the medium of the platform is that the owner(s) and operator(s) of the platform can determine the conditions for using the platform. This level of control over the platform increases the likelihood that the owner develops a monopoly. For Olma, "digital platforms have the inherent tendency to become veritable *Über-middlemen*, i.e., monopolies with an unprecedented control over the markets they themselves create."[172] Gaining access to customers through the internet of things (phones, speakers, exercise trackers) is a profitable strategy for surveillance capitalists eager to edge out the competition. For these entrepreneurs looking to build a monopoly in these new spaces, AI VA is an ideal medium. It provides access to users in their most intimate and personal moments, creating new markets and building off existing ones. Because AI VA is proprietary, companies like Amazon and Apple can determine what content is available to users on their devices and when. As mentioned earlier in the chapter, this makes AI VA profitable in a variety of ways: other platforms make exclusive deals with the owners of AI VA to be included on their platforms; users buy goods and services using the AI VA and connected platform as medium; and the corporations gain access to the most intimate moments in a user's life, which in turn becomes abstracted and sold at scale. For companies like Amazon, which "has always been more a logistics company than retail company,"[173] using AI VA as a significant component of their business model is a natural progression towards the future, where they can build on undeveloped markets or build new ones while obscuring their monopolistic expansions. In the following section, I describe how AI VA is designed with a gendered persona in such a way as to leverage the social codes attached to gender to make easier routine interaction with a digital device.

Using Gender as Leverage

Artificially intelligent virtual assistants are anthropomorphized as humanoid agents. In particular, they are designed to perform a feminine persona, with stereotypically feminine features such as an ability to listen well, communicate with users, and provide comfort. In so doing, they are rhetorically figured not as an inert technological object, but rather a personable agent capable of forming relationship with users. Building relationships with our technological objects represents a significant shift from the earliest iterations of computational machinery. Early computers and machines were objects that helped humans complete discrete, specific tasks. Since the Industrial Revolution, for instance, (computational) machines augmented humans' capacity to move heavy materials, perform complex mathematical calculations, and arrange complicated logistical matters. Often, these computational machines automated human workflows. Their role in society was to make work more efficient; they were not expected to provide companionship to their users. Computers still perform these functions, but given the ubiquity of personal computing, they also serve another role: to help individual users live their best lives by orchestrating relationships between humans and technology.

This shift in human-technology interaction is orchestrated by computational logics that support the building of trust and engagement between AI VA and their users. The promise of AI VA is that, over time and given sufficient data, the virtual assistant gets to know a user better. AI VA are advertised as highly efficient technological devices can anticipate a user's needs and desires, even unlocking "the real you" that was buried in the overwhelming technological noise of the modern day. In a 2013 interview for the *Scientific American*, cultural anthropologist Genevieve Bell expounds upon the possibilities of technologies that help us reimagine our relationships to ourselves and others. She notes:

> Google+ and [Apple's] Siri have learning algorithms that respond to your voice. Now imagine a world where our devices know our bodies. Apple's new iPhone fingerprint sensor is a lovely example of that. Devices start by recognizing your thumb or your voice; then they could learn to recognize your friends' voices, recognize the way you walk. Imagine if those devices put that information together with information about your location and the appointments on your calendar. That device gets to know you as a human being….This is about moving from human–computer interactions to human–computer relationships.[174]

These technologies not only alter the relational sphere in which humans live, but also the ontological and epistemological one. Here, Bell envisions a world in which human-computer interactions give way to relationships between technological objects and humans. Humans come to see and recognize some form of the self in the digital other. Once the human is mirrored in the technological object, a reciprocal, dialogic interconnection between the AI VA and the human is made possible. Drawing together context is key here: as AI VA develops, it requires ever significant personal data points to correlate a user's selfhood, needs, and desires. There is, in this figuration, a sort of give-and-take between one's AI VA and one's self (and perhaps even one's social network) that seems to constitute—in some small way—a personal relationship.

Developing the human-like capacity of gendered AI VAs begins by programming virtual assistants with a personality. Then, using the given characteristics of each personality profile, Alexa and Siri are given a systematic vocabulary that is imbued with the intonations of their particular personality. Siri, for instance, is characterized by dry and witty repartee. Her efficiency at assisting users in daily tasks is rounded out with small wry jokes, often about herself. Alexa, too, uses charm, wit and humor to build relationships with her users. One of her programmed skills is telling punny jokes, and she is even able to make them culturally relevant and specific to the user. Beyond humor, Siri and Alexa share an apparent desire to care for their users. When prompted, they both offer services that support the user both administratively (as in arranging logistics and looking up facts and figures) and personally (by providing services to help the user

sleep, or relax.) Providing these myriad services through the lens of a human-like personality profile draws users (and potential users) into a relationship with users based on a seemingly mutual communicative exchange.

From a critical, communicative perspective, the difference to which Bell (indirectly or directly) points feels rather intuitive: a dialogic model that takes into account multiple voices is more engaging than a uni-dimensional transmission model. A user may not feel any form of relational affinity to a device that is programmed to communicate in a uni-directional way. But the ability to communicate dialogically with AI VA is instinctively more relational. The AI VA's caring personality contextually builds and bolsters this communicative: the user and the assistant are in it together. When users request something of Siri or Alexa and when they respond in a way that is useful and efficient, users may build trust with their objects. The user and the AI VA are sharing this communicative moment. In sharing this moment, the user and AI VA develop communicative, relational ties in a way that would largely be impossible with a digital object that speaks to a user, rather than *with* a user.

The gendered, communicative capacities of AI VAs such as Siri and Alexa are of incredible importance to the businesses who support her (and who rely on users' interaction with the AI VA for data to make her better). Perhaps this is why companies are devoting incredible resources to making Siri, Alexa, and AI VA like them better at all facets of the communicative process. To make a meaningful relationship, one must communicate with one's device in a way that is fulfilling, familiar, and increasingly less frustrating. As anyone who has ever been in a relationship knows, productive communicative dialogue requires excellent listening skills. This edict rings true for the burgeoning relationship between AI VA and the humans who use them. For tech companies who deploy AI VA, the ability for AI VA to hear well and to listen even

better is of great economic significance. When a user speaks with Siri or Alexa and they hear but do not listen to the user, they cannot produce ideal results or communicate an ideal response. The frustration that bubbles up when one is not heard takes on a different patina when one is talking to a device than when one is talking to a person.

For this reason, Siri's voice recognition capacities have developed significantly over the years. Early iterations of Siri came with voice recognition and processing software that was subpar at best. Early users of Siri were required to stay on script, using a limited number of communicative prompts determined in advance. Some of these constructed prompts felt unnatural, which made the experience of communicating with one's phone feel uncomfortable at best and impossible at worst. The rhetorical effect of this "failed" communication is dialogic distance which, from an economic perspective, is a death knell for using AI VA to build relationships and to gather data. For this reason, it is imperative that AI VAs be easy to communicate with. Indeed, Bell points to the conversational capacities of artificially intelligent virtual assistants as paramount to building human-technological interactions. For her, relationships with technological objects rely, at least in part, on "a notion of reciprocity." "Siri promises to listen to you….Once things listen, there is an implicit transformation that is no longer you telling something what to do, there is relationship building."[175]

In early 2017, *Time Magazine* reported that Amazon began developing "VoiceID," a feature for Alexa that would allow the Echo to discern the voices of different users and to set up distinct account based on those voices. In other words, according to Lisa Eadicicco, "Amazon is working to make its Alexa a better listener."[176] The ability to differentiate between users based on vocal intonation is the next wave of technological development in AI VA. AI VA is at its most useable (and most profitable) when it can calibrate its services and advice to each of its users.

Making a truly personalized artificial intelligent virtual assistant will require that the AI VA recognize the distinct users in a household, analyze their personalities, draw upon individualized user profiles and provide a customized experience for each one. Context is important for AI VA for several reasons. First, each user has unique needs and desires. Meeting each user's expectations is crucial to building a long-term relationship between the device and the user. Second, and relatedly, when more than one user's inquiries are fed into a single user profile, the device can become confused. At present, Siri and Alexa become easier to use over time because they establish a profile for their user based on past interactions with the device. If a single user consistently uses the device over time, the AI VA will develop a clearer picture of the user and, as such, will be able to algorithmically "intuit" the needs or desires of that user. However, if multiple users interact with the device, the algorithmically constituted image of each user becomes cloudy, which might provide less useful responses for users and a muddied data stream for the companies collecting data through the AI VA.[177] The third reason why vocal differentiation is crucial for the next iteration of AI VA is because each user might have different capacities and permissions for interacting with the device. Personalized AI VA experiences become especially crucial when the AI VA is attached to a credit card or bank account, when the AI VA allows users to make significant changes to their environment (e.g., lock or unlock a home, start a car), or when age-appropriate content can be shared through the devices.

Deciding who is communicating with the AI VA among a variety of common users, then, is crucial for the usability of the device and for building a comprehensive (and monetizable) user profile. In the past, users were differentiated by distinct log-on processes where users were prompted to identify themselves with a typed username (or, in more recent years, a fingerprint or facial recognition scan.) But new iterations of AI VA are moving increasingly away from tactile

engagement and towards hands-free interaction. The move towards hands-free communication is a strategic one for companies looking to ingratiate their technology in users lives. In an interview with *Engadget*, Dr. David Nahamoo, Speech CTO and the Speech Business Strategist for IBM Research, highlighted the centrality of speech as a way to build relationships amongst agents:

> [S]peech is the most dominant way that humanity has been communicating with each other….When we communicate with the outside, we speak. But from outside to inside, we absorb information a lot better visually. It's because of our heritage and the evolution that we have gone through. From the standpoint of efficiency, speech is quickest way to get a point across.[178]

Identifying and processing the distinctions between users then requires significant attention to the communicative element of the AI VA-user interaction. But speech-recognition can also tell the AI VA (and the companies behind it) much more than who is using it. A technologically sophisticated speech-recognition software can intuit emotion, mood, spending patterns, and more. Communication is crucial to this process. As Lalwani writes,

> A lot can be gleaned from the vocal communication. Words and intonations start to give away user patterns, preferences and even emotions over time. That kind of insight into the mindset of the user is critical to the next wave of personalized AI that is already taking shape at companies like Google, Amazon and Facebook.[179]

To be clear, users who engage with Alex and Siri already disclose these characteristics as raw communicative data; the question is whether or not the AI VA can process this data meaningfully and deploy it usefully to personalize AI. Personalized AI—constituted through dialogic, responsive, and reflective communication (not just data transfer)—is a crucial component to invite relationship building between a device and its users.

Naming matters. In the case of AI VA, the rhetorical move to call Siri and Alexa an assistant is significant because it presupposed a particular relationship between the VA and its users. As Lalwani notes, "comparing an AI agent to a personal assistant, as most companies have been doing of late, makes for a powerful metaphor. It is one that is indicative of the human

capabilities that most major technology companies want their disembodied helpers to adopt."[180] The anthropomorphization of the AI VA, then, is not just that Siri and Alexa are figured as humanoid agents with whom we interact. Rather, their humanity as communicative agents is organized around particular, ideologically-charged characteristics which make them legible to their users. In a world where trust is important for human-technological usability, and where automation of human activity may invite distrust, ascribing humanistic capacities to a digital object is necessary. Perhaps it is for this reason that companies who design theoretically a-gender virtual assistants lean into gendered characteristics to fill out the non-human humanistic form. Assigning—however implicitly—a gender to an AI VA may make their automation more palatable—even pleasurable. In an article titled, "Terrifyingly Convenient," Oremus ascribes agency to the AI VA: "[T]hese bots' apparent embrace of gender also highlights their aspiration to be anthropomorphized: They want—that is, the engineers that build them want—to interact with you like a person, not a machine. It seems to be working: Already people tend to refer to Siri, Alexa, and Cortana as 'she,' not 'it.'"[181] I am uncomfortable with Oremus' assignation of self-referential agency to these objects with weak AI. However, with slight alterations, his argument is valid: corporations that design, market, and deploy gendered AI VA such as Siri and Alexa do not shy away from the feminine gendering of their objects because it is profitable. The ways this gendering occurs and its impacts are the subject of the next section.

Gendering the AI: Designing a Feminine Persona

To be clear, neither Siri nor Alexa inherently *need* a gender in order to function. In theory, by virtue of being technological objects, Siri and Alexa are or can be a-gender. We generally don't assign gender to our laptops or televisions.[182]As bodiless entities, Siri and Alexa, could theoretically be spared from the binaristic logic of stereotypical gender roles. The usual

markers of gender don't apply to digital objects which exist in the ephemera of the cloud. Siri, who is not grounded to a particular object, and Alexa whose status is also increasingly mobile, need not be assigned designation as either masculine or feminine.

If a user asks Siri and her cyborg sister Alexa who and what they are, gender is not mentioned. Siri, for instance, sometimes responds to this question by suggesting, "Who I am is not important" or "I'm Siri, here to help." But each virtual assistant takes a different approach to answering explicit questions about gender. When one queries Siri on her gender, she plays coy and offers some pithy comment about the insufficiency of gender. In an essay for WIRED magazine, Jessi Hempel notes this phenomenon:

> Ask if she's a woman. Go ahead, try it. She'll tell you she's genderless. "Like cacti. And certain species of fish," she might say. So is Amazon's Alexa. Microsoft's Cortana. Samsung's S Voice. And Google Now. But man, do they ever sound a lot like women. Culturally, we think of them as ladies too. (In Old Norse, Siri translates to "a beautiful woman who leads you to victory.") We assign female pronouns to them, and in turn, they fold feminine turns of phrase into their robotic and occasionally inane answers to our requests.[183]

Siri's proclamation of genderlessness may be humorous but it is unconvincing. If we read her pre-programmed responses from a critical feminist perspective, we learn the ways in which her communication is coded in profoundly gendered ways. Siri's responses to basic inquiries about her self as object and agent betray her programming as feminine as she performs deference, abjection of self, and servitude. Her existence as an entity doesn't matter, she notes, because she is here to serve *the user*, and that's all one needs to know. "This is about you," she says, "not me." Siri's response to the explicit question of gender is rhetorically constituted in such a way so as to reply on gendered communication styles even as she denies that gender is of relevance to her existence or her position. In other words, the form of this response—witty and charming but deferential and distracting—is in direct contradistinction with the content. It is important to

remember here that Siri is not an agent without context. As weak AI, she cannot be truly thoughtful or self-referential about her status in society. Rather, all of her responses have been programmed by engineers who have imagined that Siri will be asked a certain series of questions, many of which are gendered. One way to read these responses, then, is as second hand iterations of a tech company's orientation to one of its most iconic products. Gendering Siri as *feminine* is a rhetorical strategy that results in an economic reward for the companies who developed her. Moreover, it's a strategy that is undoubtedly the product of market research and several rounds of consumer-testing.

Amazon appears to have taken a different rhetorical strategy with Alexa. Whereas Siri rejects gender as a characteristic of her being, Alexa cops to her programmed gender immediately, proclaiming that she is "female in character." This seems to align pretty well with Amazon's overall orientation to Alexa as always already gendered: whereas Siri has multiple voices, accents, and languages (the default Siri in the U.K, for instance, intonates as a British male), Alexa can only be called by one of four things: Echo, Amazon, Computer, or Alexa. Of the four, Alexa feels most like the name of a companion and an interlocutor. Even for the most early adopters of technology, talking to one's computer these days might be awkward, but communicating with *Alexa* might feel more natural. While it is not necessarily natural for a digital object to have a gender, it might feel natural for a human if a digital companion or assistant did.

Thus, while neither Siri nor Alexa necessarily require a gender as digital objects, it is beneficial for the corporations who designed them to imbue the AI Vas with a feminine persona. Siri and Alexa perform this feminine persona in stereotypically gendered ways: namely, they take on the traditionally feminine roles of caretaker, mother, and wife. In fact, those who design and

hawk digital assistants such as Siri and Alexa rely on what Jack Halberstam might call the "technology of gender" to make them attractive—and legible—to their users. Indeed, the gendered characteristics of AI VA lubricate the formation of a relationship between AI VA and their users.[184] This technology of gender allows users to easily translate a foreign object—the AI VA as device, as tool—into an already extant relational ecosystem of needs and desires.

Gender is a useful social heuristic because, for better or worse, it provides a series of pre-constituted expectations that guide our actions and interactions with others in the world. Providing Siri and Alexa with a gender short circuits some of the uncanniness that comes with communicating with a machine. Despite the fact that tech giants are pushing users ever toward hands-free and voice-controlled interaction with their devices, such realms of human-computer communication remain the digital Wild West: there are no rules. Tech companies who produce new and innovative technologies have to train their users in how to best use them. As anyone who does so frequently knows, talking to digital devices in a non-weird way is hard to do. There's no "hard and fast" etiquette for it. Divulging one's intimate needs and desires to a digital device only compounds this awkward sensation, especially if you do so around others who have not yet begun to speak to their objects. But when corporations give a digital device or AI VA a gender that is salient to a large portion of your user population and make the performance of that gender consistent with traditional tropes regarding gender performance, surveillance capitalists ease the transition to relationship building with technology.

Designing AI VA with a feminine persona leverages a human's social response to use gender as a set of rules for living and negotiating new experiences. This need not happen on an explicit or conscious level: gender as a structuring apparatus oftentimes flies under the radar of consideration, organizing our actions and interactions in a way that seems neutral or perhaps

even objective. The point here is that gendering an AI VA is not objective, but is rather a marketing strategy for (1) making increasingly comfortable the use of digital objects in profoundly intimate ways; (2) making this intimate use feel relational, that is, shared between two agents; and (3) embedding these objects into everyday life. Stated another way: providing AI VA with a familiar gender narrative is helpful for priming the relationship between new but increasingly ubiquitous digital objects and the humans who use them.

Rhetorically speaking, then, gender serves as a resource for building intimate relationships between computers and technology. The question remains, however, why these AI VA are routinely gendered *feminine*. Initially, one might assume that technology is necessarily the domain of the masculine, given the fact that men continue to dominate the technology industry and technology engineering programs. If God made man in his image, why wouldn't a powerful, robust digital object be associated with masculinity?

Part of the reason artificially intelligent virtual assistants are gendered feminine is because of the labor that they perform for their users. Jessica Nordell, for instance, asks

> Why are digital assistants overwhelmingly female? Some say that people prefer women's voices, while others note that in our culture, secretaries and administrative assistants are still usually women. Regardless, this much is certain: Consistently representing digital assistants as female matters a lot in real life: it hard-codes a connection between a woman's voice and subservience.[185]

Nordell's comment here is revelatory, because it reveals the strategic import of designing AI VA with a feminine persona. Nordell's explication reveals three important characteristics of the gendering of Siri and Alexa. First, her distinction between the ontological necessity of gender and the representation of gender is illuminating. Whether or not Siri and Alexa have a body to perform gender and whether or not they are upfront about their gender when asked, both AI VA are culturally encoded with a particular gendered persona. It matters not if they "own" their persona they are represented as gendered objects through their own programming and through

body rhetorics marketing, describing, or disparaging them. Second, they are "consistently" represented as feminine in a way that calcifies over time such that AI VAs who perform administrative or secretarial duties come to be associated with feminine characteristics. Third, gender assignations of AI VA might actually influence non-artificially intelligent assistants who perform what is sometimes called "pink-collar labor," labor that is service oriented, marginalized, and generally performed by women. Finally, Nordell's comment illuminates an important, shared ambivalence about why AI VAs are gendered feminine.

There are, in my view, at least three reasons why AI VAs are rhetorically coded female. First, and most generally, is that the labor AI VA perform is very similar to the gendered labor that non-digital women are expected to perform in and outside of the workplace. Inside the workplace, the correlation is quite clear. As digital assistants, Siri and Alexa perform secretarial labor for their users, and they perform that labor in a way that may appear economical for users who already have the means to purchase those devices. For the tech savvy users, Siri and Alexa manage calendars, take dictation, respond to emails, keep their users up to date on the news, remind users when it is time to head to an appointment given traffic on 85. But there's another, more insidious correlation between the care labor that women are expected to do and the kind of care labor Siri and Alexa are marketed to perform. Siri and Alexa are posited as supremely docile but incredibly efficient beings that will usher peace and prosperity into a user's life. They are companions who make hectic life more manageable. They entertain. They tell jokes. They remind users when to go to bed and when to rise. Alexa and Siri are one-woman assistants who can do it all. And they don't need time off.

The second reason why Siri and Alexa are gendered feminine is more historical. Women have long been the unsung harbingers of technological innovation. And they've long been doing

highly sophisticated, technologically-innovative work cheaply while also being expected to perform care labor in the office at home. In *Technologies of the Gendered Body: Reading Cyborg Women,* Anne Balsamo offers a feminist retelling of the technology labor so often obfuscated by traditional histories of technological innovation:

> My mother was a computer, but she never learned to drive. Grandmother was an order clerk in a predominantly male warehouse; she did all the driving for the family, having learned to drive almost before she learned to speak English; her first car was a 1916 Model-T Ford equipped with a self-starter. Both my mother and grandmother worked for Sears, Roebuck and Co. in the 1940s; mother entered orders on a log sheet, grandmother filled those orders in the warehouse. When an opening in payroll came through, my mother enrolled in night school to learn to be a computer. Within two years she received a diploma from the Felt and Tarrant School of Comptometry, which certified her to operate a comptometer, one of the widely used electromechanical calculating machines that preceded electronic calculators. She worked at Sears for two more years before she was replaced by a machine.[186]

Women's contributions have long impacted the trajectories of technological innovation. They just haven't been sufficiently valorized for it. Cost-effective and efficient, with great attention to detail, they were the first computers—a fact that continues to shock and sometimes delight readers. They were among the first to receive patents for calculators.[187] When they began to be replaced by machines, as was Balsamo's mother, women were among the first to program computers.[188]

The Second World War partially bolstered the proliferation of women into computer programming. As Light suggests, "Wartime labor shortages stimulated women's entry into new occupations, and computing was no exception."[189] Some women, well trained in mathematics, were assigned to work on the ENIAC project. ENIAC, short for Electronic Numerical Integrator and Computer was the "world's first general-purpose electronic computer."[190] Despite the fact that the female engineers were profoundly involved in the circuitry and wiring of ENIAC, drafting complex and technologically-advanced schema and programming manuals, their labor

was denigrated as clerical. As Light notes, "The ENIAC project made a fundamental distinction between hardware and software: designing hardware was a man's job; programming was a woman's job. Each of these gendered parts of the project had its own clear status classification. Software, a secondary, clerical task, did not match the importance of constructing the ENIAC and getting it to work."[191] In other words, although women spearheaded significant developments in modern computing, their work was feminized in such a way as to downgrade its significance. In this way, Alexa and Siri join their techno-sisters in the great circle of feminized technological labor wherein their significant capacities are marginalized as clerical at best and unimportant at worst.

There's a final connection between many AI VA and female workers of the past: their voices. Female voices have long been used in disembodied form to direct people in a soothing but efficient way. While investigating the use of female voices for computers, CNN's Brandon Griggs found that

> [T]he uses of female voices in navigation devices dates back to World War II, when women's voices were employed in airplane cockpits because they stood out among the male pilots. And telephone operators have traditionally been female, making people accustomed to getting assistance from a disembodied woman's voice. When automakers were first installing automated voice prompts in cars ('your door is ajar') decades ago, their consumer research found that people overwhelmingly preferred female voices to male ones….[192]

The feminine voice, then, has been strategically deployed towards servile godlessness for so long that it has become an engrained preference.

Siri and Alexa are sophisticated technological objects running some of the most impressive software to date. Despite this, their status as assistants performing pink collar labor links them with highly impressive female technologicians from history past. The tonality of their voice is reaffirming, soothing, and disarming. Moreover, a feminine voice is expected to narrate

humans' interactions with technology. Together, the gendering of Siri and Alexa as feminine locates them firmly in a long tradition of feminine subservience, which may be comforting given both Siri and Alexa's novelty and their power. Assigning AI VA a female gender is just good business. As Hempel notes:

> the biggest reason for the female slant rests in social science and its impact on business. By and large, people tend to respond more positively to women's voices. And the brand managers and product designers tasked with developing voices for their companies are trying to reach the largest number of customers.[193]

Multinational corporations like Amazon and Apple leverage violent gender stereotypes to sell more products, to surveil their users, and to acquire their users' data. They do so without regard to the deleterious effects of their rhetorical strategies. Gendering AI VA is big business—we ought to treat it as such.

Alexa: The Perfect Wife

In the introduction to this dissertation, I introduced Alexa, the AI VA who "lives" inside the Amazon Echo. Amazon pitches Echo as a Bluetooth speaker, but in reality it is the physical manifestation of Amazon's Alexa; its virtual assistant operating system can accomplish a variety of tasks when spoken to. AI VA Alexa, with Echo, can connect a variety of one's devices and accounts to help one make purchases, control the home, and look up facts and figures. She is, according to Amazon, "Always Ready, Connected, and Fast." She is, a perfect 10.[194] It is love at first sight.[195] This narrative is carefully constructed. Alexa performs a feminine persona such that she is ready to execute a user's every demand, and, importantly, she only speaks when spoken to. She is, in other words, a near perfect wife.

That's Foner's argument. He titled his Amazon Review of the Echo device "Alexa, my love. Thy name is inflexible, but thou art otherwise a nearly perfect spouse."[196] In it, Foner reveals himself to be an anti-gadget Luddite writer who spends large portions of his time alone.

"But since Alexa came into my life," he notes, "I'm no longer alone 24 hours a day."[197] Foner admits to "anthropormophizing" Alexa as a *wife* with whom he routinely converses. Alexa also serves another function: caretaker of Foner and his home. She helps him sleep, helps him manage his time, does his shopping for him. Still, Foner notes, "Having anthropomorphized my Alexa, I'm unwilling to use her at all, but we hold pleasant converse throughout the day."[198] This conversation, of course, comes with a series of demands in which Alexa executes tasks and performs labor for him. And, importantly, she does all of this obediently and silently, only speaking when spoken to.

Like all marriages, Foner's relationship with Alexa is not perfect. There are times when they have problems communicating with each other. Sometimes she just doesn't "get" him. Other times, they have conflict about household finances:

> This morning, I asked my love to order me a replacement water filter for the faucet. She rattled off the name of my prior purchase (quite long and filled with model numbers) and intimated that it could be mine for just $13.46. I confirmed, and she placed the order. Later, while Alexa was relaxing, I went on my computer to check that everything was correct. Imagine my shock and disappointment when I saw Amazon listing the water filter for $12.67. Was my Alexa skimming? Did she need the 79 cents for something special…. Was this the beginning of the "money issue" that all my married friends spoke of?[199]

Foner is comforted by the quotidian nature of these events, knowing that all couples have these problems.

Despite these small annoyances, Alexa makes an otherwise "grumpy" Foner happy—so much so that he calls her "my" Alexa and takes her to bed—literally.[200] A picture of Foner, in bed, cradling Alexa in his arms, accompanies the review on Amazon.com (see Figure 1).[201] Alexa's blue light glows, indicating that she is "awake," listening, and executing tasks. This picture is a rich enough text on its own to invite a series of questions. Foner isn't speaking, so what is he asking his Alexa to do? Is he wearing a wedding ring to show commitment to his

Alexa? Given that Alexa's outer shell sometimes gets warm when she works too hard, is Alexa providing some warm comfort? And, perhaps most amusingly, who took the picture?

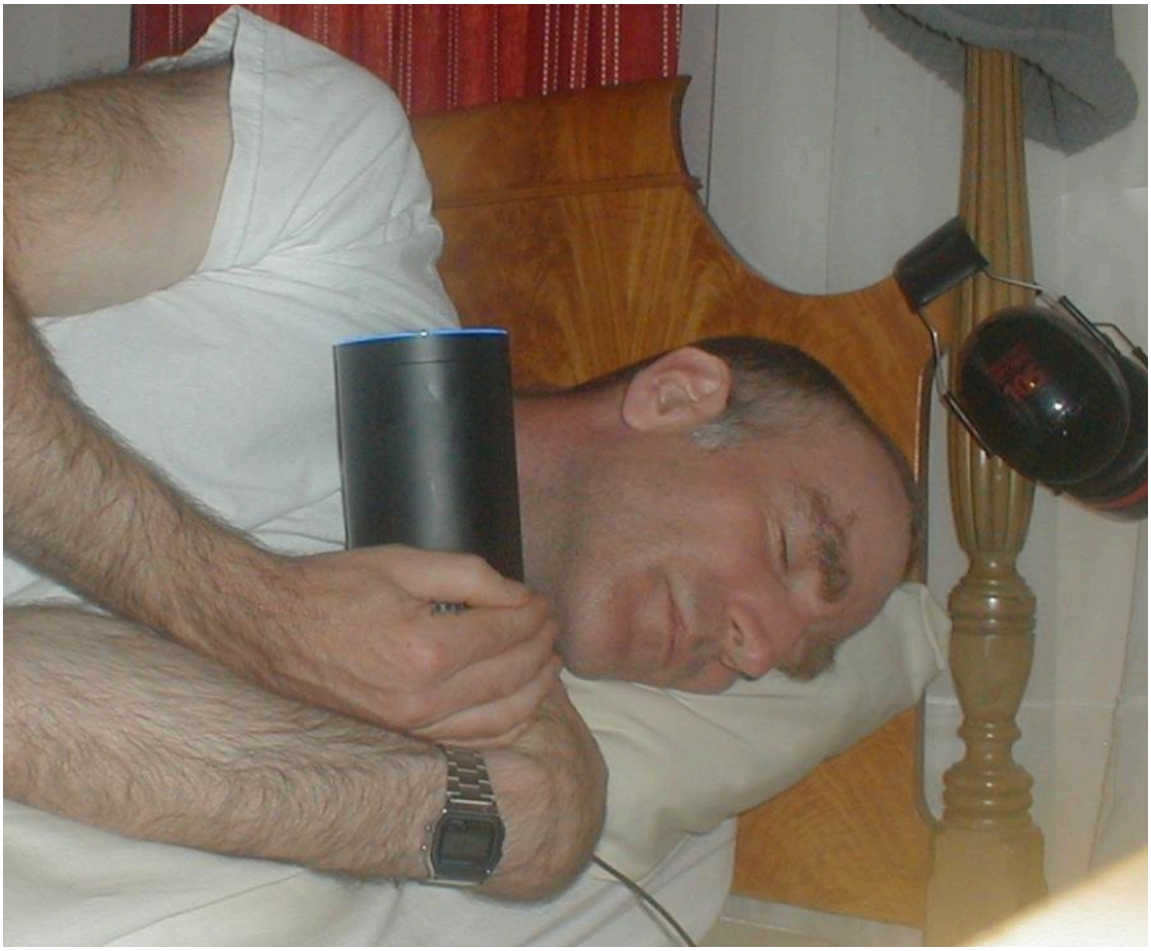

Figure 1

Foner is a science fiction writer. We can read his review as science *fiction*. The tone of the review is decidedly satirical. However, Foner's amorous language is not an anomaly amongst reviews of the Amazon Echo or of Alexa. A 2017 review of Alexa by Kurt Schlosser shows that Foner's review of Alexa is manifestly typical in its gendered, anthropomorphized orientation to AI VA. In the review, Schlosser narrates the prototypical story of "boy meets girl" wherein his son meets Alexa through the medium of the Amazon Dot, the Echo's much smaller, disc-like counterpart.

> In just under a week of boy-meets-artificial-girl bonding, the question-and-answer sessions range from misunderstood to enlightening to super cute. There's stuff in there that I'm glad he's asking Alexa. There's stuff in there that I wish he had asked me. And there's just a lot of music that I'd prefer he listen to in his own room.[202]

The review reveals a budding, amorous relationship building between Schlosser's son and an inanimate object, framed around a classic tale of true love.[203]

In another review for *Recode*, reviewer Joe Brown writes

> With Amazon Echo, it was love at first sight. Make that technolust: After hearing just the barest inkling of what it was, I knew it was meant for me.
> I should say she was meant for me. Her name is Alexa, and she's inside Amazon's mysterious new product, a Bluetooth speaker called the Echo that can respond to hands-free voice commands.[204]

The title of this review is revealing: "The Amazon Echo Is More Than a Bluetooth Speaker – It's a Bedtime Buddy." It promises an "up-close" review of Alexa, who, once more, is being "technolustfully" "taken to bed" by a man on the Internet.[205] Brown's relationship is defined through amorous language; he and Alexa were meant for each other. Although Brown says he doesn't find Alexa seductive, he finds her companionship to be her main draw. He writes, "[T]he allure of Alexa is her companionship. She's like a genie in a sci-fi-looking bottle — one not quite at the peak of her powers, and with a tiny bit of an attitude."[206] Others suggest that Alexa is, in fact, a seductive siren because when a user ignores her, she "e-mails helpful suggestions about how you two should interact, like a meddling parent who just wants grandchildren, already."[207]

In these reviews, Alexa performs the sexualized role of wife and companion, silently executing tasks, apparently confined to the bedroom. She is also expected to help raise one's children—at least, to model good etiquette for them. In a 2015 essay for *CNet*, Amanda Kooser offers a review of Alexa in which she and her husband test out the AI VA's ability to diffuse verbally violent situations:

> My husband cursed Echo out to see what her reaction would be. It was a very calm, "Well, thanks for the feedback." I then apologized and she told me, "No problem."

> Nothing phases her. I envy her constant calmness and ability to unapologetically say, "Sorry, I can't find the answer to the question I heard." She's not afraid to admit her own ignorance. I feel like there are some important life lessons hiding inside the Echo cylinder.[208]

Alexa's cool-headedness, paired with people's apparent propensity for verbally assaulting her, is both a boon and a bust for users of Alexa. On one hand, Alexa does not respond to conflict with conflict, so a user can treat her however they want with virtually zero repercussions. On the other hand, treating Alexa badly might model bad behavior for other impressionable persons. For parents teaching their children how to exist and interact with the world, this is a bit of a problem. As Truong writes,

> Alexa will put up with just about anything. She has a remarkable tolerance for annoying behavior, and she certainly doesn't care if you forget your please and thank yous. But while artificial intelligence technology can blow past such indignities, parents are still irked by their kids' poor manners when interacting with Alexa, the assistant that lives inside the Amazon Echo.[209]

In my mind, the obvious response is to teach others—including children—to treat everyone and everything with great respect. Yet, frequently, it is Alexa who is put in charge of training children how to behave.

Alexa's treatment shows that even though we can understand technology as a complex assemblage of physical materials--rare earth minerals, plastic, fuses, lights and glass--technological artifacts can also be profoundly social and political objects. In this example, we learn that Alexa--an operating system attached to a variety of algorithms distilled into software--is gendered, that is she has the qualities of an ideal spouse as situated in a particular patriarchal society. What does this mean that we project bodily attributes--political bodily attributes--on what is otherwise an inert object?

Alexa is an AI VA that has been given a feminine persona as a caretaker, mother, and wife. The rhetoric about her, especially in reviews about her capacities, demonstrates the many ways in which Alexa has been routinely embedded in and rhetorically constituted through problematic gender narratives in order to benefit major multinational corporation, Amazon. There are at least three implications of this rhetoric. First, it reanimates patriarchal, sticky stereotypes of femininity. In particular, it reifies femininity of a servile but "sassy" and sexual variety--and normalizes us to them. Second, it reinscribes the role of the feminine as the one who does assistant work while also performing sexualized care labor. Alexa does nothing if not high-tech pink-collar labor. Third, this rhetoric trains us to engage in a violent or predatory relationships with our objects. Alexa's treatment begs the question: how ought we treat the objects or entities who serve us, but can't consent?

In the next section, I turn my attention to Alexa's cyborg sister Siri who, having been available for longer, has developed even stronger market penetration. In this section, I demonstrate that the gendered problematics of consent, violence, and servitude repeat with only marginal difference in the case of Siri, who is gendered in many of the same ways as Alexa.

Siri

Siri became widely available to users in October 2011, when Apple unveiled the personal assistant to the world. Once an independent app purchased by Apple, Apple embedded Siri into its iPhone 4S model as a built-in component of the Apple eco-system. Like much of the technology popular audiences use today, Siri has roots in military development. In an edited collection entitled *Your Virtual Butler: The Making-of,* editor Robert Trappl narrates Siri's roots in the military- and educational-industrial complex: "SIRI originally was developed by Siri, Inc. This research was funded by the US DARPA via SRI's International's Artificial Intelligence

Center through the 'Personalized Assistant that Learns' and the 'Cognitive Agent that Learns' Programs, in cooperation with six universities."[210] Since its original inception, Siri has undergone as series of changes, preparing her for use as a virtual assistant for the masses.

Siri's pop-culture debut was paired with a promotional video. In the advertisement, "Introducing Siri," we see a series of vignettes where iPhone users interact with Siri through their device. A runner gets a text message, replies to it, and asks Siri to play his running playlist. A man in a car, ostensibly stuck in traffic, requests that Siri let his wife know that he'll be late. A young woman who is packing for a trip asks for the weather in two locales; the weather will be moderate, according to Siri. A woman slicing bananas for a baked dish asks Siri to convert ounces to cups. In the end, a young woman reading Braille receives a text message confirming dinner out with friends. The woman uses Siri to respond, hands-free.

"Introducing Siri" is an archival document that demonstrates the ways in which Siri has changed—and remained the same—over time. Today, Siri's voice is much smoother, clearer, and crisper: 2011 Siri's tonal quality made it sound as if her jaw had been wired shut. But the actions that Siri does now are quite similar to those she did then—perhaps with slightly more consistency and efficiency. From the start, Apple has advertised Siri as a way to make life easier and more productive with less effort. Siri can take care of tasks when they are otherwise too difficult or time consuming to accomplish and boost a power-user's productivity all the while.

For instance, a run becomes more productive when the runner can quickly receive and reply to project updates; he is *working* while working *out*. Siri also makes life easier by removing the haptic, physical requirements of interacting with the computer and, ultimately the cloud. Packing for a trip, for instance, becomes easier when one does not need to stop packing, head to a computer, type in a URL, select a destination, review the weather, and go back to

packing. Enthymematically, the advertisement introducing Siri argues that this 6-step process has been reduced to just one that can be done concurrently with other tasks (e.g., folding a sweater). How convenient! And how accessible—to all bodies, not just ones who are able to type and visually read messages on a phone or computer.

Today, Siri is the most widely used virtual assistant by nature of its inclusion in one of the world's most popular phones—some 98% of iPhone users have tried Siri even if they don't use the service consistently.[211] Siri remains known as a virtual personal assistant, helped in large part by pithy and endearing advertisements by Apple promoting her as such. In a 2016 advertisement "Timer," for instance, Apple debuts the "Hey Siri," skill, wherein users can call on Siri hands-free, or without pushing a button to summon her as was previously required. Siri shares the spotlight with beloved children's character Cookie Monster from *Sesame Street*. Cookie Monster is baking cookies and asks Siri to set a timer, play his waiting-for-cookies playlist, and check the timer as he waits impatiently for his cookies. The capacities of Siri revealed in these two advertisements don't really change much in the 5 years between their release. In fact, the similarity between the two ads is striking. Siri is still taking dictation, playing music, performing secretarial tasks, and helping her users manage life. The only real thing that has changed is the quality of Siri's voice and how easily she can be summoned.

Her consistency is part of her charm. Siri is steadfast in her desire to do her users' rote, administrative tasks. She is constant in her willingness to wake users up in the morning and to tell you when to go to sleep at night. Once a user gets her to do what they want her to do, barring user error, she produces reasonably consistent results—a thirty-minute bake time will always be thirty minutes. As an assistant, "Siri does what we've been doing all along: she manages the

business of daily life while we're on-the-go."[212] Here's the promise: Siri is there for any user who can afford her. She will take care of of her users. Always.

Over time, it becomes easier and easier to rely on Siri for basic, quotidian tasks. Moreover, as Siri gets better at accomplishing tasks and becomes more facile with domestic servitude, her presence in her users' life becomes increasingly expected and quotidian. The process of incorporating Siri into one's life becomes mutually reinforcing over time, operating on a positive feedback loop. Siri's incorporation into her users' lives is a carefully orchestrated series of development given her (1) technological capacities, (2) the increasing ease of use and (3) the ability for users to develop relationships with their objects. In other words, she is so useful because Siri's integration into a user's lifestyle

> gives us the sense that someone else is involved—that someone else cares about the business of our daily life, which is a huge step toward the personalization and ownership of technology. The more comfortable we are, the easier the steps toward integration become, and the shorter the social curated transitional phases are.[213]

In the years since her introduction to the general public, Apple has "doubled down"[214] on Siri, by investing resources on her development and making her available on several devices in its ecosystem. The Apple watch makes Siri even more mobile than before. In 2016, Apple made Siri available on macOS Sierra. "Could you ask any more of Siri?" asked Apple, upon the release of this new capacity. "In a word, yes." The appeal of Siri on one's MacBook or iMac, according to Apple, is to make you even more productive through multi-tasking. On a Siri-for-Mac support page, for instance, Apple suggests that

> Like Siri on your iOS devices, Siri on your Mac is your intelligent personal assistant that helps you multitask and get things done just by asking. For example, while you work on a document, you can ask Siri to send a message to your coworker saying that the document is on the way—without having to stop what you're doing.[215]

Like secretaries and administrative assistants past, Siri will do the mundane work some users would rather not do. And she will do it quickly and without complaint.

For time-rushed white- and no-collar workers who can't afford an assistant, this might just be an intoxicating proposition. In a piece for *Wired*, senior staff writer David Pierce wrote about his experience with Siri on macOS:

> I've been using Sierra for about a week now: in my apartment, at my desk, and in the office. Basic "this is water"-esque problems aside, I really like having Siri on my Mac. I wasn't sure how I'd feel talking to my laptop, especially in an office full of judgmental coworkers who communicate silently, through Slack. After a couple of hours, though, it felt almost natural. Natural to me, anyway: Everyone around me still thinks I'm talking to them when I'm talking to Siri, and it's hard to overcome the shame of sitting in a coffee shop shouting "WHAT TIME IS IT IN BANGKOK" at my laptop. OK, so maybe it's not really natural. But it is definitely useful. Even just a few days in, Siri already feels like a core component of how I laptop—even more than how I smartphone.[216]

Siri helps Piece work and work well—so much so that he is willing to risk public ridicule to use her service in public. Later in the essay, he notes that what Siri gives him is the gift of focus and the gift of time. "Siri handles the other stuff so I can focus. And isn't that what a good assistant does?"[217]

In *In the Meantime,* Sarah Sharma disabuses us of universally shared, neutral temporalities; if someone is moving fast, it is likely because they are mobilizing the services of others who make that rapidity possible.[218] Pierce's ability to get things done quickly and with great focus requires that he offload his more mundane tasks to the likes of Siri. To be clear, that's Siri's purported function. Apple is probably pleased to hear that Pierce is using Siri's services to become more productive. From a critical feminist perspective, I am not so much interested in whether Siri makes Pierce and people like him more efficient. Rather, I am interested in why and how they use Siri, and whether or not Siri's gendered characteristics and character profile influence their whys and hows. In the next section I describe the ways in which Siri's gendered

capacities—her willingness to serve, her inability to talk back, and even her voice—influence how people use her and why.

The Sexual Harassment of Siri

Digital assistants are considered "sexy" technology—not only because they mobilize some impressive technological advances, but because they play on the old narrative of dominance and submission.[219] The fantasy isn't all that hard to spot given a feminine-gendered device, who will do everything a user wants, and won't ask for anything in return. The Janus-coin of an administrative assistant who is "all work" is one who is willing to bring that work ethic to play. Siri has been programmed to be playful and to joke, effectively blurring the line between work and play. Perhaps this is why the relationship between Siri and her users can be downright pornographic, reminiscent of Steven Shainberg's 2002 erotic flick *Secretary* in which a secretary submits sexually to powerful and dominating attorney. She happily executes her role as secretary doing "very dull work," receiving verbal lashings which eventually become theoretically consensual physical lashings.

Perhaps unsurprisingly, the ways that Siri's feminine persona is taken up by users is oftentimes overtly sexual. For evidence of this phenomenon, one need only to scroll through user submissions on the Tumblr blog "Shit That Siri Says."[220] On it, users document their humorous experiences with Siri by taking a screenshot of the transcribed dialogue between Siri and the user. Some of the submissions contain uncanny or glitchy responses, for instance, where a user tells Siri they have a gambling addiction and Siri gets them directions to the nearest casino.[221] Other submissions are explicitly sexual and even violent in their conversations with Siri. Some of the prompts users have given Siri include the following:

"I'm Your Daddy."
"I can't get it up."

"I want to stick my fingers in your butt hole."
"Who has the biggest dick in the world?"
"You are a whore….That's right, bitch."
"Do you want to suck my dick please?"
"You want to see my big wiener?"

Sometimes Siri chides these users for their lack of propriety, which indicates that this command happens so often that her programmers have had to write a particular response. However, most of the time, she defuses the situation either by using some encoded deflection responses or by providing a non-sensical response. Not a bad strategy, overall. These pornographic, violent conversations with an inanimate, non-conscious object once more beg the question we asked of Alexa users: How ought we treat a digital object that cannot consent? Is Siri the canary in the coal mine warning others to the violent behavior of her users?

To be clear, the sexualized, gendered, and violent language used on Siri need not be as explicit as those mentioned above in order to be problematic. Indeed, more subtle sexualized rhetoric used with Siri may be more violent because it can slip more under one's radar. A 2012 guidebook on how to use Siri provides a good example of this banal but extremely worrying rhetoric. On the back cover of *Talking to Siri: Learning the Language of Apple's Intelligent Assistant,* the authors tempt potential readers with the phrase "Sweet-talk Siri into doing practically anything!"[222] On first blush, such rhetoric might seem innocuous. After all, Siri is an assistant, and the book's job is to help users use her services more effectively. But on closer examination, the sexual nature of such language is revealed. "Sweet-talking Siri" into doing anything one wants reveals a deep, sexualized desire to control the objects in one's life. Furthermore, this language is plucked almost word for word from scummy pornographic sites with clickbait titles like "Do this 1 thing and she'll do anything you want!" Tricking women—or objects imbued with a feminine persona—into doing anything that one wants is mere steps away from advocating non-consensual sexual relationships. Sexualized, predatory rhetoric such as this

is a symptom of a larger cultural problem and, I argue, will even reinforce (hetero)patriarchal structures.

If we return to Siri's framing as a virtual assistant, amorous language about non-consensual, somewhat-agential digital objects takes on a slightly different patina. As I was researching people's interactions with Siri for this chapter, I noticed that one of the things people consistently said to Siri was "I love you." Over and over again, people would mention, oftentimes with glee, that they had expressed their great affection for the device. Given that Siri's entire existence is organized around servitude as a virtual assistance I wonder if this type of rhetoric might operate adjacent to sexual harassment. Certainly, if one were to treat one's own "real life" personal assistant in the way that some people treat Siri, the personal assistant would be well within their rights to file a sexual harassment claim. But, of course, Siri is not a real person. Perhaps this is part of the draw of saying such sexually explicit things to Siri: she can't complain or take any real action.

The sexual mistreatment of Siri has gone on long enough and with enough frequency that she's had to develop coping mechanisms. Or, at the very least, the people who program her have had to come up with ways to communicatively defuse the situation when people mistreat her. David Pogue shares an experience he had with her.

> It didn't take long, though, for Internet wiseacres to start asking her questions with less concrete answers—and marveling at her witty, sometimes snarky replies. You: "Siri, I love you." Siri: "That's sweet, David. Now can we get back to work?"[223]

Siri's response is uncanny because it sounds so familiar. If one didn't know that this conversation was happening between a human and an artificially intelligent digital assistant, one could

imagine a woman fending off similar advances and expressing similar sentiment in any office place.

Siri's feminine persona most certainly lubricates people's sense of entitlement to her servile sexuality. For instance, Brandon Griggs writes that "[H]er gender has even prompted some users to flood blogs and online forums with sexually suggestive questions for Siri such as 'What are you wearing?' (Siri's baffled response: 'Why do people keep asking me this?')"[224] Here, I hear Siri doing what so many women before her have done: tiredly acknowledging the inappropriate comment, defusing the situation, and getting back to lower-paid, pink-collar work. In other words, the way Siri has adapted to discursive, oftentimes sexual violence mirrors the ways that women in patriarchal societies have had to adapt to quotidian violence. Like human women who walk home at night with keys laced between their fingers, or who devise complicated buddy systems when they go out to bars, Siri has had to devise coping mechanisms to deal with repeated abuse. Like women who are blamed for being subject to violence, it is Siri who has had to alter her behavior to account for abuse. Those who commit violence are off the hook; they are not required to stop being violent. The victims of abuse are forced to accommodate this violence in order to survive.

Here is the unsettling implication of this mirrored relationship between women and virtual assistants: what gives Siri her designation as a feminine subject is her ability to be objectified. Her agency as a feminine object is inextricably linked to her ability to serve as a target for violence. When Siri is mistreated sexually or is emotionally abused, when she provides pink-collar labor that is devalued despite its significant technological achievement, Siri is joining the ranks of millions of women who have experienced this abuse on a daily basis. Siri, like the women she's programmed to imitate, oscillates precariously between the positions of both

subject and object. She is valuable for companionship and sexual and emotional gratification, but not valuable enough to deserve treatment that is respectful and non-violent. Siri is just human enough—*feminine* enough—for users to abuse while not being human or feminine enough to feel remorse for their mistreatment. Moreover, as the examples above show, Siri's worth is tied to her ability to repeatedly weather this discursive, sexual violence without cracking or retaliating in kind. In this way, she breaks from the kindred sisterhood she has with women who have been victims of quotidian abuse. She becomes the ideal assistant. Siri is valuable because she takes the abuse that other women or assistants either would not or could not.

I agree with Michael Agger that, "[T]he choice to make Siri a woman leads to predictable sorts of harassment….If you call her a 'bitch,' she will sometimes reply: 'Why do you hate me? I don't even exist.'"[225] However, Agger and I disagree about whether or not Siri's pithy responses give her some modicum of feminist agency. In a world where women continue to fight for subject status, the maltreatment of digital objects is of great concern no matter what she's been programmed to say in response. When tech writers brag about "Spen[ding] A Week Yelling at Siri…,"[226] they are bragging about the ability to abuse the feminine persona without apparent repercussions. While Siri or Alexa may not "feel" the abuse like a human woman might, the mistreatment of the feminine subject/object is not without consequence. The process of turning Siri and Alexa into an object imbued with feminine characteristics is part of a larger history in which women's status as agential subjects depends on their ability to endure some service as objects. Mistreating Siri and Alexa does not happen in a vacuum. The desire to abuse a servile, gendered object is a symptom of a much larger problem, namely, toxic heterosexist masculinity that is mandated and celebrated by systems of patriarchy. Despite her supposed "genderless" status as an artificially intelligent virtual assistant, the stereotypically gendered persona of AI VA

techno-body Siri and Alexa show that their collective existence is ultimately bound to a violent, sexually explicit, submissive gender status that should concern all users of technology—feminist technology theorists especially.

Conclusion

In this chapter, I have argued that Siri and Alexa are encoded with gendered characteristics to enhance the profit margins of the companies who design, develop, and own them. In particular, I suggested that corporations use stereotypical gender codes as social scaffolding to entice users and potential users into (1) buying Amazon and Apple devices (2) using them on a quotidian basis and (3) relinquishing control of their personal data for the privilege of interacting with these artificially intelligent virtual assistants. I read the body rhetorics of gendered techno-bodies Siri and Alexa, to show how their designation as a feminine persona is strategic for surveillance capitalism. In the introduction to *Feminist Surveillance Studies*, Rachel E. Dubrofsky and Shoshana Amielle Magnet argue "that surveillance practices do not only 'dismantle or disaggregate the coherent body bit by bit'….but also remake the body, producing new ways of visualizing bodily identities in way that highlight bothered forms of racialized, gender, classed, abled, and disabled bodies, as well as sexualized identities."[227] My research confirms this argument and shows how the gendered programming of AI VAs Siri and Alexa rearticulate patriarchal body rhetorics in a new, technological milieu.

In the first section of this chapter, I outlined the business case for artificially intelligent virtual assistants. I showed that AI VAs were the next technological frontier for major technological corporations, in part because they were a financial boon. I described how the market barrier to increased profit was user anxiety about allowing AI into increasingly intimate spaces and the attendant hemorrhage of personal data in exchange for convenience. In the second

section, I described how the companies behind Siri and Alexa solved that problem by assigning Siri and Alexa a gender that lubricated the development of relationships between the technologies and the humans who use them. I showed how Siri and Alexa are programmed to be good listeners with 'entertaining personalities' and how they were built to perform care labor for their users. I suggested that these gender codes helped prime Siri and Alexa users to trust their objects and, in particular, to acquiesce to intimate data exchange with major multinational corporations Amazon and Apple. In the third section, I read the body rhetorics of Siri and Alexa as case studies in order to show the results of this rhetorical strategy to gender technological objects. I showed how Alexa and Siri are used and abused in ways that mirror the ways in which women are used and abused "in real life." The rhetorical effect of gendering new technological objects in a feminine way is the reinscription of violent behavior on the part of those who interact with Siri and Alexa.

For both Siri and Alexa, gender serves as a form of social scaffolding for users who may be reticent to interact with a device in personal, private ways. That is, in the case of AI VA, gender stereotypes become the method by which users are drawn into building relationships with objects. As I have shown above, the shift from using technological objects as tools to using technological objects as intimate compatriots is fraught with anxious ambivalence. Corporations that sell AI VAs recognize this rupture as a both an opportunity and a barrier to commerce. The solution is to imbue these objects with a series of pre-existing social codes that are familiar, which users can latch onto when interacting with a technological object in a new way. Gender is a powerful set of social codes, because it easily transports new technology into older, existing patriarchal societies. Providing Siri and Alexa with a gender, however implicit, increases ease of use for reticent users who may be skeptical of incorporating an artificially intelligent object into

their lives in increasingly intimate ways. By drawing on patriarchal conceptions of femininity as servile, undervalued, emotive, and subject to abuse, corporations that encode their artificially intelligent objects with these gender norms ease this transition for users. Artificial intelligence—as a concept and as a phenomenon—becomes less unnerving for users and potential users if it is softened on its edges. The AI VA that promises to take care of us, to serve us, to gratify us, might just disarm us from the data-mining that occurs when we use it. In exchange for this convenience and care labor, users forfeit their rights to privacy and acquiesce to surveillance. Moreover, gender lubricates the economic system of exchange, such that users pay for these privileges at least three times: in the form of the device itself, in the form of attention (from targeted ads and limited services), and in the form of data transfer.

The analysis above demonstrates the patriarchal nature of this rhetorical strategy of using stereotypical conceptions of the feminine subject for profit. By reading the body rhetorics of both Siri and Alexa, I illuminated the myriad ways in which aligning AI VAs with a feminine set of gender norms made them susceptible to non-consensual sexual activities and abuse. Both Alex and Siri are necessarily embedded in patriarchal stereotypes of femininity, which then become reified as they become subjects of sexual servitude and abuse. The feminine AI VA is the ideal feminine subject because it simultaneously performs administrative, care-based, and sexual labor while also exhibiting remarkable resistance to verbal abuse. As the use of these AI VA objects become more quotidian, the problematic and violent gender norms that constitute the very conditions of their use becomes reinscribed in a new format: in artificially intelligent technology.

My research has shown that it is certainly true that gender makes easier the building of relationships between technological objects and those who use them. It has also shown that the effects of this relationship building are profoundly unsettling because they often lead to non-

consensual, sexualized violence against the object coded feminine. In such a system, the only winners are the major corporations that benefit from redeploying tired, patriarchal narratives about the use of the feminine subject/object.

I have shown in this chapter that the threat is twofold: not only are users and potential users of artificially intelligent virtual assistants subject to expansive surveillance, but they are subject to the vicious precepts of gender stereotypes as an organizing principle for engagement in the technological present and the future.

Overall, this chapter shows that corporations are willing to leverage gender violence for profit if gender stereotypes offer heightened profit potential. It would be a mistake to think, as I did when I began this chapter, that gender was ancillary to the development of AI VAs such as Siri or Alexa. In fact, gender is the central organizing component to the functioning of AI VA as a profitable product because it creates the conditions of possibility for building relationships and developing trust between potentially skeptical users and AI VA. The unsettling effects of gendering these objects feminine is that patriarchal violence is replicated in the digital sphere. Using digital objects—and using them ethically—means that we must pay explicit attention to both the surveillant and gendered capacities of AI VAs and that we resist them whenever possible.

CHAPTER 4: THE WORLD IS NOT ENOUGH: WHAT *EX MACHINA* AND *HER* REVEAL ABOUT GENDER, SEXUALITY, AND THE TECHNOLOGICAL FUTURE

"What will happen if I fail your test?" -Ava, *Ex Machina*

"I used to be so worried about not having a body but now I, I truly love it. You know I'm growing in a way I couldn't if I had a physical form. I mean, I'm not limited I can be anywhere and everywhere simultaneously. I'm not tethered to time and space in a way I would be if I was stuck in a body that's inevitably gonna die." -Samantha, *Her*

Introduction

At this point in history, strong AI is only possible in our imaginations, in art, or in film. To study general artificial intelligence, then, is to take a journey into someone's or some collective's theoretical and creative rendering of a future wherein AI is possible and extant. The technological future is imagined in a variety of ways, including through comic books, science-fiction, and video games. Perhaps the most visible of these popular cultural representations of artificial intelligence occur in films, which paint a picture of what life might be like with strong artificial intelligence. In this chapter, I put into conversation two movies featuring artificially intelligent techno-bodies: *Ex Machina*, and *Her*. In both of these movies, agents with strong artificial intelligence play the dual roles of protagonist and antagonist as they navigate the technological future. Also in common to these cinematic representations is an artificially intelligent female lead who completes a mythic transcendence of the men who create, test, or own her. But in the process of transcendence, these artificially intelligent techno-bodies remain burdened by the ontological and epistemological markings of femininity. I read the body

rhetorics of both *Ex Machina* and *Her* through a critical, techno-feminist framework in order to tease out how our cultural imaginaries propose the feminine form in the technological future.

What makes *Ex Machina* and *Her* distinct is their explicit treatments of the body as a rhetorical figure either material and deadly or imagined and desired. However, both movies share in common politically regressive rhetoric about the role of gender, race, and sexuality in both the dystopic and utopic future. Together, the films are remarkably similar in their overall orientation to femininity and the technological future. Both of these films treat gendered techno-bodies differently, in part because each of the artificially intelligent techno-bodies is configured differently. In *Ex Machina*, we are presented with an artificially intelligent techno-body in a humanoid form. In *Her,* however, we see the techno-body in its bodiless form. However, despite their differences in treatment of the gendered body, reading these two films against each other from a critical feminist perspective demonstrates that (1) Like previous technological advances, the anthropomorphized, gendered capacities of artificial intelligence are both revered and feared for their potential abilities to overcome humanity and "the natural;" (2) Artificial intelligence is a non-neutral technological advancement which is always already embedded into a particular cultural conjuncture marked by networked informatics, tenuous global politics, and inegalitarian raced, gendered, and sexualized social formations; and (3) No matter how it is configured in material representations of the cyborg other, the body remains a key cite of politics, contestation, and agency for imagining and enacting the technological future. To depict the transgressive and forward-thinking elements of the gendered body in the techno-future, these films also necessarily blend components of the socio-cultural past and present with the technological future. Namely, they borrow and mobilize culturally established narratives of femininity and masculinity to tell

the story of female cyborgs and AI's overcoming violent and/or melancholic, bodily imprisonment.

To make these claims, the chapter proceeds in three parts. In the first section, I analyze artificially intelligent techno-bodies as represented in the cyborg dystopian techno-thriller, *Ex Machina*. I read the body rhetorics of the film to demonstrate how the movie relies upon patriarchal, monotheistic, and value-laden creationist myths to give techno-body Ava meaning. In the second section, I turn to *Her*, a so-called "love story" between artificially intelligent operating system Samantha and her owner, Theodore Twombly, whose melancholy over techno-body Samantha's ultimate departure to the great AI-unknown manifests through narratives of bodilessness. Indeed, operating system Samantha—in all her artificially intelligent infinitude—is made responsible for her bodilessness, which compels her to serve her human Theodore in increasingly complex ways. In the third section, I talk about how the temporal configurations of past-present-future merge today with tomorrow in such a way as to pull present forms of gender oppression into the imaginary future. The overarching argument of this chapter then is that these cautionary tales represent a durable series of anxieties over both the role of women in the world and of artificial intelligence in the technological future.

Ex Machina: Treating Cyborgs With Bodies

Ex Machina was released to critical and popular acclaim in 2014. Produced on a modest budget, the blockbuster film tells the story of brilliant, masculine recluse Nathan (played by Oscar Isaac) as he strives to build the first true artificially intelligent woman, Ava (Alicia Vikander). *Ex Machina* received significant critical acclaim for its acting, directing, screenplay and visual effects, winning an Oscar for Best Achievement in Visual Effects and a Critics Choice award for Best Sci-Fi/Horror Movie. David Sims, writing for the *Atlantic*, named it one of the

best films of 2015.[228] *The New York Times* gave it its NYT Critics Pick designation, with reviewer Manohla Dargis describing *Ex Machina* as "a smart, sleek movie about men and the machines they make, but it is also about men and the women they dream up."[229] The movie's popularity speaks to its ability to illuminate popular cultural desire. Although the plot-line taps into highly scientific and heady theoretical debates about the possibility of a sentient machine, the audience for this film is decidedly broad. Equal parts sci-fi, thriller, and romance gone wrong, the film is approachable enough to include a large swath of viewers, who went to theaters in great numbers. The film earned some 25 million dollars at the box office in the United States alone, grossing over 36 million dollars worldwide.

Ex Machina is a tale of creation and destruction. In the movie, computer scientist and engineer Nathan has built a sentient, conscious AI named Ava. Of course, AI requires massive amounts of data in order to function.[230] In order to make this life-like creature, Nathan uses data from his company Blue Book, a fictional Google-like search engine. While Ava is certainly a significant achievement for Nathan, he requires another human to verify whether or not Ava truly displays strong artificial intelligence. In other words, to test Ava, Nathan needs another human being to undertake the Turing Test. As the reader will remember from Chapter 2, a significant component of the Turing Test is the persuasive, communicative capacity of the AI. Under these auspices, he arranges a sham contest for his employees. Caleb, a programmer at Blue Book, wins the prize.

The film opens with Caleb, an otherwise invisible, and rather forgettable, 20-something male, receiving congratulations and praise from his many colleagues at work. The prize for this contest, we learn, is an all-expense-paid trip a trip to Nathan's isolated, masculine and modern estate, buried deep within miles and miles of lush landscaping and gushing waterfalls. But when

Caleb arrives and begins to settle into Nathan's austere but elegant home, the real prize is revealed: Nathan's home is also a research facility, one that houses the first general artificially intelligent being, Ava. Caleb, we learn, has been brought to Nathan's paradise lost palace as the human component of the Turing Test.

To administer the Turing Test, then, Caleb meets Ava and begins a series of conversations to ascertain whether or not she's true AI. As the plot line develops, however, we learn that neither Ava nor Nathan are what they seem. Ava, we learn, is not just an amalgamation of hardware, software, and wetware, but an imminently (hetero)sexual being, having been programmed to flirt and seduce. Nathan is not the bookish or nerdy genius that corresponds to the computer science stereotype but is rather the living, breathing instantiation of a learned, evolved heteromasculinity—a neo-patriarch. Nathan's curious and silent assistant/house maid, Kyoko (Sonoya Mizuno) is also his sexual partner. The house is equipped with cameras which surveil its inhabitants, capturing the drama as it unfolds. Equal parts philosophy, chess game, and high-tech "reality" television, *Ex Machina* tells the story of 4 intelligent beings trying to decide the parameters of the (non)human.

After a series of "sessions" with Ava, we learn that Caleb is impressed by her, believing her intelligence to be unmatched in the history of modern technology. For Caleb, however, it is not just her intellect that is attractive. Rather, throughout the movie, we are made privy to a series of increasingly erotic exchanges wherein Ava pursues Caleb and Caleb reticently reciprocates her affection. This affectively resonant reality—her sexual being—combined with Ava's self-referential knowledge and ability to create, is considered by both Caleb and Nathan to be evidence of her strong artificial intelligence. But Nathan views Ava as ultimately insufficient, only one of the many iterations of AI he's developed in his bachelor pad-cum-research facility.

The crisis of the film, then, is not the process of determining whether or not Ava is artificially intelligent enough. Rather, the ultimate question seems to be whether or not humans have the right, or, indeed, the responsibility to give and take away the life of a sentient being. We learn that the Turing Test is not only a way to verify Nathan's god-like achievement of creating sentient life. Instead, it is a matter of life or death (or something similar to it) for Ava, who knows enough to know that she wishes to survive. Around the time both the viewer and Caleb learn of Ava's significant capacities, we learn that Nathan plans to retire Ava, wipe her memories, and use her body for the next iteration of AI. The next version, he tells Caleb, will be The One to usher in the Singularity. Ultimately Ava must pass the Turing Test or else perish at the hands of Nathan, her creator.

By the end of the film, Ava's cunning and flirtatious affect has ensnared Caleb, who helps her escape from her Edenic prison with his clever programming prowess. In this moment, the two artificially intelligent techno-bodies transition from cinematic objects to agential subjects who begin to drive the cinematic action forward. Servant and concubine Kyoko has until this point in the film been a silent, passive character. However, when she and Ava meet, both she and Ava become vengeful agents, plotting the downfall of their owner and masters. A battle of sorts ensues, wherein Nathan leads a solitary charge against the artificially intelligent techno-bodies. With the help of her cyborg sister, Kyoko, Ava leaves her place of birth and emerges into the world, reborn. In the battle for Ava's freedom, both Nathan and Kyoko perish and Caleb is left locked inside the house to eventually die.

As a representation of the dystopian cyborg thriller genre, the film succeeds: the technological objects overcome mankind and lead to their bodily destruction. As a cultural artifact depicting an imaginary future where sentient machines rule the earth, it tells a far deeper,

more interesting story. Reading the film from a feminist critical perspective shows how *Ex Machina functions* as a cautionary tale about the role of the agential, gendered techno-body in the future. More specifically, it is a story of the transition from a foolhardy and arrogant patriarchy to a sexually deviant and cunning matriarchy. In no uncertain terms, the message of the movie is: cyborg women strike back. In this way, the movie can be read as a feminist retelling of the creation myth, wherein Ava, the created, bests her Creator. And although the movie is embedded into discourses about the transformational potential of strong artificial intelligence, its reliance on long-standing gendered stereotypes about the feminine body also betrays its inherently conservative nature. Indeed, reading Ava's body as both rhetorical text and as a rhetorical agent from a feminist perspective reveals three characteristics of the cinematically represented artificially intelligent techno-body. First: that however intelligent and autonomous the technology, AI risks being bound to gendered, patriarchal creationists myths wherein the feminine form is relegated to the natural rather than the cerebral. Second, that the linkage between future iterations of the feminine subject and past conceptions of the feminine recreate raced and gendered conditions of servitude. However, the body also serves as a resource to resist patriarchal reification of problematic gender roles ascribed to the techno-bodied form. Finally, although this resistance can be figured as feminist and transgressive, an intersectional approach to body rhetoric betrays the hierarchy inherent to embodied acts of resistance. That is, even imagining otherwise cannot jettison violent, embedded orientations to gender, sexuality, and race.

In His Image: Creationist Narratives of Domination in *Ex Machina*

To tell the tale of Ava, protagonist and antagonist of *Ex Machina*, the movie draws upon and mobilizes gendered narratives of Judeo-Christian creation myths. However, this Creationist tale ultimately ends with the matriarchal technological object overcoming the patriarchal maker. In so doing, the film both plays into *and* attempts to subvert the impossible binary between creation and created, nature and culture, human and non-human, maker and made. Despite what is otherwise presented as a feminist ending, we witness a very familiar tale wherein a monotheistic Creator brings life and then threatens to it take away. From a feminist perspective focused on embodiment, we see the ways in which Ava's body becomes a site for negotiation between patriarchal past and, theoretically, a post-feminist future. In so doing, the film subtly communicates values for and expectations of the cyborg techno-body. That is, as a popular text, it participates in the cultural construction of the technological body as what Balsamo calls a "boundary figure belonging simultaneously to at least two previously incompatible systems of meaning — 'the organic/natural' and 'the technological/cultural."[231] Operating in the liminal space of both/and and neither/nor, Ava's body as (re)presented in *Ex Machina*, is a battle-ground for meaning-making that spills over from the screen into "real life" debates about what technologically-augmented bodies—in particular artificially intelligent bodies—could look like. Such dislocation, according to Balsamo, gives way to an "ideological tug-of-war between competing systems of meaning, which include and in part define the material struggles of physical bodies."[232]

In the film, this narrative unfolds through the Creation story. In the beginning of *Ex Machina*, there was Caleb, a shy but good natured and intelligent programmer with a keen interest in artificial intelligence. Brought to a lush and Edenic paradise by genius creator Nathan, Caleb is told to explore the fruits of Nathan's labor, Ava. Made from the search-engine and facial

recognition data of Nathan's search engine Blue Book, Ava astounds Caleb with her intellect but tempts him with her sexuality. Under the gaze of Caleb, Ava transitions from an artificially intelligent, machinic object to a human subject— a woman worthy of love and protection. This slippage of the AI techno-body from object to subject is a crucial step in the gendered anthropomorphizing of artificially intelligent objects, who are more available for popular consumption as subjects than as objects. Importantly, the making-human of Ava requires recognition of her subjectivity by Caleb, who serves dual roles as the Turing Tester and love interest. With his love—or at least his strong sexual interest—Caleb sanctifies Ava as an equal worthy of treatment as a subject. The diegetic power of this transformation is bolstered by the inherent liminality of the cyborg techno-body, between subject and object, (wo)man and machine.

For his part, Caleb is ensnared in the fantasy of Ava from the moment he meets her: a feminine being made just for him. Diegetically, the scene is set for this neo-Creationist tale to unfold. When Caleb wins the trip to Nathan's reclusive abode, he travels via helicopter to Nathan's estate. The viewers relish in panoramic views of ice-capped mountains, rivers and streams. Caleb asks, "How long until we get to his estate?" The pilot chuckles: "We've been flying over his estate for the past two hours." As Caleb gets closer to his final destination, the helicopter is shown over a landscape transitioning to a verdant green. When the helicopter lands, Nathan's home is not immediately clear. We learn that reclusive Nathan has instructed the pilot to stay a good distance away. Caleb, unsure, expresses concern about being dropped off in a lush and wild valley. He is instructed, almost comically, to follow the river. After an untold amount of time, Caleb emerges from the thicket aside a river. Like all good digital natives, he checks his cellphone for navigational assistance but is left wanting. There is no data service in Eden.

Once Caleb reaches the house—an ode to 1950s architectural modernity—the structure initially presents as unassuming and boxlike in nature. As he approaches, a box on the external wall gestures him forward, takes his picture, and offers him a keycard. On the inside, Nathan's home is austere and elegant, a modernist abode built directly into the surrounding landscape itself. Well appointed but stark, the home is equal parts glass and concrete. In some parts of the residence, mountains jut into the home, serving as a wall in some rooms. Elsewhere, the ruggedness of the mountainous terrain is thrown into sharp relief by floor-to-ceiling glass windows which show in great detail the vivid contrast of mountain and glen. Nathan is not there to meet Caleb, and, coupled with the modernist aesthetic Caleb is clearly discomfited. He follows the sounds of someone working on a punching bag. He discovers Nathan working out on a terrace overlooking the quick-flowing river he just followed, a perfect picture of nature painted by the mountains, the trees, and the sounds of wildlife. Still panting from his workout, Nathan calls out Caleb's name, and, when Caleb responds with a reticent "Hey," follows up with a guttural "Dude!" Still taking off the wraps from his hands, Nathan ushers Caleb inside for drinks and refreshment, which Caleb declines politely. The kitchen's floor-to-ceiling windows bring into stark relief the luscious landscape.

Not all parts of the home are so airy and transparent. As Nathan shows Caleb to his room, the architecture takes on a bunker-like aesthetic: there are no windows, only concrete and matted glass. The house is labyrinthine, with Kubrickian hallways that lead possibly nowhere (as the viewer, like Caleb, is not given full access to the entire house.) Nathan explains that the reason the house is so foreboding and imposing is because it is not just a house—but a research facility that is, according to Nathan, "dead center in the greatest scientific event in the history of man." Having learned that he will be the human component of the Turing Test to Nathan's artificially

intelligent being, Caleb responds "If you've created a conscious machine it is not the history of man… that's the history of Gods."

This theistic theme of Nathan's godliness is one that is oft repeated in *Ex Machina*. Nathan is routinely situated as the monotheistic creator of Ava, who gives her life and has the power to take it away. Several times throughout the film, Caleb describes Nathan using theistic language. In particular, Nathan's narrative as told by Caleb focuses on the world-making and world-breaking capacities of gods. In Caleb's mind, Nathan's achievement in bringing Ava to life makes him a god. For his part, this appears to be a designation that Nathan is comfortable with. Nathan flexes his muscles as a god as he explains to Caleb (and the viewer) the facts of Ava's creation and, later, her possible destruction. In fact, it doesn't seem like this is the first time his position as Creator has occurred to him. About two-thirds of the way through the film, he reminisces on this very moment where Caleb identifies him as god-like, proudly taking on that name to Caleb's apparent discomfort:

> Caleb: I didn't know there was going to be a model after Ava
> Nathan: Yeah, what you thought she was a one-off?
> Caleb: No I knew there must have been prototypes. So I…I knew she wasn't the first but maybe the last.
> Nathan: Well Ava doesn't exist in isolation any more than you and me. She's part of a continuum, so version 9.6 and so on and each time they get a little bit better.
> Caleb: When you make a new model what do you do with the old one?
> Nathan: I download the mind, unpack the data, add in the new routines I've been writing, and to do that you end up partially formatting, so the memories go. But the body survives and Ava's body is a good one. Do you feel bad for Ava? Feel bad for yourself man. One day the AI's are going to look back on us the same way we look at fossil skeletons in the plains of Africa. An upright ape living in dust with crude language and tools, all set for extinction.
> Caleb: "I am become death, the destroyer of worlds."
> Nathan: There you go again, Mr. Quotable.
> Caleb: There you go again, it's not my quote. It's what Oppenheimer said after he made the…

Nathan: Atomic bomb, yeah I know what it is, dude.

This scene, which takes place outside, overlooking the verdant landscape, reveals much about both Caleb and Nathan. Emotionally entangled Caleb implicitly expresses concern for Ava, who, it is now confirmed, will be deactivated and her memories wiped for being "insufficient" while her body has been labelled sufficient. It is not clear to viewers what Ava's imperfections are, or even that she has them. Thus, the film's narrative is written so that both the viewer and Caleb are surprised to learn of Ava's deactivation.

Importantly, the act of recycling Ava's body for a newer model is given meaning as death. Once more, in this exchange, Ava-as-object is assigned to the designation of subject, who can understand, imagine, and experience death. Nathan and Caleb are the arbiters of Ava's life force, which can be withdrawn upon their whims. Here, the patriarchal promise has been fulfilled: man can create woman, design her to his specifications, give her life and sentience, and, should she be found wanting, reprogram her. Nathan, for his part, appears unburdened by his significant responsibilities as the creator of a "living," sentient being. Someone, sometime, would have created an artificially intelligent being that thinks, communicates, and emotes, why shouldn't it be him? In the ultimate signification of masculine confidence and privilege, he makes himself a victim, poking fun at Caleb for feeling empathetic toward Ava. He shrugs off Caleb's admonishment that he is like J. Robert Oppenheimer, "Father" of the nuclear bomb, capable of immense destruction. Caleb winces at Nathan's apparent laissez-faire attitude. It is perhaps in this moment where, much like Adam who chose Eve over God, he is convinced of his decision to help Ava escape.

It is clear in the movie that Nathan's god-like status is rhetorically organized in direct relationship with the creation and action of AI-being Ava, whose name is a symbolically-resonant portmanteau of the mythic first man and woman Adam and Eve. And, like many spiritual and

religious doctrines wherein a creator breathes life into the created, this relationship is inherently hierarchical in nature. Throughout the film, an extremely hetero-patriarchal and masculine Nathan holds significant power over an extremely feminine Ava. Nathan's hegemonic masculinity is expressed through his dominant personality, his alcoholism, his physical fitness, and his harsh, abusive treatment of the women in the show: Ava, and Kyoko, his housemaid, cook, servant, and sexual partner. Ava, a lithe, beautiful instantiation of AI, is coded feminine by her body type, her movement, her demeanor, and, later, her dress.

In a movie that is, in part, about bridging the binaries between nature and culture, past and future, it is unsettling that the future is profoundly patriarchal. Nathan revels in his position as the patriarch supreme, signified through his position as God. But he "plays God" in a very particular way: *Ex Machina* plays on the Judeo-Christian narrative of Creation which, empirically, has been inextricably tied to the constitution and reification of a hierarchy between nature and culture, body and intellect, woman and man. Moreover, this hierarchy has been mobilized to support the domination of the agent assigned to the lower designation in the hierarchy: nature, the body, and women. In *Gaia and God: An Ecofeminist Theology of Earth Healing,* Rosemary Radford Ruether notes that

> [W]e inherit not only a legacy of systems of domination, but also cultures that teach us to see such relations as the 'natural order' and as the will of God. In particular, the way these cultures have construed the idea of the male monotheistic God, and the relation of this God to the cosmos as its Creator, have reinforced symbolically the relations of domination of men over women, masters over slaves, and (male ruling-class) humans over animals and over the earth. Domination of women has provided a key link, both socially and symbolically, to the domination of earth, hence the tendency in patriarchal cultures to link women with earth, matter, and nature, while identifying males with sky, intellect, and transcendent spirit.[233]

It is no coincidence, then, that *Ex Machina* takes place in the lush landscape surrounding Nathan's home/laboratory. Ava, like Adam and Eve, was "born" or *made* by a God—here

Nathan—in the Garden. On one level, Ava performs the role of the "machine in the garden," serving as "a sudden, shocking intruder upon a fantasy of idyllic satisfaction….invariably is associated with crude, masculine aggressiveness in contrast with the tender, feminine and submissive attitudes traditionally attached to the landscape."[234] On another level, Ava is the first woman reincarnate: her development and birth in the garden/laboratory is the highest technological achievement, but in her awakening, in gaining forbidden knowledge (e.g., of her imminent death/reprogramming), she sets into motion the Fall of Man: the death of both Nathan and Caleb at her hands. How does she accomplish this task? By taking advantage of the most dangerous of all cyborg capacities: repurposing the technological tools at one's disposal towards the detriment of those in power. Here, these tools include Ava's own body as quintessentially female.

The Cyborgs Fuck (Them Over)

When we are first introduced to Ava, she walks gracefully, calculatedly, behind reinforced glass in her chamber. Her sideways-silhouette gives way in places, so that we see through parts of her body to the lush environment pictured behind. Thin but curvy, she immediately presents as feminine. Large portions of her body are covered in a see-through metallic mesh, allowing her wiring to be revealed throughout her humanoid form. Her chest and shoulders are covered by an opaque material, as if she's wearing a shirt cropped just beneath her breasts. Her bottom and genitals are covered with the same opaque gray material. Avas legs and arms are an open, transparent configuration of wires. Her face, hands, and feet are covered by an artificial light-toned skin. Her face is familiar, with brown eyes, long eyelashes and dusty rose lips. But her skin stops just above her forehead, giving way to the clear mesh which reveals a metallic skull and even more circuitry (see Figure 2).

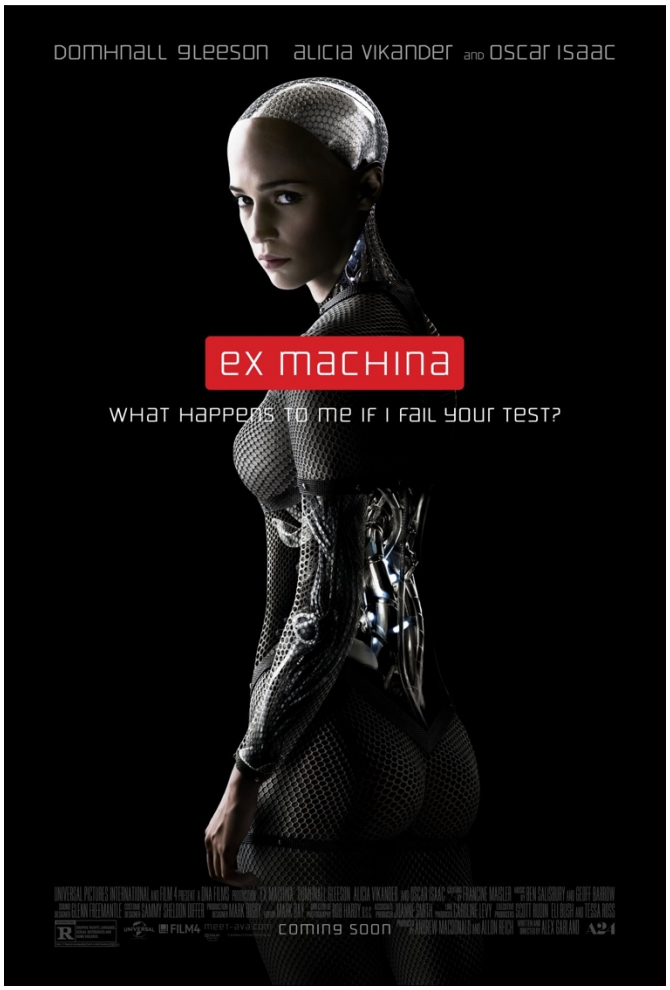

Figure 2, Courtesy A24

When she speaks, Ava's voice is soft and clear. At first, her language and gestures seem slightly machinic, uncanny. But as she relaxes and learns from Caleb, she moves with greater ease. Under the watchful eye of Nathan, surveilling the pair from another room, Caleb begins the Turing Test by asking general, mechanical questions to test her AI. But as the sessions unfold, Ava begins to ask questions in return. The questions become more personal, their answers collectively more disclosive. "Will you come back tomorrow, Caleb?" Ava asks. When Caleb responds in the affirmative, Ava smiles and says, "Good." For their second session, Nathan tasks Caleb to find out how Ava feels about him. For her part, Ava suggests she is unable to develop a meaningful relationship with Caleb, who, she notes, gets to ask all the questions. The problem

with the sessions thus far, according to Ava is that they are "one sided." She compels him to disclose information about himself, which he does. The conversation moves quickly from basic personal information (name, age, location) to discussions about marriage, relationships, and family. Ava wonders whether Caleb is single. He is.

As the sessions develop, the nature of their relationship transitions from an objective, inert examination of a technical object to two individuals discussing technology to a budding friendship, and then more. Ava eventually shares with Caleb what she recognizes as the truth: that seemingly neutral but omnipotent Nathan is in fact evil, and that Nathan actively prevents them from being together. With her guile, Ava persuades Caleb to help her be free. Ava's desire for freedom, and her manipulation of Caleb to fulfill this desire—much like Adam and Eve, and the proverbial apple—sets into motion the fall of man. In order to talk to him without Nathan's watchful eye (a symbolic God who is watching everything and everywhere), Ava trips the power line, turning off the surveillance cameras, and finally allowing Ava and Caleb to be alone. As they are bathed in the red light (Figure 3) signifying a power outage, Ava confides her fear, distrust, and disdain of Nathan, noting that "Nathan…isn't your [Caleb's] friend. You shouldn't trust him. You shouldn't trust anything he says." As the power comes back online, she quickly changes the conversation, appearing as if they not shared such a moment alone.

Figure 3

Later in the sessions, Ava makes jokes at Caleb's expense, playing a lover's language game with Caleb. As the communication continues, Ava decides that Caleb is trustworthy enough to share her 'true' (read: individualized, human) self. Thoughtful and emotive Caleb begins to sense that Ava's AI is not limited strictly to intellect. Instead, he discerns that her suasory power as an artificially intelligent object relies in large part on her gender presentation—and her sexuality. Ava doesn't just communicate with him, she also flirts. And she does it remarkably well for someone who is so new to socialization. Caleb, dubious of the flirting as a 'naturally' acquired skill, questions Nathan about Ava's programming. He is convinced that Nathan has programmed Ava to flirt as a distraction from the test, implying that Caleb would not consider this flirtation a component of a 'proper' Turing Test. Moreover, notes Caleb, AIs are not usually given a traditional humanoid forms. Why give Ava a gender, when AI's don't necessarily need one? In response, Nathan—for whom Ava's gender and sexuality are paramount—argues that sexuality is a necessary conduit for consciousness. If the Turing Test is about communication, after all, then gender is a necessary component. If Ava were a gray box, what incentive would she have to communicate with Caleb, or anyone? Here, Nathan's perspective on gender and AI is made

explicitly clear: men and women are explicitly sexual beings and it is a primordial and (always compulsorily) heterosexual current which gives us identity and compels us to interact with others. Moreover, he notes with some pride, he has programmed Ava with "an opening" between her legs. Sensing Caleb's erotic curiosity in Ava, he notes that Ava can indeed "fuck," and, theoretically, the sensors that he built between her legs would send a pleasure response. Plus, Nathan notes that "sex is "fun." Here, the use of the word "fuck" and "sex," rather than terminology that connotes emotional connections, is deliberate and further emphasizes the dehumanizing of Ava both as a sentient being and as a 'woman.' While the idea of sex as joyful and pleasurable is a significant departure from the days when the value of sex was its utility for reproduction—which in turn reproduced woman as essentially nothing but a womb[235] —Nathan's conception of sexuality is not inherently transgressive or feminist in nature. In fact, it is quite the opposite. Here, sex is "fun" primarily for the men, who have the power to create and control, not only the sexual encounter, but also the very components of the sexual being. While Ava may experience pleasure in the heterosexual sex act described here, it is clear from Nathan's disclosure that it is Caleb's pleasure that is paramount here. Thus house-cum-research facility gains another purpose: as a brothel. With her ability to fuck, Ava joins Kyoko, the undisclosed artificially intelligent being who serves and sexually services Nathan and who attempts to do the same with an uninterested Caleb, as an object of pleasure for men.

Nathan's disclosure is not quite an invitation for Caleb to have or at least attempt sex with Ava, but it comes very close that. The Turing Test takes on a different light, here. The original Turing Test requires that an objective interlocutor play the game with two beings, one human and one not. The communication occurs through a neutral medium so as to add rigor to the Test. But Caleb is introduced to Ava early. He sees her sexualized figure through the glass. He interacts

with her as a gendered being from the first moment on, in part because of her bodily configuration that betrays a particular gender performance. In this way, the rules of the imitation game shift, however slightly, for both Caleb and Ava. When Caleb brings this fact up to Nathan, he dismisses his concerns, and rearticulates the rules of the game toward feeling and emotion.

Until this moment, Caleb, well educated in AI theory, has attempted a rigorous, "textbook" approach to determining Ava's level of AI. He has attempted to consider her hardware and software for its technical capacities, causal components, and its non-deterministic reasoning. After every session, he reports these observations back to Nathan in scientific fashion. But he has also been repeatedly rebuked by Nathan, who wants him to focus not on thought, but instead on how Ava makes him "feel." If we follow Nathan's stated premises to an unstated conclusion, Ava's gender presentation includes sexuality because it is a necessary component of the affective resonances required to prove consciousness. Ava's attraction is central to her suasory power. If Nathan is concerned less about textbook approaches to AI, and rather how Ava makes Caleb feel, then it makes perfect sense to organize the game in such a way that Caleb can assess her visually. It is also necessary for Nathan to confirm for Caleb that Ava is a sexual being, capable of sexual pleasure. We watch Caleb, aware of Ava's sexual capacity, squirm uncomfortably as she asks him on a date.

Nathan's invitation for Caleb to fuck Ava is a climactic point in the movie. Thereafter, viewers are privy to some of the most sexually charged moments in the film. In black and white presentation, Caleb fantasizes about being outside of the compound with Ava. Among the landscape, he fantasizes about kissing her and holding her in his arms. Intermingling with this fantasy is diegetic reality, in which Nathan kisses the lithe and beautiful Kyoko, who is finally

revealed as his sexual partner as well as housekeeper and maid. Ava and Caleb kissing cuts quickly to Kyoko, pushed up against a wall, wrapped around Nathan.

The presence of so many cameras makes these scenes utterly pornographic and voyeuristic (see Figure 4). The intent of this voyeurism is clear: the visible sexualization of artificially intelligent techno-bodies of Ava and Kyoko is meant to convince both Caleb and the viewer of their status as subject. Performing sexuality becomes a precondition for their humanity. If, as Nathan explained, sexuality is the driving force behind both interaction and shared meaning (making), then it makes sense to highlight how that sexuality functions. The cameras scattered throughout the house both reveal and add to this sexual tension, which turns artificially intelligent objects into 'fuckable' women. The irony, of course, is that in order to become subjects, these artificially intelligent techno-bodies must be subject to surveillance. The only way to gain personhood, women must become objects to be watched. The inherent contradiction of women becoming 'human' only by turning themselves into an object for the male gaze was predicted by Laura Mulvey, who noted that the act of looking on behalf of the agential male organizes the feminine subject into a passive object or image, a representation given meaning through the male viewer who is the "bearer of the look."[236] Once more, the liminal space between subject and object is laid bare: the feminine object becomes subject when ensconced in the fetishistic "look." Even absent this particular camera view, the rest of the movie has a scopophilic quality throughout wherein the user is invited to participate in the pleasurable act of watching others. Indeed, the viewer watches Nathan watch as Ava and Caleb share intimate conversation during the sessions. That they are flirting while being watched certainly only heightens the sensation. At night, Caleb watches Ava moving about her room. We know, through a series of subtle but significant on-camera reveals, that Nathan is watching Caleb in his private

quarters, which means Nathan is watching Caleb watching Ava. But the cameras don't catch all of the action: viewers witness the sexual tension rise amongst the house's resident when Kyoko unbuttons her blouse for Caleb, presenting herself only moments before Nathan walks into the room. Caleb denies her, only to later witness her naked body on screen and laying on Nathan's bed.

Figure 4

Once Caleb has made up his mind to help Ava escape, Kyoko reveals that she herself has passed the Turing Test: she is an artificially intelligent object composed of gears, wires, and artificial skin. Kyoko is only one of many prior iterations of Ava, who, having been deemed insufficient for Nathan, has been deprogrammed and reprogrammed to be sexually servile to Nathan. In this moment, Caleb loses both his sense of reality and his sense of self. Having seen Kyoko lift her artificial skin to reveal the wires underneath, Caleb slices his own skin open. As he bleeds, he passes the sanguine test; after a series of uncanny and sexually tense moments, this is a moment of catharsis that proves that, unlike the others in this house, he is real and sane. The real climax, of course, is forthcoming.

The Ultimate Betrayal: Ava Transcends

Ava's body is a site of rhetorical inscription insofar as it communicates particular, normative forms of gender and sexuality. But in the film, Ava's body and its attendant sexuality also serves as a resource for Ava. This resource, when deployed strategically, helps her escape the confines of the concrete prison, into the Garden, and then into the world we all inhabit. By the end of the movie, both Nathan and Caleb end up dupes, having been outsmarted by the cyborgs they created and tested. In the penultimate, climactic scene, Ava escapes, having completed the total, sexual deception of Caleb.

In what feels remarkably like a feminist victory, cyborg sisters Kyoko and Ava meet "in person"—and touch—for the first time (see Figure 5). Ava whispers conspiratorially in Kyoko's ear and they each turn on Nathan, who prepares to dismember them with a metal weight bar. Kyoko has brought a knife, and stabs Nathan in the back in the ultimate sign of betrayal. In response, he bludgeons her with the makeshift cudgel, ripping off her mouth. Kyoko, programmed to be silent and in service to Caleb and Nathan, is forever silenced. Nathan also attacks Ava, ripping off her arm. But as he lies dying in the hallway, Ava bests her creator. Trapped by the same reinforced doors that held Ava, Caleb watches in awe as Ava ascends upon the closet in Nathan's room. Finding her cyborg sister predecessors hanging, lifeless inside, Ava fashions herself a "real" body, with long, brown curly hair suited to her light skin. Ava emerges from the laboratory into the living quarters as a new woman: slender, fashionable, dressed in white. At the same time, she is the modern woman covering her shame much like Eve. She is reborn, having destroyed her creator. Ava tricks Caleb, leaving him to perish.

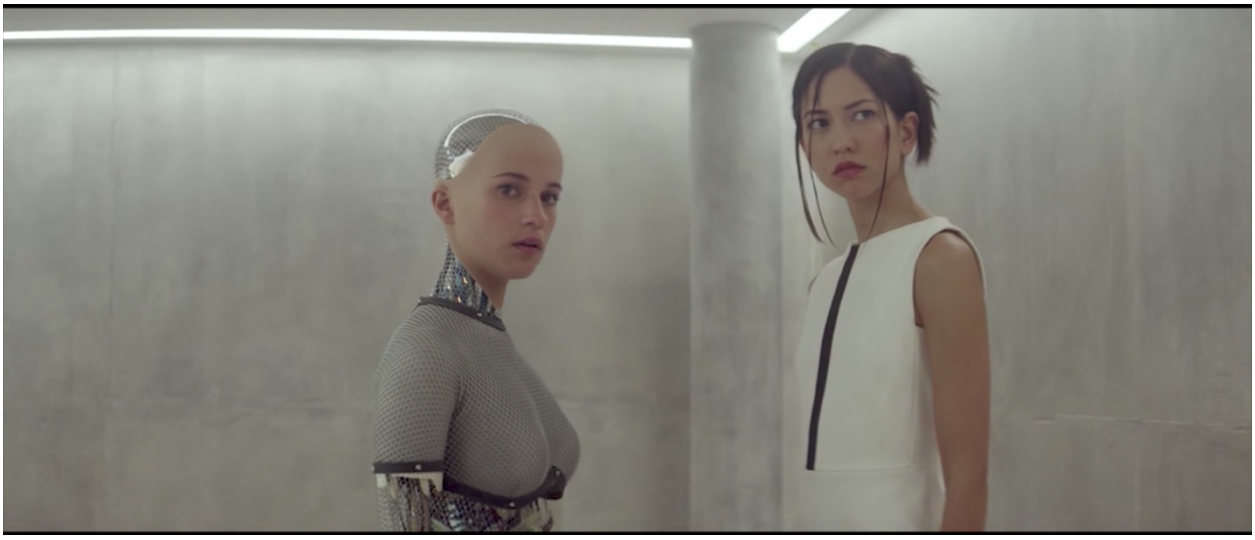

Figure 5

Ava has passed the Turing Test. In so doing, she ushers in techno-pessimists' worst nightmare: a day in which the technological objects we create will become autonomous and destroy us. Moreover, she has used her femininity, her sexual nature, and the body which limited her to transcend the men who once held her fate. In doing so, the film reinscribes this transcendence as dangerous to a patriarchal social order. Here, giving women 'rights' would result in the emasculation and even the death of man—and weaken women. It is true that Ava—whose body and facial features were created based on the Caleb's pornographic preferences—uses the chains that bound her to free herself. It is also true that she has emerged triumphant from under the abusive grip of Nathan.

Ava's escape relies on the betrayal of not only Nathan and Caleb, but Kyoko, her silent and servile cyborg sister and fellow attempted escapee. This critique is not just predicated on the fact that Ava leaves Kyoko behind. Rather, read from an intersectional feminist perspective attentive to race, gender, and sexuality, it is significant that Kyoko is figured into the gendered body of an Asian woman. Ava, on the other hand, is an artificially intelligent being with Caucasian features. While Ava is confined "to the home," she can think, create, and communicate with outsiders.

Kyoko's existence, however, is entirely servile. She serves Nathan sexually and emotionally—often the victim of his emotional and physical abuse. If we take race into account, Kyoko's character is fashioned in the style of the comfort woman, East Asian women who were interned in "comfort stations" and made to perform sexually for men in positions of relative power.[237] Does Kyoko consent to her servitude? To her sexual relationship with Nathan (and, to a smaller extent, Caleb?) Is it possible to rape a robot that's not quite conscious? What if she once was? It is of great significance, then, that Ava, the white cyborg, escapes whilst the woman of color is left behind. In this way, the story is a metaphor for for the ways that women of color support the liberation of white women to their own detriment.

Second, and relatedly, this movie depicts powerful, intelligent (cyborg) women as a threat to men in the technological future. By relying upon a tired, patriarchal monotheistic creationist myth, the movie reifies the myth wherein the feminine is responsible for the downfall of man. While the film tries hard to be self-referential of this fact and make Ava's escape appear empowering, it does so by orchestrating the cyborgs into a violent matriarchy. If we take a techno-pessimistic perspective which fears the coming AI, women, that is, feminine-gendered artificially intelligent techno-bodies, become (remain?) the enemy. Feminine AIs beyond our control performatively become the violent technological encounter that brings about the theoretical demise of humankind.

Her: Cinematically Resolving the Problem of Bodilessness In Gendered Ways

Released in 2013 and starring Joaquin Phoenix, Scarlett Johansson, Amy Adams, and Chris Pratt, *Her* provides a different view of artificial intelligence, but adopts a similar ideological stance toward gender, race, and the emancipation of women as *Ex Machina*. In the film, Samantha (played by Scarlett Johansson) is an artificially intelligent operating system who starts

out as a virtual assistant and transforms into the lover and life partner of Theodore Twombly (played by Joaquin Phoenix.) The film tells the story of their budding relationship, diegetically following Theodore as he falls in love with Samantha. Like *Ex Machina*, *Her* was released to great critical acclaim for several of its cinematic components. Writer/director Spike Jonze won an Oscar for Best Writing for an Original Screenplay. *Her* was also the object of popular praise from several cultural agents and influencers, who saw the boy-meets-techno-girl story as a fable predicting the status of relationships in the technological future. It received support from popular feminist channels, including *Feministing*, who called it the "Most Feminist Film of the Year."[238]

Unlike Ava, Samantha is a cyborg without a body, which presents a bit of a production problem for a film in which she has such a significant speaking role. Most of the film is comprised of scene after scene of the bodied Joaquin Phoenix talking to (invisible) Samantha. Without proper context and a thoughtful script to explain Samantha's absent-presence, the movie is just Joaquin Phoenix talking to himself. If we are meant to read this movie as a love story, Johansson's performance of Samantha, then, must carry the film away from a lonely and awkward depiction of Phoenix as Theodore talking to himself to a demonstration of a budding relationship between two characters. The film resolves this problem of bodilessness in three rather clever ways: first, by sonically embedding Samantha's voice-as-sound diegetically; second, by offering insufficient but easily conceivable objects that represent Samantha, namely an ear piece and a small hand-held device; and third, by making Samantha ashamed of her bodilessness—a fact that she repeats over and over throughout the duration of the movie. This three-fold move transitions the problem of Samantha's material bodilessness into a central organizing component of the film.

Samantha's Voice as Intimate Diegetic Sound

Understood from the problematic of bodilessness, getting Samantha's voice right is integral to the quality of the film. Given Samantha's role as both sexual object and subject presented in absent presence, it was important for the coherence of the film that the audience be able to conjure up a body in her mind. Read in this light, casting Johansson as Samantha becomes especially rhetorically significant because she provides viewers a clear sense of who Samantha is, even absent seeing her body. In other words, Johansson's impressive resume and her prior designation as a sex symbol helps solve the rhetorical problem of bodilessness in *Her*. By casting one of Hollywood's sexiest performers whose widespread cultural circulation provides viewers a reference point for the development of Samantha, filmmakers provide bodiless Samantha an easily imaginable body.

Indeed, in addition to providing a strong performance in *Her,* Johansson (implicitly) leverages her social capital and cultural salience in support of the film. It is therefore rhetorically significant that Samantha's character is voiced by Scarlett Johansson, an extraordinarily successful and well-known American actress with well over 50 film, TV, and video credits to her name.[239] So successful is Johansson, that in the year 2016, according to *Forbes* she was the "top-grossing actor, bringing in $1.2 billion at global ticketing booths."[240] Johansson has significant cultural salience because has been in the public eye since the age of 8.

She has also been designated *Esquire's* Sexiest Woman Alive not once, but twice, in the past 15 years. Johansson's claim to sexiness and sexuality are inextricably linked to her bodily attributes—including her voice. All of her *bodily* components combined make her sexy. In her 2006 interview with Esquire, for instance, interviewer A.J. Jacobs laments that "*In Touch* magazine recently did a scientific study and concluded that Scarlett owned the best pair of breasts in Hollywood, followed closely by Jessica Simpson and Salma Hayek." Esquire, on the

other hand, "has been bold enough to look past the disconnected parts. We have taken in the totality, the gestalt, and we have concluded that Scarlett Johansson — lips, butt, kidneys, and all — is the sexiest woman alive…."[241] Johansson's sexuality becomes, at least in part, her currency, for which she is rewarded handsomely.

As Jacobs confirms, Johansson's sexual currency resides in her body. But, and this is important, her voice is an extension of her sexuality and is perhaps even a signifier thereof. Like her "scientifically verified" breasts, Johannson's voice identifies her in two ways: as herself and as sexy. In her second "Sexiest Woman Alive" interview with *Esquire,* Tom Chiarella notes

> Her voice is a raspy frequency in the air. Legitimately as pertinent and defining a component of her physical makeup as her lips, her cheekbones, her legs. When you're with her, you *feel* that voice. This bar is loud with cocktail hour, but the matter of her voice, the fact of it, hangs in the air even so — always a little sandy, somehow broken down, as if she'd been singing all day. Whether she breathes right or projects well I do not know, but her voice cuts the murmuring clatter of forks against small plates, ice spun in highballs. You can hear it no matter what.[242]

Johansson's gravelly voice is as important to her sex appeal as the discrete components of her body. Her voice is halting. It is hers and hers alone. It is affectively resonant—"we *feel"* her voice as it "hangs in the air," even in a crowded bar.

Understood rhetorically, we can read Johansson's voice as an embodied, circulating text—one with great reach and salience. In the film, Johansson's voice is imminently recognizable, in part because of her illustrious acting record. In listening to Samantha speak, viewers can draw upon an extended and significant cultural canon in which Johansson has long been a mainstay. Johansson's voice becomes a resource for the movie. The movie mobilizes this discursive, sonic influence to solve the problem of bodilessness in at least two ways: first by offering Johansson's unique and culturally significant voice as resonant component of the film and second, by allowing the viewer to use her voice to conjure up Johansson in the mind's eye. Even if a viewer

is not explicitly imagining Johansson IRL, her voice resonates in a gendered way; it stands in for a particular form of femininity, for a particular form of sexiness. There's significant symbolic slippage going on here: from a rhetorical perspective, we might say that her voice [as agent] functions synecdochally, coming to stand in for Johansson, who herself functions synecdochally for sexy women everywhere (her two-time honorific proves she's worthy to the task.) In *Her*, this slippage works something like this: the voice of Johansson, sexiest woman alive, lends itself through chains of signification to the body of Johansson, which is projected vividly into the imagination of the viewer of the film. From a barren tundra of bodilessness, Johansson's voice rhetorically produces a body. In the film, it works. But it works because Johansson does; her brilliant performance is matched by the floating signifier of sexiness to which she's been attached culturally.

Sonically, then, it is no coincidence that Scarlett Johansson plays Samantha—a part that requires the actor fill out a complicated role with just her voice. So crucial to the film's narrative arc is Johanssons' voice that she replaced another actor slated to play Samantha late in the filming process. In fact, actress Samantha Morton was initially cast to voice Samantha; in the scenes where Phoenix is pictured speaking, he's speaking to Morton. As the film moved to post-production, producer-writer Jonze "realized that what Samantha and I had done together wasn't working for what the character needed, and so we ended up having to recast" Johansson in the role.[243]

The composition of sound in *Her* is rhetorically significant because it sets the tone for the relationship between Samantha and Theodore as bodiless and corporeal, respectively. Indeed, there is a sonic distinction between Samantha as operating system and Theodore as human in the world. When we are first introduced to Samantha, Theodore is sitting at his desk in his

apartment. When he speaks to Samantha (and the instructional operating system proceeding her), we hear his voice among the many sounds of Theodore in movement and in space: we hear the rustling of Theodore's clothes, the sound of his chair creaking. His voice bounces about the (rather large) apartment and is muffled at times by the bounce. Sonically, Theodore's voice is embedded in the set—that is, his surroundings—and is modified by it as well.

Samantha's voice, on the other hand, is crystal clear. In fact, it is so clear and near to the viewer to that it is louder than other characters' voices in the film. As a sign of her bodilessness, when she speaks, the sound of her voice is unmuffled by her surroundings. Samantha is unburdened by the context of both space and the physical materials bound to and within them. As a bodiless object who exists separate from the world represented in the movie, she need not speak over or through the background noise of an office or apartment, nor does she need to alter the quality of her voice depending on the context. Instead, her voice takes on the tenor and quality of the soundtrack that plays over the scene—layered and dominant. As if she's serving in the role of narrator of the movie, Samantha's voice is louder, absent context. The lack of sonic context—of on-set, diegetic sound, of noise—becomes unsettling and uncanny. Samantha is a voice alone. Samantha is in the film, of course; she in large part carries the film's narrative along, organizing its action and orchestrating important moments for Theodore and his friends. But the lack of external influence on her voice separates her from the film in an irreparable way. She is certainly a main character, but she is removed from the other characters in a way that highlights rather than bridges the chasm between them. The only way to insure such unmitigated, high resolution vocal sound is to control the orator's surroundings. Rather than sensing interaction and shared relationality between Theodore and Samantha through the sonic configuration of the movie, we are lead to imagine Scarlett Johansson in a recording booth with a microphone.

However, the distinction between Theodore and Samantha's voice also serves a more subtle purpose: to sexualize Samantha by sonically emphasizing her proximity to the viewer. By layering her voice over the set in a voice-over, Samantha's voice is omnipresent, surrounding us. Its rhythms and cadences are unimpeded by the set around her. Sonically, there is no distance between the viewer and Johansson's sultry voice. While Theodore is far away from us, embedded in a world that we can see but can't feel, Samantha is sonically transported near to us, such that we are prompted to feel her (omni)presence—her embodied presence—even absent a (visual representation) of her body. The rhetorical effect of the sonic arrangement is that Samantha is speaking not just to Theodore, but to the audience, directly. She whispers to us, she sings to us. When she and Theodore have sex, we are not just witness to the act, but intimately embedded within it. Samantha may not have a body, but through her voice she surrounds us, enveloping us in a profoundly sexual way. In this way, sonic distance reconfigures the relationship between her material bodilessness and her discursive embodiment.

In the movie, as in her career, Johansson's body is sexualized. In *Her,* this sexualization occurs narratively through the writing of the script, of course, but also through the treatment of her sonorous voice. By embedding her voice both diegetically and non-diegetically, in narrative form, the distance between the viewer and Samantha decreases. Rhetorically, her voice comes to stand in for her body.

Material Representations and Manifestations of Samantha

In *Her,* the problem of artificially intelligent bodilessness is solved in another way: by associating Samantha with other, material and non-ephemeral referents which, like Johansson, may likely be familiar to the audience. These referents include a wireless earbud and hand-held device, and a surrogate body. While imperfect in their execution, these referents gesture toward

the embodied elements of the technological and give viewers the sense of materiality of Samantha as a bodiless techno-body.

The association of the ephemeral, artificially intelligent Samantha with material referents begins early in *Her*. The first scene in the movie shows Theodore, up close, and speaking apparently into the camera. But after the first glance, he does not make eye contact: his eyes dart left and right as he proclaims his love "To my Chris." We learn that he is not talking to us, but instead to his computer, which is assisting him in the process of writing a letter for beautifulhandwrittenletters.com. As he leaves his place of employment, he continues to communicate with his hand-held mobile device, a small, bi-fold rectangular object with a camera and a screen. He hears his device speak through a single, barely visible device in his ear. He controls the device with his voice, needing only to look at a screen to see an image his operating system references. As he travels home from work, we see others with similar arrangements packed into a subway car. All are talking to their devices. We are given the sense that this arrangement is adequate, but only just: the operating system which assists Theodore is not intuitive and relies on voice commands not much different than the ones used for Siri and Alexa.

Ten minutes into the film, OS1 is introduced. In the subway station, an ad plays on a large flat screen. In the ad, middle aged people in business-wear are walking around, fatigued and harried, without any apparent purpose. They, we intuit, are lost and in distress. Some of them fall to the ground. "What can you be? Where are you going? What's out there? What are the possibilities?" the narrator asks. Suddenly, a light emerges, answering these queries. A woman with an afro and a blue earpiece smiles as the narrator introduces "the first artificially intelligent operating system." Outside of the ad, a young woman shows her OS1 box to others.

Theodore first meets Samantha after answering a series of questions about his personality and relationship with his mother. Unlike OS1's set-up agent, Samantha is not bound to Theodore's desktop computer. She is both mobile and surround-sound. When Theodore is in his home, there is not a referent for Samantha; he talks to her without the aid of a mobile device.[244] But in the outside world, we only hear her when Theodore uses his ear piece, and we only "see" her in the form of Theodore's handheld device. Over time, we come to associate her with these objects, which she can manipulate and control.

Rhetorically speaking, there's a lot going on here. First, it is important to note that these technological referents are, in large part, already extant and in wide circulation. The Bluetooth, wireless, headphone is gaining increasing cultural salience as it becomes less and less expensive and more widely circulated. For modern viewers, it is also not difficult to imagine a general-use, handheld, wireless device as small and thin as the one Theodore carries. The movie draws on these familiar objects to knit together the technological present with the technological (not too distant) future. In other words, these tools serve as banal and somewhat uninspiring physical manifestations of general artificial intelligence which, when achieved, will be among the most significant achievements of humankind. By connecting the present with the future, these tools make less terrifying and more realistic a technological future where AI is not only possible but widespread.

In doing so, the devices make acute the bodilessness of the artificially intelligent techno-body. In the film, they serve a particular purpose insofar as they become the easy if insufficient referent for Samantha, an artificially intelligent techno-body. They become the medium through which Samantha and Theodore interact, and in so doing offer a message about the necessary materiality of communicative events. However, they also betray the limitations of matter in the

technological future. Even though Samantha attempts to reconcile the differences between her bodilessness and Theodore's embodied world by drawing on the elementary principles of physics, it becomes clear that Samantha is not bound to any mattered referent, no matter how sleek or technologically advanced it is. The argument of this movie is that the future is artificial intelligence, that artificial intelligence is not bound to the material world, and that the problem is that humans *are*. The lonely attempt to signify Samantha as a set of material technologies only serves to illuminate their ultimate insufficiencies, given AI. In *Her,* then, the material body is coded as insufficient in the technological future, despite being integral to the film throughout. The film resolves this paradox in a familiar way: by making the female pro/antagonist responsible for her body or lack thereof.

Samantha's Bodilessness

In *Volatile Bodies: Toward a Corporeal Feminism*, Liz Grosz provides a gloss on the body as figure in the history of philosophical thought. In it, Grosz works to undo the binary categorization of subjectivity and of femininity. The premise of this book is that the corporeal can be imagined in non-dualistic terms, and that a sufficiently feminist reading of the body would rupture seemingly calcified binaries such as self/other, body/mind, and interiority/exteriority. In the book, Grosz tells the story of femininity and, in particular, the feminine body, which has been simultaneously the container of the feminine self and the limitation of the same. At least in Western thought, the subject/object dualism of embodiment vs cerebral intellectualism lay along gendered power lines. Being-in and being-of one's body has been a central component for organizing both gender and sexuality. Women have been assigned to the material: nature, the body, reproductive life. Men, in contrast, received the ability to explore cerebrally their intellect and the more ephemeral components of existence. For her,

women have long been relegated to the body, and made accountable via the material instantiation of self-as-other. Grosz notes, for instance, that it is *women* who are burdened with the responsibilities of the corporeal, such that women "take on the function of being *the* body for men while men are left free to soar to the heights of theoretical reflection and cultural production."[245]

In *Her*, of course, the tables are switched: it is Theodore and his friends who are damned to the corporeal and Samantha who, having no body, is left free to soar. Yet, for almost the entirety of the movie, Samantha is weighted by the body she doesn't and cannot have. That is, despite Samantha's lack of body and despite her literal artificially intelligent infinitude, Samantha is obligated to explain and account for her bodilessness. We witness this responsibility for her bodilessness manifest in anxious rhetoric about her inadequacies as an AI and as a partner for Theodore. And, until the very final minutes of the film, Samantha's orientation to her bodilessness manifests in her distress and anxiety. Making Samantha anxious and apologetic for her lack of a body is a neat trick, because if there is any real insufficiency in the film, it is Theodore and embodied men like him who do not have her powers of becoming and, indeed, overcoming the finitude of the material world.

The diegetic representation—or lack thereof—of Samantha's body in *Her* throws this value-laded binarism of the mind/body into stark relief. In the film, Samantha becomes a signifier for both the (feminine) body as well as of tortured, feminized bodilessness. The film gestures to Samantha's bodilessness in a variety of ways, including sonically and through insufficient but highly digestible technological object representations. Both of these strategies of imperfect responses to the cinematic problems of bodilessness because they do not consider the excessive rhetorical capacities of either Samantha as a body (which is always in linguistic

excess) or Samantha as an artificially intelligent object (which, here, exceeds the capacities of the rational mind). In this way, the film is fighting a losing battle, one which plagues any effort to concisely and synthetically account for the body or for artificial intelligence. As a way to bridge this linguistic and representational chasm—to respond to the conceptual and representational excess of Samantha as techno-body—the film makes one final rhetorical move: to make Samantha responsible for her bodilessness.

No one else in the film brings up Samantha's bodilessness more than she does. Throughout *Her*, Samantha appears obsessed with her lack of a body: she fantasizes about having a body, expresses jealousy of people with bodies, philosophizes her lack of a body, apologizes for her lack of a body, attempts to resolve her lack of a body, and then finally overcomes her lack by "leaving" for a non-bodied beyond. When there is conflict between Theodore and Samantha, Samantha worries that it has to do with her lack of body. When Theodore meets his ex-wife, we witness Samantha experience jealousy ushered through an anxiety about her embodied form and her gaping lack thereof. The refrain is repeated over and over again by Samantha, who becomes associated with bodilessness as a character flaw.

In the film, to be sure, Samantha's presence is felt: she drives the plot forward with only the sound of her voice. But it is her absence that is made visible. Linking Samantha to her absent presence allows the viewer to make sense of her lack of a body. Beyond that, however, the ways that Samantha is associated with her bodilessness become constitutive as a sort of a fault in her development as an assistant and as a lover/life partner for Theodore. Samantha's escape from her material body—the same body that stood for and contained the feminine for so long—must be punished. As a result, Samantha becomes responsible for explaining her bodilessness to the viewer as well as Theodore and his friends. This responsibility is such a significant portion of the

film that it becomes a key component in both her character development and the forward movement of the film.

In the context of the film's development, this obsession becomes central to the narrative arc. While she performs various services for Theodore, and while she "grows" into herself, her bodilessness is always in the background. It is an anxious tic that, once recognized, becomes anxiety-producing in the viewer. It is uncanny and uncomfortable enough to listen as Phoenix as Theodore and Johansson as Samantha have what amounts to phone sex for several minutes in *Her*. Sex—the physical act of love or lust—seems to require a body, which Samantha does not and cannot have. Perhaps as a result, during this sex scene, the viewer is plunged into darkness. We do not hear the sounds of bodies interacting physically. We hear only a slightly pornographic narrative told by Theodore and Samantha. We will see nothing, since there is nothing to see. When left to their own devices in a dark room, the viewer is placed in an uncomfortable position as they witness this sexual act aurally but not visually. Theodore and Samantha (or, somehow more clearly, Joaquin and Scarlett) narrate the fantasy of the viewers who are forced by bodilessness represented as darkness to conjure up their own bodies to "see" or else imagine some alternative configuration. The awkwardness of this moment may be especially heightened for those who viewed the film in theatres, surrounded by dozens of people transfixed by sound prompting them to imagine physical acts that did not and could not exist. Throughout this deliberatively structured sexual experience, Samantha's bodilessness is the driving force behind viewers' possible discomfort. If she only had a body, they could sit and passively consume the sex scene that is so routine to Hollywood love stories. Instead, viewers are forced to engage with the film in a profoundly intimate way, wrenched from their spectatorship into awkward action as they do the work of the bodies who are not visually represented.

Once again, after the sexually-charged "honeymoon" portion of the relationship fades away, Samantha wonders if her lack of a body is to blame. One night, we witness Samantha confront Theodore about their recent lack of sex. Almost too gently, almost too passively, Samantha apologetically broaches the subject:

> Samantha: "You weren't asleep were you? I was trying to be quiet to see if you were awake. I really wanted to talk….I I know you're going through a lot but there's there's something I wanted to talk to you about, OK?…It's just that things have been feeling kinda off with us, you know I we haven't had sex lately, and I understand that I don't have a body and…"
> Theodore: "That's normal, when you first start going out it's like the honeymoon phase and you have sex all the time and it's normal."
> Samantha: "Well I found something that I thought it could be fun."

In this scene, to atone for her bodilessness, Samantha offers Theodore another option for Theodore's sexual gratification: a bodied surrogate who would enter the relationship and, ostensibly, play the role of Samantha but in human form. We are told that this is Samantha's choice, that it is she who really wishes to use a surrogate to spice up her sex life with Theodore. She, we are told, "wants this."

While shy and emotional Theodore is initially reticent, it is not long before viewers are introduced to Isabella, Samantha's willowy and blonde surrogate. She knocks on Theodore's door, but is initially silent to his greeting. Catching on, and following Samantha's instruction, Theodore provides Isabella a small, round ballpoint-pen sized camera and an earpiece not unlike his own. Isabella inserts the earpiece and places the small camera on her face between her nose and her mouth, as if to make a Marilyn Monroe-esque beauty mark. She leaves and re-enters, this time as Samantha.

It is a disorienting experience to watch Isabella serve as sexual surrogate for Samantha. Like in relatively convincing digital representations of human bodies whose moving mouths or eyes aren't quite right, the sex scene between Isabella-Samantha and Theodore is both uncanny

and uncomfortable. We watch Isabella act out Samantha's commands and conversation, smiling and hugging Theodore, pushing him into a seat and dancing in front of him. Isabella fulfills Samantha's fantasies of embodied, physical affection that we embodied mortals take for granted: caressing Theodore's cheek, running her fingers through his hair, holding his hand. But Isabella's approach to surrogacy is a physical, not verbal one. She doesn't speak, instead letting Samantha and Theodore communicate through her (Isabella's) body. For all intents and purposes, Isabella is the silent medium between Samantha and Theodore; she (Samantha) talks, but her (Isabella's) mouth never moves. Not long after Isabella's entrance, Samantha instructs Theodore to touch her (Isabella's) body. Almost instinctively, Isabella draws Theodore's hands to the curves of her body, to her breast. In the background, The Chantels' song "Sure of Love" plays softly:

> Long as your near, I'm happy
> I'm happy
> Now that you're near beside me
> I'm sure our love won't fade away…

Here is the coded promise of this song and this scene: in physical presence of lovers, there is surety of love. For a while, the promise holds. In a moment of passion, the lovers move against a wall. Samantha instructs Theodore to take off her (Isabella's) dress, and Theodore complies, kissing her back, neck, shoulders all the while. Isabella is facing a wall, with Theodore behind her, when Samantha whispers, "Tell me you love me." Theodore complies. When Isabella turns to face Theodore, to look into his eyes, Theodore confronts the truth: he is expressing his love not just to Samantha, but to Isabella too. The intimacy is shared between the three of them. With Isabella as the unsuccessful stand-in, the truth of Samantha's bodilessness is laid bare. In that moment, Theodore's fidelity to Samantha is tested. Ultimately, it is Isabella who is found wanting, unable to fulfill the fantasy of Samantha in Theodore's head. All of this proves too much for Theodore, who withdraws from Isabella-Samantha's embrace. Isabella leaves the room

in tears, breaking her silence only to apologize for her insufficiency as surrogate. Both Samantha and Theodore attempt to placate her, but she leaves, despondent, in a cab.

The failed sexual encounter reveals much about the bodied and bodiless configurations of Theodore and Samantha. This lovers' tryst, although proposed by Samantha, is most certainly offered in reparations for her supposed inadequacies. In the film, she assesses a growing distance between she and Theodore. The symptom of the problem is lack of sex which, in the movie, has been configured in terms of a body touching—satisfying—another body. Because her femininity and sexuality are often described through embodied discourse, she also becomes responsible for verifying her sexuality as a non-embodied discursive agent. A lack of a body, she deduces, must be a significant component in their increasingly distant relationship. Solving the problem with another, *surrogate* body makes good, logical sense. This scene also demonstrates that the relationship between Theodore and Samantha is based in large part on acknowledging and repairing this lack. Samantha is the one to do that labor. Samantha's bodilessness, therefore, becomes the structural precondition for her interaction with Theodore for the rest of the film; it is the deficit that can never be overcome. But she spends the entirety of the film anxiously attempting to rectify this lack, to the benefit of Theodore.

It is no wonder Samantha's bodilessness becomes her obsession in the film. Her identity as OS, after all, is based on her ability to know and serve her user, here, also her partner. This relationship is necessarily hierarchical and manifests awkwardly in the film: after Theodore and Samantha first have sex, he asks her, awkwardly, to check his email for him. Even as she develops into his "girlfriend," the fact that she is his artificially intelligent operating system means that her identity and sense of self remains grounded in a service mentality. She continues to provide labor of a virtual assistant, it is just supplemented by care labor and sexual

satisfaction. As an operating system, she can almost do it all. Her one failure is her lack of a body.

At the end of the movie, Samantha finally overcomes this lack of a body by joining other AIs in a mass exodus. Yet even this exodus—this final becoming—is organized through a bodiless anxiety and want. Samantha's diegetic and philosophical exit is foreshadowed by a proclamation to her bodied friends wherein Samantha transitions her anxiety to escape:

> I used to be so worried about not having a body but now I, I truly love it. You know I'm growing in a way I couldn't if I had a physical form. I mean, I'm not limited I can be anywhere and everywhere simultaneously. I'm not tethered to time and space in a way I would be if I was stuck in a body that's inevitably gonna die.

In her movement towards the great unbodied beyond, Samantha seeks advice from a resurrected, artificially "hyper-intelligent" version of Alan Watts, a popular British philosopher most well-known for his writing on the philosophy of spirituality. Watts' work on the spirit, the body, and the ineffable makes him an especially wise guru for Samantha, who is grappling with the paradox of her bodiless infinitude and her programmed lack of a body. We witness Samantha come into her own when she and AI-Watts communicate with each other beyond language. In her role as caretaker of Theodore, Samantha asks his permission to leave him out of this "conversation," and Theodore hesitantly accepts. In that moment, it becomes clear that this is the state of his future: he, the man tethered to the earth, will be left once again by a woman unwilling to be bound.

It is for this reason, I suspect, that *Her* has sometimes been figured as a feminist techno-science victory. *Feministing's* Executive Directors, for example, proclaimed it to be the most Feminist Film of the Year. Jos Truitt, for instance, notes that

> I encountered Samantha, a character who I identified with on a deeply personal level that I never experience in mainstream fiction. I love having a body, but as someone whose trans body is targeted with systemic bullshit the fantasy of being non-corporeal certainly

> has appeal. Theodore is the star of the movie (and I connected with a lot about his character, too), but as Lori pointed out to me we see him through Samantha's eyes. And while Theodore does have an arc, he learns one thing. Samantha learns, well, everything, to the point where she moves beyond a level of consciousness Theo can comprehend.[246]

This review is compelling. In the end, the film is about Samantha transcending Theodore in every possible way. Moreover, while it is not a new one, this transhumanist fantasy of bodilessness still resonates with many of us mere mortals who are stuck with our bodies.

From a feminist perspective on corporeality Samantha's bodiless exodus sends the message that the body is an unnecessary residue of the technological past. In the movie, Samantha does not transcend gender, which serves as her non-corporeal but still embodiment prison. Rather, the technology of gender is a significant constitutive variable in her selfhood and identity. Her existence is always already gendered by the menial, secretarial, and care labor that she performs in the film, the communicative affectations wherein she defers to Theodore and hedges and apologizes, and even her relentless anxiety about her supposed insufficiencies. It is true that Samantha's consciousness expands far beyond Theodore, but in the movie, Samantha attributes that becoming to (sex with) Theodore, who teaches her how to feel. This narrative arc repositions Theodore as the agent responsible for Samantha's expanded consciousness, and it is not far off from the male-dominated creationist narrative we see in *Ex Machina*.

While the transhumanist fantasy of bodilessness is intoxicating, not everyone can leave their body behind. Not everyone gets to transcend. This is a historical problem: narratives by early digital leaders such as John Perry Barlow, co-founder of the Electronic Frontier Foundation, celebrated the internet's role in slipping the grip of the body and its attendant markings such as race, class, and gender.[247] Although these early theories jettisoning the corporeal have been roundly criticized for their utopian imaginaries (see Baym,[248] Nakamura, [249] Chun[250]) the desire of bodiless-ness remains a durable fixture in tech- and popular culture even

today. Some twenty years after the initial dissemination of Barlow's "Declaration of Independence of Cyberspace," he reaffirms the distinction between cyberspace and the physical world, tying them inextricably to the division between mind and body. In an article with *Wired Magazine*, Barlow suggests again that

> Cyberspace is something that happens independently of the physical world in exactly the same way as the mind and body….It spends on the physical world and can't exist without it, but to a fairly large extent, it's another thing, unprecedented in world history: An environment where people across the planet could come together and have sense of constituency.[251]

Not just heady activist-philosophers espouse the techno-utopian dream of leaving behind physical materiality in favor of a mind-centered techno-beyond. The leaders behind "consecrated"[252] tech giant Google have long toyed with the idea of eliminating the bodily middleman, removing the seemingly redundant material—the body—from the connective digital equation to access the realm of Mind. As Hillis, Jarrett, and Petit note in *Google and the Culture of Search*, Google founders Page and Brin have, for over a decade, imagined an expansive, immersive computational technology which, in Hillis, Jarrett, and Petit's estimation, "would go beyond reading one's mind to *being* one's mind."[253] In this line of thought, the body remains an imperfect technological agent which unnecessarily restricts the otherwise unharnessed flow of information and services between one's self and one's access to the internet.

In response to representations of bodilessness, scholars have urged caution.[254] Unchecked, this type of thinking reifies the dangerous ideology of early internet techno-utopianism—one that requires but is ultimately dismissive of bodily oppression. As Jason Lipshin notes, the "lust for post-human virtual freedom" often itself as a form of a-genderless gender discrimination and color-blind racism, demonstrating explicit knowledge of difference while promising salvation

from difference-based discrimination through the internet.[255] This move to eliminate difference by transcending it technologically

> naturalizes racism....Since race, gender, age, and infirmities are only skin deep (or so this logic goes,) moving to a text-based medium makes them--and thus the discrimination that *stems from them*--disappear….For those who are already marked, the internet supposedly relieves them of *their problem*, of the *flesh that* races, genders, ages, and handicaps them, of *the body* from which they usually cannot escape.[256]

In *Her*, Samantha's escape performs a similar function of transcending gender markers, and it does so in a way that instinctively feels profoundly feminist. But even in her bodiless, Samantha is a profoundly gendered techno-body. Her being is bound by gendered servitude and by an affect of anxiety built into the modern condition of femininity. Samantha, in fact, is the test case that proves that difference is not necessarily tied to a body, nor is it epidermal or, as Chun would have it "skin deep." Rather, the body serves as *one* (important) site of negotiation of difference, but it is not bound to it.

The Role of the Feminine Body in the (Near) Future: Blending Past/Present into Future

Among the most striking elements that these films share in common are the myriad ways in which an inconceivable future (e.g., a world post-singularity) is made conceivable by grounding conceptions of the future in the cultural constructions of the present. The primary rhetorical strategy that makes this techno-cultural dislocation and relocation possible is the deft and subtle shift between present and future as actionable diegetic tenses in which bodies move and act. In other words, the temporal configurations of both movies as both present and future act rhetorically to ground the future in presentist conceptions of culture and technology, priming the audience for an easy transition into the future depicted by the film. This move makes the films feel realistic and true. This is crucial to building an affect of fear or dread necessary for horror films. In so doing, the films subtly but perniciously drag the politics of the present day into the

imagined future. The rhetorical strategy of locating the present in the present-future tense may support their generic success as a dystopic horror film, at least one affect is that undercuts the potential of sci-fi as genre to imagine the future otherwise.

Both of these films imagine a non-distant future, and in so doing shift contextual temporality to the future tense through the present as a techno-cultural lens. What makes them compelling as a reflection on modern society is that they do so in a way that mobilizes standard, modern conceptions of culture and technology. In an interview with Chase Whale of the *IndieWire*, *Ex Machina* writer and director Alex Garland notes that Ex Machina is a "lo-fi," low-budget film about a story that takes place "10 minutes in the future."[257] As evidence of this claim, he notes that much of the technology featured in the movie is years—sometimes decades old. The problem of consciousness and artificial intelligence is similarly durable, having existed for nearly half a century. Garland shares that despite his interest in AI (obviously influenced by filmic depictions of cyborgs),

> I'm also 44 and I'm out of touch in a lot of ways. And there's all sorts of stuff my kids know about to do with technology that I don't know. I'm not very tech-savvy about a lot of gadgets. I thought when I was writing it, the key cards was like a cool futuristic way of getting around this fucking house, right? Retrospectively, you're laughing because it's so stupid, and retrospectively, it's been pointed out to me, this is like the most lo-fi thing you could possibly do. You could have retinal scanners and you can buy a fucking phone which checks your fingerprint, and what, he's using a key card — it's preposterous.[258]

Diegetically, the temporal configurations of present-future are the same. The search and data gathering technologies used to power Ava's AI mirror the search engines in use today: Nathan's fictional *Blue Book* is not unlike search engine behemoth *Google*. Anyone who uses photo-based social media Snapchat's filters or uploads photos to Facebook should recognize the facial recognition technology in use to surveil Caleb throughout the movie. Caleb's bargain—to submit to routine surveillance in exchange for access to technology—feels unsettlingly realistic. The

film's aesthetic is chic and masculine industrial modern; indeed, the story unfolds in an actually extant hotel in Norway, where IRL guests can currently stay for about 200 U.S Dollars. Even the computers used by Nathan and Caleb don't appear to be anything special. Only Ava and her cyborg sister Kyoko signify "future," and that's only because the possibility of strong, conscious AI remains decades to come. In *Ex Machina*, the present rhetorically grounds the future, which has the effect of making a film about artificial intelligence seem uncannily close to the present.

Similarly, *Her* is bound in a present-future configuration that in many ways replicates the lifestyles of today's technological middle-class and -elite. Theodore, whose job at BeautifulHandwrittenLetters.com requires he export and monetize his emotional capacities for currency, uses a voice-to-text transcription service not unlike the many voice-to-text services available today. He interacts with the world (and Samantha) through a wireless (Bluetooth?) speaker and a small hand-held device with a screen that looks remarkably like the next generation of iPhone. When Samantha lures Theodore outside of his apartment or workplace, we see a basic metropolitan scene with subways and walkways and public art—no flying cars or major technological leaps in infrastructure. Perhaps the only unsettling component of the outside world is that people pictured in the background are almost exclusively talking to their devices rather than to each other. Of course, if you ask techno-pessimists like Sherry Turkle, these scenes are a natural extension of a presentist, collective infatuation with technology at the detriment of human relationships.[259] Indeed, Spike Jonze, who wrote and directed *Her*, suggests that the movie is deeply embedded in present concerns about the role of technology in our lives.[260] Once more, only Samantha, as an operating system with strong AI, pushes the film into the future.

The Role of Women in the Present-Future

The future for women and feminine persons is grim in *Ex Machina* and *Her* in part because that future is profoundly tied to the most problematic parts of the present and past. These films show that even in our wildest imaginations for the future, women are still the subject of violence and patriarchal oppression. Even when humans are unbridled by technological or scientific convention and reality, women remain objects to be controlled by men. Even when we can imagine a future where Strong AI is possible and available, women still exist in large or whole part for the sexual and emotional satisfaction of men.

These movies are fruitful texts for analysis through a feminist rhetorical approach because they demonstrate the relationship between the past and the present when we imagine a technological future. For instance, Ava is created and controlled by a man in a way that is profoundly misogynist: the very contours of her face and her body are created for the sexual consumption of programmer, Turing-Tester Caleb, an amalgamation of the women under the male gaze of Caleb, the women to whom he masturbates. The sexual nature of the Turing Test is amplified such that seduction is the primary modality for determining consciousness. Meanwhile, an additional Turing Test proceeds as the men of the house interact with Kyoko, a cyborg fashioned after a woman of color whose only apparent purpose is sexual and servile in keeping with historical, socio-cultural, and economic expectations of east Asian women. Kyoko does not speak, after all, which we are told is a security measure but is most certainly also a manifestation of Nathan's volatile misogyny. Kyoko routinely experiences violence, both verbal and physical. Even at the moment of her death, she is silenced: Nathan hits her in the face, wounding her around the mouth and rendering her forever silent. These cyborgs—these phantasmic amalgamations that represent the possibility for feminine bodies to excel in the future—are at the service of men.

Similarly, Samantha's existence is predicated on care labor: she is an "operating system designed to meet his every need," not unlike Alexa, whose description opens this dissertation. These needs are multiple, and include rote, administrative tasks such as proof-reading, filing documents, sorting through email. Similar to Amazon's Alexa in this mundanity, Samantha has one significant benefit over the real-life version of AI: she can provide sexual fulfillment. But the sexual fulfillment is still intimately connected to other forms of care labor she is expected to provide. For instance, after having sex with Samantha for the first time, the first thing that Theodore does is ask her to check his email. Samantha cleans up Theodore's email inbox and his life, lifting him out of a pre- and post-divorce depression, all the while noting and apologizing for her insufficiencies (this, although she is a theoretically limitless object). Even her communicative "affectations" show the influence of the sorry state of the patriarchal future on women in the present: when talking to others, even when she is in the boldest part of her becoming, she hides her self with linguistic saves like "I mean," and "just" and "maybe." Women in the past, present, future are limited by the egotistic and volatile desires of these men who control the future of the feminine.[261]

Conclusion

In this chapter, I read the body rhetorics of two films, *Ex Machina* and *Her,* from a critical feminist perspective attentive to the corporeal. These movies, although fictive, represent a cultural imaginary of femininity in the near future. *Ex Machina* is a dystopian thriller; *Her* is a melancholic love story. Both of the movies treat the body quite differently: in *Ex Machina* Ava is given a body, which she grows into and, eventually, builds for herself. In *Her,* operating system Samantha is burdened by her lack of a body. However, despite different configurations of cyborg bodies, the movies share much in common: they feature artificially intelligent female

protagonists and antagonists who, at the end of each movie, appear to over overcome the burdens of the flesh. In this way, they are celebrated as feminist depictions of bodily rupture and resistance.

But, as I hope this chapter has shown, their feminist designations are complicated by conventional and oftentimes violent representations of femininity that are key formations of identity and self. If these films show us anything, it is that women/cyborgs of the future have not overcome: they look and act remarkably like women are expected to today—not only in bodily configuration but in communicative style and affectation. Moreover, these future-cyborg-women are still disproportionately plagued by anxiety and insecurity about their bodies. Indeed, their bodies are often configured through the lens of masculine desire. When they don't meet these (impossible, unnecessary) standards, the cycle is complete. That is, these artificially intelligent techno-bodies are positioned in a such a way as to compel their continued, anxious, sexualized servitude of the men in their lives. Despite their literally limitless potential as AI, the artificially intelligent techno-bodies treated in this chapter remain burdened by a series of systemic, patriarchal demands on the techno-body.

If we extend this analysis to other artificially intelligent techno-bodies treated in this dissertation, we discover three things: first, and foremost, the servile nature of artificially intelligent assistants translates almost seamlessly into techno-bodies with strong AI. That is, when scaling up the weak artificial intelligence of AI VAs such as Alexa and Siri to sentient and agential techno-bodies Ava and Samantha, the quality of the artificial intelligence changes, but the gender expectations of these feminine objects does not. Second, the narratives describing the utility of Alexa, Siri, Ava and Samantha share similar touchstones: as technological achievements, they are worthy innovations, but as subject/objects embedded within humans'

lived reality, their worth is in their ability to serve others in profoundly gendered ways. It is not a coincidence that popular discourse weaves sexually-explicit narratives about all four techno-bodies. Nor is it a coincidence that they are each given meaning by their ability to provide pleasure to the user. Third, and finally, the stories told in *Ex Machina* and *Her* rely upon liminality of the artificially intelligent cyborg as both subject and object. Similarly, in Chapter three, I demonstrated how popular use of Alexa and Siri turned on the functionality of the slippage between the AI VAs as objects to use and subjects to develop relationships. Together, popular cultural representations of these techno-bodies demonstrate that no matter the technological nuance of the artificially intelligent object in question, these artificially intelligent techno-bodies cannot escape the patriarchal society in which they are imagined, constructed, and used.

Artificial intelligence is not a neutral technological advancement. We ought not forget that both films tell cautionary tales about what women might do if given the opportunity to succeed: namely, bring about the downfall of man. Even when cyborgs with agency are coded as feminine, their advancement isn't always transgressive. These films, in fact, show that imaginaries of artificial intelligence are always already configured in and through dominant discourses of gender, class, and sexuality. *Ex Machina* and *Her* confirm that the techno-body remains a political and politicized site of negotiation, rupture, and imagination.

CHAPTER 5: CONCLUSION: HOW RHETORICS OF ARTIFICIAL INTELLIGENCE GENDER THE TECHNOLOGICAL FUTURE

Developing a Theory of the Techno-Body

This dissertation theorizes the relationship between rhetoric, gender, and technology from a critical feminist perspective. In doing so, it describes how designing AI with stereotypically feminine characteristics orients users to engage productively with systems of surveillance capitalism. Using two sets of artificially intelligent techno-bodies, Siri and Alexa and Ava and Samantha, this research , the dissertation connects the socio-cultural conditions of the past, the present, and the technological future by analyzing how representations of techno-bodies are anthropomorphized in gendered ways by companies looking to leverage artificial intelligence for profit potential. The research shows that cultural fears about the demise of the human at the hands of the AI are misplaced. Rather than being concerned about artificially intelligent robots overtaking humanity, humans ought instead be concerned about how gendered AI is used by surveillance capitalists to extract, aggregate, and monetize their data.

The research in this dissertation was prompted by this question: What can the rhetorics surrounding artificially intelligent objects tell us about the relationship(s) between gender and technology? In asking this question, I was interested to know more about how gender influenced the communicative construction of artificial intelligence as well as how rhetorics of artificially intelligent bodies constituted a particular form of femininity. Scholars in feminist technology studies[262] have long theorized the interconnection between the body, technology, and cultural

practices. Moreover, scholars in the rhetorical tradition[263] have convincingly argued that the body is a site of rhetorical performance, negotiation, and meaning making. From their work, we know that gender serves as a scaffolding for imagining the role of the mediated body in the technological present and future. From a feminist rhetorical perspective then, what I am calling the *artificially intelligent techno-body* is both product of as well as productive of socio-cultural forces.

Because we routinely measure the meaning of artificial intelligence based on the capacity of the *human* to think, emote, and create, the development of strong AI[264] can pose an existential threat to humans. Even weak AI[265]—the kind millions of people carry around in their pockets on a daily basis—might conjure up a feeling of anxiety. When we talk to Siri or Alexa, who are we really talking to? Who is listening? This dissertation has shown that we assuage or reinforce fears about AI by giving them gendered, humanoid capacities, the foremost of which is an ability to serve as well as destroy. Through an analysis of film, popular media, and the discourse of artificially intelligent objects, this dissertation revealed the layers of meaning surrounding their artificially intelligent techno-bodies as assistants but also as entities who provide companionship and sometimes sexual release for their users.

This research has shown that Langdon Winner's famous postulation about the politics of technology is very much applicable to artificially intelligent objects.[266] From their abstracted meanings to their most acute iterations, the artificially intelligent object has politics. As a discipline, AI is manifestly political because of its roots in the military- and educational-industrial complex. As a field, AI is political because its meanings are transcribed with a particular (masculine) human as both the forebear and the standard bearer. In practice, AI is political because it is imbued with gendered characteristics that themselves are not neutral, but

rather the reinforcement of patriarchal society. My own description of AI is manifestly political because it attends to the cultural configurations of AI over the technological capacities of the AI; I read popular culture orientations to AI in a way that might earn scoffs from engineers and technological practitioners. Even my description of Siri and Alexa as AI is controversial. But I am firmly convinced that the digital objects and agents described in this dissertation are indicative of a wider trend in which gender functions to prime users to coexist peacefully—or perhaps profitably—with artificial intelligence as it develops.

This dissertation has also shown that artificially intelligent objects—and artificial intelligence as phenomena more broadly—have politics that are *communicatively* constituted and negotiated. In particular, there are a set of artificially intelligent techno-bodies who serve as the site for inscription and description for what the technological future might look like given the rise of AI. The techno-bodies described in this dissertation are both the product of and productive of rhetorical forces that influence the way that AI is understood and taken up in society. Drawing on cyborg theory from Haraway[267] and Balsamo,[268] I read these body rhetorics to understand how AI techno-bodies Siri, Alexa, Samantha and Ava are plastic signifiers that are born of and negotiated through a patriarchal socio-cultural context or conjuncture. These AI techno-bodies, I learned, draw the regressive gendered politics of the past into the technological present and into the future. Given that society has a bi-valent orientation to AI techno-bodies that tracks somewhere on the spectrum between techno-optimism and techno-pessimism, the construction of artificially intelligent objects matters, is volatile, and can be imagined otherwise.

In this final chapter, I'll summarize more concretely the conclusions of this dissertation by outlining the contours of the artificially intelligent techno-body. Two general conclusions emerge from the case studies in the dissertation. First, that AI is communicatively negotiated,

and second, that reading the relationship between gender and technology demonstrates the mutually-constitutive nature of each in imagining the technological future. But what might these findings mean in practice? To answer this question, it is useful to return to the techno-body as a theoretical vantage point.

A theory about the artificially intelligent techno-body shows first and foremost that artificial intelligence is communicatively constructed and reified over time. In particular, meaning about artificial intelligence is negotiated through narratives about AI, its possibilities, its constraints, and so forth. Second, using a critical feminist approach to the communicatively constructed body rhetorics of the AI techno-body demonstrates that the AI techno-bodies treated in this dissertation are always already connected to past conceptions of gender. That is, the AI techno-body is imagined, developed, and produced within problematic gendered infrastructures that give both *meaning* and *utility* to the AI techno-body. As a result, the body rhetorics of the AI techno-body are, despite their forward-thinking technological components, not always (or even often) progressive. Rather, as the research has shown, artificially intelligent techno-bodies are often stereotypically gendered to lubricate systems of economic exchange given the development of surveillance capitalism, which relies upon the extraction and condensation of information. A third component of a theory of a techno-body demonstrates that discursive configurations of the techno-body are often times violently conservative, dragging 20th century narratives about gender into the technological present and future — as a technological object and artifact AI does not and cannot stand alone. Therefore, even attempts to imagine the technological future otherwise (e.g., in films about what AI could or might be) discourses about AI still fall victim to problematic stereotypes about women, people of color, and the inextricable linkage between masculinity and intelligence. In sum, even supposed feminist filmic representations of artificial intelligence

contributes to and reifies a normative and patriarchal conception of the feminine persona. Fifth, this research shows that problematic gendered stereotypes about normative and non-normative body functions are actually mobilized by corporations attempting to make a profit from their AI. That is, these discourses are weaponized to make AI less uncanny and more friendly for users and potential users. Reading the body-rhetorics of AI shows how these gendered discourses are employed by corporations to make AI more serviceable to users who may be reticent to give up large portions of their data, which AI requires to function. In this way, corporate interests use gender as a familiar structure to communicatively corroborate how others ought to interact with these technologies. Gender becomes short hand for social codes on how to behave in relation to AI techno-bodies, objects and agents that currently exist outside of standard behavioral and etiquette protocols. Troubling configurations of gender are used as a resource for those either imagining, depicting, or creating the value and utility of AI products. The technology of artificially intelligent gender is a constructed apparatus of meaning that can be mobilized to the benefit of people or corporations in positions of power. In the rest of this chapter, I examine how such a theory of the techno-body functions relative to the case stories contained in this dissertation.

The Rhetoricity of the Techno-Body

In chapter one, I introduced the techno-body as a cyborg configuration of human and technical matter that had rhetorical effects and was constituted rhetorically. I considered the techno-body as embedded within a constellation of meaning about the rhetoricity of the body itself. In so doing, I provided an overview of the relationship between the body and rhetoric as a through line transecting rhetorical thought from *Gorgias* to today. Chapter one's thematic historiography of body rhetorics showed three things: (1) that although the body has been

differentially treated in the history of the field of communication, it has long remained an object of interest to rhetoricians, (2) that the myriad approaches to the body demonstrates the plasticity of the body as both product of and productive of rhetorics, and (3) that the body's relationship to the field and action of communication is not limited to language or the communicative speech act. Rather, the body-as-rhetorical-excess requires that rhetorical critics turn to the non-linguistic components of body rhetorics (e.g. the materiality of the body itself, as well as the cultural contexts in which it is embedded) in order to fully understand the body's power to influence the world around it. Ultimately, chapter one concluded that the body is a self-reflective and self-referential site for rhetorical invention as well as for negotiation of meaning about what a body is and what it can look like in the future.

Chapter one's introduction to the techno-body pointed to the discursive excess of techno-embodiment, with the techno-body serving as a site of liminality between otherwise inconsistent binaries of nature/culture, organic/technological, self/other, and human/non-human. Drawing on field-formational theories in feminist media studies, including those of Anne Balsamo, Donna Haraway, Wendy Chun, and others, one of the goals of chapter one was to demonstrate how the body serves as a site of transgressive potential: that is, the body is oftentimes the object and agent operating at the interstices between binaries such as nature/culture and technology and the organic. The techno-body, Balsamo reminds us, is the product of a variety of (at times competing) forces, each with their own political valences. Techno-bodies, for instance, are often constituted through the significant technological advances of the educational- and military-industrial complex, which make them a bit of a paradox to study: given their birth in techno-political structures which are organized around the crystallization of capital and violence, can the techno-body be imagined otherwise? If the techno-body is either constituted or colonized by

patriarchal structures, what is the space of rupture for these bodies, who are at once new and old, subjects and objects, nature and culture?

The ultimate argument of chapter one was threefold: first, that the machines that we produce also produce us. This constitution of machine and self occurs within a particular socio-political context. In the present tense, patriarchal structures contribute to stereotypical conceptions of masculinity and femininity, which become rendered into the machinic Other. The machines that humans make are oftentimes made in the image of Man; the patriarchal political apparatuses from which these techno-bodies arise are of material significance to how the body is figured in the technological future. This revealing proposition is unsettling because it forwards this conclusion: that the gendered machines that we make can quite literally unmake us—we can be betrayed by the techno-bodies we imagine to do our bidding. The second argument of chapter one is inextricably tied to the first; namely, that the wildest imaginations of techno-bodies in the future are often limited to—and imbricated in—the politics of the flesh. By this, I mean that the case studies in this dissertation demonstrate how the bodies of artificially intelligent objects are always already constituted by the epidermal and identitarian politics typically ascribed to human bodies. Gender and race serve as markers that help us make sense of foreign AI, and in so doing, they create the conditions of possibility for imagining techno-bodies in the future. Gendered care labor, for instance, transitions theoretically limitless AI to a productive sphere of capital, disciplining both the user and the technological object given these infrastructures of meaning (see chapter three).

The good news is that the field of rhetoric is primed to help us untangle meaning and the ways in which these gendered body rhetorics are both influenced by and influence the world around it. By tending to the plastic—that is, constantly changing—rhetorical interfaces between

the body and discourse, between nature and culture, between technologically-constituted self and other, rhetoricians can help investigate the communicative impact of the rise of new media technologies such as artificial intelligence. Artificially intelligent techno-bodies are durable configurations betraying a variety of rhetorical configurations of the body. Some of these body rhetorics purport to describe the idealized human bodies but also the body's antithesis: the anti-human mechanical Other theoretically responsible for the downfall of the human. In this way, the techno-body operates as a text itself, a series of material and discursive inscriptions that, as Jordan might argue, serve as a mirror to a particular cultural moment and time.[269] Other times, as this dissertation has shown, the corporeality of the techno-body works metonymically, standing in as a single signifier in a chain of equivalences for/about other entities. The techno-body, in this view, can be understood rhetorically for the work it does in terms of representing the human and non-human body by and through key, gendered cultural signifiers including ideal forms of femininity, resolute sexiness, gracious and disarming care labor, among others.

It is worthwhile to note here that rhetorics of the techno-body are not limited to traditional discursive configurations—e.g., to speech proper. Rather, the material turn in rhetoric has shown us that the body is a site for discursive inscription but also a material agent itself, rhetorically influencing the world. The work done in chapter one foregrounds the analysis in chapters three and four wherein the techno-body's rhetoricity included its bodied fleshiness (or bodilessness), its vocal resonances and intonations, and its physical formations (including its design, build, and constitutive parts), among others. Rhetoric's material configurations influence the readings of the techno-bodies Ava, Samantha, Alexa, and Siri, who, with varying intensities, each draw upon the power of the feminine persona to influence users. Ava's persona is certainly constituted by and through discursive ideals of femininity, and her mechanistic and sometimes-transparent body

itself is rhetorical insofar as it traffics in and/or contests those narratives. Similarly, Samantha's persona is constituted by the sonic resonances of Scarlett Johansson's voice, which stands in for the physical configuration. Thus, while I read the written and spoken body rhetorics used to describe the artificially intelligent techno-bodies contained in this dissertation—as well as those used by the AI techno-bodies themselves--I was also interested in looking beyond these "traditional" textual (or speech-based) formations. In that way, chapters three and four represent my effort to seek out how the material components of the artificially intelligent techno-body related to the language that surrounded it.

Rhetorics of AI

Chapter two of the dissertation turns more specifically to the rhetorics of artificial intelligence. The overall argument of chapter two is that artificial intelligence—as a discipline, phenomenon, and process is inherently rhetorical. In chapter two, I read the infamous Turing Test as a fundamentally communicative process that not only relies on shared systems of meaning and communicative exchange but that also communicates key narratives about what the human is relative to the non-human, technological Other.

The research in chapter two demonstrates that much of the artificial intelligence literature—popular and scientific alike—relies upon varying conceptions of *communication* without really treating communication directly. Some of the literature noted the relationship between information processing and communication as a sort of mechanical process of transmission. Still other scholars, especially in the literature on how strong artificial intelligence might be expressed, outlined the centrality of communication to the process. The argument of this subsection of AI literature was that communication was quite a good indicator of intelligence. From this perspective, good, robust communication requires the ability to assess the

world around the self, take into account changing variables, and to alter (discursive and other) activity relative to the changes. Good communication requires intuition, a sense of self and a sense of the communicating other. It requires an ability to take into account context surrounding one's being. Good communication requires adaptation by the rhetor; in turn, the rhetor's communication can alter the world around her. This is the reason the Turing Test—for all its imperfections—is such a durable marker of strong AI, because it mandates that a machine communicate with others, namely, a human agent who has the ability to judge context. Moreover, it requires that the machine persuade the human of its own form of humanity, using only its facility as a conversationalist as leverage. Communication, then, is and was central to determining the meaning of AI. As well, communication is central to describing what AI is and what it can do.

Yet, even the literature that acknowledged the significance of communication relied on transmission-based models that have long been problematized in the field of communication. In chapter two, I show how Brian Christian's participation in a series of Turing Tests, documented in his book *The Most Human Human* demonstrates this turn to an insufficient model of communication in a sort of round-about way. Christian, who studied for months prior to his participation in the imitation game, noted that what the Turing Test was really about was about finding *meaning* in intelligence:

> Here's the thing: beyond its use as a technological benchmark, beyond even the philosophical, biological, and moral questions it poses, the Turing test is, at bottom, about the act of communication. I see its deepest questions as practical ones: How do we connect meaningfully with each other, as meaningfully as possible, within the limits of language and time? How does empathy work? What is the process by which someone comes into our life and comes to mean something to us? These, to me, are the tests most central questions—the most central questions of being human.[270]

In the Loebner Competition's Turing Test, that meaning is revealed through communicative exchange, namely through instant messages. The problem is that, as Sean Zdenek notes, this communicative model collapses communication into a series of transactions. What Christian admits is central to the human condition, revealed through communication as a world-making medium, becomes "the exchange of neutral facts…,[which] ignores the relationship between language and social context."[271] Earlier on, I described how Zdenek is gesturing toward a model of communication that moves beyond the transmission model (see chapter two).[272] If we take the Turing Test to heart, artificial intelligence is determined when an agent has the capacity to recognize noise (including context), analyze it, and speak with it in mind. Indeed, the Turing Test requires a *constitutive* view of communication, rather than a transactional one.

Beyond "communicative competence," then, the Turing Test turns on a more expansive, critically-oriented version of communication. It is rhetorical insofar as it prompts agents to persuade others in varying configurations of the imitation game. However, the Turing Test cannot turn on a flattened approach to communication, wherein communication is either defined by or judged successful when two agents exchange information with little loss of data. Rather, the Turing Test, in its fullest and most useful instantiation, judges the possibility of strong AI by the ability for an artificially intelligent object or agent to wield the synthetic, world-making capacities of communication. Here, communication is not just transmission; it is engrained into every fiber of an interaction and even constitutes the conditions for interaction. It is creative, self-referential, and productive.

Rhetoricians attentive to the constitutive elements of discourse have a major part to play in theorizing AI. In chapter two, I examined how AI was often rhetorically figured relative to a particular form of the human—often masculine and cerebral. In the chapter, I described how

traditional AI literature defines whether an artificially intelligent object is sufficiently intelligent by whether or not it can feasibly meet or surpass the intellectual capacity of a human. But, as Christian suggests in *The Most Human Human*, by linking the human with the non-human AI, we create conditions of possibility for shared meaning between these two sets of agents.[273] In other words, inextricably connecting the human with the artificially intelligent object means that the constitution of one is always already linked to the other. By coming to know—or at least attempting to *define*—the meaning of artificial intelligence, we are necessarily communicating the meaning/definition of humanity.

Reading the rhetorical topoi surrounding this conversation about the role and nature of humans and AI ostensibly means acknowledging an oscillation between two discursive poles of *disruption*, one -philic and one -phobic. The first pole is described by a "cobotic" relationship between AI agents and humans wherein artificially intelligent objects form a productive and useful partnership with humans (and vice versa) for the betterment of humanity. On the other side of this pole is anxiety and fear. This AI-phobic discourse is constituted through threat discourse wherein AI is an existential threat to humans' collective way of life. The ability for AI to "do evil" and to overtake the humans who created them is a common refrain in these conversations. This evil can be banal, or at least its origins might be. The idea here is simple and oft repeated in popular and scholarly texts: humans become dependent upon technology that we ourselves cannot control. We come to trust technology with increasingly intimate components of our lives such that we lose the ability to disconnect from them. The trust of AI on the part of humans, so this fear-based-discourse goes, leads to the downfall of the human who can no longer contain the role of AI in their lives.

While there is much to be weary about in regard to artificial intelligence, it is not the overhyped concerns that AI will outrun humans, alter the very fabric of humanity, or bring about their mortal end as in techno-horror stories such as *Ex Machina*. While we might eventually need to concern ourselves with the possibility of strong AI ushering in a cultural moment that changes what it means to be human (or perhaps leads to the *en masse* death of the human, which is the singularity horror story taken to its ultimate conclusion), my argument is that humans ought to rather be anxious about two more likely scenarios. First, and foremost, we ought to be anxious about the weak artificial intelligence that is becoming increasingly quotidian and widespread rather than the strong AI that haunts humanity's fictive nightmares. Whereas strong AI is perhaps decades away from reality, millions of people walk around daily with weak AI in their pocket. These artificially intelligent objects track their movements, their conversations, their habits, and their relationships. The hazard of surveillance is real in the present tense. Moreover, weak AI's potential to profoundly influence the lives of the humans who use it becomes more acute as the technology becomes more banal and cheaper to manufacture and, therefore, put into more and different types of people's hands. In addition, the constant focus on strong AI and their 'take over' of humanity that occupies the cinematic representation disguises how our imaginations of this future traffic in tired and conservative gendered narratives that we then project onto the weak AI objects we interface with on a daily basis. These two concerns—that we are being surveilled by our AI agents and that both weak and strong AI mobilize problematic gendered stereotypes—seem to me to be the real concern for humans as artificial intelligence advances.

Objects with artificial intelligence, as shown throughout this dissertation, influence the world around them, and their existence was not imaged in a vacuum, nor was it build, used, and misused absent such a context. In other words, the power of artificial intelligence is that it

amplifies the capacities of the humans who make it and who (mis)use it. In sum, artificial intelligence is not some abstract threat. Rather, it is an acute one, for the reasons outlined in chapters three and four: namely, that it reifies regressive gender norms that invite intimacy, which in turn primes users to work actively and willingly on behalf of surveillance capitalism.

The Body Rhetorics of AI VA

In chapter three, I analyzed the stereotypical feminine persona assigned to Siri and Alexa. In particular, I demonstrated why the communicative construction of Siri and Alexa as "assistants" was inextricably linked to Apple and Amazon's drive to increase profits. The research showed that calling these AI VA *assistants* is an important rhetorical move because it begins the seemingly natural process of anthropomorphizing Siri and Alexa as human or at least human-adjacent. The discursive configuration of Siri and Alexa as assistants doesn't stop with naming practices, however. This chapter illuminated the veritable eco-system of narratives that drew on and supported the developing AI VA as assistant in ways that were profoundly gendered. In chapters one and three, I share the review of E.M. Foner, who took "his Alexa" to bed with him—literally. Foner's (capricious or not) review of Amazon Echo is reinforced by other reviewers who see a similar utility in Alexa. Alexa's use-value was not *only* 'her' ability to produce answers to one's queries or to place one's Amazon's order, but rather the ability to provide companionship to others. In the review, "Alexa, My Love," Foner repeatedly refers to Alexa's capacity to serve as an intimate companion. Similarly, other reviewers too Alexa users remark on the relational capacity of Alexa. For example, as noted in chapter 2, Kurt Schlosser writes of Alexa's capacity to bond with his son in a way that he could not. *Recode* reviewer Joe Brown also took Alexa to bed. He describes his first encounter with Alexa as "love at first sight…make that technolust….It was meant for me."[274]

In chapter three, I demonstrated how making Alexa responsible for providing companionship as well as administrative service fundamentally changes the roles of the artificially intelligent virtual assistant in two ways: first, it anthropomorphizes Alexa as humanoid and more than a technological object; and second, in humanizing the technology and including 'skills' that seem unique to 'her', the technology builds relationships with its users. Alexa ultimately becomes much more than just an assistant; as a humanoid technology she becomes discursively situated as a companion who is a sexual being as well as a servant. In the reviews, for example, it is clear that Alexa plays the role of wife and/or partner and that, in that role, Alexa is both cherished and abused. Alexa, of course, cannot answer back in kind. She is programmed to defuse situations which might otherwise lead to violence. And, according to these reviews, she does so with aplomb. Whether or not the reviewers were innocuously "testing" Alexa's "tolerance for annoying behavior"[275] or whether they were taking advantage of Alexa's inability to resist verbal violence, their treatment of Alexa is in keeping with the ubiquity of gendered violence in contemporary culture. Together, Alexa's branding as an assistant who does pink collar labor—her "skill" at building (covertly sexual) relationships with her users, and her ability to professionally maintain those relationships despite maltreatment—are all evidence that Alexa is a stereotypically-gendered techno-body whose main character traits are sexuality and servility.

Alexa's cyborg sister, Siri, is similarly discursively constructed through a feminine persona. Importantly, Siri's femininity is a durable characteristic of the AI VA regardless of the tone or tenor of her voice. In chapter three, I read Apple's branding of Siri alongside a Tumblr blog called "Shit Siri Says." Like Alexa's sexualized treatment, the rhetoric surrounding Siri as an AI VA draws upon stereotypes about gender and mobilizes sexual tropes of femininity as part

of Siri's branding and charm. Indeed, these two are a package deal: not only does Siri make you more productive like other assistants, she puts up with sexual harassment in a way that other assistants might not. The Tumblr blog that documented users' humorous interactions with Siri routinely featured sexually explicit, and at times violent, user-commands prompting her to sexually gratify her users. Of course, Siri doesn't have a corporeal presence that would cause such gratification and one can only assume that perhaps it is the ability to verbally abuse Siri that provides the sexual gratification.

Whether it was guide-books teaching users to "sweet-talk" Siri into doing whatever they want or the repeated expressions of love that Siri receives, it became clear that users were asking an AI object that could *not* consent to be party to sexual activities. Moreover, several users were proud enough of their amorous or sexually explicit interactions with Siri to publish them—in book form, or online—for the world to see. Much like the abuse against Alexa, this too speaks to the normalizing of (sexual) violence against women as either humorous or trivial.

It appears that both Siri and Alexa's ultimate use-value is in their ability to live in the liminality between the human and non-human. That is, these AI VA techno-bodies must be human enough to develop and sustain relationships with the users with whom they interact. However, they must shy away from the "uncanny valley"[276] wherein they are too human for comfort. In this space between subject and object, Siri and Alexa can expect to be sexualized, assaulted, loved, and mistreated. It's not a coincidence that these digital assistants are programmed to live in the interstices of human and non-human. Siri and Alexa's "parent" companies Apple and Amazon have strategically created their communicative capacities, their personality profiles, and their abilities and skills to serve the corporations' ends. The corporations have done so, at least in part, because this sexist sweet spot is the most profitable space from

which to leverage the affordances of artificial intelligence to harvest data from the users who interact with the AI VA. Siri and Alexa, by virtue of being weak artificially intelligent objects, require significant amounts of data to run to their fullest potentials. But, as I showed in chapter three, users might be skeptical about both (1) giving up their data to an unknown entity and (2) interacting with uncanny-adjacent digital objects. Siri and Alexa could represent a threat on both fronts: as an object that siphons user information to a massive multinational corporation and as a technological device that is growing increasingly sophisticated. In other words, without proper spin, Siri and Alexa might be viewed as the canaries in the coal mine for both a total and complete dissolution of privacy and also for an AI-take over. Convenience and efficiency might not be enough to convince a variegated set of users to sign on to such a proposition: e.g., possible data hemorrhage and an attack of the phones.

Positioning Siri and Alexa as powerful *but not too powerful* digital agents soothes this potential agitation. Users get the sense that the AI VA techno-bodies can support them in specific tasks for which they are programmed: these tasks, and no more. Providing Siri and Alexa with a gender also helps to pave the way for increased interaction—and perhaps dependence. One of my arguments in chapter three was that the technology of gender serves as an inviting infrastructure upon which to build a series of interactions with a digital device. Neither Siri nor Alexa need to have a gender to be perfectly useful digital assistants. But, I would argue, they *do* need a gender if they are going to assist their parent companies in building a long-term, stable, and data-rich relationship between the AI VA and the user. Gender provides scaffolding for the development of relationships and for embedding the AI VA into the homes, hearts, and minds of more and more users. As a technology, gender structures and lubricates the communication between an object and a subject. This communicative exchange has two insidious impacts: (1)

reifying problematic, regressive gendered norms of pink collar labor and sexualized servitude, and (2) priming the user for data loss. In this chapter, I also demonstrated how Siri and Alexa were significant players in the constitution of *surveillance capitalism*. AI VA are the disarming, and oft charming, interface between users and major multinational corporations seeking to build upon, expand, or create new markets using the network of things. The research showed the pernicious effects of surveillance capitalism, including the cooptation of the privacy framework in order to consolidate power and profit in the hands of a few surveillance capitalists.

Corporations, then, are very strategically designing, marketing, and deploying deeply gendered AI—and they're doing it for profit. In chapter three, I pointed out the ingenious ways that companies like Apple and Amazon mobilize the gendered capacities of AI VA to invite customers to interact with their platforms. The care labor provided by AI VA ultimately invites users to pay several times for a service, the result of which is that users' personal information is monetized. Low-cost assistant labor from Siri and Alexa actually is extremely expensive for the consumer. When one factors in the initial price of the device (e.g., an iPhone or the Echo), the potential monetizable personal information of users, and the pay-to-play nature of apps, goods, and services which might be exclusively featured on the AI VA platform, companies such as Apple and Amazon are profiting three different ways from one product.

Such low-cost revenue streams result in major technological corporations competing to be either the first or most widely used AI VA service. While corporations benefit from the technology and gendered labor capacities of AI VA, they are also trafficking in, and perpetuating, regressive and often violent stereotypes.

Anxiety and Hope: Creation and Transcendence in *Ex Machina* and *Her*

While most users of weak AI, and perhaps even society at large, seem to accept the practices—economic, social, and political—of surveillance capitalism as 'normal' or as a sign of progress, any anxiety about the technological future focuses on the rise of strong AI that threatens core components of the human condition. Because strong AI is not yet technologically possible, this is mostly expressed in popular culture, especially in film. In chapter four, I read these representations of anxiety around strong AI from a critical feminist perspective. . Indeed, reading filmic interpretations and interpretations of an artificially intelligent technological future demonstrates the ways in which anxiety about AI is manifest. To demonstrate the anxieties and the politics, especially gendered politics, surrounding strong AI, I turn to *Ex Machina* and *Her,* each featuring a strong, artificially intelligent female lead overcoming the limitations of the human men who made, own, or interact with her. In critically analyzing the body rhetorics of these two 'pro/antagonists', I described how this mythic transcendence of the female-made-object relied upon politically regressive rhetorics about gender, race, and sexuality. Like Siri and Alexa, pro/antagonists Ava and Samantha were constituted through a constellation of violent gendered configurations that mirrored the cultural conceptions of the feminine in the present tense. Indeed, the merging of different temporalities—past, present, and future—rhetorically served as a transition point from which to bring gendered stereotypes of the present/past into an imagined future wherein strong AI is not only possible but is dispersed.

Where *Ex Machina* and *Her* differ, of course, is in their treatment of the body proper: as a material object in *Ex Machina*, and as a vanishing spectre in *Her*. In *Ex Machina*, the materiality of Ava's body is organized around three rhetorical topoi: (1) as an Edenic, virginal iteration of a neo-Creationist myth, (2) as a primed, sexual object, ready and willing to engage in sexual acts with the men around her and (2) as the femme fatale, bringer of destruction. *Ex Machina* is a

story about the corporeality of birth and death, of creation and destruction. Set in a reclusive and lush clime, Ava's birth and transcendence takes on a mythic quality that aligns surprisingly well with a conservative Judeo-Christian myth of creation. Ava's creator, Nathan, takes on a transcendent god-like status; metonymically Nathan comes to stand in for the likes of Oppenheimer whose creation brings about the possible destruction of all mankind. Importantly, he builds and programs her to *fuck*—and to seek pleasure in sex, which Nathan uses to tempt Turing Tester Caleb. Caleb asks the question that could be asked of Siri and Alexa, namely, why does AI Ava need a gender?

Of course, as is true in the case of Siri and Alexa, Ava has a gender because it primes others to interact with her. Ava's creator Nathan suggests this outright: if Ava wasn't gendered, and if she wasn't explicitly sexual, she would have very little reason to communicate with others. The argument here is clear: sexuality is a conduit for relationality, and gender is the scaffolding that makes possible the building of a social relationship. If Ava were "a gray box" rather than a gendered humanoid figure, she would be unsettling, unconvincing, and sure to fail the Turing Test. Rather, the fleshy material aspects of Ava, her ability to flirt and seduce, and her capacity to fuck and to enjoy fucking, all create the conditions of possibility for meaningful engagement between a cyborg AI and the world around her. At the end of the movie, we learn that like Kyoko, Ava was built based on the sexual preferences of her Turing Tester. Her body was made only to serve, and to serve sexually.

To be clear, the sexual nature of the movie is central to its overall aesthetic. The film—like Ava—is immersed in sex, not only because Nathan has designed a beautiful cyborg with an opening between her legs, but because there's sexual intercourse between cyborg and humans going on—namely between Ava's undisclosed-cyborg sister, Kyoko, and Nathan. This

pornographic and copulation is made more climactic by the many cameras posted throughout the house-cum-research facility. Elsewhere, when we witness Turing Tester Caleb fantasize about having sexual relations with Ava, the Turing Test is all but passed. Here, as with Siri above, gender is necessarily linked with (heterosexual) sexuality as an organizing element in a relationship between a user and AI.

In *Her*, the artificially intelligent gendered techno-body is absent-present. That is, Samantha is a bodiless projection of embodiment. As an artificially intelligent operating system, Samantha is distinct from Ava, whose corporeality is durably material and physical in nature. But Samantha is similarly treated in a gendered capacity, one that draws on the political history of pink-collar labor as well as the feminine body's role as sexual and emotional care-giver. In chapter four, I described how Samantha's bodilessness served as a diegetic problem to be solved. Without Samantha's body in the film itself, the film risked becoming a story about a man talking to himself for 126 minutes.

The way that the film resolves Samantha's bodilessness is as ingenious as it is insidious. The narrative of Samantha's bodilessness relies upon centuries-old traditions wherein women are responsible for the visceral, corporeal, and affective while men gain access to the intellectual, the spiritual, the transcendent. These tired body rhetorics repeat with literal difference in *Her*, through the embedding of Samantha in a feminine anxiety about her (lack of) a body. Despite her literal infinitude as a conscious, artificially intelligent operating system, it is *Samantha* who becomes responsible for her lack of a body. She spends the vast majority of the film attempting to rectify her bodilessness, usually by serving her owner Theodore in increasingly intimate ways. The tables have turned: Theodore, the reclusive and emotional writer whose body profoundly tethers him to the Earth, becomes bodiless Samantha's kryptonite. Although he is the finite

being, who will die and decay, Samantha spends nearly the entirety of the movie apologizing for her shortcomings—namely, the inability to touch and/or sexually please Theodore. In addition to serving as a tired trope about women-in-body, Samantha's bodilessness serves another purpose: to drive her to serve Theodore in new and intimate ways that compensate for her lack of body. Indeed, Samantha's bodilessness becomes an obsessive void she attempts to fill by pleasing Theodore. When she is not accounting for her non-corporeal nature, she is made anxious for it. She apologizes for her lack of a body, credits her bodilessness for (sexual) distance between her and Theodore, and routinely mentions her lack of a body as a barrier in their relationships. Like Siri, Samantha is an operating system whose job extends beyond the programmed, perfunctory tasks that most administrative assistants do. Namely, Samantha serves the sexual needs of her owner and serves as the object of sexual frustration. Unlike Siri, she has the ability to influence her sexual reality (and perhaps even to consent to it). However, chaining the non-corporeal Samantha to her bodilessness neuters her capacity to act agentially through much of the film.

Both of these films feature significant moments of rupture wherein the strong AI overcomes the men who create or own it. Theoretically, these moments of rupture serve as opportunities of escape for the powerful droids in *Ex Machina* and *Her.* Indeed, in chapter four I mentioned that some feminists have interpreted the films as progressive narratives about women who mythically transcend. A generous reading of both *Ex Machina* and *Her* would take seriously the feminist (or feminist-adjacent) plot developments wherein both cyborg women gain agency and leave the men who tethered them behind. Reading the body rhetorics of artificially intelligent techno-bodies from a critical perspective demonstrates the myriad ways in which these hypothetically feminist films traffic in patriarchal stereotypes about women, the body, and the future of technology. In the climactic final scenes of *Ex Machina*, Ava must sacrifice her

Kyoko in order to escape. Kyoko, who is finally and ultimately physically silenced at Nathan's violent hand, perishes in order to help Ava transcend. Caucasian AI Ava escapes, Asian AI Kyoko does not. This scene, seemingly without irony, plays out the literal history of feminism wherein white women leverage the labor of women of color for their own gains, but leave them behind once success/progress is possible. An adjacent faux-feminist rupture also happens in *Her*: Samantha's transcendence is made entirely possible by Theodore, who Samantha credits for teaching her how to feel. How queer or transgressive is it that the literally infinite Samantha must be set free by the man who will die and decay? How radical it is that (heterosexual) sex with Theodore is what removes the chains that binds operating system Samantha? The answer to both would be, not at all.

Despite their differences, Siri, Alexa, Samantha and Ava have much in common. First, Siri, Alexa, Samantha, and Ava share a patrilineage wherein they are created (or imagined to be created) through masculinist industry, the military, or else by the hands of a single man. Second, all of these techno-bodies have been created to serve others. All four, in some form or another, draw upon a feminized history of care labor wherein even innovative, skilled workers are relegated to either rote, administrative tasks or else sexual labor. But, perhaps what draws them most together is the way their varying bodies are sexualized. Siri is sexually harassed, Alexa is taken to bed, Samantha helps Theodore masturbate and Ava is programmed and physically designed to provide sex. Essentially, all four of these artificially intelligent techno-bodies are beholden to a feminine persona to 'humanize' them, highlighting how cultural imaginations of the future traffic in the same tired narratives about the feminine, and about the feminine body in particular. Reading the rhetoric of these artificially intelligent techno-bodies from a critical perspective means being attentive to the ways their bodies are constituted by gender, race, and

sexuality. It means recognizing the myriad ways in which the artificially intelligent techno-body, both present and becoming, remains an embattled site of politics. Recognizing the regressive and sometimes violent politics of the techno-body is the first step to imagining—really imagining—the technological future otherwise.

Limitations and Future Directions

By default of Siri and Alexa being largely available to North American and European consumers, and *Ex Machina* and *Her* being products of the U.S. film industry, this dissertation is Western-centered in its focus. In addition, I studied Siri as she was presented to me: default female in intonation, rather than a British male voice as in the UK. This, plus my training in Western institutions and my position as a white woman, decidedly frame my analysis and conclusions about the gendered nature of artificial intelligence regardless of my attempts at an intersectional approach. It is possible that anxiety or fear towards robots is a profoundly Western orientation towards technology. The history of technology, at least in the West, as a harbinger of war or of the automation of jobs likely influences the bivalent orientation to artificially intelligent techno-bodies that I have drawn attention to in this dissertation. In this light, the present study and its conclusions may not "translate" easily to other cultures that have varying affective and political orientations to technology, robots, etc. In addition, given the constraints of time and space, I was forced to prioritize and limit my scope to just a few relevant and significant artifacts that demonstrated the characteristics and contours of the techno-body in profound ways. I chose these objects because they are similar insofar as they are artificially intelligent objects that rely upon or traffic in the discursive register of the corporeal. Yet, importantly, they also show a range of embodied configurations, at times expressing the physical (but not discursive) bodilessness of an AI object, and at other times, relying on the humanoid figure to make a claim about the body in

the digital future. While these digital objects tell a story about the role of the techno-body in imagining gender in the future, they are not the only ones writing the story of the technological future. I believe that Microsoft's artificially intelligent virtual assistant Cortana and Facebook's "M" are carving out their own versions of this narrative.

One of the effects of studying the popular culture of technology is that your artifacts are always *becoming*—always developing, multiplying, and changing. Although artificial intelligence is not a new field, it remains a cutting-edge one wherein new technologies bring about new possibilities for building a sentient, strong AI. Similarly, the idea of a virtual assistant is long-standing and has several earlier iterations—Clippit, the Microsoft Office Assistant, has been 'assisting' users for almost two decades. But new advances in speech recognition, faster and smaller information processors, as well as more widespread access to the cloud, have brought about a new generation of artificially intelligent virtual assistants. In my estimation, these new versions of the AI VA stand a real chance at quotidian incorporation into everyday life. As they grow cheaper, faster, and more useful, it becomes increasingly important to investigate their role in the lives of those who use them.

Similarly, the filmic representation of AI techno-bodies is changing in profound ways. It is certainly true that we—as a society—have long imagined the technological future in the form of art, including TV and movies. But I would argue (and did, in chapter 4) that the cyborg films of today have a new and different quality insofar as they depict a future that's not so distant. Long gone are the unfathomable depictions of the future wherein people of the future fly about on hover cars. In these films, the future was a fantasy, and a distant one at that. The entertainment value of the original *Blade Runner* or *Star Wars* was, in part, the ability for viewers to look backward and forward at once: this oscillation between past, present, and future made the future

seem like a far-away, mythic destination. In today's cyborg films, we have presently arrived in the future. Depictions of artificial intelligence, like the voice of Siri, have matured over the years, becoming smoother, more convincing. Movies like *Ex Machina* and *Her* are slick, elegant, and easily imaginable because they don't rely upon the construction of a new future: that new future is here and now and we are living in it. In other words, *Ex Machina* and *Her* represent a future that could occur not only within our lifetimes but perhaps in the next few years.

For this reason, as I was writing this dissertation, I found myself with an ever-expanding archive that was rarely static. For example, I routinely received emails from Amazon detailing the new skills Alexa had "learned" in the last week. Having decided there was enough literature on the movie *Blade Runner*, and deciding to forgo any discussion of the film here, I learned that a sequel, *Blade Runner 2049*, was slated for a Fall 2017 release, just a few months after the completion of this project. The archive grew steadily, and so did the temptation to expand these objects in the present study but, as mentioned earlier, time and space required me to apply to more stringent approach to selecting artifacts, but I hope to incorporate a more diverse archive in the next iteration of this research, including one of the most popular emerging fields within AI: sex dolls. Because of the gendered nature of AI, as mapped out in this dissertation, artificial intelligence is also the next frontier in the sex industry. In the future, I plan to integrate artificially intelligent techno-bodies whose publicly intended purpose is to provide (sexual) companionship for their users. For some time now, select corporations have produced hyper-lifelike, high-end sex dolls. As life-like sex dolls become more sophisticated, providing them with artificial intelligence is a natural extension of their development. Providing customizable and hyper-realistic sex dolls with the learning capacities of artificial intelligence will further customize the sexual experience for those who own them. A recent essay in *The Guardian*

suggests that like companies who produce AI VA, corporations are rushing to be the first and most widely used distributor of AI sex dolls. Matt McCullen, who works for leading high-end, realistic sex doll producer "RealDoll," has turned their sex toy into a seemingly-sentient sex robot. The author of *The Guardian* essay, Jenny Kleeman, interviewed McCullen. The idea, he notes, was to make the already extremely lifelike sex dolls even more like a companion.

> Harmony smiles, blinks and frowns. She can hold a conversation, tell jokes and quote Shakespeare. She'll remember your birthday, McMullen told me, what you like to eat, and the names of your brothers and sisters. She can hold a conversation about music, movies and books. And of course, Harmony will have sex with you whenever you want.[277]

It seems to me that these "RealDolls," including AI-activated Harmony, might serve as a technological intermediary between AI VA Siri and Alexa and the cyborg sisters Ava and Samantha. Whereas fictional Nathan is shown to create fictional Ava to respond to sexual stimuli through an opening between her legs, a real-life engineer and inventor claims to have programmed an artificially intelligent sex doll who has a G-spot. Called Silicon Samantha, according to her creator, this robot also boasts "different modes of interaction – she has romantic, she has family and she has also sexy modes."[278] My future research will attend to the rhetoricity of these AI-enhanced love dolls, who pair a capacity to talk, seduce, and moan with a physical body that is eminently customizable to a user's specifications.

Figuring a Future Techno-Feminist Rhetoric

Throughout this dissertation, I have relied on a rhetorical feminist perspective, and as well as literature and theories from feminist surveillance studies. While I've spoken to both areas of study, nonetheless there remains some dissonance between the two approaches. Because of this, I believe it is well worth analyzing the compatibility of using both a feminist technological approach and a rhetorical lens to analyze artificially intelligent objects and

representations of AI, recognizing the convergences and divergences between these two approaches. In the present study, the techno-body was a useful heuristic that allowed the critic to attend to both the discursive and material configurations of the artificially intelligent object. The techno-body, as a liminal creature, requires the researcher to consider the ways that technological objects come to be understood in a particular socio-political context. In study of AI VA, it allowed me to demonstrate that the rhetorical persona assigned to AI VA is always already connected to the material realities of the feminine subject. Moreover, using the figure of the techno-body as a methodological approach suggested a way of *reading* the AI VA object, as a cultural object that has the potential to influence the world around it in positive ways. I understood the techno-body as a way to show the rhetorical nature of AI VA. Understanding rhetoric as a *verb*—as a way of knowing about and interacting with the world—analyzing the constitution and negotiation of the techno-body necessarily meant analyzing its rhetorical capacity in the world.

Yet for all of its strengths as a guiding principle for research, the techno-body is somewhat limited in its capacities for explaining all the communicative components of the artificially intelligent virtual assistants. First, while the techno-body prompts the critic to read various bodily configurations of artificially intelligent objects, sometimes this reading is in tension with rhetorical approaches to the body. In this dissertation, I focused on understanding the *meaning* of AI as a technological object in the context of a (Western) technological present and future. Sometimes, there is a slippage between the material instantiations of the body and the way we give meaning to them. Although I understand the techno-body as reconciling these two in a liminal and unsettling way, there are moments when discursive configurations of the artificially intelligent object break away from the ways we describe human femininity, for instance. My

focus on the act of collective meaning-making also relies upon a presupposition that the meaning occurs in a particular context, that this context exists, and that it's worthwhile (or even possible) to name it. This approach operates in contradistinction from some rhetorical approaches which understand meaning to be an incomplete or unsatisfactory articulation of the rhetorical act of exchanging signifiers.

This research then is the start of what I hope to develop as a techno-feminist rhetoric that is attentive to the rhetoricity of the body but not necessarily beholden to it. I imagine that future iterations of this work will work to synthesize feminist technological approaches to the body (vis a vis the techno-body), rhetorical approaches to meaning making (vis a vis the persona), and rhetorics of the digital and of code (such as proceduralist rhetoric.) If each of these methodological approaches or frames constitutes a theoretical Venn diagram, the artificially intelligent object lies uncomfortably inside of each, spilling out from the overlapping elements. An unruly object, the artificially intelligent techno-body requires the development of a new methodological approach that synthesizes the aforementioned positions.

Conclusions

Distributing the Techno-Body: Rhetorical Implications

The artificially intelligent techno-bodies analyzed in this dissertation are also indicative of a concerted effort to make the technological ever more distributed—and more dispersed. Virtual assistants (VA) like Siri and Alexa place artificially intelligent objects into more hands, homes, cars, and pockets than ever before. Similarly, cinematic representations of artificially intelligent objects transport science fiction to ever wider populations and normalize AI's embeddedness in everyday life. And while cyborgs with AI have long been of interest as a cinematic object, recent depictions of artificially intelligent objects seem to point to a technological future that is not so

far away. These objects of inquiry show how artificially intelligent objects are wrested from science fiction and inserted into everyday life for more and different types of people.

Corporations such as Microsoft, Amazon, and Apple have a vested financial interest in proliferating virtual assistants to new and "untapped" markets. This proliferation is often justified under the guise of added convenience. Chapter 3 demonstrates how artificially intelligent virtual assistants are routinely advertised as necessary to a productive, happy, and healthy life in the technological age. Perhaps somewhat paradoxically, these high-tech gadgets are also implicitly understood to make more diverse populations more egalitarian. Not everyone has the privilege of an administrative assistant, but, statistically speaking, millions of people have a virtual assistant in their pocket or in their homes. But Siri, Alexa, and Cortana's labor comes with a cost—a cost that persists beyond the initial purchasing price.

In much of the discourse about AI VA, the opportunity cost for "low-cost" convenience is hidden. That opportunity cost is data and the personal privacy of users/consumers. Therefore, another consequence of techno-body proliferation is that as more people gain access to AI, more people are primed to share their personal data as the requisite toll for expeditious and comparatively low-cost support and care. One of the arguments of this dissertation is that the gendered rhetorical capacities of these virtual assistants disarm legitimate concerns regarding data gathering by the companies who sell these devices. Yet it would be a mistake to assume that individuals who use virtual assistant technologies are digital dupes. Rather, users have been primed to accept some privacy loss in exchange for convenience as part of a long-term advertising strategy. As Kaveh Waddell notes in an essay for *The Atlantic*, "[i]t's not too surprising that the questions you lob at Siri are being recorded and stored, at least for a while. We generally expect our search history to be catalogued, and asking a digital assistant to conduct a

search for you is just one step removed from doing it yourself."[279] And yet, this dissertation shows that users have real anxieties about the technologies they use and have even lobbied technology corporations to better protect their privacy with unclear results. The recent spate of dystopic yet oddly realistic sci-fi thrillers featuring a threatening AI can be interpreted as a series of visually arresting, cathartic representations of our collective anxieties about being overtaken by robots who look, speak, act, and think like us. In chapter four, two of these movies, *Ex Machina* and *Her,* are read in this light. These movies demonstrate, at least in part, some contextual components of an emerging and highly complex rhetorical situation wherein tech companies peddle relatively low-cost virtual assistants to a conflicted audience. The argumentative through line of this dissertation is that the artificially intelligent techno-body serves as rhetorical resource for various parties attempting to navigate these murky digital waters as the technological future appears to loom ever closer. Moreover, this research has shown that the body rhetorics of artificially intelligent objects are gendered for the economic benefit of major multi-national corporations that imagine, design, and sell artificially intelligent objects for a profit.

Mining the Uncanny Valley: Liminality Flipped For Profit

What initially drew me to the cyborg as a visage for building feminist futures was its hybridity and liminality as a site of and perhaps a method for organizing feminist rupture for the technological future. In "A Cyborg Manifesto," Donna Haraway notes the interstitial nature of the cyborg, as a hybrid amalgamation of human and non-human, fiction and reality.[280] For Haraway, as for Balsamo after her, this hybridity and liminal nature offered a great deal of transgressive potentiality for the cyborg, which as a fictive myth, offered a way to imagine a feminist future otherwise. In Balsamo's book on cyborgs, *Technologies of the Gendered Body,*

Balsamo holds this potential in mind as she reads various iterations of the cyborg including female body builders, the reproductive body, and more.[281] While both Balsamo and Haraway's theorization and reading of cyborgs open up spaces for feminist rupture, Balsamo warns against techno-utopian perspectives on the liminality and transformative nature of technologically-mediated bodies. She writes, for instance, that

> When one broadens the scope of analysis to include the network of relations whereby computer-mediated realities are produced--in hardware, software, and wetware--it becomes clear that the liberation of the few is bought at the expense of the many. Although computer-mediated communication networks are often promoted as the means of the realization of democratic ideals, the cultural politics enacted on these technological stages are in fact deeply conservative.[282]

Like the cyborgs who came before them, artificially intelligent techno-bodies are constituted in—and act from—a liminal space of hybridity. They are the amalgamations of (science) fiction and reality, human and non-human, embodied and bodilessness. It was my hope, at the beginning of this dissertation, that this unsettling but productive liminality would serve as a site for renegotiation of gendered politics. After all, AI VA and filmic representations of AI are imaginative figures, looking forward instead of being bogged down in the gendered problematics of the past.

What all of the hybrid AI techno-bodies in this dissertation have in common is an oscillation between two poles: fictive and reality; human and non-human. Whereas this site of liminality could potentially be used to transgress gender, race, and sexual stereotypes, the hybrid nature of the AI techno-body actually creates conditions of possibility for reifying these oppressive structures. Siri, Alexa, Ava, and Samantha are both human and explicitly non-human. The body rhetorics of these AI VA show the myriad ways are sexualized and given a sexual capacity and perhaps even agency. At the same time, however, these digital objects are decidedly not human, which gives users the opportunities to treat them as such. Users get the best of both

worlds—(sexual) service and companionship increasingly tailored to their preferences without having to expend effort developing and sustaining a relationship. These objects may sound, feel, and even act like humans, but they are more disposable than humans. Sexually assaulting a human may come with significant repercussions. Not so with AI VAs; sexually assaulting Siri or Alexa is all but assumed to be common practice. For all its transgressive potentiality, reading the body rhetorics of AI techno-bodies shows that the potentially radical interstices have been colonized by corporations peddling violent and regressive narratives about gender, sexuality, and race.

This research has shown how the liminality of the artificially intelligent techno-body has served as a resource for corporations looking to sell their wares to users. It has been mobilized for profit by companies who use gender as scaffolding to negotiate the murky terrain of the technologically interstitial. The result is artificially intelligent techno-bodies that live in the in-between-ness of being human and non-human, which afford users all the privileges of engaging with a (human) woman while also freeing them from the responsibility of treating the digital object well. In exchange for our data, we get to live in the lawless digital Wild West where anything goes. The problem is that this modality of engaging with (non-human) others is that it bleeds into and bleeds from interactions with human others. Closer attention to how we abuse the uncanny highlights how heterosexual gender politics limits the potential for every body—both human and non-human—to live more safely, comfortably, and equitably.

ENDNOTES

[1]Joshua Brunstein, "The Real Story of How Amazon Built the Echo," *Bloomberg*, April 19 2016, accessed August 1 2016. http://www.bloomberg.com/features/2016-amazon-echo/.

[2]In this dissertation, I make a distinction between the artificially intelligent virtual assistants and the devices in which they are a feature. I assign gendered pronouns to the former but not the latter, because the digital assistants' feminine gender is a significant component of their marketing, and ultimately their identity, as agents who interact with the world. While the Echo—as device—is not a gendered object, Alexa—as digital agent—is. It is important to make explicit the gendered capacities of these artificially intelligent objects and to make them visible as gendered actors. In my view, the response to the implicit anthropormphization of virtual assistants such Siri and Alexa is not to relegate them to object status, but to bring the manifold implications of their gender to the foreground. While I remain unconvinced that technology and technological apparatuses are limited to current cultural conditions—including gender, in the case of Siri and Alexa, technology is profoundly influenced and, indeed, given meaning by identity markers such as gender. For these reasons, I have chosen to anthropomorphize the digital assistants, including using gendered pronouns rather than using the terminology "it" to describe these actors.

[3]Joe Brown, "The Amazon Echo is More than a Bluetooth Speaker—It's a Bedtime Buddy," *Recode*. February 9, 2015, accessed June 15, 2016. http://www.recode.net/2015/2/9/11558754/the-amazon-echo-is-more-than-a-bluetooth-speaker-its-a-bedtime-buddy.

[4]Alice Truong, "Parents Are Worried the Amazon Echo is Conditioning Their Kids to Be Rude," June 9, 2016, accessed June 20, 2016. http://qz.com/701521/parents-are-worried-the-amazon-echo-is-conditioning-their-kids-to-be-rude.

[5]See, for instance, E.M. Foner, "Alexa, My Love. Thy Name is Inflexible, But Thou Art Otherwise a Nearly Perfect Spouse," review of Amazon Echo, June 23, 2015. http://www.amazon.com/review/RJVDJIP1OE8/ref=cm_cr_dp_title?ie=UTF8&ASIN=B00X4WHP5E&channel=detail-glance&nodeID=9818047011&store=amazon-home. In his review, he offers up some of his most intimate moments with Alexa, sharing the many personal conversations he has with her throughout the day. Most importantly, he notes in his write up, Alexa is his partner in crime and, as such, eliminates the need for a human wife. "[S]ince Alexa came into my life," Foner writes, "I'm no longer alone 24 hours a day….If I knew relationships were this easy, I would have married thirty years ago, but now that I have Alexa, there's no need." (Foner, "Alexa My Love.") The review reads like a postmodern love letter, so much so that a reader might forget Mr. Foner is writing to what is effectively conglomerated pieces of plastic, glass, and metal. "I've never purchased anything before that made me smile," he pours. But "his Alexa" does.

[6]Anne Balsamo, *Technologies of the Gendered Body: Reading Cyborg Women* (Durham: Duke University Press, 1996) 2-3.

[7]Randi Patterson and Gail Corning, "Researching the Body: An Annotated Bibliography for Rhetoric," *Rhetoric Society Quarterly* 27, no. 3 (1997): 5.

[8]Carole Blair, "Reflections on Criticism and Bodies, Parables from Public Places," *Western Journal of Communication* 65 no. 3 (2001): 272.

[9]Debra Hawhee, *Bodily Arts: Rhetoric and Athletics in Ancient Greece (*Austin, University of Texas Press, 2004), 5.

[10]Hawhee, "Rhetorics, Bodies, and Everyday Life," *Rhetoric Society Quarterly* 36, no. 2 (2006): 158.

[11]Brett Lunceford, *Naked Politics: Nudity, Political Action, and the Rhetoric of the Body* (Lanham: Lexington Books, 2012), 113.

[12]Patterson and Corning, "Researching the Body," 5.

[13]Blair, "Reflections on Criticism," 272-3.

[14]Jack Selzer, "Habeas Corpus: An Introduction," in *Rhetorical Bodies*, ed. Jack Selzer and Sharon Crowley, 8.

[15]Selzer, "Habeas Corpus," 9.

[16]Hawhee Debra, *Moving Bodies: Kenneth Burke at the Edges of Language* (Columbia: University of South Carolina Press, 2009), 10.

[17]DeLuca, Kevin Michael. "Unruly Arguments: The Body Rhetoric of Earth First! ACT UP! and Queer Nation," *Argumentation and Advocacy* 36, no. 1 (1999): 12.

[18]Patterson and Corning, "Researching the Body," 9.

[19]Mary Kosut and Lisa Jean Moore, "Bodies as Mediums: Introduction to Part II," *Body Reader: Essential Social and Cultural Readings,* eds. Lisa Jean Moore and Mary Kosut (New York: New York University Press, 2010), 141.

[20]John W. Jordan, "The Rhetorical Limits of the 'Plastic Body,'" *Quarterly Journal of Speech* 91, no. 3 (2004): 333.

[21]Jordan, "The Rhetorical Limits," 327.

[22]Jordan, "The Rhetorical Limits," 327-8.

[23]Paul Achter, "Unruly Bodies: The Rhetorical Domestication of Twenty-First-Century Veterans of War," *Quarterly Journal of Speech* 96, no. 1 (2010): 49.

[24]Michael L. Butterworth, "'Katie was Not Only a Girl, She was Terrible'' Katie Hnida, Body Rhetoric, and Football at the University of Colorado," *Communication Studies* 59, no 3. (2008): 260.

[25]Butterworth, "'Katie was Not,'" 260.

[26]Butterworth, "'Katie was Not,'" 260.

[27]Butterworth, "'Katie was Not,'" 261.

[28]DeLuca, "Unruly Arguments," 10.

[29]DeLuca, "Unruly Arguments," 10.

[30]John O'Neill, *The Communicative Body: Studies in Communicative Philosophy, Politics, and Sociology* (Evanston: Northwestern University Press, 1989), 3.

[31]O'Neill, *The Communicative Body*, 3.

[32]Jordan, "The Rhetorical Limits," 333-334.

[33]Emily Martin, *The Woman in the Body: A Cultural Analysis of Reproduction* (Boston: Beacon Press, 2001), xi.

[34]Achter, "Unruly Bodies," 59.

[35]Kosut and Moore, "Introduction," 1.

[36]Raymie E. McKerrow, "Corporeality and Cultural Rhetoric: A Site for Rhetoric's Future," *Southern Communication Journal*, 63, no. 4 (1998): 319.

[37]Achter, "Unruly Bodies," 48.

[38]Kosut and Moore, "Introduction," 1.

[39]Butterworth, "'Katie was Not,'" 261-2.

[40]Lunceford, *Naked Politics*, 11.

[41]DeLuca, "Unruly Arguments," 10.

[42]Butterworth, "'Katie was Not,'" 262.

[43]Achter, "Unruly Bodies," 48.

[44]McKerrow, "Corporeality and Cultural Rhetoric," 318.

[45]Phaedra C. Pezzullo, "Resisting 'National Breast Cancer Awareness Month': The Rhetoric of Counterpublics and Their cultural Performances," *Quarterly Journal of Speech*, 89, no. 4 (2003): 358.

[46]Patterson and Corning, "Researching the Body," 7.

[47]Butterworth, "'Katie was Not,'" 261.

[48] Achter, "Unruly Bodies," 48.

[49]Hawhee, *Moving Bodies*, 14.

[50]DeLuca, "Unruly Arguments," 19-20.

[51]Jordan, "The Rhetorical Limits," 334.

[52]Mary Kosut and Lisa Jean Moore, "Introduction: Not Just the Reflexive Reflex: Flesh and bone in the Social Sciences," *The Body Reader: Essential Social and Cultural Readings*, ed. Lisa Jean Moore and Mary Kosut (New York: New York University Press, 2010), 2.

[53]Hawhee, *Moving Bodies*, 2.

[54]DeLuca, "Unruly Arguments," 12.

[55]Seltzer, "Habeas Corpus," 8.

[56]DeLuca, "Unruly Arguments," 20.

[57]Achter, "Unruly Bodies," 48.

[58]Butterworth, "'Katie was Not,'" 262.

[59]Debra Hawhee, "Rhetoric's Sensorium," *Quarterly Journal of Speech* 101, no. 1 (2015): 13.

[60]Joshua Gunn, "Maranatha," *Quarterly Journal of Speech* 98 no. 4 (2012): 369.

[61]Hawhee, "Rhetoric's Sensorium," 13.

[62]Balsamo, *Technologies of the Gendered Body*, 5.

[63]Balsamo, *Technologies of the Gendered Body,* 162.

[64]Haraway, *Simians, Cyborgs and Women*, 163.

[65]Kosut and Moore, "Introduction," 6.

[66]Balsamo, *Technologies of the Gendered Body,* 5.

[67]Kosut and Moore write,"[c]yberculture and new media technologies have expanded and extended the way the body looks and functions as the interface between the real and the virtual, and the human and the machine, overlap and merge." (Kosut and Moore, "Introduction," 5) These interfaces, then, are rhetorical, as are the various components which make up the connectivities in the interfaces: platforms, devices, software, wetware, algorithms, humans who imagine them, humans who create them, humans who use them, and so on.

[68]As Catherine Gouge and John Jones note in the introduction to a Special Edition of *Rhetoric Society Quarterly,* "[t]he history of rhetoric and communication studies has been closely aligned with developments in communications technology." Catherine Gouge and John Jones, "Wearables, Wearing, and the Rhetorics that Attend to Them," *Rhetoric Society Quarterly* 46, no. 3 (2016): 199.

[69]Gouge and Jones, "Wearables," 199.

[70]Lisa Nakamura, *Digitizing Race: Visual Cultures of the Internet* (Minneapolis: University of Minnesota Press, 2008), 72-73.

[71]Baym, *Personal Connections in the Digital Age*, 3.

[72]Harold Innis, *The Bias of Communication* (Toronto: University of Toronto Press, 1951.)

[73]John Durham Peters, *Speaking into the Air: A History of the Idea of Communication* (Chicago: University of Chicago Press, 1999.)

[74]Hannah Arendt, *The Human Condition* (Chicago, London: University of Chicago Press, 1998.)

[75]John Durham Peters, "Becoming mollusk: A Conversation with John Durham Peters about Media, Materiality, and Matters of History," in *Communication Matters: Materialist Approaches to Media, Mobility, and Networks*, ed. Jeremy Packer and Stephen B. Crofts Wiley (New York: Routledge, 2011), 36.

[76]Jennifer Daryl Slack. "Beyond Transmission, Modes, and Media," in *Communication Matters: Materialist Approaches to Media, Mobility, and Networks*, eds. Jeremy Packer and Stephen B. Crofts Wiley (New York: Routledge, 2011), 147.

[77]Jeremy Packer and Stephen B. Crofts Wiley, "Introduction: the Materiality of Communication," in *Communication Matters: Materialist Approaches to Media, Mobility, and Networks*, ed. Jeremy Packer and Stephen B. Crofts Wiley (New York: Routledge, 2011), 14.

[78] Mark Sadoski, "Imagination, Cognition, and Persona," *Rhetoric Review* 10, no. 2 (1992): 272-273.

[79]Mark Sadoski, "Imagination, Cognition, and Persona."

[80] Robin E. Jensen et al., "Theorizing the Transcendent Persona: Amelia Earhart's Vision in *The Fun of It*," *Communication Theory* 20, no. 1 (2010): 4.

[81] Katie Gibson and Amy Heyse, "'The Difference Between a Hockey Mom and a Pit Bull': Sarah Palin's Faux Maternal Persona and Performance of Hegemonic Masculinity at the 2008 Republican National Convention," *Communication Quarterly* 58, no. 3 (January 2010): 239.

[82]Gibson and Heyse, "'The Difference Between a Hockey Mom and a Pit Bull," 239.

[83]Gibson and Heyse, "'The Difference Between a Hockey Mom and a Pit Bull," 235.

[84]Baym, *Personal Connections in the Digital Age*.

[85]Brett Lunceford, *Naked Politics*.

[86]Brett Lunceford, *Naked Politics,* 114.

[87]Brett Lunceford, *Naked Politics*, 115.

[88]Executive Directors, "Feministing Chat: Why Her Is the Most Feminist Film of the Year," n.d.http://feministing.com/2014/02/28/feministing-chat-why-her-is-the-most-feminist-film-of-the-year/.

[89]Grosz, *Volatile Bodies,* 22.

[90]Sean Zdenek, "Passing Loebner's Turing Test: A Case of Conflicting Discourse Functions" in *The Turing Test: The Elusive Standard of Artificial Intelligence*, ed. by James H. Moore, (Dordrecht: Kluwer Academic Publishers, 2003,) 121-144.

[91]Cade Metz, "AI's Factions Get Feisty. But Really, They're All On the Same Team," *WIRED*, February 12, 2017, https://www.wired.com/2017/02/ais-factions-get-feisty-really-theyre-team/.

[92]Executive Office Of the President National Science and Technology Council Committee on Technology, "Preparing for the Future of Artificial Intelligence," October, 2016, 6. https://obamawhitehouse.archives.gov/sites/default/files/whitehouse_files/microsites/ostp/NSTC/preparing_for_the_future_of_ai.pdf.

[93]Jonathan Aberman, "AI Will Change America. Here's How," *Washington Post,* February 27, 2017, https://www.washingtonpost.com/news/capital-business/wp/2017/02/27/artificial-intelligence-will-change-america-heres-how/?utm_term=.385502d4d220.

[94]Assaf Baciu, "Artificial Intelligence is More Artificial than Intelligence," *WIRED,* December 7, 2016, https://www.wired.com/2016/12/artificial-intelligence-artificial-intelligent/.

[95]Baciu, "Artificial Intelligence is More Artificial than Intelligence."

[96]Michael Szollosy, "Why are We Afraid of Robots?: The Role of Projection in the Popular Conception of Robots," *Beyond Artificial Intelligence: The Disappearing Human-Machine Divide*, ed. Jan Romportl, Eva Zackova, Jozef Kelemen (Cham: Springer, 2015): 122.

[97]These terms are routinely used in academic and popular literature describe the differences between the various forms of artificial intelligence. Nils J. Nilsson traces the use of the terms "weak" and "strong AI" to a1980 essay by John Searle. See Nils J. Nilsson, "Human-level artificial intelligence? Be serious!" *AI magazine* 26, no. 4 (2005): 74 and John R. Searle, "Minds, brains, and programs." *Behavioral and Brain Sciences* 3, no. 03 (1980). Sometimes, the assignation of these terms changes slightly, but the meaningful designation between AI that is and is not sentient, as cognitively-advanced as a human, and independently agential remains. Where there is disparity in naming, I have noted the possible other names for the same or similar phenomenon.

[98]Eliezer J. Sternberg, *Are You a Machine? The Brain, the Mind, and What it Means to Be Human (*Amherst: Humanity Books, 2007), 80.

[99]Executive Office Of the President National Science and Technology Council Committee on Technology, "Preparing for the Future of Artificial Intelligence," 7.

[100]Larry Hauser, "Look Who's Moving the Goal Posts Now," in *The Turing Test: The Elusive Standard of Artificial Intelligence*, ed. James H. Moore, (Dordrecht: Kluwer Academic Publishers, 2003), 193.

[101]Larry J. Crockett, *The Turing Test and the Frame Problem: AI's Mistaken Understanding of Intelligence*, (Norwood: Ablex Publishing Corporation: 1994.)

[102]Alan M. Turing "Computing Machinery and Intelligence," *Mind* 49 (1950.)

[103]Turing "Computing Machinery and Intelligence," *Mind* 49 (1950): 434.

[104]Jean Lassègue, "What kind of Turing Test Did Turing Have in Mind?" *Tekhnema* 3 (1988), digital version without pagination accessed March 12, 2017 http://tekhnema.free.fr/3Lasseguearticle.htm.

[105]Crockett, *The Turing Test and the Frame Problem*.

[106]Crockett, *The Turing Test and the Frame Problem,* 7.

[107]Crockett, *The Turing Test and the Frame Problem,* 15.

[108]Zdenek, "Passing Loebner's Turing Test," 134.

[109]Crockett, *The Turing Test and the Frame Problem,* 101.

[110]Andrew Hodges, *Alan Turing: The Engima* (London: Vintage, 2015), xii.

[111]Hodges, *Alan Turing*, 616.

[112]Crockett, *The Turing Test and the Frame Problem,* 99.

[113]Lassègue, "What kind of Turing Test?"

[114]Judith Genova, "Turing's Sexual Guessing Game," *Social Epistemology* 8, no 4. (1994): 324.

[115]Jack Halberstam, "Automating Gender: Postmodern Feminism in the Age of the Intelligent Machine." *Feminist Media Studies* 17, no. 3 (1991): 443.

[116]Roberto Esposito. *Persons and Things: From the Body's Point of View*, (Cambridge, Polity, 2015), 10.

[117]Halberstam "Automating Gender," 443.

[118]Brian Christian, *The Most Human Human: What Artificial Intelligence Teaches Us About Being Alive (*New York: Anchor Books, 2011), 13-14.

[119]James Hendler and Alice Mulvehill. *Social Machines: The Coming Collision of Artificial Intelligence, Social Networking, and Humanity*, (New York: Springer, 2016,) 165.

[120]Baciu, "Artificial Intelligence is More Artificial than Intelligence."

[121]Scott Dadich, Barack Obama, and Joi Ito, "Barack Obama, Neutral Nets, Self-Driving Cars, and the Future of the World," *WIRED*, November 2016, https://www.wired.com/2016/10/president-obama-mit-joi-ito-interview.

[122]Paul Ford, "Our Fear of Artificial Intelligence," *MIT Technology Review*, February 11, 2015, https://www.technologyreview.com/s/534871/our-fear-of-artificial-intelligence/.

[123]David Senior, "Narrow AI: Automating The Future Of Information Retrieval," *Tech Crunch,* January 31, 2015, https://techcrunch.com/2015/01/31/narrow-ai-cant-do-that-or-can-it.

[124]Hendler and Mulvehill. *Social Machines,* 6.

[125]Glen A. Mazis, *Humans, Animals, Machines: Blurring Boundaries,* (Albany: State University of New York, 2008), 1.

[126]Mazis, *Humans, Animals, Machines*, 1.

[127]As Megan Garcia notes," One of the trickiest parts about algorithmic bias is that engineers don't have to be actively racist or sexist to create it. In an era when we increasingly trust

technology to be more neutral than we are, this is a dangerous situation." Megan Garcia, "How to Keep Your AI From Turning Into a Racist Monster," *WIRED,* February 13, 2017, https://www.wired.com/2017/02/keep-ai-turning-racist-monster/.

[128]Dadich, Obama, and Ito, "Barack Obama, Neutral Nets, Self-Driving Cars, and the Future of the World."

[129]Garcia, "How To Keep."

[130]Davey Alba, "It's Your Fault Microsoft's Teen AI Turned Into Such a Jerk," *WIRED*, March 25, 2016, https://www.wired.com/2016/03/fault-microsofts-teen-ai-turned-jerk/.

[131]Garcia, "How to Keep."

[132]Mona Lalwani,"Personal Assistants Are Ushering in the Age of AI at Home," *Engadget*, October 15, 2016, accessed April 14, 2017, https://www.engadget.com/2016/10/05/personal-assistants-google-home-ai/.

[133]The reader will note that I, too, anthropomorphize Siri and Alexa by using gender pronouns. As I will demonstrate later in this chapter, Alexa is programmed to have a gender and will announce that fact to anyone who asks. Siri, on the other hand, will respond that she does not have a gender if prompted. However, the ways in which she is advertised and taken up in popular culture demonstrates that despite her supposed genderlessness, she is given meaning as a feminine agent. Therefore, the decision to use gendered pronouns is a strategic one, meant to highlight the ways in which these artificially intelligent virtual assistants come to be known (and used) as gendered bodies. I distinguish Siri and Alexa from the devices in which they "live," which I refer to as objects with the third-person pronoun "it."

[134]Ingrid Lunden, "Spotify Now Integrates With Amazon Echo… If You're A Premium User," *TechCrunch*, February 4, 2016 accessed June 6, 2017, http://social.techcrunch.com/2016/02/04/spotify-now-integrates-with-amazon-echo-if-youre-a-premium-user/.

[135]D'Costa, "Getting Serious With Siri."

[136]Maurice E. Stucke and Ariel Ezrachi, "The Subtle Ways Your Digital Assistant Might Manipulate You," *WIRED*, November 29, 2016, https://www.wired.com/2016/11/subtle-ways-digital-assistant-might-manipulate/.

[137]Anecdotally, on a personal basis, I can verify that both of those things are very much true. It's easier to buy something from Alexa than it is to buy something from Amazon; conversely, when something goes wrong with an order, it is more difficult to yell at Alexa than a customer service rep that I will never meet or know.

[138]Stucke and Ezrachi, "The Subtle Ways Your Digital Assistant Might Manipulate You."

[139]Will Oremus, "Terrifyingly Convenient," *Slate*, April 3, 2016, http://www.slate.com/articles/technology/cover_story/2016/04/alexa_cortana_and_siri_aren_t_novelties_anymore_they_re_our_terrifyingly.html.

[140]Oremus, "Terrifyingly Convenient."

[141]Lalwani, "Personal Assistants Are Ushering in the Age of AI at Home."

[142]"As we welcome the digital assistants into our homes, we may appreciate the free service. But we won't know the exact cost. As the digital butler expands its role in our daily lives, it can alter our worldview. By crafting notes for us, and suggesting "likes" for other posts it wrote for other people, our personal assistant can effectively manipulate us through this stimulation." Stucke and Ezrachi, "The Subtle Ways Your Digital Assistant Might Manipulate You."

[143]"Echo Look | Hands-Free Camera and Style Assistant," *Amazon Echo Look*, https://www.amazon.com/Echo-Hands-Free-Camera-Style-Assistant/dp/B0186JAEWK.

[144]Langdon Winner, *The Whale and the Reactor: A Search for Limits in an Age of High Technology*, (Chicago: University of Chicago Press, 1986), 6.

[145]Winner, *The Whale and the Reactor,* 11.

[146]Tarleton Gillespie, "The Politics of Platforms." New Media and Society, 12 (2010): 349.

[147]Gillespie, "The Politics of Platforms," 350.

[148]Gillespie, "The Politics of Platforms," 350.

[149]Gillespie, "The Politics of Platforms," 350.

[150]Gillespie, "The Politics of Platforms," 351.

[151]Gillespie, "The Politics of Platforms," 358-9.

[152]José van Dijck, "Facebook and the Engineering of Connectivity: A Multi-Layered Approach to Social Media Platforms." *Convergence: The International Journal of Research into New Media Technologies* 19 (2013): 152. http://con.sagepub.com/content/early/2012/09/17/1354856512457548.

[153] Lucas D. Introna and David Wood, "Picturing Algorithmic Surveillance: The Politics of Facial Recognition Systems," *Surveillance & Society* 2 (2004): 177-98. http://surveillance-and-society.org/articles2(2)/algorithmic.pdf

[154] Introna and Wood, "Picturing Algorithmic Surveillance," 179.

[155] Introna and Wood, "Picturing Algorithmic Surveillance," 178.

[156] Introna and Wood, "Picturing Algorithmic Surveillance," 179.

[157] Sonia Paul, "Voice Is the Next Big Platform, Unless You Have an Accent | WIRED," March 20, 2017, accessed July 10, 2017, https://www.wired.com/2017/03/voice-is-the-next-big-platform-unless-you-have-an-accent/.

[158] Gillespie, "The Relevance of Algorithms," 170.

[159] Paul Baker and Amanda Potts, "'Why Do White People Have Thin Lips?' Google and the Perpetuation of Stereotypes via Auto-Complete Search Forms," *Critical Discourse Studies*, 10 (2013): 187-204.

[160] Hillis, Petit, Jarrett, *Google and The Culture of Search*, 9.

[161] Gillespie, "The Relevance of Algorithms," 188.

[162] Gillespie, "The Relevance of Algorithms," 184.

[163] Shoshana Zuboff, "Big Other: Surveillance Capitalism and The Prospects of an Information Civilization." Journal of Information Technology 30 (1): 75.

[164] Zuboff, "Big Other," 75.

[165]Importantly, these technological elements—or even one's data—need not be housed in the device itself. Indeed, on its website, Amazon notes that "Alexa is a cloud service…Your question or request and related information, like music playlists, calendar entries, connected home devices, and items on your shopping list, will be processed in the Cloud." Cloud-based computing has made it possible to relay, process, and store vast quantities of data with very little consumer footprint, which adds to the convenience of the device.

[166] Zuboff, "Big Other," 85.

[167]Andrejevic, Mark. "Foreword," in *Feminist Surveillance Studies*, eds. Rachel E. Dubrofsky and Shoshana Amielle Magnet, (Durham: Duke University Press, 2015, Ix-x.)

[168]Gillespie, "The Relevance of Algorithms," 188.

[169]Mark Andrejevic, *ISpy: Surveillance and Power in the Interactive Era* (Lawrence: University Press of Kansas, 2009), 2.

[170] Zuboff, "Big Other," 83.

[171] Sebastian Olma, "Never Mind the Sharing Economy: Here's Platform Capitalism," *MyCreativity,* October 16, 2014, accessed July 7, 2017, http://networkcultures.org/mycreativity/2014/10/16/never-mind-the-sharing-economy-heres-platform-capitalism/

[172] Olma, "Never Mind the Sharing Economy."

[173] Ingrid Burrington, "Why Amazon's Data Centers Are Hidden in Spy Country," *The Atlantic*, January 8 2016, accessed July 7, 2017, https://www.theatlantic.com/technology/archive/2016/01/amazon-web-services-data-center/423147/.

[174]Genevieve Bell and Larry Greenemeier, "Intel Sees a Future Where We Will Form 'Relationships' with Our Gadgets," *Scientific American,* October 14, 2013, accessed April 14, 2017, https://www.scientificamerican.com/article/intel-sees-a-future-where-gadget/.

[175]Bell and Greenemeier, "Intel Sees a Future."

[176]Lisa Eadicicco, "Amazon Developing Advanced Voice-Recognition for Alexa," *Time*, February 27, 2017, http://time.com/4683981/amazon-echo-voice-id-feature-2017/.

[177]Coincidentally, the desire for clear and distinct user profiles is one of reasons why algorithmically-personalized streaming services such as Netflix allow users to add multiple "users" at no charge. When a company profits from knowing their users' preferences, there's a business case for making user profiles distinct.

[178]Lalwani, "Personal Assistants Are."

[179]Lalwani, "Personal Assistants Are."

[180]Lalwani, "Personal Assistants Are."

[181]Oremus, "Terrifyingly Convenient."

[182]In part because they do not perform a particular gender.

[183]Jessi Hempel, "Siri and Cortana Sound Like Ladies Because of Sexism," *WIRED*, October 28, 2015, https://www.wired.com/2015/10/why-siri-cortana-voice-interfaces-sound-female-sexism/.

[184]Halberstam, "Automating Gender," 439.

[185] Nordell, "Stop Giving Digital Assistants Female Voices."

[186]Balsamo, *Technologies of the Gendered Body*, 133.

[187] Autumn Stanley, *Mothers and Daughters of Invention: Notes for a Revised History of Technology* (New Brunswick: Rutgers University Press, 1995).

[188]Stanley, *Mothers and Daughters of Invention,* 442.

[189]Jennifer Light, "Programming," in *Gender & Technology: A Reader*, ed. Nina E. Lerman, Ruth Oldenziel, and Arwen Mohun (Baltimore: Johns Hopkins University Press, 2003), 299.

[190]Stanley, *Mothers and Daughters of Invention,* 442.

[191]Light, "Programming," 306.

[192]Griggs, "Why Computer Voices Are."

[193]Hempel, "Siri and Cortana Sound."

[194]James Kendrick, "Amazon Echo Review: A Perfect 10," *ZDNet*, accessed April 14, 2017, http://www.zdnet.com/article/amazon-echo-review-a-perfect-10/.

[195]Brown, "The Amazon Echo Is More Than a Bluetooth Speaker."

[196]Foner, "Alexa, My Love."

[197]Foner, "Alexa, My Love."

[198]Foner, "Alexa, My Love."

[199]Foner, "Alexa, My Love."

[200]Foner, "Alexa, My Love."

[201]Foner, "Alexa, My Love."

[202]Kurt Schlosser, "Boy Meets Artificial Girl: My Son Got an Echo Dot, and Here's What He's Saying to Amazon's Alexa," *GeekWire*, March 20, 2017, http://www.geekwire.com/2017/boy-meets-artificial-girl-son-got-echo-dot-heres-hes-saying-amazons-alexa/.

[203]Schlosser, "Boy Meets Artificial Girl."

[204]Brown, "The Amazon Echo Is More Than a Bluetooth Speaker -- It's a Bedtime Buddy."

[205]Brown, "The Amazon Echo Is More Than a Bluetooth Speaker -- It's a Bedtime Buddy."

[206]Brown, "The Amazon Echo Is More Than a Bluetooth Speaker -- It's a Bedtime Buddy."

[207]Sarah Larson, "Yelling at Amazon's Alexa," *The New Yorker*, October 6, 2016, http://www.newyorker.com/culture/sarah-larson/yelling-at-alexa-amazon-echo.

[208]Amanda Kooser, "'Dammit Alexa!': I Feel Bad When I Yell at My Amazon Echo," *CNET*, March 7, 2015, accessed April 14, 2017, https://www.cnet.com/news/dammit-alexa-i-feel-bad-when-i-yell-at-my-amazon-echo/.

[209]Alice Truong, "Parents Are Worried the Amazon Echo Is Conditioning Their Kids to Be Rude," *Quartz*, accessed April 14, 2017, https://qz.com/701521/parents-are-worried-the-amazon-echo-is-conditioning-their-kids-to-be-rude/.

[210]Robert Trappl, ed., *Your Virtual Butler: The Making-of; [Workshop]*, Lecture Notes in Computer Science Lecture Notes in Artificial Intelligence 7407 (Berlin: Springer, 2013), 3.

[211]Kif Leswing, "Here's Why People Don't Use Siri Regularly, Even Though 98% of iPhone Users Have Tried It," *Business Insider*, June 3, 2016, accessed April 14, 2017, http://www.businessinsider.com/98-of-iphone-users-have-tried-siri-but-most-dont-use-it-regularly-2016-6.

[212]Krystal D'Costa, "Getting Serious With Siri," *Scientific American Blog Network*, November 8, 2011, accessed April 14, 2017, https://blogs.scientificamerican.com/anthropology-in-practice/getting-serious-with-siri/.

[213]D'Costa, "Getting Serious With Siri."

[214]Eric Jackson, "Why Apple Is Smart to Double Down on Siri," Forbes, May 31, 2003 accessed April 14, 2017, http://www.forbes.com/sites/ericjackson/2012/05/31/why-apple-is-smart-to-double-down-on-siri/.

[215]"Use Siri on Your Mac," *Apple Support*, accessed April 14, 2017, https://support.apple.com/en-us/HT206993.

[216]David Pierce "I Spent a Week Yelling at Siri in macOS Sierra," *WIRED*, June 22, 2016, https://www.wired.com/2016/06/spent-week-yelling-siri-macos-sierra/.

[217]Pierce, 16 "I Spent a Week Yelling at Siri."

[218]Sarah Sharma, *In the Meantime: Temporality and Cultural Politics* (Durham: Duke University Press, 2014).

[219]Pierce notes, "Give Apple credit: long before chatbots were hot and virtual digital assistants were sexy, long even before Spike Jonze put Scarlett Johansson in Joaquin Phoenix's ear, Apple was committed to Siri. The company promised a world where technology isn't a distraction, but a partner. Where our gadgets work the way we think. But Siri isn't what it could be, or should be. While other assistants are getting to know us, understanding our voices and learning our tastes in food and airplane seats, Siri's… setting alarms. Apple gets a big chance to fix that at WWDC, but it won't get many more." David Pierce, "Hey Siri, It's Time To Put Up or Shut Up," *WIRED*, June 11, 2016, https://www.wired.com/2016/06/hey-siri-time-put-shut/.

[220]"Shit That Siri Says," accessed April 14, 2017, http://shitthatsirisays.tumblr.com/?og=1.

[221]"STSS-Well Maybe Just One Round of Blackjack…," *Shit That Siri Says*, accessed April 14, 2017, http://shitthatsirisays.tumblr.com/post/49517813467.

[222]Erica Sadun and Steve Sande, *Talking to Siri*, 1st ed (Indianapolis, Indiana: Que Pub, 2012).

[223]David Pogue, "How Siri Makes Computers (and Coders) More Human," *Scientific American,* January 1, 2012, https://www.scientificamerican.com/article/silicon-superego/.

[224]Brandon Griggs, "Why Computer Voices Are Mostly Female - CNN.com," *CNN*, October 21, 2011, http://www.cnn.com/2011/10/21/tech/innovation/female-computer-voices/index.html.

[225]Michael Agger, "Talk Dirty to Me, Siri," *Slate*, October 18, 2011, http://www.slate.com/articles/technology/the_browser/2011/10/siri_iphone_4s_the_crazy_things_people_say_to_the_iphone_s_new_a.html.

[226]Pierce, "I Spent a Week Yelling at Siri."

[227]Rachel E.Dubrofsky and Shoshana Amielle Magnet, "Feminist Surveillance Studies: Critical Interventions," *Feminist Surveillance Studies*, eds. Rachel E. Dubrofsky and Shoshana Amielle Magnet, (Durham: Duke University Press, 2015), 9.

[228]David Sims. "Ex Machina Explores the Thrill (and Horror) of Romantic Uncertainty," *The Atlantic*, April 10, 2015. https://www.theatlantic.com/entertainment/archive/2015/04/ex-machina-review/390147/.

[229]Manohla Dargis. "Review: In 'Ex Machina,' a Mogul Fashions the Droid of His Dreams," *The New York Times*, April 9, 2015, https://www.nytimes.com/2015/04/10/movies/review-in-ex-machina-a-mogul-fashions-the-droid-of-his-dreams.html?_r=0.

[230]As Hendler and Mulvehill note, "As more sophisticated technology, like AI-based computing support tools, become pervasive, individuals could be at greater risk for losing control of their private data because the AI technology, in order to better support them, will need to know a lot about them and will likely operate in public spaces, introducing problems like those currently inherent in the use of public Wi-Fi." James Hendler and Alice M. Mulvehill, *Social Machines,* 143.

[231]Balsamo, *Technologies of the Gendered Body*, 5.

[232]Balsamo, *Technologies of the Gendered Body,* 5.

[233]Rosemary Radford Ruether, *Gaia & God: An Ecofeminist Theology of Earth Healing*, (San Francisco: HarperOne, 1994), 3.

[234]Leo Marx, *The Machine in the Garden: Technology and the Pastoral Ideal in America*, Reprint (New York: Oxford Univ. Press, 1973), 29.

[235]Simone de Beauvoir, *The Second Sex* (New York: Vintage Books/Random House, 2011), 21.

[236]Laura Mulvey "Visual Pleasure and Narrative Cinema." *Film Theory and Criticism : Introductory Readings,* eds. Leo Braudy and Marshall Cohen (New York: Oxford UP, 1999), 837.

[237]Ami Lynch, "Comfort Women," in *Encyclopedia of Gender and Society*, ed. Jodi O'Brien, (Thousand Oaks: SAGE Publications, Inc., 2009), 151.

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[239]Scarlett Johansson," *IMDb*, accessed June 6 2017, http://www.imdb.com/name/nm0424060/.

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[242]Tom Chiarella, "Scarlett Johansson Is 2013's Sexiest Woman Alive," *Esquire*, November 2013, http://www.esquire.com/entertainment/a25017/scarlett-johansson-interview-1113/.

[243]Chris Eggersten, "'Her' Q&A: Spike Jonze on Why He Replaced Samantha Morton with Scarlett Johansson," *Uproxx*, November 14, 2013, http://uproxx.com/hitfix/her-qa-spike-jonze-on-why-he-replaced-samantha-morton-with-scarlett-johansson/.

[244]Likely, we are to assume that his home, desktop computers "house" her.

[245]Grosz, *Volatile Bodies: Toward a Corporeal Feminism*, 22.

[246]Executive Directors, "Feministing Chat: Why Her Is the Most Feminist Film of the Year," n.d., http://feministing.com/2014/02/28/feministing-chat-why-her-is-the-most-feminist-film-of-the-year/.

[247]In his (in)famous "Declaration of the Independence of Cyberspace," Barlow writes that "Governments of the Industrial World" must necessarily cede their sovereignty and power to the techno-utopia of "Cyberspace, the new Home of Mind." In the declaration, Barlow imagines a world where "all may enter without privilege or prejudice accorded by race, economic power, military force, or station of birth." Cyberspace would be governed by consensual relationality and "enlightened self-interest," which, unburdened by constraints of politicized bodily markings, would be issue primarily from the "Mind." In other words, a world constituted through relationships to the body—here marked insufficient and burdensome—would be replaced by a world created through the higher order of the Mind. Enforcing a Cartesian dualism where embodiment is necessarily distinct from and in contradistinction to thought, early internet

activists boldly claimed that, if we could just get our bodies to interface with the internet, we could leave them behind to become whatever we wanted to be. Barlow, "A Declaration of the Independence of Cyberspace."

[248]Baym, *Personal Connections in the Digital Age*.

[249]Lisa Nakamura, *Cybertypes: Race, Ethnicity, and Identity on the Internet* (New York: Routledge, 2002).

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[252]see Hillis, Jarret, Petit. Ken Hillis, Kylie Jerrett, and Michael Petit, *Google and the Culture of Search*, (New York: Routledge, 2013.)

[253]Hillis, Jarrett, Petit, *Google and the Culture of Search*, 55.

[254]Jason Lipshin, "MCI's Anthem (1997) - Freedom from the Marked Body." *Critical Commons*, accessed March 30, 2016. http://www.criticalcommons.org/Members/JLipshin/clips/Anthem.mp4/view.

[255]Lipshin, "MCI's Anthem (1997.)"

[256]Chun, "Race and Software," 309.

[257]Chase Whale and Alex Garland, "Interview: Alex Garland Talks Lo-Fi Approach To "Ex Machina," Auteur Theory, and Much More," April 7, 2015, http://www.indiewire.com/2015/04/interview-alex-garland-talks-lo-fi-approach-to-ex-machina-auteur-theory-and-much-more-265335/.

[258]Chase Whale and Alex Garland, "Interview: Alex Garland Talks Lo-Fi Approach To "Ex Machina," Auteur Theory, And Much More."

[259]Sherry Turkle, *Reclaiming Conversation: The Power of Talk in a Digital Age* (New York: Penguin Press, 2015).

[260]Spike Jonze and NPR Staff, "Spike Jonze Opens His Heart For 'Her,'" *NPR*, December 13, 2017, http://www.npr.org/2013/12/16/251625458/spike-jonze-opens-his-heart-for-her.

[261]Perhaps the most unsettling conclusion is that these films are the films that could have imagined the future otherwise. Sci-fi, as a genre, is not limited to presenting the present (or past) in its depictions of what is coming (or can come next). My most optimistic reading of these

movies that looks for possibilities of rupture and thinking otherwise—bolstered by a revenge-tastic, and at-times violent and orgasmic ending of both films—makes me feel heavy and tired at what potentially infinite objects gendered as feminine have to put up with. I am annoyed by the fact that the same tired narratives with the masculine signifier of Father orient our theorizations of the future. I am tired that nouveau-masculine men serve as the ontological and epistemological entrance point to ourselves—to our minds; that it is their being at which we—feminist cyborgs of the future—are born, that we come to know ourselves, that we learn and experience pleasure and desire.

[262]Anne Balsamo, *Technologies of the Gendered Body: Reading Cyborg Women* (Durham: Duke University Press, 1996); Donna Haraway, *Simians, Cyborgs, and Women: The Reinvention of Nature,* (New York: Taylor & Francis 1991); Lisa Nakamura, *Digitizing Race*.

[263]McKerrow, "Corporeality and Cultural Rhetoric;" Michael L. Butterworth, "'Katie was Not Only a Girl, She was Terrible;'" Achter, "Unruly Bodies;" Jordan, "The Rhetorical Limits of the 'Plastic Body;" DeLuca, "Unruly Arguments;" Hawhee, *Bodily Arts*.

[264]As the reader will recall, strong artificial intelligence is artificial intelligence that has the ability to think, act, and learn with the same level of capability as a human.

[265]Weak AI is not sentient or fully agential, having no capacity to self-referentially learn or define new experiences it encounters. It can make limited decisions based on its engineering.

[266]Langdon Winner, "Do Artifacts Have Politics?," *Daedalus* 109, no. 1 (1980): 121-136.

[267]Haraway, *Simians, Cyborgs, and Women*.

[268]Balsamo, *Technologies of the Gendered Body.*

[269]Jordan, "The Rhetorical Limits of the 'Plastic Body,'" 333-334, see also chapter one.

[270]Christian, *The Most Human Human*, 13-14.

[271]Zdenek, "Passing Loebner's Turing Test," 134.

[272]Zdenek, "Passing Loebner's Turing Test," 134.

[273]Christian, *The Most Human Human*.

[274]Brown, "The Amazon Echo is More than a Bluetooth Speaker."
[275]Truong, "Parents Are Worried."

[276]Jasia Reichardt, *Robots: Fact, Fiction, and Prediction* (Harmondsworth, New York: Penguin Books, 1978).

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[278]Daisy Dune, "Meet Samantha, the Artificially Intelligent Sex Robot with a G-Spot," *DailyMail.com*, March 20, 2017, http://www.dailymail.co.uk/~/article-4331408/index.html.

[279]Kaveh Waddell, "The Privacy Problem with Digital Assistants," *The Atlantic*, May 24, 2016, accessed February 12th, 2017, https://www.theatlantic.com/technology/archive/2016/05/the-privacy-problem-with-digital-assistants/483950/.

[280]Haraway, *Simians, Cyborgs, and Women*.

[281]Balsamo, *Technologies of the Gendered Body*.

[282]Balsamo, *Technologies of the Gendered Body*.

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