Duke University | Graduate Liberal Studies

Ambiguously Human:

Questioning the Dichotomy between Human and Object

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Abstract

How can bringing together different investigations of defining "human" as opposed to "object" generate new ideas and questions? I looked at a small group of publicly accessible explorations to examine this question from my own perspective and what I could learn of others'. I curated an installation at the Nasher, "Humanized Objects," looking at objects featuring the human figure and questioning whether they thereby occupy an intermediary position between fully human or object, and gave several gallery talks. I also organized a film series showing "Wall-E," "Ghost in the Shell," "The Stepford Wives," and "Ex Machina," each of which contributed a unique angle on the question. The website, sites.duke.edu/AmbiguouslyHuman, framed the project and served as a central hub for information. It also hosted the blog where I offered more extended analyses of the components and highlighted other connections to the question.

My findings have been informed by readings across several areas, particularly posthumanism and critical disability studies, as well as connections participants brought. The project met my hopes; I saw a reshaping of my understanding and sharpening of my questions. The generic human-object separation across investigations in this project, which I looked at largely through the body, is hierarchical as well as dichotomous, which contributes to the false insistence on a clean conceptual separation between the two categories. I had focused narrowly on the separation of "human" and "object," but I found that boundary to be more overlapping than independent from other ones I excluded, such as human versus animal or the dehumanization of particular groups within humanity. The human-object boundary is indeed ambiguous, in many ways.

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Introduction

Background and Overview

How can bringing together different investigations of the separation of "human" from "object" generate new ideas and questions on those categorizations? In my project I looked at a small group of publicly accessible explorations at Duke as a kind of case study to examine this question from both my own perspective and what I could learn of the public's. This group included a public installation at the Nasher Museum of Art with tours and a series of film screenings and discussions, and was accompanied by a project website. I examined the primary components myself, conducted a literature review to provide depth and nuance to my reflections, and encouraged anyone who was interested to contribute to the project's course by attending events or talking with me. This question of defining the human has fascinated me for some time, and I wanted to examine it in more depth. I viewed my project as an exploratory experiment: I selected a particular set of works that relate to the question, opened them up to the people participating, and observed what happened. I wanted to see what new perspectives could come out of this unique situation.

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In this text, I give that process a more linear structure. I trace my motivations, the theory from my literature review that particularly impacted this project, and then go into more depth on how I structured the project. Then I analyze each of the primary components – the installation and each of the four films – pulling from my own thoughts, my reading, and conversations with others. I close by pulling the components back together to look at my initial question, first examining some of the greater implications, then reflecting on the project's structure, and finally coming to as much a conclusion as I think can be had about my project's concern.

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So first, some more context. At one of my events, someone asked me how I came to the central question of my project: how do we define what is human, as opposed to an object, and in what ways is that more a spectrum than a binary? This person wanted to know why I was interested in that topic, where that motivation and question came from. It's a hard question for me because it's paradoxically so easy to answer: I just am. I'm deeply intrigued by this question of defining the human, and I don't know if I can reduce it more than that or source it back to some particular reason. But I also understand that this response alone is an incredibly unsatisfying answer. Particularly in the context of this project, I've though a lot about what it means to me and the many ways in which I think it's relevant and important. If I can't explain why, at least I can give a sense of how.

I'm interested in questions that are, to some degree, fundamental to humanity. I see them in the shared questions at the root of different disciplinary investigations. These questions take on the form of their discipline, being framed, pursued, and answered within their particular context for investigations, but remain comparable at their core. My background is in biology and visual art, and I trace my interest in these kinds of investigations to that duality in myself. Academically those disciplines often follow separate tracks, but my own motivations in scientific or artistic projects are

fundamentally the same: I want to look more closely at something and learn from that process. As I've followed contemporary developments in both of those fields, and more as I've expanded my interests, I've noticed some repeating concerns. What does it mean to communicate? How do we know or value what is real and true? And of course, how do we define what is human?

These are places I see as ripe for interdisciplinary engagement. They offer the chance to create new, holistic understandings of shared questions. Obviously I chose to focus on the question of what defines the human for this project, but works I've thought about with respect to the question of communication are helpful to illustrate my approach. The methods and language, to be sure, are very different when you look at a scientific study of wild dolphins and Lia Perjovschi's pain dolls, but both are exploring how communication works and what it means. Bringing them together into one context could allow participants to arrive at new ways of understanding both studies and the overarching question. What happens when you look at the reports of dolphin communication after reading Perjovschi's process and goals in creating her dolls? What does the Wild Dolphin Project's scientific approach have to say about Perjovschi's? How does bringing in another investigation, like Stanislaw Lem's novel *Solaris*, refine the understanding?[1]

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[1] The works discussed in this section are meant to illustrate my conception of this project. While I think they're very interesting and definitely recommend looking into them if you're interested, you don't need to know anything more than I highlight here to follow my understanding of them as sharing the same fundamental question and my interest in bringing these disparate investigations back together in that shared context to better understand the question itself. The Wild Dolphin Project is a really fascinating study trying to scientifically understand communication with wild dolphins in order to more figure out how we could even approach communicating with non-humans that necessarily have different experiences, goals, and modes of communication. Parts of Perjovschi's *Pain H Files* were on view in my project installation. They were new to me but fit very well with this other question I've been preoccupied with for a while, in addition to the one I actually ended up pursuing in my project. *Solaris* meditates on memory and communication through a sci-fi story of humans interacting with an alien planet.
The Wild Dolphin Project, last modified 2016, accessed March 1, 2016, http://www.wilddolphinproject.org; Lia Perjovschi, *Pain H Files*, 20th century, ink marker pen on paper, 11 5/8 x 8 1/4 in. (29.5 x 21 cm), the Nasher Museum of Art at Duke University; Lia Perjovschi, *Pain H*

This set of works explores the degree of fundamental unknowability of others; they highlight the ways in which communication is inherently ephemeral and partial. Perjovschi's dolls are simultaneously easy to understand in concept but impossible to understand accurately and completely. Her mode of communication through them necessarily abstracts some of the essence she's trying to convey, and in that process loses some of its substance. We as viewers lose even more when trying to build an understanding from the dolls in ourselves. *Solaris* and the Wild Dolphin Project both emphasize the difficulty in even the most basic communication across humans and non-humans. Some dolphins choose to visit with the researchers and play their interactive games. It's clear that dolphins can be trained to understand certain human associations, like a trainer's hand motion to a flip, but can they communicate with us through anything other than this simplified pseudo-language both sides temporarily agree on? The perhaps-sentient, perhaps-not life form on Solaris demonstrates very complex thinking and abilities, but the people there can't gather any kind of consistent message from those outputs. I think that, together, these investigations and others I've come across paint a really profound picture on the deceptive inadequacy of communication.

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Of course, as with any approach, there are tradeoffs in comparing very different works to come to one unified conclusion. Pulling investigations from such diverse contexts means that some of that original setting and the associated nuanced way of understanding them will be lost. It can invite generalizations and faulty interpretations. I have researched and thought a lot about the pieces of my project – the primary works, the theories, the structure – but in spreading my concerns out I guaranteed that I would not become as much an expert in any one of them than had I devoted

Files, 20th century, mixed media, the Nasher Museum of Art at Duke University; Stanislaw Lem, *Solaris*, 1970, trans. Joanna Kilmartin and Steve Cox (San Diego: Harcourt Brace Jovanovich, 1987).

myself exclusively to it. I'm sure there are aspects of each that I haven't fully understood or realized the nuance of. I'm not arguing for dissolving disciplinary methods completely. Specialization is what has facilitated so much of the work I'm interested in and it would be meaningless without that foundational context. I do think, though, that work needs to be accessible outside the world in which it's created. The resulting understanding of any particular work may not be as subtly detailed as it would in the hands of fellow experts, but I don't think that's a valid reason to sequester it.[2] There is certainly room for thoughtful consideration of works from different contexts. They'll be incomparable in some ways but have the potential to build knowledge and facilitate shifting understandings or flashes of insight that would otherwise never occur.

That's why it was important to me that this project not just be a personal academic investigation of this question. I don't think that would have been a bad or even unenlightening project, but it's not what I wanted to do. I did want to explore this question that so intrigues me, but I wanted to explore it in a particular set of contexts and I wanted other people to explore it with me. Those additional dimensions go together. I wanted this to be an event-based project that actively stimulates new understandings (or questions) on this human-object boundary. My project was very process-centric; the aim was not only to reach new conclusions, which I could have done on my own through a paper, but also to discover the important and interesting concerns that emerged from this incubator. I have my own intellectual interests and I'm very interested in public engagement on top of them. How can experts better disseminate their knowledge? How can particular ways of conveying information make it more accessible and interesting for people with particular backgrounds? How can the conversations resulting from broader engagement provoke new perspectives in both lay-people and experts? I wanted my project to address these concerns as well as whatever topic I focused

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[2] As I've seen and experienced in my more specialized science and art education.

on. I'm not the only one who can learn from this project; my expertise, such as it may be, isn't necessary to get new ideas out of it.

I framed this project as an experimental experience. I had my interests and tools and I wanted to find out what would result. The way in which I approached this project is appropriately well conveyed through an anecdote that occurred during its course. A completely independent program I attended this semester featured a Zen phrase that stuck with me: "one opportunity, one encounter," meaning (among other things) that this particular set of circumstances will never happen again. I saw this project as an experiential learning process. It couldn't be predicted, and only going through it could yield whatever results it was capable of producing. While the components are completely replicable, the experience is not; it can only be different.

As the one running the show, I've seen the installation countless times and have watched each of the films at least three times this year. Each time I get something new from them, building on my previous understanding. Even theoretically unrelated events, like the tea presentation I attended with my visiting family that happened to include the Zen idiom above, feed into the experience. The particular chronological order in which I've collected pieces, and the particular people who talked with me about my ideas and their ideas, have built this unique result. To be clear, it's not that these things were fated, but rather that the whole point of my project was to foster a unique context and set of points to consider and learn from. For me, at least, it was very successful.

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The central question of the project – what is a "human" as opposed to an "object" – also needs elaboration. What am I actually proposing to look at? "Human" and "object" are broad, contextually dependent categories with layers of subcategories in one direction and concrete and metaphorical meanings in another. Placing something into either grouping (or their subgroupings)

depends on that multidimensional context. A doll can be an object when compared with a child, cloth when compared with a Barbie, human when compared with a toy dog. My interest in this project is to create and compare composite definitions generated by the various investigations – in the installation, films, texts, and discussions – in order to see how their binary opposition holds up. Particular works deal with particular contexts and oppositions around that human-object boundary. *Ghost in the Shell* looks closely at the human as opposed to machine through its sci-fi cyborgs and artificial intelligence; icons can be used to compare the human and decoration through spiritually animated imagery. The shifting contexts and correspondingly shifting categorizations create small, hard differentiations but simultaneously obscure the overarching categories. In this paper, I'm taking all of the analyzed components as manifestations of my question of defining things as "human" or "object" in order to shine light on their core qualities and boundaries. It's a decision that you can certainly argue with, but in this project I'm bringing my discoveries from those particular oppositions back to the larger, more fundamental one of "human" versus "object."

   In order to mediate that messiness somewhat, I came into this project with particular ideas of what "human" and "object" were. Thinking about what makes someone human, there are many definitional components that come into play in different contexts: having particular sequences of DNA, growing from a human egg, having and exercising mental capabilities (intellectual and emotional), having a soul, being created by God in a particular way (depending on the religion), having moral agency, and the list goes on. Depending on the point the narrator is trying to make, these components can also be more negative commentary on the human condition: waging war, being personally selfish or selfish as a species. Similarly, what makes something an object? This is a very broad category, though I'm using it in a very particular sense in this project, which narrows it down a bit. Objects are material and can be perceived; they're discrete units that can be understood as

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one unified thing to some degree. The objects I'm referring to are also (in aggregate) defined by being inanimate, unthinking, and non-biological. They include machines, artworks, tools, and more.

I chose this version of "object" as my counterpart to "human" because, on the one hand, categories like "thing" are even more general and, on the other, my components didn't share a smaller category (some were machines, but others were sculptures). I thought this kind of "object" was a more interesting contrast to explore than "other living things" or "animals" because the separation seems more fundamental and the responses more varied. Likewise, I chose "human" over "person" because the latter is often broader and more vaguely specified.

In the process of conducting my project, I've come to focus on this question of defining the "human" as opposed to "object" through the body, although the mind might seem a more straightforward place to look. When categorizing something (or someone) as human or object, the simplest way to differentiate it might be this quality of the human mind. People have a mind, whatever that may be, and objects don't. However, I became interested in the body because it's more clearly situated in this human-object gradient. In many ancient and contemporary philosophical models, a human being has two fundamental parts – the body and the mind. The body is human, but generally only when its part of that pair. It's the physical grounding of the human and thereby has some object properties. Moreover, things that are objects on their own can become part of the body. Medical implants and prosthetics can be integrated into the human body; the mind that uses them can consider them to be just as much a part of its duality with the body.

On the flip side of things, we give human bodies to things (particularly sculptures), which are sometimes expected or understood to have their own minds of a sort. Religious icons, for example, are intermediaries between human believers and spiritual beings. Prosthetics also fall into this category, particularly when they're created to be extremely life-like. Even objects that

unintentionally have features of a human body are anthropomorphized; take boulders with vaguely human profiles, for example. By having some degree of (the external form of) a human body, these objects become more human. So in looking at the body, we can perhaps more easily see this ambiguous spectrum between "human" and "object" where we're more used to a dichotomy. That, at least, is where I began.

Influential Theories

I conducted my literature research concurrently with the project events, and that way of doing things has certainly influenced my understanding of the question. However, in order to make my thoughts more quickly accessible to readers, I've organized this project write-up to provide a taste of that context to you before I discuss the actual components of my project. This text is, after all, more a documentation of the project than a yearlong lesson plan to replicate my personal experience. The theories discussed in this section complicated my initial, unquestioning dichotomization of "object" and "human." They moved, blurred, flattened, and denied that boundary from their own angles, and though they often disagreed with each other I took them as a whole to chip away at any unified separation of the two categorizations.

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Transhumanism was the first theory I delved into for this project. It's a philosophical branch with many popular-media adherents, and is very relevant to this discussion. Essentially, transhumanism supports the use of emerging biotechnology as a way of improving, or at least

fundamentally transforming, human beings.[3] These transformations can take a number of forms: genetic testing and engineering, mechanical prosthetics and implants, sensory expansions, artificial intelligence, etc. Transhumanists seek to bridge or supplement what they see as the limitations of the human body: current evolutionary or biological realities that don't match the human imagination. In this view, technology allows humanity to direct its own capabilities and evolution with a systematic eye towards improvement, rather than the haphazard biological approach that has dominated our history. Transhumanism argues that these developments are good; the research producing them should be pursued and they should be made widely available for anyone who chooses to use them.

It can be a divisive philosophy. Some critics argue transhumanism is playing God. Improving the species from an imperfect human perspective is necessarily limited: at best irrelevant and at worst systematic eugenics. Scientific racism famously pushed for forced sterilization of the "feeble minded" and "lesser races": who's to say contemporary calls for improvement are any less biased? Many argue that the qualities transhumanism pushes to remove the very things crucial to human identity: diversity, individuality, flaws, physical interaction, death, and others.[4] And as bioethicists point out (more on them in a bit), technology that significantly affects human lives tends

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[3] Nick Bostrom, "In Defense of Posthuman Dignity," in *Arguing about human nature: contemporary debates*, ed. Stephen Downes and Edouard Machery (New York: Routledge, 2013), 575; Francesca Ferrando, "Posthumanism, Transhumanism, Antihumanism, Metahumanism, and New Materialisms: Differences and Relations," *Existenz* 8, no. 2 (Fall 2013): 26-32, PDF, Accessed January 21, 2016. https://www.bu.edu/paideia/existenz/volumes/Vol.8-2Ferrando.pdf.

[4] Elizabeth Anne Noren, "Nothing Natural: Social Darwinism, Scientific Racism And Eugenics In America," *Social Sciences Directory* 2, no. 1 (January 2013), accessed March 1, 2016, http://search.proquest.com.proxy.lib.duke.edu/docview/1367555384?pq-origsite=summon&http://www.nclive.org/cgi-bin/nclsm?rsrc=321, 15; Leon R. Kass, "Ageless Bodies, Happy Souls: Biotechnology and the Pursuit of Perfection," in *Arguing about human nature: contemporary debates*, ed. Stephen Downes and Edouard Machery (New York: Routledge, 2013), 559 & 565.

to be "dual use," meaning it has beneficial applications and the ability to be used as a weapon. Furthermore, there are already privacy concerns over technologies biohackers have begun pursuing.[5]

Of course nothing, let alone a living philosophical viewpoint, is a monolith. Some transhumanists reject the prevalent focus on intelligence and strength as the pinnacle of humanity and push for other improvements, such as eliminating violence, selfishness, or prejudice.[6] This approach still encounters the criticisms stated earlier, but its approach to them is different.

Transhumanism is also interesting because it's not just conceptual; it has practical adherents. "Biohackers" use technology available today to improve themselves, generally following the primary individual, intelligence-and-sensory transhumanist track rather than the more social-focused one. One biohacker explained his motivation in that "it was within our grasp, and our rights, to evolve our bodies however we saw fit."[7] Quite a few have implanted electro-magnetic sensors into

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[5] Optimistically, the National Institutes of Health frames that weapons use as a "misapplication," but I think that's shirking responsibility. Technology always has unintended, if not necessarily malicious, applications. That's part of what makes it such a significant influence on society. Alternative uses must be a consideration, however incomplete, in creating new technology.

"Dual Use Research of Concern," *National Institutes of Health*, *Office of Science Policy*, accessed March 13, 2016, http://osp.od.nih.gov/office-biotechnology-activities/biosecurity/dual-use-research-concern.

Privacy concerns particularly crop up around technology that could store and convey personal information, like identity and location, like Google Glass and Wafaa Bilal's camera implant project.

Erica Orden, "His Hindsight Is 20-20: In First Interview, NYU Professor Is 'Uncomfortable for Sure'," *The Wall Street Journal*, December 3, 2010, accessed March 1, 2016, http://www.wsj.com/articles/SB10001424052748703377504575651091530462742

[6] This prevalent position is also criticized as being Western, male, colonialistic, able-bodied…

Bostrom, "In Defense of Posthuman Dignity," 575; Pramod K. Nayar, *Posthumanism* (Cambridge: Polity Press, 2014), 10.

[7] Interestingly, while biohackers are concerned with bringing humanity to a greater level of possibilities, many see themselves as non-benefiting test subjects, whose bodily experiments will make the next step of humanity possible even though they themselves don't reap the full benefits. Or, as one prominent biohacker phrased it, "bodily health takes a big fuck-off second to curiosity… though it hasn't really changed my life."

John Borland, "Transcending the Human, DIY Style," *Wired*, December 30, 2010, accessed January 31, 2016, http://www.wired.com/2010/12/transcending-the-human-diy-style/; Ben Popper, "Cyborg

their fingertips, others have devices to convey color information through sound, or provide tactile sensations from a robotic surrogate.[8]

Generally, transhumanism argues for integrating "objects" into the "human." Technology can expand the human in many dimensions, and as people take on new abilities – exoskeletons, disease-fighting nanobots, psychiatric drugs – the technologies that enable them become human themselves. These kinds of technological expansions are new appendages for exercising human will, integrated with the body, rather than external tools. They intimately modify the human experience and body and as such are a part of it. Through implants, humans can acquire the capability to sense electromagnetic fields, and that sensory capacity then becomes a human quality. The implants, in turn, become human in allowing that sense. Technologies rely on close integration with the body in order to become human. Magnetic devices sitting on a shelf are just tools, and the capability to detect fields with them is more akin to reading than sensing: something humans can *do* externally, rather than something that *is* an internal human quality. As the ability becomes fundamentally human, so does the technology. Transhumanism also, in its position that technological augmentation is better, creates a new intra-human hierarchy and can be seen as placing "objects" – the technological extensions of modified, transhuman people – above "humans" – unaltered people.[9]

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America: inside the strange new world of basement body hackers," *The Verge*, August 8, 2012, accessed January 31, 2016, http://www.theverge.com/2012/8/8/3177438/cyborg-america-biohackers-grinders-body-hackers, np.

[8] Popper, np.

[9] Of course, I just argued that these "objects" become human when they're integrated with the body and only remain "objects" when they're tools outside the body, but I think holding technologically hybrid humans above others rests uneasily on that transformation of "object" to "human."

A closely overlapping philosophy, posthumanism, also has a lot to say on the question of the human-object boundary. In simple terms, posthumanism seeks to decenter the human from philosophical considerations. I found Pramod Nayar's two-sided explanation in his book on the foundations of posthumanism useful: in the negative, posthumanism "rejects both human exceptionalism (the idea that humans are unique creatures) and human instrumentalism (that humans have a right to control the natural world)," and on the positive side posthumanism "treats (i) the human as co-evolving, sharing ecosystems, life processes, genetic material, with animals and other life forms; and (ii) technology not as a mere prosthesis to human identity but as *integral* to it."[10] Posthumanism situates humans intractably within a larger, non-hierarchical network of environments, living things, tools, and more. Its main point of contention with transhumanism is that the latter exclusively focuses on and upholds humans. Whereas transhumanism assumes a fundamental, isolable "human" entity that can be added to and improved, posthumanism argues that such a "human" doesn't exist, as the qualities we ascribe to it are manifestations of language and power dynamics.[11]

As I'll discuss a bit more in the biology section, posthumanism meshes well with new ways of thinking about life, particularly the concept of individuals, as components embedded in a larger system. Both perspectives share the understanding that human life – individually and as a group – has developed and continues to exist within a much larger network. The "human" is meaningless without this network, and is not more important, interesting, or in control than any other part. The concept of "originary technicity" is also relevant: it argues that humans have always developed in conjunction with technology, making technology a (if not *the*) primary defining quality

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[10] Nayar, 8.

[11] Nayar, 6 & 29.

of humanity. Posthumanism also shares the idea with contemporary neuroscience (also discussed later) that consciousness is an emergent property of a body that senses and interacts with the environment, and therefore not necessarily exclusive to humans.[12]

Clearly, posthumanism argues for a tight overlap of "human" and "object," calling to remove both the perception of humans as separate entities and their hierarchical supremacy over other categories we've created.[13] Although it's a diverse philosophy posthumanism was one of the biggest influences on my developing thinking during *Ambiguously Human*.

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My theoretical foray also took another branch out from transhumanism: bioethics. Contemporary medical bioethics often categorizes procedures at "treatment" or "enhancement" in order to determine the issues surrounding them.[14] They are framed as adjustments to the "normal" level of a human body: treatments raise a person's perceived deficit *to* normal; enhancement takes a feature *above* normal. Using examples of practices that occur in the contemporary world, a treatment could be a prosthetic to fill in for a missing limb or antibiotics to fight an infection, and an enhancement could be facial surgery to lessen the appearance of wrinkles or fingertip implants to sense electromagnetic fields. The traditional point of medicine, as philosopher S.O. Hansson summarizes it, "is to treat and prevent diseases, not to improve humanity generally."[15] Medical treatment always carries risks, and some bioethicists argue that those risks outweigh any preference

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[12] Federica Frabetti, "Have the Humanities Always Been Digital? For an Understanding of the 'Digital Humanities' in the Context of Originary Technicity," in *Understanding Digital Humanities*, edited by David M. Berry (London: Palgrave Macmillan, 2012), 162; Nayar, 3-5 & 38.

[13] It may seem silly, but I put considerable thought into assuming that anyone reading this text is human, according the understanding of "human" I've come to through this project.

[14] Nayar, 120.

[15] S.O. Hansson, "Implant ethics," *Journal of Medical Ethics* 31 (2005): 519-525, accessed January 31, 2016, DOI: 10.1136/jme.2004.009803, 522.

for non-necessary actions, as they categorize enhancements. Generally speaking (and oversimplifying), treatments are ethically acceptable and enhancements are not.[16]

The problem, of course, is in defining what constitutes a normal human body. Transhumanism, posthumanism, and (as I will discuss soon) disability studies all complicate that definition, and in different ways. Based on that dissention alone, this binary categorization of treatment and enhancement is built on unstable assumptions. Across frameworks, critics point out that it's a matter of perspective: vaccination can easily be argued to be an enhancing practice, yet in contemporary medical practices it's unethical not to offer it as the default. Even the categorization of something as a disease, the medical response to which would necessarily be treatment rather than enhancement, is highly culturally dependent.[17]

Bioethics also deals with questions about coupling people and technology. As many writers note, we are already "cyborgs" – we have close, interlocking relationships through technology and in many cases that technology is appended to our bodies. Medical practice has been using technology in and around the body for some time now, and bioethics grapples with questions around its use. How much a part of someone's body is their pacemaker? What about their prosthetic hand?

There are practical considerations within bioethics for these questions. Can someone or some organization require a person to return her prosthetic arm? Companies can't require someone to "give back" a biological arm that's been operated on with faulty insurance; it would be unethical to actively do harm to that person simply in order to undo falsely obtained treatment. But, at least in the Netherlands in 2007, they can enforce the return of a customized prosthetic arm that

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[16] Cosmetic surgery, of course, is a highly debated but generally acceptable enhancement practice.
[17] Hansson, 522.

responds to its user's muscle impulses.[18] This myoelectrical prosthetic, regardless of both its function and treatment as part of the body, was understood to be an object. Whether by virtue of its limited capabilities compared with a biological arm or the relative minority of the transhumanist perspective, a connected prosthetic is considered to be an external tool rather than a part of the body. It's a possession, not an integrated component. Without that integration into the body, its other qualities place it clearly in the "object" camp: it was created by humans, it's inanimate without human inputs, it's not biological, and it's a discrete unit.

In the context of this project, bioethics generally considers the extent to which various objects can and do become part of the human body. That degree is highly dependent on factors including how dependent a person is on the device and for what: an insulin pump is treated much more as an innate part of the body than a watch (no matter how "smart") is.[19] A large factor is also its physical integration into the commonly perceived boundaries of the body. The surgery to give someone breast implants may be bioethically debatable, but once they're inside the body they're undoubtedly a part of it (to some degree), whereas a personal oxygen tank can be quite medically necessary for the body but appears more as external equipment. Things like pacemakers, which hit the bodily end of both scales, are still recognized to be non-biological and deliberately added in contrast to the "natural" body, but are part of the body nonetheless.

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[18] Schermer gives an overview of the case, where a man was required to return his myoelectrical prosthetic arm because of problems with his insurance. I (of course, given my project) disagree.

Maartje Schermer, "The Mind and the Machine: On the Conceptual and Moral Implications of Brain-Machine Interaction," *Nanoethics* 3 (2009): 217-230, accessed January 31, 2016, DOI: 10.1007/s11569-009-0076-9.

[19] It's also interesting that a lot of medical research around implants and prosthetics ultimately aims for direct neurological interfaces. Why should it be better to block Parkinson's tremors at the level of the brain rather than the hand? There's some sense that neurological interventions are more precise, to be sure, but it also seems to have to do with the primacy of the brain in medical mind-body separation, where interfacing with the body is not a complete treatment because the body is an object, not the cause.

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I began looking into disability studies to investigate some of the medical practices raised in bioethics in a new light, and it became a significant influence on this project in unforeseen ways. It has provided me with a unique and powerful way of looking at what makes the human body "human." Critical disability studies examines why disabled people are often viewed as exceptions, rather than simply more points along the spectrum of humanity, and argues for fundamental reevaluations of the framework that creates such divisions. Margrit Shildrick, specializing in body theory, posits that this separation exists because, for those with normative bodies, disabled people challenge the "autonomy, agency – which includes both a grasp of rationality and control over one's own body – and a clear distinction between self and other" central to traditional definitions of the human.[20] Critical disability studies focuses on this disjunction and calls for a radical reassessment of what constitutes the human.

Disability advocates also offer strong arguments against technological "improvements" to humanity, which can be taken as a form of eugenics. Cochlear implants, around since the 1980s, have notably caused significant backlash in deaf communities for assuming their existence to be inherently incomplete and undesirable.[21] Working to end deafness is working to end deaf culture. In contrast with bioethical concerns over medically categorized enhancements, disability studies is skeptical of treatments. It criticizes calls from transhumanism or similar ideologies to repair perceived flaws in certain subsets of humanity, as they negate disabled people's identities and existence.

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[20] Margrit Shildrick, "Critical disability studies: rethinking the conventions for the age of postmodernity," in *Routledge Handbook of Disability Studies*, ed. Nick Watson, Alan Roulstone, and Carol Thomas, 30-41 (New York: Routledge, 2012), 32.

[21] Hansson, 521; John D. Lantos, "The Evolving Ethics of Cochlear Implants in Children," *Pediatrics in Review* 33, no. 7 (July 2012): 323-326, accessed February 18, 2016, DOI: 10.1542/pir.33-7-323, 324.

At the same time, bioethics and disability studies can sometimes align in the use of technology. Certainly requiring "compensatory" technology ignores the desires and identities of those with disabilities, but so does not pursuing research or outright banning the technology. This is particularly relevant in elite and professional athletics. As D.A. Baker, who studies the social and political dimensions of science, explains, contemporary debates over whether or not certain prosthetics create unfair advantages assume two (problematic) things: that there is an underlying, unified, and quantifiable baseline of all human capabilities, and that biological, economical, or geographical body variation is fundamentally different (and more fair) than technological variation.[22] Posthumanism intersects this concern as well, undercutting both of these assumptions by denying reducible human characteristics (as it makes no sense to objectively define what is and isn't humanly possible) and by affirming the interdependence of all human beings with technology (as people using prosthetics aren't using technology in any substantially different way than those who don't).

Posthumanism also joins with disability studies to shift the understanding of disability away from defects in individual human bodies to a failure of the social environment. In the humanist, able-bodied world, disabled people are incomplete deviations from the human standard and need technology and other supports to raise them up. Posthumanism argues that there is no

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[22] Baker highlights the case of cyclist Miguel Indurian, whose body was considered exceptional (in that it was an extreme deviation from what's categorized as normal, and in that it was extremely well suited for professional cycling) but not unfair. He contrasts the perception of Indurian with that of Oscar Pistorius, who was opposed in competitive sprinting because his prosthetic legs were seen as giving him an unfair advantage over other runners.

D.A. Baker, "The 'Second Place' Problem: Assistive Technology in Sports and (Re) Constructing Normal," *Science and Engineering Ethics* 22 (2016): 93-110, accessed January 31, 2016, DOI: 10.1007/s11948-015-9629-1, 98.

separation of human and prosthesis for anyone, and therefore the differential perception of disabled

people using technology as opposed to naturally independent able-bodied people is false.[23]

In the broader, more fundamental perspective of critical disability studies, the very

definition of what constitutes humanity is unsound. Strict boundaries on bodily capabilities of what is

or isn't standard (who is or isn't disabled; what is or isn't human) don't make sense. The "human" is

neither a unified category nor in neat opposition to any group that might be placed next to it.

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This investigation of the "human" through the body brought me to biology, which

heavily focuses on the material structure of things in its definitions of them. My background in

molecular biology and neuroscience gives me an idea of those fields' ways of defining the "human."

Generally, the relevant oppositions are the separation of living from nonliving and of human from

animal. Living things are organized and complex, and they grow, metabolize, interact with their

environment, and reproduce.[24] Nonliving things can show none or some of these characteristics, but

not all of them or to a sufficient extent. Crystals, for example, grow and are highly organized and

complex and can respond to their environment, but they are nonliving. The categorization of viruses

is debated, and they're generally considered somewhere near the border of living and nonliving. Their

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[23] That is, disabled people don't use greater amounts of technology or use it in a more fundamental way. Nayar, 101.

[24] Astrobiology, where a lot of interesting scientific research into defining life is going on, acknowledges that there's no inherent reason life should only be on Earth, and that if that's the case it's difficult to separate what defines contemporary life on Earth from life in general. For example, life on earth is carbon-based and depends on liquid water, but those may or may not be hold true for life elsewhere (or, in the context of this project, for artificial life).

Astrobiology Magazine staff, "Life's Working Definition: Does It Work?" *Astrobiology Magazine*, *NASA*, last updated November 30, 2007, accessed January 31, 2016, http://www.nasa.gov/vision/universe/starsgalaxies/life's_working_definition.html.

classification as nonliving is largely due to their relative simplicity and complete reliance on cells to carry out their reproduction and growth for them.

Humans are separated from animals (and other living things) by virtue of being a different species, the definition of which largely concerns reproduction. Members of a species share a relatively large amount of genetic material with each other and reproduce together, in contrast with members of separate species. The biological mind sciences also investigate some of the qualities that figure into definitions of the "human," though in their own abstracted ways. They study memory, communication, tool use, culture, theory of mind, emotions, empathy, and more. Notably, though, each of these characteristics is also present in animals.[25]

There is some debate as to whether the differences in the way we understand these qualities in humans as opposed to animals is one of degree (humans have greater or more advanced instances of these qualities) or of kind (human qualities are fundamentally different from analogs in animals). It's a contentious but lively contemporary scientific discussion. For example, corvids (birds including crows and jays) have been known to re-hide food once they're alone if they originally stored it while another bird could see them. This could indicate that they have theory of mind since they seem to behave knowing the other bird could steal their food if it's left in the original hiding spot but not if it's moved while that bird isn't around. There are other potential explanations for that behavior, and scientists critical of ascribing these kinds of human understandings to animals argue that such

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[25] In psychology and related fields, "theory of mind" is essentially knowing others are separate from you and have their own independent thoughts and experiences. And on the point of animals showing these qualities, since scientific research is morally restricted on humans, a lot of research into these things is *necessarily* done in other species.

claims are anthropomorphizations rather than evidence-based conclusions. Nonetheless, it's an ongoing debate.[26]

Of course, anthropomorphization itself is an interesting phenomenon in the context of this project. Neuroscience (and other fields including psychology, art history, and religious studies) has investigated how human beings ascribe human qualities to objects. Despite the biological assumption that "humans" and "objects" are fundamentally different at a much more basic level than even "humans" and "bacteria," human beings also anthropomorphize everything, including nonliving objects. We see faces in rocks and read complex feelings in our pets. There are many potential explanations of why and how people anthropomorphize things and what results. Some of the research I find most interesting in the context of this project shows how anthropomorphism is tied to the empathy, trust, and social connections between people and objects. It is one way in which we can clearly see the spectrum of the human-object categorizations.[27]

Although the scientist in me wants to point out that my evidence is completely anecdotal, some neuroscientists (and neuroscientists-in-training) I've talked with think consciousness is an emergent property of the brain. In other words, it's not a unique quality that humans alone possess; it's just something that happens in systems that sufficiently meet certain requirements. This

[26] Sara J. Shettleworth, "Cognition: theories of mind in animals and humans," *Nature* 459 (May 28, 2009): 506, accessed February 18, 2016, *General OneFile*, http://go.galegroup.com/ps/i.do?id=GALE%7CA201213122&v=2.1&u=duke_perkins&it=r&p=ITOF&sw=w&asid=0926f40525d52ae6a9ca066b6a260437; Elske van der Vaart, Rineke Verbrugge, Charlotte K. Hemelrijk, "Corvid Re-Caching without 'Theory of Mind': A Model," *PLoS One* 7, no. 3 (March 2012), DOI: 10.1371/journal.pone.0032904.

[27] Richard Allen and Shaun May, "Encountering Anthropomorphism," *Performance Research* 20, no. 2 (2015), 1-3, accessed February 18, 2016, DOI: 10.1080/13528165.2015.1026710; Nicholas Epley, Adam Waytz, and John T. Cacioppo, "On seeing human: A three-factor theory of anthropomorphism," *Psychological Review* 114, no. 4 (Oct 2007): 864-886, accessed February 18, 2016, DOI: 10.1037/0033-295X.114.4.864; Adam Waytz, John Cacioppo and Nicholas Epley, "Who Sees Human? The Stability and Importance of Individual Differences in Anthropomorphism," *Perspectives on Psychological Science* 5, no. 3 (May 2010): 219-232, accessed February 18, 2016, http://www.jstor.org/stable/41613332.

means it's theoretically entirely possible for non-biological entities to develop consciousness. As one

neuroscientist pointed out to me, all we need to do is build a full simulation of a brain.[28]

Of course, biology, as any human endeavor, has its own assumptions and biases.

Some contemporary scientists are addressing what they see as biology's improper historical influences,

which have swayed and blinded its research.[29] For the context I'm interested in with this project,

redressing assumptions about individuality and hierarchy are particularly interesting. An influential

paper by biologists Scott Gilbert and Jan Sapp and philosopher Alfred Tauber lays out some of the

ways the scientific understanding of the "human" has integrated social and political assumptions, and

points out particular places to reframe that understanding, arguing for centering biology around the

"holobiont" rather than the individual. As they put it:

> …recognizing the 'holobiont' – the multicellular eukaryote plus its colonies of persistent
> symbionts – as a critically important unit of anatomy, development, physiology, immunology,
> and evolution opens up new investigative avenues and conceptually challenges the ways in
> which the biological subdisciplines have heretofore characterized living entities.[30]

They methodologically dispel assumptions about the primacy of the individual in each of those

subdisciplines (anatomy, development, etc.) with biological evidence that has existed but not been

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[28] From this view, at this point in time that certainly could mean only humans show consciousness, but that means it's possible for any number of other things to, as well. These scientists also don't know what those sufficient requirements are. Consciousness is often framed in terms of complexity, but not with much precision or certainty. And "just" simulating a brain is not actually simple. The brain is extremely complex, and, as I also discussed with this person, neuroscientists aren't sure what would be the necessary features to simulate in an artificial brain. She pointed out this could end up being a practical advantage for those attempting it; the relevant units might be larger than molecules or neurons, which would mean less of them to simulate and a relatively sooner potential for completing such a simulation.

[29] In other words, science's western, white, male, colonialist, etc. frameworks of understanding what relevant, true, and possible.

[30] Scott F. Gilbert, Jan Sapp, and Alfred I. Tauber, "A Symbiotic View of Life: We Have Never Been Individuals," *The Quarterly Review of Biology* 87, no. 4 (December 2012): 325-341, accessed January 31, 2016, http://www.jstor.org/stable/10.1086/668166, 326.

placed in that fundamentally disrupting context before, arguing for the fundamentally interdependent holobiont instead.

Regarding the question posed in this project, biology places "human" and "object" – as living and nonliving things – at strict odds. However, that doesn't provide much specificity on the characteristics most people (including me, as the creator of this project) think of as defining the human. Human beings aren't generally interchangeable with E. coli, although the way biology distinguishes the "human" from "object" often regards them as such. This definitional separation, of course, is just one component of what can be seen as the larger, overarching definition of what makes a "human." But it's interesting that biology and its subfields generally illustrate the ways in which human qualities are not, in fact, exclusively human.

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These are the areas (trans- and posthumanism, bioethics, disability studies, and biology) where I concentrated most of my reading in generating context for myself. I chose these fields to help me understand the question I posed in my project and to give me frameworks to offer participants during the project's public discussions. They shaped my thinking about the project's question and, in turn, participants' thinking through my presentation of it. These areas certainly aren't everything that's relevant; as one participant (and numerous formal and informal advisors) pointed out, the question at the heart of this project is expansive. It has relevant tendrils all over the place and following them could lead in any number of directions. It certainly did during public discussions, depending on participants' backgrounds and interests, but the areas I just described were the ones I found myself most drawn to as having nuanced and interesting things to say, individually and together, about my project.

Project Structure: Title & Framing, Public Components

I know it's déclassé to use dictionary definitions in academic papers, but the words I chose to encapsulate this project are important. I thought a lot about my title, and explaining it will help to illuminate my interests and aspirations for the project. First is "ambiguously," which denotes both questionable definition and double or intermediary interpretations. It can be deliberate or unintended, applied to a person or a situation or an object. "Human" is simultaneously precise and vague, almost a tautology.[31] It's narrower than "person" but largely defined by oppositions – to the divine, to genuses other than *Homo*, to the mechanical, and so on. "Human" is both an entity and a process; one can simply be a "human" but one can also be a "human cannonball." We can elaborate in designating someone a "human being," which ironically is quite similar in meaning to the non-compound word. "Human being" does, though, seem to emphasize individuality and identity rather than a biological grouping.[32]

Putting these two words together for my title, "Ambiguously Human," with these multifaceted definitions in mind, indicates the rich context I have in mind for this project. The boundary of "human" and "object" is hard to locate. The categories are both ill defined and have intermediary options. The "human" is ambiguous by definition, although those multilayered

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[31] The Oxford English Dictionary offers seven definitions within two groupings for "ambiguous," all of which I considered and are useful in understanding my choice. There are also many relevant entries under "human," including the wonderfully telling and useless "Having or showing the qualities distinctive of or commonly attributed to human beings." Please see the excerpts in Appendix D. For anyone who wants the full context, and enjoys reading the dictionary as much as I do, I recommend the OED entry.

[32] "I'm a human being" seems to me to be more about emphasizing my status as a unique, fallible person to other people; "I'm a human" seems like what I would say to an alien to differentiate myself from my cat.

meanings aren't obvious without that extra literal prompt. Reading the title with the emphasis on "human" highlights the uncertainty in categorizing things; it can be difficult to tell if something is human or in what way that classification is applied. Switching that emphasis to "ambiguously" calls attention to how simply the state of being human is uncertain. The works being examined in this project are "ambiguously human"; they occupy that intermediary, hard-to-pin-down space.

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Of course, the project is more than its title. I considered the public, physically experienced components of "Ambiguously Human" – my museum installation and campus film series – to be my project's primary material. It also included more secondary writing, particularly through the project website.

I curated an installation in the Nasher Museum of Art's Academic Focus Gallery, called "Humanized Objects," which was open to the public from January 16th through March 6th. The grounding noun of the title is "objects" – the works in the installation are definitively (as much as that's possible) objects rather than humans – but they have certain human qualities – they're "humanized." I wrote an accompanying interpretive text relaying some of my motivations, research, and analyses on the works and installation as a whole, which was available as a booklet at one entrance to the installation and digitally on the project website (more on that later). In short, the installation showcased the ways in which objects are created with the human form and thereby also take on certain human qualities for themselves. I selected works from a wide range of times and places in order to help viewers think about what it means to give objects these qualities through the figure, rather than any one particular way the figure has been used (i.e. not medieval Christian iconography but the more fundamental impulse to create objects with a human form). I gave six talks on "Humanized Objects": a training for the Nasher's Gallery Guides (who give the museum's adult

and children's tours), a tour for the GLS AfterHours group (current students and alumni of the program), three tours for faculty and staff who have contributed to my studies, and a public adult tour (which the Nasher offers every Thursday at 6pm, when museum admission is free for everyone). I also conducted informal interviews with visitors during regular museum hours to understand something about their thoughts on it.

The other branch of public events for "Ambiguously Human" was the film series held across campus. I screened four films that were followed by discussions with faculty and the audience. The first, "Wall-E" was also part of the Kenan Institute for Ethics' (KIE) "Film Fe(a)st" series. It was held in Griffith Theater and I led the discussion with Dirk Philipsen, a scholar and fellow with the KIE who studies the environmental intersections in contemporary capitalism. Together with my interest in the spectrum of humans to objects, we focused our discussion on the ways in which *Wall-E* shows physical interactions with others and with the land. My aim was to provide a fun introduction to this central question of the ambiguity between humans and objects using the array of human and inhuman biological people and machines that populate "Wall-E."

The remaining three screenings were presented solely under this project. The screening for "Ghost in the Shell" took place at the Graduate Liberal Studies house and I lead the conversation myself. I selected this film to look at physical and procedural machine characteristics that can be subsumed under the human. I then showed "The Stepford Wives" in the Pink Parlor of East Duke and discussed it with Rachel Ingold, who curates the Rubenstein Library's History of Medicine Collections. I viewed this film as a kind of inverse exploration of my question from "Ghost in the Shell," as it offers a way to think about human qualities that can become mechanically inhuman. I closed the series with a screening of "Ex Machina" in Perkins Library, which I used to circle back to my original questions of distinguishing humans from machines and whether or not

machines can be "human."[33] The discussion built on specific cases in the earlier films, with Professors

Kate Hayles – who's in the Literature Department and is interested in ideas of the human,

particularly as they relate to science – and Jaybird O'berski – in the Theater Department, who

brought in interests on human behavior and motivation.

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Additionally, I created a website to serve as a central project hub for sharing

information: <sites.duke.edu/AmbiguouslyHuman>. I did not quite see it as another primary

component for participants, but it allowed me to offer more context. It provided a central hub for

coordinating and advertising in-person events, and a place for me to bring in other connections to

the project's question. I thought of it as hosting the project's secondary material. There were eight

pages: Home, About, Blog, Installation, Films, Reception, Calendar, and Read More. The website is

documented in Appendix A.

The Blog and Read More sections were where I brought in other information –

theories I was reading, other relevant works that are accessible online, my own trains of thought – to

expand visitors' contexts for the project topic. On the Blog I highlighted particular connections (like

the Smithsonian's Human Origins exhibit) and reflected on my own thinking (on a given film

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[33] Is it possible to have mechanical humans along with, rather than opposed to, biological ones? I think this is very interesting to consider but somewhat tautological. Many biological definitions of life tend to require a biological foundation (i.e. something categorically cannot be considered alive if its structure isn't biochemical and cell-based). I think this is arbitrary and unnecessary; there are other, more relevant qualities that living things exhibit (the previously discussed reproduction, evolution, etc.) and requiring a biological foundation is needlessly restrictive. It could certainly be useful in categorizations; perhaps a "human" is necessarily biological and a mechanical being that shares all other qualities with humans may be culturally, morally, intellectually, etc. on part with humans, but would not actually *be* "human." As I discuss later, though, this kind of fundamental separation has repercussions, namely the development of hierarchies where the non-human group is less valued than the human one. Perhaps that would change in a world with mechanical equivalents of humans (I'm admittedly extrapolating from the situation we currently have, where there are no non-biological human contenders, only intra-human groups) but in this project I generally assume structural material is irrelevant and mechanical humans are possible.

screening or my reading). The Read More section listed a small selection of my reading for this project so that people interested in learning more for themselves could see what was influencing me the most. This text will be available on the Read More page. I meant for these sections to complement the understanding people were getting from the events themselves.

The Home and About pages were framing for the website and the project as a whole. The home page gave a short introduction to the project question and laid out what information was available on the site. Every Sunday it was updated to display the events happening over the upcoming week. It also showed the latest blog post. In the About section I expanded more on the project topic with a longer explanation of its context and how I was approaching it through my project. It also gave some information about who I am. These pages were meant to invite people in to the project and give them the necessary framework for understanding it, without overwhelming anyone.

The remaining website pages were for event organization and publicity. All of the public events were listed on the Calendar. Visitors could either check the calendar displayed on the page or add it to their own Google calendar. The Reception page explained the structure of the project's Closing Reception as well as how to attend. The Installation page provided some quick information about its topic as well as where and when to see it. I also included longer informational pieces via the flyer and interpretive text (which are available in full in Appendix B). Likewise, the Films section gave a short introduction to the film series followed by details on each screening and discussion, including the time and location, who would be at the discussion and what the general topic would be, and a plot summary and trailer video. I wanted these pages to help people understand the content and purpose of individual events and efficiently find where and when to attend them.

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Together, these components, each of which dealt with the question of what defines the human as opposed to object, formed the accessible manifestation of my project. Those interested could see my installation and come on a tour of it, attend one or more film screenings and participate in a far-reaching discussion related to them, and read the website for additional context on what and how I was thinking about this project. My aim with this project was to see what new understandings and questions could come out of bringing these components together into this unified context, and I studied my own reactions to it as well as those of other participants. I was in a unique position as the one organizing all of the components, not just participating in them, and since I have direct access to my own thoughts and not others', the reflections and analyses that follow are certainly biased towards my distinct experience of the project. That being said, I have tried to include responses from other participants as much as I was able to.

Analysis of the Project Components

As mentioned earlier, my project had two experiential branches to it: the installation and the film series. I, of course, had my own personal understanding of them, and through discussions with various people in attendance I did get some sense of what others thought about them. This analysis is inherently incomplete as a catalogue of my own and others' thoughts on the installation and films, but I've selected the points I think are more interesting and relevant.

I strongly advise anyone reading these analyses to experience the components personally, as much as that's possible, before continuing. Installation photos of *Humanized Objects*, which is no longer on view, are in Appendix B. Films are harder to convey through paper documents (even digital paper); Lilly Library has circulating copies of each. If it's not possible to watch the complete films, Appendix C has a short plot synopsis and some relevant links for each one.[34]

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[34] If, on the other hand, you want to make your to-do list around this project smaller rather than bigger, the concluding Project Evaluation section will still make sense without reading these analyses, especially if you've experienced them yourself. I understand not everyone wants to read a giant paper and I want you to find it enjoyable and useful in whatever way makes sense for you, more than I want every single person to listen to all of my thoughts, so I'm compromising with this caveat in a footnote.

Museum Installation: *Humanized Objects*

Much of my own thoughts on the installation can be found in the interpretive text. Experiencing the installation itself over the months it was on view, and having many conversations with visitors on it, did prompt several new connections in my thinking about it, though. I recommend reading the interpretive text before this analysis, as I try to avoid repetition here and am building off those ideas.

I curated this installation to prompt viewers to think about the separation of "human" as opposed to "object" as a spectrum rather than a binary, through pieces that inhabit the space between inanimate material and human agent.[35] The works were selected because they asked that question to some degree. The installation organized the works into three elastic and overlapping groupings – functional, sacred, and effigies – that are explained in more depth in the interpretive text. In discussions about the "Humanized Objects" I talked a lot about my experiences with the Puppet Patterns and the currency (see images on pages 32 and 33, respectively) as pieces that really helped form the installation and deepen my thinking. They're both things I'm familiar with in my own life; I've had paper dolls (even if not paper puppets like these) and I use currency (if not the specific ones on view). Seeing them in a museum context helped me to think more about the visual qualities of dolls and money, and to critically engage with their uses.

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[35] Selected installation photos are included in this section; the full set is in Appendix B.

Installation shot including puppet patterns (framed, hanging on the left).

Dolls really sparked my interest in this installation. I was fascinated by how they're vaguely human forms that are inert on their own but they can take on the elaborate personalities, narratives, and actions that people (especially children) project onto them. Dolls exemplify the way humanized objects can be understood to be their own "people," with their own characteristics, through their interactions with humans. Of course, it's understood that they're not fully human; they don't continue to be their own people after someone stops interacting with them. That's true in the "real world," at least; we have plenty of horror movies about the scenarios in which dolls do carry out actions independently of humans.[36] We also, though, have plenty of stories where that situation isn't

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[36] A few I can think of are the films *The Boy* and *Child's Play*, and Richard Matheson's short story "Prey." *The Boy*, directed by William Brent Bell, 2016 (Los Angeles: STX Entertainment, 2016, currently in theaters); *Child's Play*, directed by Tom Holland, 1988 (Beverly Hills: MGM Home Entertainment, 1999,

cause for horror: *Toy Story*, *Pinocchio*, and *The Velveteen Rabbit*, to name a few.[37] This latter case is

particularly interesting to me because these narratives suggest that objects (dolls in particular) are

capable of being human in having their own sentience and desires, not in a malicious way, but in a

way that demands the respect of humans, or at least condemns humans' disrespect for them.

Installation shot including currency (paper and coins, right) and medals (left) on the bottom shelf.

Likewise, including currency in the installation helped me think about what political

figures symbolize. Why do we use particular faces for our currency? What do they say? They are

portraits, to be sure, but they're highly abstracted portraits used for communication. Currency uses

idealized images to call to mind what that person means in their particular, circulating context.

DVD); Richard Matheson, "Prey," from *American Fantastic Tales: terror and the uncanny from the 1940s to now*, ed. Peter Straub (New York: Library of America, 2009).

[37] Margery Williams Bianco, *The Velveteen Rabbit*, 1922 (New York: Hyperion Books for Children, 1996); *Pinnochio*, directed by Ben Sharpsteen and Hamilton Luske, 1940 (Burbank: Walt Disney Studios Home Entertainment, 2009); *Toy Story*, directed by John Lasseter, 1995 (Burbank: Walt Disney Studios Home Entertainment, 2010).

When I first put the installation together I thought of currency as a functional object and nothing more, but discussing it with visitors I realized that's not quite true. I defined the "functional objects" grouping in my installation as those that perform some purpose and don't *need* to look human or have representations of figures in order to fulfill that function. For an example outside the installation, I have a mug with a drawing of a person decorating it; that figure is irrelevant to the mug's function as a vessel for me to drink from. In my installation, I was interested in functional objects where the figure is an extra.

Money is a symbolic object; it's a physical representation of a concept of value. Though it is a *used* object, it isn't *materially useful* as a container or a whistle is. It can fulfill its function without a human figure (and has), but it's not as straightforward as the situation with a whistle or my mug. Because of that, money that doesn't feature human figures is interesting to compare to money that does. How does this currency without a figure convey legitimacy or evoke the nation? What ideals do they hold up? One visitor mentioned several contemporary African currencies that feature animals, rather than people, and another visitor brought up currency under one Islamic empire that didn't include any human images. Clearly both of these cases still work to evoke the nation and convey legitimacy of the currency. The question then becomes one of why human portraits are so common. They seem to more easily convey that information, as the default way of achieving it. Instances without portraits are exceptions: particular cases where the figure is considered inappropriate and workarounds are devised. That is, the figure seems to give some special properties of communication to currency that other symbolic imagery does not (or requires extra consideration to achieve the same properties).

The conversation about currency with one group turned to the medals that were included in the installation, which also feature symbolic portraits of individuals like currency does,

although in a different context and for a different use. One visitor pointed out that the medal featuring Napoleon was made at a strange time, when he was still alive in exile. He speculated on some of the reasons a group might choose him to represent their ideals when, at the time, he wasn't very highly regarded. The symbolic figures on medals, like those on currency, convey meanings that are both abstracted from the individual they show and have their own independent contexts from that individual. They are both based on and separate from that person; these symbolic figures are their own.

Installation shot of propaganda poster featuring Stalin.

Installation shot of print featuring Saint Dominique.

The conversations I had around currency also often brought in the Soviet propaganda posters, particularly the one showing Stalin (see image above), since this was another instance of using the image of a political figure. I was interested in how Stalin's image was a recognizable portrait but even more so a symbol of ideals and authority, as the portraits on currency are. From my

conversations, it was a really popular piece. It's visually engaging, as a large poster with bright colors, and for several visitors the image of Stalin provoked strong reactions. One visitor brought up the history of his pose, which evokes ancient royalty and gods. Several younger visitors, who hadn't spent much time in the installation, mentioned it as the one they were most interested in even though they couldn't place who the central figure was. Stalin is still a potent symbol to us. Outside of its original context the idealized symbolic elements of the portrait stand out and jar with how we think of him; he's not a noble visionary leading us into a bright future but a terrifying dictator. The image of Stalin animates the poster and often elicited strong, emotional reactions from visitors.

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The completeness of the body was also something I started thinking about as I spent more time with the installation. Visual representations of the human can include substantially less of the body than people typically see of actual humans and still be immediately recognizable as such. These images are *representations* of humans, not actual humans, and don't need entire bodies in order to work in that role. One obvious example, in my installation and beyond, is portraits. Portraits are generally thought to visually illustrate a person's features but also capture something of their personality or other essence. Many of them are not full length; a great deal only show the face, including some of the currency in my installation. Yet people still understand them to be representations of that whole person, not simply a part of them. These objects contain and convey that individual, personal spirit.

Portraits can show visual fragments of the body – without showing a face – and still be easily recognizably human. The print of Saint Dominique (see image on page 35) is a great example. It's extremely abstracted. The lines are simple and give us more a conceptual outline of a body than any sense of visual detail. There is no face; there isn't even a complete head. The hand,

viewed in isolation, looks like a flame. But I think that's the interesting thing about this print: the hand can only be viewed in isolation after you see the whole body, after you understand it's showing a human figure. Despite its abstraction and focus on the torso, this print is quite obviously of a person, and in order to see things like the flame you need to examine details rather than the whole.

Not only is this figure a human, but a saint. As representations that take the human form, saints all have their own bodily symbols and identifiers.[38] Saint Dominique's common "attributes" (his standardized imagery) are lilies and a dog carrying a torch in its mouth.[39] Neither those nor some of the saint's other attributes are unambiguously depicted in Matisse's print, but knowing Saint Dominique's iconography I can see them in it. The flame-like hand I see recalls the burning torch, albeit indirectly and unconventionally.[40] To me, it's an interesting way of playing with attributes and images of the human figure. This print can read as a generic, unidentifiable body or a highly specific one, depending on the back and forth context you contribute. Knowing the saint's attributes adds a layer to the work. It's not just an abstracted portrait; it's an abstracted bodily representation of a religious figure that can function as a sacred intermediary between believers and the spiritual realm.

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[38] I talk about iconography more with the painting of Saint Roche & Saint Francis in the interpretive text.

[39] Richard Stracke, "Saint Dominic: The Iconography," *Christian Iconography*, August 4, 2015, accessed December 20, 2015, http://www.christianiconography.info/dominic.html.

[40] Which is, from my admittedly limited understanding, unusual and somewhat counter to the point of saintly attributes and visual iconography.

Installation shot of print featuring Burbank's budget cover.

Installation shot including *ere ibeji* (on the shelf, left).

My interest in the body also took form in looking at idealizations of it. I was interested in how some of the works in my installation – particularly the anonymous figures below Stalin (see image on page 35), the family on the City of Burbank budget, and the *ere ibeji* figure (see images above) – show idealized bodies in order to convey things about those people. I write more about the (presumably) Latvians in the poster with Stalin in the interpretive text, but essentially these anonymous figures seem to be abstracted idealizations of the (resolutely and optimistically Soviet) Latvian potential. They're literal anthropomorphisms, giving human shape to human concepts. Likewise, the central figures in Kitaj's print of the City of Burbank's budget are an idealized (white, middle class, heterosexual) family. The *ere ibeji* is a Yoruba figure created to be the new physical body for a deceased twin child, and is given highly idealized features (although I'm less familiar with the context of what those features are and how they take form). Idealized figures communicate through

the shape of the body itself, and they reflect the values of those in power or of social conventions. Talking about such idealized figures in my installation, one group made contemporary connections to the recent introduction of new Barbie dolls that showcase several different bodily proportions and skin tones. There are new idealizations of the body available. Idealized object-bodies offer aspirational points of contact and understanding with those who interact with them.

In many ways, of course, the human body itself is an object and can be idealized or "humanized" in its own ways. Earlier in my discussion with the group that brought up the Barbie connection, I talked about my interest in prosthetics in the context of this project as objects in their own right that become human when they're part of the body. One visitor brought up a fascinating connection between idealized figures and prosthetics in objects that shape the body, like corsets and bustles. He talked about how they are objects in and of themselves, some of which were designed or decorated to be beautiful on their own, but they also function to create an ideal human figure on the human body itself. The actual human body is shaped by the same ideals creating the more-object-like figures of the body.

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Since the installation itself was a component of my project, I've also been thinking about how it worked for my goals. The organization I chose to follow, where the objects were arranged thematically and pulled from a range of times, places, and contexts, was pushed a little further than art museum exhibits usually are. I pursued that wide-ranging arrangement in order to emphasize the objects' commonalities – pieces showing the human figure – rather than particular ways in which human imagery has been used in specific times and places. I thought that organization would work better as a prompt to look at these objects as resisting a strict human-object dichotomy than more temporally and geographically similar works, since the other commonalities of the latter

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could distract from my intended focus. That was true for me, at least, in putting the installation together. I did give context for the pieces (some more than others) in my interpretive text, but visitors didn't necessarily read that. Since it was a booklet off to the side rather than wall text, it could feel supplemental and not fundamentally part of the installation.

As could probably be expected, the installation structure was successful for some people and not for others. Those who liked it typically explained that it was accessible. One person said this was because it didn't seem as esoteric and condescending as art museums can be when they display highly similar and highly academic works. It was conceptual, yes, but he could figure out the functions and connections for himself. Another person liked that she could find her own way into understanding it since there was such a variety of objects and she could choose the ones she was interested in. In a group discussion, two visitors commented on how the breadth of both the topic and the objects in the installation meant that it could facilitate interesting and specific discussions in any number of directions, depending on who was involved. Others discussed how including objects visitors are personally familiar with – particularly dolls and currency – helped the question carry over outside the museum context. I talked with one person a day after her visit to the installation who said she had been thinking about the installation's themes and questioning of the human-object dichotomy in very different contexts as she went about her life.

Visitors also expressed some problems with the installation. No one flat-out told me they didn't like it, possibly because I was the one they were talking to, but hopefully because parts of it worked for them even if others didn't. One visitor told me he couldn't understand what the uniting theme was from just walking through it, and he wasn't motivated enough to read the text. But he did find two of the pieces compelling for his own reasons and spent some time with them. Another visitor and I talked about the potential for problems in emphasizing my own thematic connections

rather than the objects' context, which can further appropriate them.[41] That was definitely something I struggled with when putting the installation together, particularly since I'm not an expert on the context of those objects. In the time available for this project, and with my goals in mind, I think it worked. Ideally, though, I would have considered this more carefully.

Film Screening: *Wall-E*[42]

In the context of this project *Wall-E* interested me because its heroes are robots that are robotic only in very particular aspects of their lives, and the humans are often robotic. There's a reversal of roles and I was interested in how that was shown, what qualities the film used to make the robots read as human and the humans read as robotic.

The humans in Wall-E are shown to be mindless consumers. They receive all their nutrition from drinks brought to them by robot attendants, they change the color of their clothes immediately when informed a new one is in style, and they exist almost entirely in the digital world. They don't care about Earth and don't really seem to know much about it. The post-film discussion dealt a lot with unsustainable uses of the Earth for economic and commercial gains. Several people

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[41] Museums have a long history of appropriating meaningful works from other cultures for their own ends, through power dynamics that often render those groups unable to keep or recover objects for their intended use. Works like the Anyi *mma* head in my installation are a good example: colonialists and their successors collected *mma* as intriguing objects while removing them from their cultural context and ignoring their spiritual importance, as well as actively suppressing the practice surrounding them. I tried to provide some awareness of that in my interpretive text, but I was still using it to build an argument outside that context.

[42] *Wall-E*, directed by Andrew Stanton, 2008 (Burbank: Walt Disney Home Entertainment, 2008), DVD.

brought up the increasing mechanization and digitalization of our connections with the land and each other as counter to essential human qualities. Robots educate the children in *Wall-E* and the content is essentially a commercial for "Buy'n'Large," the company that created the ship they live on. These people may be biological humans, but their bodies are atrophied and they don't use their minds for anything highly individual. They act like robots.

By contrast, several of the robots have personalities and do things because they want to, not because they're programmed to. Wall-E, the titular and central character, is a waste disposal robot who's been left on Earth to clean up after humans have fled for the temporary safety of a luxury space liner. In the opening scenes we see that at one point there were many, probably thousands of, "WALL-E" (Waste Allocation Load Lifter – Earth-class) robots roaming the Earth and creating neat stacks from the omnipresent garbage, but our Wall-E is the only one left. Wall-E continues to perform his programmed action – collecting, compressing, and stacking garbage – but he's developed a personality and hobbies. He collects things, like Rubik's cubes, light bulbs, and rubber ducks, which he stores in his house inside a larger, inert WALL-E robot. Wall-E loves the musical *Hello, Dolly!* He records songs to play during his travels and collects a garbage can lid to use as a hat and dance along with the characters. He even has a pet: a friendly cockroach, the only biological living thing we see on Earth for most of the movie.

For Wall-E, robotic behavior signals his death. During the course of the film he gets badly injured on the humans' ship and Eve, his robot love interest, brings him back to Earth to repair him from broken-down WALL-E parts. When Wall-E restarts, he acts completely robotic. He doesn't communicate with Eve; he disposes of the pieces of his collection she shows him; he simply goes about his programmed activity of trash disposal. He's no longer Wall-E, who was defined by his individuality. Now he's just another WALL-E unit. Of course, the film doesn't actually kill off the

main character; a spark from a departing "kiss" from Eve brings him back. His return is indicated by his quirks resurfacing in the way he won't let go of Eve's hand and the angled way he holds his eyes. One person at the discussion pointed out how a lot of the more "human" interactions in the film, whether it's Wall-E's romance with Eve or that of humans John and Mary, are shown through touch. *Wall-E* seems to emphasize the importance of physical connections in what makes beings human.

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There does seem to be a spectrum of human-ness in the robots shown in *Wall-E*. Wall-E and Eve are highly individual and located on the human end. They still obey their programmed directives, but they also choose many of their actions. Both of them go out of their way to do things they enjoy or care about. The human-ness of these robots seems to be unintentional on the part of their human creators and the implications of having sentient servants are largely ignored by human society in the film. Eve initially hides her personality. She's an EVE (Extraterrestrial Vegetation Evaluator) probe sent out by the human's ship to check Earth for plant life, which would let them know it's safe to return. When we first see Eve a shuttle is dropping her off on Earth and she begins arbitrarily scanning the world around her for plant life. Once the shuttle leaves, though, it becomes obvious that she was hiding her individuality. She takes off flying around the area in a way that's very playful and clearly only for her enjoyment, not as part of her programmed mission.

On the other extreme, we see many robots on the ship that seem completely robotic. They look and act interchangeably and don't offer any hints of sentience. It's one of these robotic-robots that two humans destroy, in a scene the film plays for laughs. Mary and John are having a fun, romantic, and individualistic evening in the ship's pool when a robot attendant tells them to stop splashing. In a very mild state of annoyance, one of them splashes water on the robot to short it out. In the film, it reads as both justified and insignificant. Mary and John are physically interacting with

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each other and their environment, emphasizing their human qualities, while the rest of the ships'

inhabitants are implicitly condemned for living robotically in virtual worlds and the pool attendant is

just a bland robot following its programming, emphasizing their robotic, inhuman qualities. Their

killing the robot is a spur of the moment act of defiance against robotic behavior.

It does make a certain amount of sense (and of course is convenient for all the

biological humans involved) to treat robots behaving robotically as inhuman tools but simultaneously

view the robots that display human communication and individual choice as peers. There are cracks

in this logic, though. When exactly does a robot pass from robotic-robot to human? How do you test

for human qualities? While on the ship Wall-E introduces himself to several humans who react

without condescension and only mild surprise, and quickly talk with him as another person. However,

those humans still order around and even kill other robots without any concerns. Other than Wall-E,

who isn't from the ship's society and doesn't know he's not supposed to interact with humans, these

humanized robots are largely ignored or regarded as problems. It becomes clear that the misbehaving

robots kept quarantined in the ship's robotic repair ward are the very ones that have some degree of

personality when they help Wall-E and Eve with their newfound mission.

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What really struck me was how strange and interesting the character Auto is. Auto is

the ship's autopilot system. Initially he's the only one with access to classified information about the

status of Earth, and he becomes the film's primary villain. In the context of how *Wall-E* shows the

spectrum of human-robot, though, he occupies a very uneasy place, and thinking about how exactly

he fits in has changed my reading of the film as a whole.

Auto is the bad guy of the film because he doesn't want the humans' ship to return to

Earth. He works very hard at sneaking around and then outright fighting the humans and robots

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trying to make that return happen. However, when we discover his reasons for averting this return at all costs – that he was ordered to do so – he no longer fits so well on the human end of the spectrum with Wall-E and Eve. It becomes clear that he has only ever been following President Shelby Forthright's directions, just like the pool attendant robot. In that sense, it could be acceptable to kill him for parallel reasons; he was never really alive, so turning him off isn't morally wrong. But that's not how Auto is characterized and it's not how his death is played. Instead, he's made out to be responsible for his actions, as though he's the active villain and not just the proxy for one. Switching him off is a moment of triumph for the humans and human-esque robots in the film because they can achieve their newfound goal of returning to Earth.

In treating Auto as the story's villain, though, human responsibility for the situation is avoided. Viewers might intellectually understand that it's really President Forthright's fault for ordering Auto never to return, but the emotional victory is against Auto and it's not directly tied back to the President. Moreover, the humans on the ship who have gone so long without caring for the Earth in any way, not even registering that the point of the EVE probes is to someday return to Earth, are not implicated in responsibility. Their naïveté is played for laughs when they finally do return to Earth and the ship's Captain McCrea excitedly talks about farming pizza plants. Although, as someone pointed out at the screening, they're very bitter laughs if you know anything about agriculture and can see that a small monoculture of seedlings is completely insufficient for this group of humans to survive. This person read the ending as quite ambivalent in its blatant display of human ignorance at living sustainably on Earth.

Auto serves as a kind of scapegoat for the whole immense process of abusing and nearly destroying Earth, separating life from its connections to the Earth, and then putting it all out of mind. But of course, all the evidence tells us that there's no way Auto could have been responsible

for or even chosen to perpetrate any of these actions. He was just following orders as a simple robot. When Captain McCrea argues with him, Auto's arguments for not returning to Earth are simply that he's been ordered not to. He doesn't take on the case for himself. The willingness of the remaining humans to push all that responsibility onto Auto is concerning – not because it's unfair to Auto, who after all seems to be a non-sentient machine, but because the people are so blatantly abdicating responsibility and not truly working to counter their complicity.

Of course, Auto might be sentient after all. The actions Eve chooses to engage in all align with her programmed directive; it seems that at a certain point she decides to follow them rather than being blindly bound to them. She's treated as a protagonist in the film, which helps us think of her as an independent agent, but we can also see that in the non-programmed decisions she makes and the emotions she shows. There are times when she chooses to do things that are irrelevant to, and possibly even counter to, her ultimate directive of finding plant life on Earth. Her joyful dance-flying after she arrives on Earth is a waste of time if her only priority is scanning the ground. Later, angry at getting caught by a magnetic crane on an ancient dock, she destroys a row of ships and causes a massive explosion, potentially destroying plant life or making Earth less hospitable. When Auto sends Wall-E into space in a self-destructing pod, she races to save him and they dance together when she finds him. We see this sentience but with an alignment to programmed directives in Wall-E, too. During the first part of the film he mostly goes about his business cleaning up trash. He later abandons that mission to pursue Eve, but according to the film's timeline Wall-E has been primarily following his waste disposal directive, keeping his own interests secondary, for centuries. We see his individuality through the things he does for enjoyment that are tangential to his programming, like collecting objects and befriending the cockroach.

That could be the case with Auto, as well. Maybe he believes, of his own choice, that staying on the ship with him is the best option for humanity. Knowing what we do of the precarious state of Earth and of Auto's apparent efficiency at keeping humans healthy and happy (albeit from standards the film criticizes) for over 700 years, this could make sense. We don't see the indications of that sentience we see in other robots, though. Auto doesn't seem to have relationships; his interactions with Captain McCrea and Mo, who he seems to communicate with the most, are strictly business. Nor does he seem to have any hobbies or emotions. When Captain McCrea orders Auto to divulge the secret order he'd been keeping to himself, one of his most potentially emotional moments, Auto fully complies with no apparent anger or frustration. Of course, the film spends much more time following Wall-E and Eve, and just because we didn't see those qualities in Auto doesn't mean they weren't there, but it's very hard to tell where Auto stands. Either way, he's a really interesting character to think about in the context of this question of the human-object boundary.

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Wall-E uses robots as its heroes and highlights human characteristics and behaviors as worthy, rather than biological definitions of the human. It lauds independent thinking, personality quirks, physical interaction, and moral fortitude. Early in the film, the only characters with those qualities are robots, but that's not treated as a paradox. They're simply the most "human" individuals. The biological humans are redeemed when they begin following suit, learning from the robots to show those characteristics, as well. It's an open question, though, whether they truly, fundamentally take those qualities to heart at the film's end or if their victory is hollow.

Film Screening: *Ghost in the Shell*[43]

       Ghost in the Shell was a perfect movie for my film series because it deals very directly with the question I'm interested in. Its characters have bodies that range from almost entirely biological to almost entirely mechanical. Motoko, one of these mostly-mechanical people, repeatedly questions her own humanity. The film has another character, the Puppet Master, who initially has no body and a completely digital mind.[44] *Ghost in the Shell* provides a nice array of biological, mechanical, and digital aspects of both the body and mind to examine what each particular combination might mean for the status of that being as human or thing.

       On one end of that spectrum is Togusa. He is one of the members of Motoko's police team and is almost entirely human. We're told that his intelligence-enhancing technology is the only non-biological component of his body, and even that is a relatively slight modification compared to what other people have. He's certainly regarded as human in the film, and is mostly interesting as a contrast to two examples of extreme technological integration.

       By contrast, Motoko, as I briefly mentioned, is almost entirely mechanical. She has her original biological brain (although it's significantly amended), but her body is robotic. In many ways, that body is *more* than human. It's super strong, has cloaking technology, and lets her seamlessly access the digital world. Her mind may be housed in her biological brain, but she can leave her body for other virtual and mechanical spaces, like traffic databases and other bodies. Despite all

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[43] *Ghost in the Shell*, directed by Mamoru Oshii, 1995 (Los Angeles, CA: Kodansha Ltd./Bandai Visual Co., Ltd./Manga Entertainment Inc., 1998), DVD.

[44] As a digital entity, the Puppet Master has no gender. The Puppet Master enters a female mechanical body and speaks with a male voice, but makes no real claim on either. I've tried to make this section read as fluidly as possible, but if there's any lingering awkwardness in my talking about the Puppet Master I blame the English language for not handling individuals outside the gender binary well.

her modifications, she's never treated as inhuman. Several times Motoko herself wonders if her mind might have been programmed, rendering her non-human, but everyone around her considers her to be human and treats her accordingly. I think despite her concerns over her origins, Motoko considers herself human, too. She explains to Togusa that she wanted him on the team *because* of his lack of technology, which allows him to contribute a unique perspective. She sees him as different than her by a matter of degree, not kind. Together, Motoko and Togusa showcase one aspect of human diversity in the world of *Ghost in the Shell*. Though the emphasis in this conversation is on Togusa, it shows Motoko's implicit understanding of herself as falling on that spectrum, too.

This aligns with some other glimpses we get of what it means to be human in this world. People's "ghosts," their personal essences, can be hacked, giving them false memories and desires. These people have changed; they may no longer be exactly who they used to be, but they're still considered human. When interviewing one of these hacked people, Motoko's partner explicitly calls him human. This scene and its implications came up in our discussion, too. Many people in our own world, particularly those with forms of dementia, can no longer remember things from their lives and can act in ways that the people who knew them before find inconsistent. Several participants raised the idea that these people may be less themselves – they may not be quite the same person – but they're no less human.

The Puppet Master resides at the very far end of the object-human spectrum, past Motoko. The Puppet Master is entirely digital, not originating from a biological brain but a computer program. For a long time, the Puppet Master doesn't even have a body. By default, the characters we follow assume the Puppet Master is a biological human being, since having a biological brain is one of their fundamental requirements for being human. Early in the film, they assume they simply haven't found that biological original yet. They take into account what they're actually

learning of the Puppet Master, though, and mostly realize that this requirement is irrelevant; the Puppet Master's actions are those of a human, no matter what material supports them.

All of these expansions of what is human raise the question of what exactly unites them. What qualities do Togusa, ghost-hacked people, Motoko, and the Puppet Master all have in common? It's not biology or a body, and it's not a continuous identity or personality. Rather, it seems to be the existence, at some point, of a self-motivated mind, combined with sentience.

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Ghost in the Shell is also interesting to consider in the context of my project because it deals with one of the less-addressed issues surrounding the humanity of those with non-biological bodies: reproduction and death. Many definitions of the "human" integrate the requirements for living, as opposed to nonliving, things. They include the shared biological standards of generating offspring and, at some point, dying.

Humans, as biological beings, are living things and as such follow the standard components of life: they have a complex and organized structure, they have a metabolism, they grow, they respond to their environment, and they reproduce.[45] Living things propagate themselves in some way; they continue the line of descendant living things. In evolutionary terms, this means the species rather than individuals. That's true of less-biological definitions of the human that include reproduction, too; not every single person can or does directly reproduce. There are certainly social and cultural pressures that can create hierarchies or feelings of inferiority within humanity by placing relatively less value on those individuals who can't or don't have their own children, but in the larger scheme of things they're not generally considered inhuman.

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[45] I briefly talked about these generally agreed-upon characteristics in my introduction.

The Puppet Master, as both an individual and the entirety of the artificial life "species," is an interesting case. There aren't any other non-biological, sentient, living things in the world of *Ghost in the Shell*. The Puppet Master doesn't accept continuous, non-changing existence as true life and seeks out Motoko to reproduce with. Their child is a new being. The Puppet Master did find a way to reproduce, and died in the process, adding those biological qualifications to the list of human traits the Puppet Master shows. As an interesting contrast, discussed after the film, none of the cyborgs considered to be human in *Ghost in the Shell* can actually reproduce, since their bodies are almost entirely mechanical. One person pointed out that, despite their highly sexualized bodies, they don't even seem to have sexual attractions to each other or anyone else. She noted that they do have significant friendships and other non-romantic, non-sexual relationships, and she does think of them as human, but as an argument against humanity, the Puppet Master's not being able to directly reproduce isn't necessarily the problem it's made out to be in the film.

I do think it's interesting to ask whether an eternal being could be considered alive in the biological sense. Biology's provision for reproduction in its universal characteristics of life is both to continue a chain of lives and to introduce variety. Clearly, a being that doesn't die also doesn't need to have children in order to continue its line of life. It can do that itself. Several people raised the question of whether any immortal being could truly be human, though. That applied to the Puppet Master as well as cyborgs like Motoko who, as we see in the film, can potentially keep replacing their bodies indefinitely. One participant argued that a fundamental part of the human identity seems to be related both to a finite body and a finite lifespan.

There isn't actually a requirement for death in most biological definitions of life; that's just something held in common. Regardless, death is a universal human experience and is often

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included in lists of human qualities.[46] After the screening of *Ghost in the Shell* for my project, one of the things we discussed is whether death is fundamental to human identity. Is having a finite lifespan, and knowing that reality, an irremovable piece of being human? Some of the definitions of the human I've read say so, and one person at the discussion raised the concern that without an eventual death a person's (whether artificial life or biological mind in replaceable mechanical bodies) priorities and actions would be quite different, possibly so different as to no longer be human. Motoko tears her own arm off in a fight, certainly with a different regard for the body than fully-biological humans would have. I'm not sure if that makes Motoko, or similarly functionally immortal beings, inhuman, but I think it's something so far outside the framework we, as biological humans, can think in that it might simply be something we can't understand until it exists.

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I'm also not sure that cloning, derided by the Puppet Master, should be considered not true reproduction. I think that limit the Puppet Master sees, that cloning results in copies, not different offspring, isn't quite so insurmountable. Plenty of bacteria and fungi reproduce through this kind of splitting off of two essentially identical parts. Each one is still considered alive. They have different experiences after their split, and while that's generally not very exciting in bacteria lives, it can create differences between them. I think the principle is the same as long as the Puppet Master

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[46] Death can also be hard to define. Some single-celled organisms reproduce by splitting in two. In biology it's usually framed as one mother cell becoming two daughter cells. Does the original bacterium die? One great, less-academic source of definitions of the "human" is the crowd-sourced responses on the Smithsonian's public poll on the question "What Does It Mean To Be Human?" They include a really interesting range of requirements, some of which include death.

"What does it mean to be human?" *Smithsonian National Museum of Natural History*, *the Human Origins Initiative*, accessed February 1, 2016, http://humanorigins.si.edu/about/become-involved/submit-your-response-what-does-it-mean-be-human.

exists within some kind of setting.[47] There does seem to be a larger digital environment; the Puppet Master reminisces about traveling, and during the course of the film entirely moves into a mechanical body, both of which imply a larger world. Additionally, the fact that the Puppet Master can enter a body means two child artificial lives could enter two different bodies, and we as biological humans know, two people (even twins) have different experiences and are different people.

It also seems likely that the Puppet Master could engineer a splitting process that introduces small amounts of fundamental difference, like biological life does. The Puppet Master seems to have enough conscious control over the Puppet Master's self – the material basis of the sentient entity that is the Puppet Master, that set of code – as shown by deliberately moving from digital to embodied existence, to figure out such a thing. This would mean the Puppet Master's clones could evolve, just like clonal bacteria do.[48]

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Ghost in the Shell raises a lot of interesting questions over the divide between human and object by situating differences on an incremental gradient. There's a great deal of variety in the film's world of where and to what extent people are biological as opposed to mechanical, and those degrees fluctuate over time. Such gradients are highlighted in the contemporary world in posthumanism and critical disability studies, which emphasize all humans' integration with and

[47] If the Puppet Master always exists over the entire course of the digital world, then it seems that two child artificial beings, who must continue to exist in the exact same space together, wouldn't actually develop differences.

[48] I'm thinking both of the random recombination of parent genes in sexual reproduction and DNA replication infidelity in all cell-based life, plus the ability of many bacteria to exchange genetic material with other bacteria or simply taking it up from the environment. The key when designing such a system is to balance the need for introduction of changes significant enough to actually induce difference but small enough (or in enough widespread offspring) not to result in death. This is even more obvious if you take the long-term evolutionary view, where the contemporary variety of biological life has developed from a very small original number of living things. If the Puppet Master could introduce some degree of variation in reproduction, the ensuing generations could similarly eventually accumulate a vast array of difference.

dependence on technology, as I briefly discussed in the introduction. *Ghost in the Shell* follows these concerns and complicates attempts to keep the "human" and "object" as a dichotomy by revealing the gradual modifications that inherently blur the boundaries between humans and machines.

Film Screening: *The Stepford Wives* [49]

I chose to show *The Stepford Wives* after *Ghost in the Shell* because I thought they made a nice pair of perspectives surrounding my central question. Whereas *Ghost in the Shell* looks at the integration of objects – mechanical bodies, digital minds – into the spectrum of the human, *The Stepford Wives* shows how human qualities can become quite inhuman. *Wall-E*, as I discussed, shows a bit of this in its robotic humans, but *The Stepford Wives* deals with it more directly and in a particular context. This ambiguous dichotomy flows two ways: object towards human (which I've mostly focused on) and human towards object (which is also important to consider in this project).

I've become interested in how the body mediates or confers human identity, and that was interesting to look at in *The Stepford Wives*. Early on in the film, before we know they've been replaced by robots, several of the women Joanna and Bobbie (the women in the two newest Stepford families) encounter around Stepford seem extremely devoted to their housework and role as wives and mothers. It's strange, but not outside the possibilities for human variety. Early on Joanna and Bobbie look at these women and their presumably chosen lives with laughter and a bit of scorn. One

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[49] *The Stepford Wives*, directed by Bryan Forbes, 1975 (Hollywood: Paramount DVD, 2004), DVD.

person after the film brought up the similarly capricious quality of robotic-ness in elite musical or dance performances. She described how a certain amount of "perfection" is necessary to convey the work and demonstrate expertise, but too much "perfection" makes the performance "robotic" and no longer laudable in the same way. People lose some of their humanity when they're too predictable. Joanna and Bobbie deride the housewives on these grounds. Their suspicions that something is amiss, though, grow over the course of the film, largely due to the ubiquity of happy housewives in the town the abrupt personality change of their former friend Charmaine into one of these happy housewives.

What confuses things, for Joanna and viewers, is the body. The housewives have human bodies and that makes it hard for Bobbie and Joanna to see that their minds aren't human. Since neither body nor personality is completely abnormal, they can't definitively deny the housewives' humanity. Even Bobbie's robot replacement, signaled by an extreme shift in her values, behaviors, and clothes, only *signals* to Joanna that she isn't human. It prompts some serious reflection, but Joanna still needs to confirm it by testing Bobbie's body. Joanna says she can prove she's human because she bleeds and cuts herself to show it, and then stabs Bobbie, who predictably doesn't bleed. It's only then, when she is certain the personality isn't Bobbie *and* the body isn't biological, that she knows for sure Bobbie isn't human.[50]

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The Stepford Wives seems to give the "human" a relatively loose definition in line with *Ghost in the Shell*'s. The housewives aren't human because they don't have a biological body *or* their

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[50] As one person pointed out, this reveals a difference between a "person," more tied to the mind and presentation, and a "human," more closely aligned the combination of body and mind, although they tend to overlap and qualities of one can be taken as evidence for the other. I discuss this distinction a little more in the next section, with regards to the disjunction that happens when personhood is disrupted but not humanity. This is a really interesting point that I've thought about in the project, but I'm not spending much time on in this paper since it's already so long.

own personality and ability to make decisions. While the true humans in the film – Joanna for most of it, her husband and the rest of the men – have both of those things, it doesn't argue that both are necessary for humans. The prolonged uncertainty over the housewives' place as human or object implies that someone could be human with just one of those two features the housewives are ultimately shown to lack. A robot like the housewives who does actually have a personality and individual choice would be human. Such a robot wouldn't have merited Joanna and Bobbie's concern.

The case of someone with a biologically human body and no individuality is harder to figure out. Certainly, the main case of *The Stepford Wives* is that this individuality is crucial for women's humanity; patriarchal societies that work to undermine that, like the metaphorical one we see in the film, are undermining and denying women's human status. In that sense, this hypothetical person with a biologically human body and no personality or freedom of choice is inhuman, with the responsibility for that dehumanization placed on those creating that situation. But, in the larger context of my project, I think the presence of a "real" human body complicates it. How is it possible to say people with their own biological human bodies aren't actually human? *The Stepford Wives* itself seems to say such a person would be human; if Bobbie had bled when Joanna stabbed her (though obviously that would make no narrative sense) she would have passed Joanna's test.

Pulling from the world we live in rather than imagined ones, this intersection could include people in comas or people who have been brainwashed or had traumatic brain injuries. In the first case, the person has no personality or agency on display, but they're still human. There seems to be a spectrum, here, in that people who are "brain dead" can be considered more object-like, in the sense of a corpse, than fully aware people. Their minds, their selves, are not latent and waiting in the

incommunicative body, and it's permissible to remove life support from such bodies.[51] But they're still "human." Someone discussing this with me outside the film screening brought up a class where her professor asked this very question, and the students quickly agreed that permanently brain dead people are human; some were offended that their humanity was even in question.

From another angle, people who have been brainwashed or sustained traumatic brain injuries can abruptly and severely change their personalities, decisions, and motivations. Does that make them inhuman? They are different than they once were, and many need additional support, but, as discussed with *Ghost in the Shell*, I don't think that means they're no longer human. One person at the discussion also pointed out that for a long time lobotomies were performed in order to make people *more* human. These people lost a lot of their personality and capability to plan and make decisions, but the perception was that it was worth it to bring their deviant behaviors (such as depression, schizophrenia, crime, and disobedience) more in line with human standards.

From these cases, I think it is possible for someone who has a biological body but not a continuous or visible independent personality to qualify as human. While this case is definitely more complicated than that of someone who has both qualities or who has a robotic body but individual mind, I think *The Stepford Wives* argues that only lacking both of those things makes someone an "object" as opposed to a "human."

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[51] Obviously, this is a very complicated and sensitive issue. There is a wealth of individual variation on where people stand on the question of removing life support, for religious, legal, personal, etc. reasons – by permissible I mean in the broadest sense of global human possibility. It's interesting in the context of this question of the human-object spectrum because it's so fluid. Even corpses aren't quite objects to many people, although they no longer have many of the qualities that bound them to humanity, because of that remaining connection to the person. Brain dead people, who still have living bodies, are also difficult to place, and the question is highly emotional and personal.

The question of making "better" humans was a recurring one in the conversation following *The Stepford Wives*. This raised similar issues to my introductory discussion of disability studies. One person pointed out that, while the film clearly presents the robot housewives as horrifying, their introduction does seem to make a "better" society for the men who created them. One of housewives even explains that life has been better for her children since she changed. This participant pointed out that there seem to be two issues here: who decides what a "better" human life is, and at what cost can it be pursued?

In *The Stepford Wives* we see that the men decide what that better life is and that achieving it is worth removing women entirely, against their will. It illustrates, in its emotionally gripping way, the problem disability studies (as well as feminist studies directly in line with the film, and other parallel studies involving racism, colonialism, and beyond) highlights with transhumanism: one group unilaterally decides the direction humanity needs to proceed in, to the detriment of others. Some of the real-life counterparts at the time of *The Stepford Wives* show this issue as well, which one participant pointed out included the nonconsensual seclusion, tranquilization, and sterilization of women, all in the name of molding them into better human beings. The laudable qualities of people are highly culturally dependent and vary further from person to person. Any attempt at controlling the direction humanity moves in will necessarily have only partial support, and will likely run counter to certain groups' values. One group's improvements are another's destruction.

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While *The Stepford Wives* nominally includes mechanical bodies, its primary concern isn't really cyborgs but technology of all kinds interfering with individuality and choice. Whether it's the androids we eventually realize are replacing women or the water-contaminating chemicals Bobbie fears, the issue is advancing science being used to remove people's agency. It actually takes quite a

broad view of what humanity could encompass – beings that have one or both of biological bodies and independent personalities – and rather takes issue with certain human subgroups trying to limit the humanity of others. *The Stepford Wives* offers a strong (if dated) argument against transhumanism's technological optimism. Technological "improvements" to humanity can easily cause and facilitate oppression rather than relieve it.

Film Screening: *Ex Machina*[52]

I finished with *Ex Machina* because it takes that two-way flow between "object" and "human" even further than *The Stepford Wives* and integrates the artificial body and mind concerns of *Ghost in the Shell* as well as the importance of individual choice in qualifying a being as human implied in *Wall-E*. It deals pretty comprehensively with the issues surrounding my question that I've seen addressed in film. *Ex Machina* has a very small set of characters that we get to know quite well, and everyone in Nathan's house occupies an interesting, complicated place on this human-robot (or human-object) spectrum.

First, there's Caleb, the naïve young programmer who wins a trip to visit his company's CEO for a week. He seems to be shy and smart, but not someone who's faced many moral quandaries in his life. He's at first guarded with Nathan but soon opens up, and then quickly closes off again when he starts getting to know Ava, an android. What begins as scientific curiosity soon

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[52] *Ex Machina*, directed by Alex Garland, 2014 (Santa Monica: Lionsgate: A24, 2015), DVD.

loses out to sympathy for someone he sees as a fellow person being unjustly held prisoner. He likes Ava (though he feels conflicted about his attraction to her) and hatches a plan to deceive Nathan and help her escape. Unfortunately for Caleb, Ava's feelings aren't reciprocated and she leaves him to die.

Nathan is the grown-up tech genius child prodigy. In certain ways he's incredibly smart and creative and he's very aware of it. He's not quite so full of himself that he would call himself "God," but he will leap at the chance to take the designation when Caleb obliquely references a connection. Nathan's house is his high-tech playground, and he unproblematically understands that he can play with anything in it. That includes anything he creates but also anyone he invites, like Caleb. His work is very high-stakes but he believes he has the ultimate control over his domain. One person at the discussion said she didn't think Nathan actually saw himself as human but super-human, with his God-like abilities to create and control life. Another countered that such ego can be quintessentially human. Tellingly, in the end of the film two of his creations kill him and his last words commenting on the situation are "fucking unreal."

Ava is one of those creations. She's an artificial intelligence with a relatively life-like android body (her hands and face are lifelike but the rest of her body is visibly mechanical for most of the film). We get to know Ava through Caleb's interviews with her; Nathan has asked him to perform a kind of modified Turing test to see if, despite visually and intellectually knowing she's artificial, he believes her to be human. Her answers elicit sympathy from both Caleb and viewers, especially once we realize she's trapped in Nathan's basement and being threatened with destruction for not being quite human enough for his liking. She shows spontaneity and indecision – the latter of which, one person pointed out, we as viewers see when she chooses a dress to wear for Caleb, a moment only we can see – which make her seem more human. Caleb figures out a way for her to escape her room and she does, first killing Nathan and then leaving Caleb behind (trapped in the

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once again sealed-off underground portion of the house) as she emerges into the larger world. The film ends with Ava people-watching in a busy intersection, just as she had told Caleb she wanted to do if she ever left her room.

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In the discussion of this film, participants brought up a lot of interesting literary references. One person talked about Nathan as a mad scientist, committing morally unacceptable acts in the name of science simply because he can. Another pointed out the references to Prometheus in how Nathan fully expects artificial intelligences to be the next inhabitants of the world and humans to be punished in the process for bringing them into it. There are also echoes of Bluebeard; Nathan gives Caleb very specific instructions of what he is and is not to do, including rooms he is not to enter, and towards the end of the film we see Caleb uncover Nathan's collection of deactivated android women (not to mention Nathan's beard). The Bhagavad Gita is quoted twice: Caleb quotes Robert Oppenheimer's famous quotation of it, comparing Nathan's presumed destruction of humanity through artificial intelligence to Oppenheimer's bomb, and in a drunken stupor Nathan quotes another section of the text recited by Oppenheimer, repeating the last line several times, seemingly conflicted over what's he's done but thinking of himself as powerless to stop or change the course of events.[53] For me, and I think for others in the discussion, these literary references helped illuminate and complicate our understandings of the film. They helped flesh out individual characters'

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[53] The first is: "Now I am become death, the destroyer of worlds." And the second: "In battle, in forest, at the precipice of the mountains / On the dark great sea, in the midst of javelins and arrows, / In sleep, in confusion, in the depths of shame, / The good deeds a man has done before defend him."

Kai Bird and Martin J. Sherwin, *American Prometheus: the triumph and tragedy of J. Robert Oppenheimer* (New York: A.A. Knopf, 2005), 309, 305.

personality and motivations and situate the film within its larger context of these investigations into the moral issues of expanding scientific knowledge.

From the three main characters, I found it interesting to try to figure out who is presented as the "best human," comparing their qualities. Caleb and Nathan are biologically human; Ava is not. All three are intelligent, although in the end Caleb outsmarts Nathan and Ava outsmarts Caleb. Nathan is self-righteous and manipulative. Caleb and Ava, too, deftly manipulate the others, but theirs seems to be a defensive response to Nathan as opposed to Nathan's presumed superiority and subsequent right to do as he pleases. All three seem cold and detached at times but express themselves when they feel safe or less inhibited: Nathan when he's drunk, Ava when she's alone with Caleb or thinking of him, and Caleb alternately with whomever he trusts, first opening up to Nathan and then Ava.

Assuming all the presentations we see are genuine, I think Ava wins at being the "best" human in the film. The artificially intelligent android shows more desirable human qualities than the two biological humans, assuming (as I do and I think the film does) that having a biological body and brain isn't absolutely necessary for being human. But, one of the significant points of *Ex Machina* is that none of the characters' presentations are guaranteed to be genuine. I think the fourth character we get to know in the house, Kyoko, is very interesting to think about in this respect.

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Kyoko is entirely, literally objectified. Before we know she's a robot, Nathan presents her as his dumb but attractive cook and maid. His judgment of her seems harsh and filtered through a colonialistic lens, since at the beginning of the film we assume Kyoko is human and simply doesn't know English. That's hardly a personal fault, especially given Nathan's explanation that he chose her *because* she can't understand any sensitive discussions he might have. It makes more sense when we

realize Nathan has been trying to make an artificial intelligence and Kyoko is an earlier version than Ava. But it highlights two important things about Nathan: he sees the robots he creates as entirely his possessions with which to do whatever he wants, and he wants a completely human-passing artificial intelligence that he can control. Nathan is abusive of Kyoko because his creation didn't meet his exacting standards and because he sees nothing wrong with that since she's not "human."

Kyoko has been living in Nathan's house, free to roam around while obeying his capricious whims, for some unspecified amount of time before the events in the film. She cooks, cleans, and dances for Nathan, and, judging from a scene with Caleb, she seems conditioned to have sex with him whenever he wants. After Ava escapes she speaks with Kyoko and they confront and end up killing Nathan between the two of them, although Kyoko dies in the fight.

It can read as vindication. The abused, captive woman finally gets her chance at payback; Kyoko finally gets out from under Nathan's thumb and takes revenge. But *Ex Machina* constantly questions whether its characters are acting for internal, felt, human reasons or programmed, simulated, robotic ones; it induces viewers into anthropomorphizing the androids and then questions whether that projection of feelings and motivations is justified. Kyoko's case is no exception. The first time I watched *Ex Machina*, this played as justified and triumphant. Watching it subsequent times, I've looked for any indications that she is conscious rather than just a very human-looking, unthinking robot, and found that it's very ambiguous. Things like her dancing or stripping at Nathan's will, and apparently never running away or striking back, can be read either as the behavior of a trapped woman or of a program following its commands.[54] When Ava talks with Kyoko,

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[54] Kyoko as an anthropomorphized android that's in fact simply following its programming reminds me of GERTIE in *Moon*. GERTIE doesn't have a remotely human body but simply by having a human voice and the ability to display emoticons gives viewers a lurking sense of sentience (and thereby maliciousness, in the context of the film). In the end, GERTIE seems to be entirely robotic; any sense of it as a person is due to anthropomorphism based on those two isolated characteristics.

is she explaining her plan in order to win Kyoko over to her side, or is Ava programming her? Kyoko, although she's a relatively minor character, really exemplifies the problem of measuring consciousness or other important human qualities in others. No matter how much we know about her, externally, it's impossible to be certain about her internal state.

That, of course, is true about biological people as well. Theory of mind, which I discussed in my introduction, only means that you're *aware* other people exist independent of you, not that you can understand anything of them from their own perspectives. Mind reading, downloading, or swapping is purely science fiction. One person at the discussion brought up the connections to acting, where people pretend at feelings and actions that are attributed to a fictional, created persona. Acting is a simulation of sorts and can appear genuine, similar to Ava or Kyoko's simulations of human behaviors, a possibility enabled by this disconnect. Relevant to the potential of *Ex Machina*'s androids, this person explained that acting can lead to genuine experiences of the pretended states of mind. Perhaps Ava or Kyoko started out simulating human feelings and motivations and have or will come to experience the "real" thing.

Regardless of that conceptual impossibility of knowing someone else's mind, on the large scale we tend to assume they are human just as we are. Human beings older than five generally understand that other people's experiences are distinct from their own, and that just because they can't personally experience other people's thoughts doesn't mean other people don't have them. On the smaller scale, though, in actual situations rather than the abstract, there are innumerable obvious situations where that's not the case. Within the different social hierarchies that are in place or can be created, certain people think that their human-ness is smarter, nobler, or just generally better and worth more than others'. We see the fallout in situations from death camps to spousal abuse. One

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Moon, directed by Duncan Jones, 2009 (Culver City: Sony Pictures Home Entertainment, 2009), DVD.

person in another discussion questioned the very impulse to answer the question of what is and isn't human. He acknowledged that it wasn't going away, but raised the issue of it being a very practical question despite academic appearances. Defining the human creates divides and disadvantages, as we've seen with race; it seems to be more based in power dynamics than theoretical philosophy.

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Ex Machina does a great job of provoking thought about the internal humanity of others. The task Nathan explains he wants Caleb to do – test the humanity of a visually non-human robot – is what the film does to its viewers. We see that Kyoko and Ava are androids, and yet the film asks you to empathize with them as people. It doesn't demand that, of course; it leaves room for debate. But it makes it very likely that at some point you'll relate to the artificially intelligent characters as fellow human beings.

I think one of the important points *Ex Machina* (and the discussion around it) raises is the question of why it should even matter. Why is it so important and so consequential to decide whether or not Ava is sentient, and therefore human, or not, and therefore robotic? The important human quality of having individual choice, raised in the other films in this project, plays a role in that distinction. If Ava is following her programming and not making her own decisions, then no matter how convincingly she mimics the way a human being would perform those actions she's still under someone's control and therefore robotic. But, then again, obeying someone can be the behavior of a person who's been dehumanized, not only that of a robot following its commands. *Ex Machina* questions whether those might be the same thing. It's inherently impossible to know someone's internal experiences for certain. I (and I think the film, as well) would argue that denying humanity to a human being is unacceptable. Given that uncertainty and imperative to avoid dehumanization, who are we to judge – from the outside – whether or not another being has human experiences?

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Project Evaluation

New Understandings & Questions

Being so closely involved in this project over its duration, it's hard for me to say where it officially starts and ends. That's relevant for my analysis because, going back to my central question, I wanted to see how this particular set of events could raise new understandings and questions about what defines the human as opposed to object: "new" being the key word. What is here now that wasn't before this project began?

Perhaps I should have been stricter about recording my understandings and questions before starting, but it was hard to know when was an appropriate time. Before my project semester? But by then I had already done a good deal of research and thinking about the installation and begun the same for my broader project. Before the previous semester, before the installation and proposal? But at that point I didn't have a firm idea of what my topic would be. In part because of this, I've found my project has manifested less as a scientific before-and-after view than a continually solidifying understanding. In this section, I relay the central threads of those coalescing ideas.

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As I worked on this project, the question became more and more about the body. I focused on physical, nonliving objects in my investigation of the human-object dichotomy, which led naturally to an opposing focus on the physical aspect of the human – the body. I was drawn to the dual, intertwined influences of the body and mind on categorizing something (or someone) as human or non-human. In some arguments I read and some components I analyzed, both a human mind and human body are necessary for the designation "human." But in their duality, it's possible for one to exist without the other. A person in a coma or a stone effigy has some degree of the body without the standard human mind. The robot Wall-E or individuals with physical disabilities have independent, highly human minds but their bodies aren't the normative human body.

Moreover, this uneven or unexpected distribution of mind and body can influence the other in our quest to categorize "human" and "object." Conceptually, I think most people would agree it's unacceptable to designate a physically or mentally disabled person, regardless of the severity of that disability, as lacking or having diminished humanity. Experience often tells otherwise, though. Simultaneously, people anthropomorphize objects with even slight human features, like car headlights and bumpers that appear to be smiling faces. That involves projecting a degree of mind onto them (inert objects can't be happy), even if we're intellectually aware they're inanimate. The premise of the Turing Test to ascertain whether or not a machine is artificially intelligent is that passably human behavior comes from a passably human mind, regardless of the body. These characteristics can vary separately and disproportionately influence categorization.

The questions I found myself personally exploring were around the body. How is the body itself a signifier of human identity? How does giving "things" human form give them other

human characteristics? How does the body work with other definitionally human qualities – like biology, individual choice, sentience, movement, relationships – to complicate human identity?

I've also become more and more aware that there's a great deal of ambiguity in what a human body even is. At its most abstracted, simplified definition, it seems to be the physical component, interconnected with and controlled by the personal, animating force (however you define that) that comprises the core of a human being. It includes the full range of bodies that are differently gendered, raced, dis/abled, and beyond. It includes bodies that have been modified, whether through decorative, medical, religious, or cultural technologies. There is resistance to regarding physically disconnected aspects as part of the human body, and I think some (but not all) of that is simply cultural resistance to change. If a myoelectrical prosthetic or digital avatar is a way for people to interact with the world, by their own choice and for their own ends, just as the biological counterparts to those extensions are, why should the prosthetic and avatar not be body parts as well?

I had to reconsider other assumptions I made at the start of the project, too. As I delved further into this project, my narrow focus reconnected in surprising ways to those I had originally deemed outside the scope of my research. I chose to look at the human-object binary, under my special definition of "object," rather than others, like human-animal. But the human versus other living things boundary isn't static, particularly with regards to the body, which I focused on. It was difficult to precisely delineate what is biologically human or non-human as I was formulating my "human" side of the project binary. We're completely dependent on certain bacteria our bodies host; a human born into a completely sterile environment wouldn't survive. Can we really say only the cells that originate from that first embryo are human? Contemporary ecology focuses a lot on systems and interconnections, regarding the hyper-focused, isolated classification of human individuals as

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outdated and incomplete. My consideration of the human-object boundary needed to include a fluid definition of the "human" that blended with "other living things."

On the other end, there are hierarchies of the value and desirability of different sets of people within the larger group of humanity. Scientists (and non-scientists) in the 20th century argued that Black people belonged to a wholly separate, inferior species than white humans. And of course such hierarchies haven't disappeared today; *The Stepford Wives* illustrates the secondary status of women in the 1970s, and protests around the country today highlight the ongoing devaluing of Black people's lives. These hierarchies grade groups of people based on their perceived value – their perceived human-ness – by those in power.

There are parallels between dehumanization and the default assumption of objects lacking humanity. Several of the project's films, as well as arguments like Jane Bennett's *Vibrant Matter*, push against that hierarchy from either end, calling both to level it for moral obligations to humans and to the complex network of non-human things we exist in.[55] There's also a distinction between not being an ideal human and being inhuman, although I've found them to be a spectrum, too. Flaws like cruelty and the dehumanization of others can make someone inhuman, but at the same time being human is being flawed. I don't think these are equivalent or contradictory, but they illustrate the complex multidimensionality of defining "human" as opposed to "object."

The human-object spectrum extends at scales both larger and smaller than the one I initially studied. The human body is inextricable from non-human life forms, and even within humanity some people are more "human" than others. The human-object boundary is more than a separation; it's a recursive hierarchy. While I'm very interested in exploring the ambiguity of that line, it has significant consequences for the people who are already living in it through dehumanization.

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[55] Jane Bennett, *Vibrant Matter: a political ecology of things* (Durham: Duke University Press, 2010).

Attempts to decenter the human or remove the human-object hierarchy can't ignore that reality. I don't think all of the works I investigated are ignoring it, but it has been an important connection for me in the development of this project. The boundaries and definitions in my project aren't fully conceptual or novel, just as they aren't sharp and cordoned-off.

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At my project Closing Reception, I asked people what stuck with them from the parts of the project they attended. What ideas or questions hung around and intertwined with their interests outside this project? I received different answers from everyone, and there were a few threads that I hadn't personally followed as much as these people and I found interesting.

One person brought up real-world progress in artificial intelligence, particularly emphasizing the recent AI program which beat a world master in Go, a game that's mathematically several orders more difficult than chess, which many previous game AIs focused on.[56] He wondered if this development showed sentient artificial intelligence is well on its way to being realized, perhaps already here, taking (as he does) consciousness to be an emergent property of information and process complexity. Another person was interested in debates over reading quintessentially human behaviors, like theory of mind, in animals. In her biology education several decades ago, she explained it was categorically unacceptable to even consider the possibility, and she's glad to hear those boundaries are being debated rather than conceptually isolated.

Another participant, who had pointed out the similarity of Stalin's pose to one of Caesar Augustus, was still thinking about the ways in which images of power are, in some cases ironically, more stable than the ideologies that use them. He traced the use of this standing and

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[56] Cade Metz, "In a Huge Breakthrough, Google's AI Beats a Top Player at the Game of Go," *Wired*, January 27, 2016, accessed March 27, 2016, http://www.wired.com/2016/01/in-a-huge-breakthrough-googles-ai-beats-a-top-player-at-the-game-of-go/.

pointing pose from Roman times to tsarist monuments to the poster of Stalin, pointing out the explicit rejections of particular aspects of those earlier regimes but still maintaining the imagery.

Someone else, talking with me about the very gendered robots in the film series, questioned my claim that it's completely unnecessary to make them that way, since digital or mechanical beings wouldn't have any kind of inherent gender. She argued that, just as gender is important in human interactions, it would also be important if androids were to be considered truly human and have human social relationships. Another person joined this discussion to raise the question that had stuck with him, which was how artificial intelligence, like that in *Ex Machina*, would be different if made by a woman than a man. Gender influences social interactions and would likely influence what particular individuals chose to create. We discussed the parallel theoretical issues in transhumanism, over whether to emphasize Western male qualities like intelligence and strength or female ones like empathy and care. The Closing Reception, my last event of this project, was very informative in showing me the ways in which these events came together for other people, and moreover the ways in which each of our takeaways could comment on others'.

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No matter what the particular context, the boundary between "human" and "object" is volatile. New possibilities buffet it and new considerations question the damage done by any attempt to draw a sharp line. Acknowledging the ambiguity of those categories and removing the hierarchy between them will reveal and help to dissipate contemporary disparities currently seen as unrelated along with future ones only considered theoretically at this point in time. Ironically, dehumanization and intra-human hierarchies intimately depend on the relative superposition of "human" over "object." It's a radical shift in perception, but only at the broadest level of those categories. We already interact with and understand the ambiguity; it's a matter of bringing it to the forefront.

Practical Lessons Learned

This project has also been a lesson in event logistics. I was on a very tight schedule and ideally I would have done most of the planning in the months before my project semester. An early start was necessary for the installation because of the Nasher's internal deadlines, so I did end up getting a large part of that done ahead of time. But it would have been useful to have the other components (especially the installation tours and film screenings) planned that far in advance as well. That would have allowed me more time for publicity, which I think could have helped attendance at the earlier film screenings, and given others sufficient time to schedule things like installation tours, which ended up being difficult to coordinate as I worked around several people's already busy schedules.

Planning things earlier would also have been better for aspects like funding and sponsorship. I did end up getting funding, but that happened in the very middle of my project and I hadn't been counting on it. Some programs, like Arts of the Moving Image, require proposals a several months before they would begin, and I didn't get around to looking at their options until after that date had passed. These things could have helped my project make a bigger impact.

Doing this again, I also would have been more aggressive promoting my events. The audiences for my first two solo film screenings (*Ghost in the Shell* and *The Stepford Wives*) were quite small. We did have very interesting conversations, but I was aiming for larger groups. Being able to promote them over a much longer period of time would have been helpful. Most students I talked

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with said email lists, flyers, and word of mouth were the main ways they found out about campus events. I tried to hit all of those, but starting over I would have been more systematic about them. I think I also would have pushed my email list more, and added people who had shown an interest to it rather than leaving it to them to sign up if they wanted, which very few people did.

Getting the planning portion completed the previous semester also would have allowed me personally to concentrate more on experiencing the events and researching theories and other connections the project. I know it's a common and at least somewhat unfounded complaint for a lot of academic projects, but there was a lot of other applicable, interesting-sounding reading I found but wasn't able to get to in this project. This paper is clearly long enough already (if not full enough of ideas), so I don't know that I needed more reading or time to marinate in the project environment, but I would have enjoyed it.

Closing Thoughts

I don't think my project as it happened was *un*successful, but there was definitely room for improvement. I can think of many ways I could have better planned events, structured my reading, facilitated discussions, and made connections. But it did work quite well; it definitely produced new understandings and questions for me. Essentially, this project has shown me – through the primary components, my discussions around them, my readings, and this paper – that the human-object boundary is ambiguous in more ways than I anticipated. Both sides of the line are leaky and blur into each other. These words, "human" and "object," which are so ubiquitous and easy

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to understand, don't contain the messy reality of their categories. To play on the title of one of the articles that influenced this project, we have never been independent. "Human" is not a monolith, it contains a massive variety of bodies and perspectives. "Objects" have always been an indispensible component of the body and thereby the human.[57]

The ideal project I initially had in mind just isn't possible in one semester, and as I've reflected more on the goals and outcomes of *Ambiguously Human* I think that works. It was always meant to start new questions, not to be a definitive stance. For me, at least, that has been very successful: I have new questions and a long reading list to continue the things I've been thinking about with this project. My understanding of this question has developed quite a lot. My questions have become more refined and detail-oriented, on the one hand, but are essentially the same. I'm still trying to find out where that boundary blends, trying to find new cases and perspectives that complicate my current understanding, trying to address the hierarchy in my own conceptualization.

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[57] Or a complement to, if you prefer – if I haven't convinced you by this point that such a distinction is irrelevant I don't think this paper is going to do it.