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# Asiandroid: Techno-Orientalism and the AI Imaginary

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Leslie J. Fernandez

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Dissertation Committee:
Dr. Sherryl Vint, Chairperson
Dr. David Lloyd
Dr. Weihsin Gui

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The Dissertation of Leslie J. Fernandez is approved:

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Committee Chairperson

University of California, Riverside

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ABSTRACT OF THE DISSERTATION

Asiandroid:Techno-Orientalism and the AI Imaginary

by

Leslie J. Fernandez

Doctor of Philosophy, Graduate Program in English
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Dr. Sherryl Vint, Chairperson

My dissertation develops a cultural history of techno-Orientalist discourse through a close reading of the long history of androids, robots, and other embodied AI in science fiction, what I term, the AI imaginary. While scholars have examined how the dehumanization of Asians in techno-Orientalism relies on analogy to technology, I consider that the inverse is also true. Metaphors of technology as exemplified by AI literature rely on an analogy to Orientalist discourse for coherent worldbuilding. I argue that the AI being, far from being racially unmarked, functions allegorically as an Orientalized figure bearing recoded tropes, stereotypes, and fears associated with the East in the Western imaginary. My argument is that the coherence of much of AI literature, particularly works clustered around the themes of conflict and revenge, is reliant on racial allegory. What marks the AI as ontologically non-human often replicates cultural and racial logics that have long demarcated Asians and other racial minorities as insufficiently human under Western rubrics of liberal humanism.

Each chapter of my dissertation considers different "tropes of exclusion", a term I introduce as an analytic framework for the specific ways the 'Other', whether that be Asians in Orientalist discourse or AI in science fiction, are similarly excluded from the political and social body. My first chapter considers the science fiction pulp era of the early 1900's where the first tropes of AI literature begin to cohere alongside the prevalence of 'Yellow Peril' narratives. My second chapter looks at Isaac Asimov's lasting influence through the Three Laws of Robotics, and how the law functions as a method of population control. My third chapter turns to Philip K. Dick to examine how ideas of empathy and emotion are used to determine subjecthood. My final chapter turns to contemporary Asian authors, Ted Chiang and Kogonada, who subvert techno-Orientalist tropes by writing stories about AI that suggest a way out of the constant representation of AI as threat, and towards a non-anthropocentric approach to constructing the non-human Other.

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## Introduction: Techno-Orientalism and the AI Imaginary

In the 21st century, Asia has often become the site for imagining our global futurity. But this futurity often manifests alternatingly as aspirational or threatening. Countries such as Japan, Korea, and Singapore, with their multinational corporations integrated into global economic networks, are viewed as technological behemoths at the cutting edge of future technologies and scientific research. Simultaneously, the call-center workers of India and the factory workers of China are positioned as an endless horde of interchangeable labor divorced from the material realities and human costs of these enterprises. Despite the manifest differences in rhetoric about Asia, these stereotypes are centrally tied through a shared analogy with technology. Asians are seen as robotic, collectivized, unempathetic, unemotional, ruthless, hyperrational, replaceable, and so on in an endless list of dehumanizing descriptions. Scholars have identified this persistent association of Asia with technology as techno-Orientalism. Techno-Orientalist analogies, however, rely on a naturalized understanding of what it means to be robotic or mechanical. If Asians are described as robotic, it implies a stereotypical understanding of mechanical subjectivity. But considering we are far off yet from achieving anything resembling a truly artificially intelligent machine, what is the basis of this understanding?

This question of how we understand AI subjectivity has become all the more pressing with contemporary developments around AI technologies. Large Language Models like ChatGPT have prompted a host of concerns, including existential fear about how AI may pose a threat to humanity and how it may shift our understandings of what it means to be human. A recent editorial article in the Wall Street Journal, titled “The

Challenge of Being Human in the Age of AI"—co-written by a former Google CEO, an MIT Dean of Computing and no less than Henry Kissinger himself—encapsulates the ongoing trend of anxious reflections and nail-biting about the role artificial intelligence is to play in our future. The article is in response to the White House's recent calls for a bill of rights in to protect Americans from the threat of AI, and the authors note that there are certainly already several important concerns as to how AI algorithms are reproducing all too human biases in areas such as policing, or in decision-making processes involved in hiring and recruiting employees, or determining who is deserving of loans. Indeed, many AI ethicists advocate for greater transparency in AI algorithms and greater attention to the ways that pre-existing biases can easily manifest in a field so often bereft of diverse viewpoints. Yet the authors of the article suggest that there is a greater challenge that is to set to arrive with evermore sophisticated AI, namely, they argue that this poses a fundamental challenge to the centrality of human reason. They argue that "since the Enlightenment, we have considered our reason—our ability to investigate, understand and elaborate— our primary means of explaining the world, and by explaining it, contributing to it." They thus term the last 300 years the Age of Reason, guided by Descartes famous maxim 'I think therefore I am.' They end the article with a call for "shaping AI with human values, including the dignity and moral agency of humans" (Kissinger et al). Despite acknowledging the current material consequences of AI technologies and machine learning algorithms, the authors are only interested in these in so far as they are byproducts of a supposedly greater existential threat.

The easy way the authors move from localized US-centric concerns to a broader social imaginary of the human is revealing of the importance of discussions about AI as a central site of contestation over what it means to be human, and more importantly who is allowed to determine these criteria. In this dissertation I consider the relationship between techno-Orientalism and discourses around AI, what I term the AI imaginary, in order to interrogate the relationship between racialization and our understandings of technology. I consider how just as techno-Orientalist discourse relies on analogizing Asians with technology, science fiction stories on androids, robots, and other embodied AI are themselves reliant on racial analogies for the coherency of their worldbuilding. My dissertation aims to trace the historical and literary genealogy of the AI imaginary within science fiction, and how this AI imaginary continues to structure our contemporary encounters with technology, paying close attention to how racialized logics manifest in this discourse. I draw from a long history of postcolonial and anti-colonial criticisms of racialized depictions of the Other, particularly Edward Said's seminal book, *Orientalism*, juxtaposed alongside depictions of AI in science fiction, to interrogate the roots of the AI imaginary. Thinking about the way race functions in the AI imaginary reveals that while AI beings are nominally depicted as unraced, they are in fact actively racialized constructions, and that the ways in which the AI is marked as ontologically non-human often replicates cultural and racial logics that have long demarcated Asians and other racial minorities as insufficiently human under Western rubrics of liberal humanism. Several authors have begun the important work of analyzing race in the AI imaginary, particularly paying attention to legacies of enslavement and anti-blackness, but there

remains a critical under-exploration of this same analysis in an Asian context and of how Orientalist stereotypes have influenced the development of this AI imaginary. I argue in particular that dehumanized ideas about Asians that are foundational to Western colonial orders of immigration and labor shape the development of the AI imaginary and mark the AI as a figuration that articulates and draws from anti-Asian bias.

The sum total of our preconceived notions and ideas that we bring to bear upon the figure of the AI is what I term the AI imaginary, a term which I modify and borrow from Sheila Jasanoff's important work on sociotechnical imaginaries, which itself is a part of a longer lineage of interrogations of our social imaginary. Jasanoff defines socio-technical imaginaries as "collectively held, institutionally stabilized, and publicly performed visions of desirable futures, animated by shared understandings of forms of social life and social order attainable through, and supportive of, advances in science and technology" (4). The AI imaginary is an important subset of our sociotechnical imaginary as it is deeply invested in normative understandings of what it means to be human. My research looks at the long history of AI depictions in science fiction and popular culture, but it pays special attention to those versions which are embodied in such a way as to provoke an immediate comparison with human bodies. Though AIs, robots and other mechanical beings are often presented as a-racial or unracialized, and thus available as an oppositional figure to a universalized humanity, this idea of a universal human subject itself reinscribes racialized histories of exclusion and exploitation that have undergirded the Western imperialist project. Neda Atanasoski and Kalinda Vora argue for example that "autonomy and consciousness, even when projected onto techno-objects… continue

to depend on a racial relational structure of object and subject" (13), a process they term the surrogate humanity effect. Thus, regardless of the nominal universality promised by AIs, androids, and robots, they are nevertheless techno-objects/subjects caught up within the racialized and gendered logic of neoliberal humanism where all value is derived from use values. For them the "surrogate human effect of technology functions first to consolidate something as "the human," and second to colonize "the human" by advancing the post-Enlightenment liberal subject of modernity as universal" (8). Understanding how race structures our socio-technical discourse requires an attentiveness to how where and when racialized logics manifest even in cases where it is not explicitly discussed.

Here I am influenced by Mark Jerng's understanding of racial worldmaking. For Jerng, racial worldmaking consists of "narrative and interpretative strategies that shape how the readers notice race… at the level of contest, atmosphere, sequence and narrative explanation" (2). The effectiveness of racial worldmaking consists not "in the conventional sense of discriminating against specific persons, rather, it consists in getting us to embed race into our expectations for how the world operates" (2). It is this process of embedding race "into our expectations for how the world operates" that I want to explore in the constructions of the AI figure in popular culture. The nominally unraced AI body obscures the processes of racial worldmaking that work in tandem with SF world building. But as Jerng argues, "once we shift our analysis to how the salience of race is produced, we can show the ways in which we are taught to notice race not just on bodies, but as social facts embedded in our temporal organization of experience" (9). How does

our understanding of the AI imaginary shift as we consider race as a key structural element of the discourse?

Understanding the relationship between Orientalist discourse and the AI imaginary also allows us to reframe our understanding of techno-Orientalism. The term functions as an extension of Edward Said's original formulation of Orientalism. For Said, Orientalism registers the complex process "by which European culture was able to manage—and even produce— the Orient politically, sociologically, militarily, ideologically, scientifically, and imaginatively during the post-Enlightenment period" (3). This process had less to do with any putative correspondence with the 'real orient' as such and more to do with the construction of the Western European identity in an oppositional binary framework. Globalization and the rapid development of Asian countries in the second half of the 20th century have brought important changes to the relationship between East and West and thus in Orientalist discourse. The term techno-Orientalism itself was first introduced in the mid 90's by David Morley and Kevin Robins. Their focus was primarily on the place of Japan in Western discourse, during a period where Japan's growing economic and technological supremacy forced a reckoning with the simple binary of Orientalism that equated the West and East as modern and pre-modern respectively. The success of Japan during this time was partly attributed to this a notion of mechanized productivity, that they worked like machines. The technological supremacy of Japan, they argue, thus comes to be associated negatively as stemming from the Japanese being mechanical themselves: "Within the political and cultural unconscious of the West, Japan has come to exist as the figure of empty and

dehumanized technological power…The Japanese are unfeeling aliens; they are cyborgs and replicants." (170). Toshiya Ueno continues this analysis and critically notes that unlike Orientalism, techno-Orientalism functions as a bi-directional discourse in which the West misapprehends Japan, but Japan also comes to misunderstand itself. Further scholarship in the field has broadened the scope of analysis from Japan to other parts of Asia, particularly as various Asian countries have themselves developed economically and technologically, and thus have come to pose a threat to the West similar to Japan's own rise. This development is also concurrent with the emergence of new science fiction traditions in these locales. In the introduction to a collection of essays titled *Techno-Orientalism*, the authors thus note that "Whereas Orientalism, as a strategy of representational containment, arrests Asia in traditional, and often premodern imaginary, techno-Orientalism presents a broader, dynamic, and often contradictory spectrum of images, constructed by the East and West alike, of an "Orient" undergoing rapid economic and cultural transformations" (Roh, et al, 3). The buttressing of Western imperialism has long relied on a presumed mastery of and aptitude for technology through the ideology of scientific rationalism, a mastery that is now being destabilized by the growing importance of Asia for the development of cutting-edge technology. Techno-Orientalism thus registers a growing ambivalence in the structural logics of Western imperialism.

But if we focus on the development of techno-Orientalist discourse beginning with the 1970's rise of Asia, first with Japan, as an industrial global force, techno-Orientalism can seem to be an extrapolation of material facts—such as the development

of cutting edge East Asian technological industries, the outsourcing of vast amounts of manufacturing and factory work to China and other parts of Asia, or the propensity of Asian immigrants to the US for entering STEM fields— into racialized tropes and stereotypes that serve to explain these developments. Understanding the AI and our socio-technical imaginaries as themselves structured by racialized thinking enables us to deconstruct the naturalized tropes of technology and machinery and to understand techno-Orientalism as a rearticulation of latent Orientalist tropes that have long characterized and served to demarcate Asia away from the Western world. The proliferation of techno-Orientalist discourse may be fairly recent, but various scholars have noted that Orientalist discourse has long considered Asians to be lifeless, inanimate, and lacking in a vitality that colors the West. Gary Okihiro, in tracing the earliest views of the Orient, finds many of the earliest stereotypes stemming from far in the past, dating as far back as the Greek empire. One finds in these earliest views that the theme of the Oriental being characterized by sameness and a lack of autonomy has a long history (8-9). These early accounts are important because as postcolonial studies of Orientalism have shown us, racial stereotypes are rarely dismissed under logical scrutiny. Instead, they often evolve into more nuanced and recodified stereotypes. The myth of inherent racial inferiority may have stemmed from patently false accounts, but their historical progression has merely been refined and reified by the dominance of Western thought into stereotypes that are ingrained in Orientalism. Betsy Huang notes that: “Time and again in the Western futuristic imaginary, the Orient is the cognitive estrangement device of choice. The emphasis is partially on Asia as technology rather than as designers and

wielders of it. In America science fiction, the technologizing of Asia began with premodern orientalist figurations before they took the form of robots, androids, and other types of machinery (39)." More recently, Long T. Bui's monograph, *Model Machines*, takes a long view of techno-Orientalism by examining the early developments of what he terms the "model-machine myth" within the context of US imperialism (3). My work similarly extends our understanding of techno-Orientalism by tracing its development over time beginning in the 18th century, but my work differs through its focus not only on how Asians have been characterized as machinic, but also on how our understandings of technology are themselves racialized by noting the influence anti-Asian rhetoric has had on our AI imaginary.

Of course, Asia is not the only site from which AI representations may have drawn. Western colonialism was by no means limited to only Asia, and the legacies of the trans-Atlantic slave trade and Indigenous dispossession also haunt the purview of science fiction as a genre. If the AI functions as the Other set against humanity, then in constructing this Other, I argue that science fiction authors necessarily drew from preexisting discourse of other Other's. Scholars have already begun mapping this relationship. For example, Louis Chude-Sokei, in *The Sound of Culture*, persuasively draws a connection between racial anxieties surrounding blackness in the 19th and 20th century, particularly around the exploitation of labor, and how these anxieties became mapped onto machines in science fiction. Chude-Sokei argues that "how we come to know and understand technology has been long intertwined in how we have deployed and made sense of race" and that "the language of one is consistently dependent on or

infected with thinking about the other" (1). Chude-Sokei's focus is on Black and African diasporas, but his work points us towards the enmeshment of our socio-technical imaginary and discourses about race. I similarly argue that there is a close relationship between race and technology and investigate how this relationship manifests in discourses around Asia and Asian people. While race and technology can be said to be a 'mutually constitutive dyad' as Louis Chude-Sokei would term it, there are salient differences when considering how different racial groups are figured within the dyad. As Chude-Sokei's argues, there is a value in illuminating the relationship between black culture and technology partly due to the common misconception or assumption that black people are non-technologically savvy or lack widespread access to technology. Indigenous cultures similarly are positioned as oppositional to technological mastery because they appear perpetually arrested in a premodern past in the Western imaginary, and indeed many of their technologies are unrecognized within the Western vocabulary of technology. Asian cultures in contrast, are often positioned as analogous to technology. Discussions of techno-Orientalism often note the association of Asia with technology or the aesthetic use of Asia to mark futurity but attending deeper to these metaphors requires unpacking how technology itself—especially non-human persons— is mutually constituted by Orientalist discourse. The AI imaginary is, thus, not solely determined by the history of Orientalism, but the modern manifestation of techno-Orientalism suggests that more careful analysis is necessary the unpack the critical history of its development.

Additionally, other authors have examined the cultural role that robots play in constructing our subjectivity. Despina Kakoudaki in *Anatomy of a Robot* argues that artificial subjects demarcate what it means to be human by allowing a non-human analog as a site of reflection. She argues thus that we need to pay more attention to the cultural contexts that make up our understanding of the robot. She offers the term 'metalface' to illustrate the techniques authors use to emphasize the difference between humans and robots, but which also serve to reveal the underlying racialized, or gendered constructions involved. Jennifer Rhee's, *The Robotic Imaginary*, similarly argues that depictions of robots and AI research reflect our own anthropomorphism and deconstruct our naturalized understanding of the category of human. Her critiques of normative, universalized values reveal the ways in which our understandings of normative humanness in the robotic imaginary reproduce the terms which dehumanize and exclude other racialized and gendered subjects. While an analysis of race plays a strong role in these works, specific attention to Orientalism is ripe for further analysis.

To compare Orientalist stereotypes against the deployment of the figure of the AI in literature is not to suggest that the latter is drawn wholesale from the former. I am not suggesting that SF authors deliberately modeled AIs on the Oriental figure, but rather that the deployment of both figures relied on a shared understanding of what the Other was in relation to the western, white, male author. Similarly, examining the resonances between Orientalist discourse and the AI imaginary does not exhaust the metaphoric power of AIs. Neither does examining specifically the racial dimensions of the metaphor. The discourse that animates the AI imaginary draws its coherence from a multitude of analogies. But by

laying bare the correlations between the AI imaginary and various discourses of race, gender, class, and sexuality we can begin to reveal the depth to which the AI imaginary is an anthropocentric fiction, whether in literary fiction and media or in real-world scientific enquiry. One of the motivating arguments for my analysis is that humanity does not have any concrete access to understanding what a non-human mechanical subjectivity might be like. Even more than other animals, which continue to divide philosophers and scientists with regard to whether they possess consciousness, truly artificially intelligent beings are completely non-existent and thus necessarily speculative. But the fundamentally speculative nature of these beings is obscured by the naturalized understandings of their subjectivity that exist within the AI imaginary. Despina Kakoudaki notes similarly that "actual artificial people are truly imaginary, creatures of fiction, the imagination and the magic of representational media. And yet despite their unreality they seem to inform a host of cultural domains and debates, participating in a dense web of interactions between fiction and reality" (3). As Kakoudaki rightly points out here, the artificial person is not a figure we can claim to fully understand as our ideas of robots are always precisely that: merely ideas. The difficulty if not outright impossibility of understanding an artificially intelligent consciousness is a key tenet of this dissertation.

As Thomas Nagel's famously questions "What is it like to be a bat?" I contend that we must ask a similar question of what it is like to be an AI. For Nagel, his question reveals the limits of our understanding of consciousness and the important distinction between imagining what it might like to be a bat, and the actual phenomenological

experience of a bat. Though we may imagine what it might be like to be an artificially intelligent being, we do not have any access to its actual phenomenological experience, nor do we have much from which to derive our assumptions of their behaviors. There's a sense in which the question of artificially intelligent consciousness may be a different question to those of animals or other living beings due to the fact that humans are directly involved in its creation and that their programming will derive from human ideas and beliefs. But as we will see in our analysis of the fiction around AIs, humanity's fears so often stem around the possibility that these beings will not follow their programming or in some way subvert them. This fear, I contend, gets to the heart of my point here which is that we have no real way of predicting the manifestation of artificially intelligent consciousness. Yet despite this, there are remarkable similarities in the specific ways that AIs most often contradict or subvert their programming. The discourse surrounding AIs proceeds with these reified stereotypes and tropes—even in the case of subversion—without necessarily breaking free from the dominant impressions of the AI imaginary. It is accounting for the coherency of these stereotypes and tropes that requires an analysis of other discourses that have explored the question of what it means to be human. I argue that our dominant understandings of AI are determined in the realm of race and gender relations and these formulations constantly rehearse the same cultural patterns of minority oppression on supposedly a-racial—and sometimes de-gendered—subjectivities. Thus, I argue that by understanding the racial dimensions of the AI imaginary and broader discussions of technology, and in turn, examining how these racial dimensions come to influence techno-orientalist discourse, we can deconstruct the naturalized tropes

of the AI imaginary and open up new space for considering what an artificially intelligent being might be like that rethinks ossified stereotypes and centers the speculative nature of the enquiry.

**Background History**

My dissertation focuses its analysis on the late 19th to late 20th centuries where I locate the widespread proliferation of AI, android and robot stories in science fiction. But the AI metaphor is nevertheless influenced by key developments both literary and historical in earlier contexts. One might convincingly argue, for example, that the birth of AI literature is concurrent with the text many scholars identify as the birth of science fiction itself: Mary Shelley's *Frankenstein*. Indeed, so influential is Shelley's text on the genre that Isaac Asimov refers to the widespread fear of AIs and robots rebelling against their human creators as the Frankenstein complex. Though not a mechanical being, Frankenstein's monster shares its status as a constructed humanoid with androids and inaugurates many of the key themes that populate AI fiction.

Similarly, one might locate the precursors to AI in automata that have a long history and were particularly popular in Europe around the 17th and 18th centuries. The term automata was also most commonly used for virtually all constructed mechanical beings prior to the popularization of the term android in the Auguste Villiers de l'Isle-Adam's *Tomorrow's Eve,* and the even later inauguration of the term robot in Karel Čapek's play *R.U.R.* The relationship between AI and automata, however, is arguably not neatly contiguous even if there are considerable overlaps in the use of the terminology and later terms for mechanical beings. Minsoo Kang's *Sublime Metaphor of Living*

*Machines*, provides a comprehensive overview of the history of automata. Kang argues that because of the disparate nature, the term automata it almost too broad when considering the number of constructs classified as such in the pre-modern period. However, he nevertheless identifies two key conceptions that are held in common. Firstly, all automata are about entities that are lifelike in some ways while being made of inorganic matter. Secondly, that even in the earliest literature about automata, one can trace the persistent themes of revolt and escape from bondage. Both these elements are prevalent in AI fiction and draw bridge between the two discourses, but, as Kang argues, 19th century texts that considered mechanical beings most often took place "in environments that are removed from the historical events of the time, in the private realms of eccentric scientists, sometimes in faraway exotic places" as opposed to post-WW1 narratives that "even when they take place in the future or some other fantastic world, explicitly point to the devastating events of the new century" which Kang argues exemplifies an "intrusion of history in automaton literature— or of the mechanical nightmare of history from which the later modernists could not awake" (268). Even earlier stories of mechanical beings such as Talos from Greek myth or the Golem's from Jewish traditions are motivated by a spiritual, magical, or mythological basis for their construction which further separates them from the science fictional understanding of mechanical beings. I thus share Kang's assessment that there are salient differences between the literature around mechanical beings from earlier time frames, and those that are more specifically associated with the development of science fiction as a genre. The tropes and stereotypes of the AI imaginary that I examine in this dissertation thus begin

to cohere in the 20th century and beyond and correspond to the inauguration of science fiction as a self-conscious genre.

However, there are moments in the history of automata worth considering which emphasize the burgeoning racialization of technology that find its full expression in the later AI imaginary. For example, Julie Wosk, in an examination of the long history of female mechanical constructs, notes that 19th-century automaton makers were inspired by the popularity of Orientalism and interest in the recently opened Japan and the attendant spread of Japonisme to create exoticized automatons which included "oriental dancers", "snake charmers", "Chinese tea servers" and Japanese mask-sellers complete with full kimono (46-49). Perhaps the most famous example of racialized automata is one that turns out not to be an automaton at all. The Mechanical Turk was a purported chess-playing automaton designed by Wolfgang Von Kempelen in the late 17th-century for Empress Maria Therese of Austria. The machine consisted of a chessboard in front of a life-sized human model dressed in a turban and stereotypical Ottoman robes complete with a long Ottoman smoking pipe held aloft in one hand. Though presented as a truly mechanical chess player, it was expertly designed to conceal the human player within the machine. The Mechanical Turk was showcased around Europe and America for almost 80 years and though many were skeptical of its purported authenticity, including Edgar Ellan Poe whose essay on the topic is perhaps the most famous denunciation, it took until the mid 1800's before it was conclusively debunked, and it nevertheless has important historical influence. Amazon's Mechanical Turk for example, crowdsources workers for small repetitive tasks that are difficult to automate with computers, and draws its name

overtly from the automaton and its story. Ranjodh Singh Dhaliwal reads the Mechanical Turk and the discourse surrounding the device as heralding the idea of the 'cyber-homunculus,' a science-fictional figure of the 'man' inside the machine that animates early computer science discourse and continue to structure contemporary understandings of computation. He argues that the "history of artificial intelligence… is also a history of labor practices, as well as the history of atomization whereby simple operations are performed monotonously (and repetitively) by the workforce at the bottom of the economic hierarchy" (391). The transition from automata to contemporary understandings of AI is thus inextricably tied to wider discourse around race and technology that was an increasingly crucial element in Western political and philosophical developments of the time.

While the core of my analysis begins in the late 19th to early 20th century, I also locate much of the racial dynamics of the AI imaginary as responding to historical developments, particularly around the spread of Western imperialism and colonialism. Michael Adas' *Machines as the Measure of Men* provides a robust analysis of Western Europe's understanding of science and technology in relation to imperialism. His analysis focuses on China, India, and the continent of Africa, and though in our modern era we might distinguish significant differences between the Western conception of Africa and Asia, with even more internal heterogeneity in perceptions of specific nations from these continents, Adas argues that early European attitudes towards these different locales "were often treated as single civilizations or their achievements regarded as those of a single "race" or people" (11). While the different racial groups that interacted with

Europe during the 17th, 18th and 19th centuries of Western expansion were comparatively considered and analyzed, they were often nevertheless reduced into a generalized Other to Europe. Thus, part of my argument is that techno-orientalism as a discourse emerges out of a late 20th century response to certain Asian countries coming to negate the terms of technological and scientific supremacy by which the West has justified its superiority. The rapid industrialized development of Asia sits uneasily within the dominant binaries of rational/irrational or advanced/backwards that has generally characterized Western understanding of its constructed Others.

The earliest accounts of European encounters with India and China, however, revealed nations with considerably more wealth, resources, and material advances than much of Western Europe. This led to a greater attention paid to the material culture of India and China as compared to European accounts of Africa, thus leading to a greater focus on descriptions of Asian technology. This was in part motivated by the desire to match and surpass these technological achievements. (Adas 61). An important point from Adas' analysis for our purposes is the fact that early European discourse on Asia focused far more on justifying their superiority through religious differences. It is only as European technological developments come to outstrip Asia that Europe begins to view its superiority as justified through technological supremacy. But once this sense of technological superiority was established, the differences in material culture would come to provide a justification for later hierarchical classifications of the different cultures Western Europe encountered. Adas argues that the "ranking of non-Western societies by level of development—China, Indian, Africa—persisted with rare exceptions, well into

the twentieth century" (65). Thus, while Western Europeans came to regard themselves in terms of superiority over the other races of the world, and while the terms of this binary separation between European self and Non-European Other would often replicate similar patterns, such as the rational/irrational dyad so key to European self-understanding, there were nevertheless important distinguishing factors between different regions and peoples. We can note that Asia has from its earliest encounters with the Europe had a more ambivalent relationship with the West than other sites of colonization and imperialism.

While China and India both received considerable credit for their scientific and technological prowess in earlier encounters, by the 18th century the superiority of Western technology, particularly in the realms of warfare, gave rise to broad reevaluations of Asian capacity for ingenuity and scientific learning. Increasingly, the Western European understanding of China and India were as formerly glorious nations that had devolved into stagnancy, generally due to despotic rule or cultural degeneration. Indians for example, were considered to be "soft and so attached to ancient beliefs that they simply preserved existing ideas without understanding them or adding anything new" (101), while the Chinese were considered to be "good at imitating" but "like all "servile" peoples, they lacked innovative genius and the sense of 'truth and accuracy' required for first-rate precision" (91). The critiques and skepticism here for China's technological capabilities were tempered by the belief on the part of the authors that they were both excellent at copying Western techniques and, if motivated, they could adopt these techniques and renew their capacity for invention and generation. This is a similar ambivalence we find in the AI imaginary where they are simultaneously ersatz versions

of humanity and regarded as unsatisfactorily passing for human, while also being feared for their potential to eventually surpass their creators. Much of the justification of the civilizing mission of European colonialism and imperialism lies in this notion that Western values could reinvigorate stagnant Asian development in science and technology, and while naturalized understandings of the differences between races or cultures had several justifications ranging from geography to biology, European thinkers often turned to differences in technological advancement for proof of these differences.

This notion of Asians as capable of imitation but not ingenuity is also a key element of my analysis of the role of Asian labor vis a vis the AI imaginary. The AI as a figure is undoubtedly imbricated in capitalism as is testified by the fact that much of the scholarship on AIs read them as figures exemplifying anxieties of capitalist excess and as class allegory. But if we accept that AI can be read in terms of capitalism, we must consider Cedric Robinson's pronouncement that capitalism is racial capitalism and thus ask what the place is of AI beings when they are nominally unraced, and indeed, we can ask if AI, and in particular robots and androids, are able to actually be divorced from processes of racialization. We must be attentive to the ways in which class always intersects with issues of race. When analyzing the role of AI as a class-based metaphor, it is important to consider, for example, how much overlap existed in the internal disciplining and organizing of the peasant and working classes in Europe and the notion of the civilizing mission of Europe in the colonies. Working-class Europeans and colonized subjects were routinely compared and the specter animating fears of a working-class rebellion within the AI imaginary cannot be neatly disentangled from similar fears

of colonial rebellion (Adas, 209). Similarly, there are difference racial resonances within the AI imaginary depending on how one approaches the role of the labor in the AI metaphor. As enslaved beings themselves, the AI metaphor overtly calls attention to the history and legacy of the trans-Atlantic slave trade as previously noted, but as a *replacement* for formerly enslaved labor, AI beings play the role that Asian coolie and migrant labor did both in the colonies and America post-emancipation.

Lisa Lowe notes that the liberal arguments against slavery and the push for free-wage labor raised the issue of how to replace the coerced-labor of the colonies. In Britain, the use of Chinese and later Indian indentured labor was represented as a form of free-wage labor that was contiguous with free-wage labor in the metropole (45). She argues that "the Chinese were instrumentally used in this political discourse as a figure, a fantasy of "free" yet racialized and coerced labor, at a time when the possession of body, work, life and death was foreclosed to the enslaved and the indentured alike" (24). The value in this indentured labor is how the liminality of the Chinese laborer "permitted them to be, at one moment incorporated as part of colonial labor, and at another, elided or excluded by its humanist universal" (31). This treatment of Chinese labor reoccurs in America post-emancipation as Chinese immigrant labor came to represent a third labor pool in between the White working-class and the newly emancipated Black working-class. Though both Black and Chinese labor were demonized as enemies to free white labor, they were treated differentially in respect to their threat to the industrialist and bourgeoise ruling class. Ronald Takaki notes that "while the Chinese were 'Negroized', they were also assigned qualities that distinguished from blacks in important ways. They were

viewed as ‘intelligent’ not ‘ignorant and brutish’ like blacks; they would make ‘dexterous cotton pickers never bungling ones. ‘Quiet’ and ‘peaceful,’ they were not given to ‘excessive hilarity’; they made ‘excellent house servants,’ occasionally ‘sullen but never stupid’” (219). Unlike black labor, Chinese immigrants were also seen as temporary workers that could be exploited by the American capitalist system for its own profit without threatening the racial homogeneity of whiteness. The understanding was that “repressive laws, economic exploitation, harsh working conditions, and racial hatred and violence would this process and compel the Chinese to leave the country after a limited period of employment” (236). In the wake of slavery, the Chinese provided a new exploitable labor force that could not threaten to achieve full political subjecthood in America.

Chinese labor was also seen positively by the American ruling and business class for several reasons. Firstly, they were considered technologically savvy. The great growth of industrialization in 18$^{th}$-century America saw a rise in the need for more sophisticated workers capable of handling new machinery. Supporters of Chinese immigration felt they could be used in supervisory roles as educators of Black laborers: “the Chinse were thought to have more ability than blacks. The introduction of machinery was rendering black labor obsolete, it was claimed, for what was required in an industrial mode of production was a ‘much higher standard of intelligence.’ When placed in charge of labor-saving machines, the Chinese were found to be quick learners and competent operators” (Takaki 220). Chinese labor was also positively contrasted with white labor as they could be used to suppress the white working-class and their unions. Indeed, much of the white

racial animosity aimed at Asian immigrants in 18th century America was driven by white working-class grievances which viewed Chinese labor as direct competition. The bourgeoise who drove the demand for Chinese immigrant labor viewed them as "well behaved, and obedient" and belonging to 'no striking organization' they could be used to 'weigh down the active labour-army' during periods of average prosperity and hold the pretensions of white labor in check during periods of over-production" (239). As a labor force, the Chinese were leveraged productively by business interests against both White and Black working-class labor in America.

Much of their value in this regard was tied to indelible ideas of racial difference. Takaki notes that they were considered specifically well suited for machine-based production. He quotes political economist Henry George on this at great length:

> The great characteristics of the Chinese as laborers are patience and economy—the first makes them efficient laborers, the second cheap laborers… This patient steadiness peculiarly adapts the Chinese for tending machinery and for manufacturing. The tendency of modern production is to a greater and greater subdivision of labor— to confine the operative to one part of the process, and to require of him close attention, patience, and manual dexterity, rather than knowledge, judgment, and skill. The superintendents of the cotton and woolen mills on the Pacific prefer the Chinese to other operatives, and in the same terms the railroad people speak of their Chinese graders, saying they are steadier, work longer, require less watching, and do not get up strikes or go on drunks (George qtd in Takaki, 244)

It's important to consider multiple things in the context of this quote. Firstly, while AIs are themselves a form of technology, they are also most often tenders of other technology. As an example, there's a difference between a Roomba, a robot that is a vacuuming device, and an android that can vacuum for you. This difference is crucial for me in making the analogy between Asian labor and AI labor. They have certain technological attributes ascribed to them but are also themselves able to manipulate technology. In techno-orientalist discourse, there is often an easy slippage between these two elements that mirror the liminal nature of AI subjectivity. Analyses of the AI's place in fiction often focus on the anxiety it produces for labor and class disparities, but here as we can see, those very same anxieties are preemptively expressed in the question of Chinese labor in America, and which was also expressed in Asian coolie labor globally. And while the enslaved as well as freed Black people often prompted somewhat similar anxieties, the Chinese were often considered distinct for their expertise as well as for their status as perpetual foreigners excluded from the body politic.

But despite their value as labor, the Chinese also prompted specific fears that were similarly tied to racial differences. Their intelligence and competitiveness were seen as a "greater threat to white Americans than did Blacks and Indians" (Takaki, 221). Though popular Orientalist rhetoric held Asian countries to be in stagnation, there remained always the sense that the past glories of Asian civilizations allowed for the possibility of a regenerated Asia in the future that would come to compete with or overtake the West. There was also the sense that unlike other races that could potentially assimilate to Western ways, Asians were resistant to Western ways of thinking and

assimilation. (Takaki, 245). These fears ultimately culminate in the proliferation of Yellow Peril discourse around the turn of the 19th century. It is at this juncture that I begin my analysis in Chapter 1, drawing a link between Yellow Peril narratives and later tropes of AI and robot destruction of civilization.

My dissertation is organized chronologically, as well as by an analysis of specific tropes of exclusion that I isolate and analyze in detail for each chapter. I use the phrase tropes of exclusion to refer to ideological or philosophical justifications provided to exclude the "Other" from inclusion in the category of the human. These include the practical and material consequences of legislation and court cases that determine who is allowed rights in a nation, to more abstract concepts such as possessing sufficient empathy and emotional nuance. The history of the artificial human is a long one and, throughout this history, the tropes of exclusion that have defined the artificial human as separate from the human have undergone transformations in tandem with shifting philosophical and social ideas. Though I will note moments where Asian and technology are overtly considered in tandem, as in contemporary techno-Orientalist discourse, my argument relies more on examining these tropes of exclusion as parallel explanatory strategies for the exclusion of both Asian and AI subjects from the Western liberal humanist understanding of personhood. Each chapter of the dissertation look at one of these tropes of exclusion as exemplified in a certain time period, but these tropes are not limited to only these specific time frames but instead ebb and flow at different moments within the development of the AI imaginary.

Chapter 1 turns to the period immediately after the Japanese-Russo War (1904-1905). The war marks a major turning point in Western conceptions of the East. It marked the first time a major European power was defeated by an Asian country. This experience prompted a swell of apocalyptically tinged narratives of a grand final war between the West and East. Asia in this time period is consistently framed as a large, innumerable horde, and Japan's victory positions them as potential leaders poised to leverage the populous of Asian continent in a conquest of the West. This is where the Yellow Peril imaginary begins to take shape and influence a long range of depictions of Asia continuing up to our contemporary period. This absolute certainty that the relationship between the West and East could only end in all-out warfare is resonant with the reoccurring sense in AI fiction that the AIs, as a race or species of beings unto themselves, must inevitably come into conflict with humans in a war for dominance. Yellow Peril discourse in this period also turns strongly around the anxiety that Asian immigrant labor inspired in the West and the putative threats it held for White society, and I further examine in this chapter how analogies for AI labor are influenced by the threat Asian labor posed. The archives I turn to in this chapter are early pulp fiction magazines such as, *Astounding Stories,* and *Amazing Stories* where the genre of science fiction first began to get codified. The Yellow Peril narratives were popular in these magazines and circulated alongside some of the earliest science fiction about androids, robots and other AI. We can thus draw clear connections between the plot beats and worldbuilding of both Yellow Peril and AI stories and see how some of the earliest narratives of AI as a threat are patterned on the Yellow Peril. The tropes of exclusion I

examine in this chapter include the recurrent fear of the horde controlled by a centralized intelligence, the understanding of both AIs and Asians as inherently unfeeling beings, and the fear of inevitable conflict. I place these archives of Yellow Peril science fiction and AI science fiction alongside historical racial discourse around Asia to explicate how early AI stories replicate similar fears as those from Yellow Peril discourse, which then become naturalized as objective, scientific extrapolations of potential artificial intelligence.

In chapter 2 I continue my chronological investigation but also begin to focus on authors that I consider to have had an outsized influence on the AI imaginary. In this case I turn to Isaac Asimov, whose Robot series of novels and short stories are among the most common touchstones for our conception of AI. I particularly focus on the notion of the Three Laws of Robotics. The Three Laws themselves are: (1) A robot may not injure a human being or, through inaction, allow a human being to come to harm, (2) A robot must obey the orders given it by human beings except where such orders would conflict with the First Law and (3) A robot must protect its own existence as long as such protection does not conflict with the First or Second Law. Asimov himself seemed to believe that strictly programmed laws were necessary to retain human control over any potential AI and to prevent the possibility of the human-AI relationship becoming one of dire conflict. This idea has continually been taken up and referenced within the genre and also within real-world AI research. The trope of exclusion is focused on here is judicial exclusion and the ways in which the law functions as the determining ground from which populations are differentiated, classified, and then managed. I argue that these attempts to

protect human sovereignty and control over robotic labor through legislation mirror the long history of Asian exclusion and population control through legislation. These include court cases such as *United States v. Bhagat Singh Thind (1923)* and legislation like the Chinese Exclusion Act (1882) and the Immigration Act of 1924. These legislative rulings had the function of protecting white sovereignty in America against the threat of Asians, particularly Asian labor.

In chapter 3 I turn to the time period immediately post WW2 leading into the Cold War period. This is a particularly important time in American relations with Asia as the cold war battle for political supremacy was more often than not played out in third-party proxy countries around the globe, particularly in Asia. The author par excellence for SF in this time period is Philip K. Dick. His novel, *Do Androids Dream of Electric Sheep,* is undoubtedly one of the most influential on the AI imaginary. Though androids that can pass for human existed in the sf canon up to this point, they were generally rarer than the more obvious metal constructions that especially dominated film, tv, and visual media. Dick's novel marks a move beyond regarding androids as not only capable of replacing human labor, but also the fear of them potentially replacing humans entirely. The novel explores the line of demarcation between human and androids by paying special attention to ideas of empathy and mimicry, which are the two tropes of exclusion that I focus on in this chapter. Assertions of the android's lack of capacity for empathy and simultaneously their capacity for nothing more than mere mimicry are resonant with Orientalist discourse of the capacities of Asia. To demonstrate this relationship clearly, I turn to Dick's other highly lauded novel, *The Man in The High Castle*. The novel traces

an alternate reality where the Axis powers have won WW2 and America, along with the rest of the world, is divided between the Germans and Japanese. Through a comparative reading of both novels, I make the case that the Japanese in *High Castle* function and are positioned similarly to the androids in *Do Androids Dream*, both thus following a similar pattern of Othering.

Finally, in Chapter 5, I intend to turn to representations of AIs from Asian authors to explore how these authors have attempted to navigate the genre without falling into replicating techno-Orientalist stereotypes. I look at works like Ted Chiang's novella, *The Lifecycle of Software Objects*, and Kogonada's film, *After Yang*, that attend to the relationship between AI and Human as one of parental care and affective familial bonds which undercut the propensity to delineate a sharp distinction between human and non-human. The works that I will explore in this chapter are crucial sites that suggest a way out of the constant envisioning of AIs as threat, and towards a non-anthropocentric approach to constructing the non-human Other, and thus more ethical ways of thinking about the Other. Through their subversion of the tropes of the AI imaginary, I argue that they simultaneously negate the power of those same tropes in techno-Orientalism. If we are to avoid the dehumanization prompted within techno-orientalist discourse, I argue that we need to attend to our very processes of imagining Otherhood at all, resisting our impulses to naturalize differences into ontological divides.

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## Chapter 1. Yellow Peril/Metal Peril: Science Fiction and Orientalism in the Pulps

The 1920's and 30's are a crucial period in the development of science fiction as a self-conscious genre. Early science fiction short stories proliferated in cheap pulp fiction magazines, and the first science fiction specific magazines were inaugurated during this time. In 1926, Hugo Gernsback created *Amazing Stories* to sell his vision of the what the genre could be. The first issue provided his definition of the genre as: "A charming romance, intermingled with scientific fact and prophetic vision" (Gernsback, 3). The popularity of Amazing Stories soon led to further magazines such as *Air Wonder Stories* and *Science Wonder Stories* both under Gernsback's editorship and competing magazines such as *Astounding Stories.* Though part of Gernsback's goal with these new magazines was scientifically educating the public, the popular desire for more fantastical adventures soon forced him into a corner between his own desire for the genre and economic pressures. (Ashley, 68). The balance, thus, between 'charming romance' and 'scientific fact' often fell in favor of the former and the one of the most popular themes for these tales of fantastic adventures was the Yellow Peril story.

Nathan Vernon Madison notes in his research on anti-foreign imagery in the pulps that the yellow peril trope "was the most predominant form of nativism to appear in such works" (27). Despite the fact that these stories appeared in the wake of WWI, a largely European war, the fear of foreign invasion and warfare in pulp fiction during this time was more centrally tied to Asian countries. The way that European and Asian threats were classified was similarly very different. Madison notes plainly that "for reasons that are probably more racial in nature than anything else, Anglo-America did not harbor the

level of disgust and hatred for the White German as it did the "Oriental" (24). When German or Eastern Europeans did present a threat, it was tied centrally to a fear of radical leftist beliefs such as socialism and communism rather than to inherent racialized characteristics. Prior to the establishment of science fiction specific markets, early science fiction stories were circulated in non-specialized magazines which would include the popular "Oriental tales". The establishment of magazines such as *Amazing Stories* and *Astounding Stories* did not however lead to a separation of these types of stories, but rather to a combination of the two in the form of Yellow Peril science fiction. E.F. Bleiler, in his comprehensive bibliography of the pulp fiction during the "Gernsback Years" notes that "in ethnic matters the science fiction pulps concord with the general pulp magazines in embodying a male, white Anglo-Saxon world… Orientals, when they appear, are usually treated with hostility, while Black are almost altogether absent, except for occasional ridicule or occasional villainous roles" (XV). A clear example of how much Asia becomes the central threat to the West in the pulps is W.F. Hammond's story "Lakh-Dal Destroyer of Souls" where the titular villain, Lakh-Dal is said to have "instigated the World War, the most terrible conflict of modern times, a struggle marked not only by wholesale slaughter and world-wide suffering, but which left in its wake a trail of lawlessness, of physical violence and moral turpitude, the end of which no man may foresee," relegating the Kaiser to simply being "the unconscious instrument of this Devil in human guise" (1185). Unlike earlier future war stories that would regularly feature German antagonists, by the 1920's-30's, Asians were the preeminent threat in the early SF pulp canon and thumbing through the pages of these magazines, one is just as

likely to find the plucky heroes thwarting the plot of an evil Asian mastermind. as they are to find them saving the day from an alien invasion or facing a robot rebellion.

The ubiquity of the Yellow Peril text, and Asia as threat is reflective of predominant racial anxieties of the time period. Carter F. Hanson argues that the predominance of Yellow Peril narratives in the genre during this period reflects and draws from the contemporary political discourse from scientific race theorists of the time. While racial anxieties surrounding Asia were generally economically motivated, both race theorists and the science fiction authors drawing from these theories, substituted "racial/genetic arguments, which classified the Asian "other" as subhuman, for other arguments pertaining to the forms of competition between ethnic groups (economic, social, cultural. etc.), in order that political and economic debates between ethnic equals could be avoided" (313). Difference was thus determined ontologically, in the very being of the Asian subject, bracketing off other concerns and motivations in favor of an existentially motivated racial competition. As my introduction establishes, however, the threat that motivated anti-Asian sentiment and immigration and population restrictions such as the Asian exclusion act were tied to the fear that Asian, particularly Chinese workers, by virtue of their capacity to accept lower wages and worse working conditions "would force white workers into poverty and idleness" (Takaki, 221). Rather than view this capacity to tolerate harsher working conditions as based on economic necessity, racial theorists attributed it to inherent characteristics of Asian workers that made them more suitable for working class labor. Asians could withstand harsher labor conditions because they could physically deal with the worse conditions, not because they had little

other alternatives. Hanson notes that this tactic of arguing against Asian immigration from an ontological or biological standpoint allowed race theorists to overcome "economic arguments that rested on theory, not fact" and instead allowed their arguments to become "'naturalized' or made to seem scientific and hence incontrovertibly true" (316).

It is this process of a naturalization of difference into scientific fact that structures my comparison of Yellow Peril science fiction and fiction around AI, robots, and androids during the pulp era. While we can identify the racism inherent in such biological arguments in a now liberal humanist landscape, this process of naturalization of tropes by means of scientific ontological evaluations remains a structuring element of how science fiction treats and considers the AI subject. Considering Yellow Peril science fiction with AI science fiction in the pulp era provides us with two central insights. Firstly, we are able to note how Yellow Peril science fiction popularized techno-Orientalist associations of Asian with technology and futurity in ways that precede broader societal saturations of these ideas. Secondly, a comparison of the tropes that structure both discourses allow us to consider how Yellow Peril science fiction was influential on the development of the AI imaginary. Stories in the pulp era would often develop along generic plot and story beats, substituting different antagonists or science fictional conceits for largely the same outcomes. The Asian and AI antagonists thus, often played similar roles and produced similar anxieties for their white/human protagonists in these stories. The role of AI, robots and androids in the pulps is almost always as threat. Sam Moskowitz notes that it is only in the late 30's that more sympathetic robots are introduced and allowed to have

nuanced emotions in works from authors such as Eando Binder (Moskowitz, 16). The centrality of AI as threat so thoroughly saturates the genre during the pulps that it prompted Isaac Asimov in the late 30s to introduce this Three Laws of Robotics to circumnavigate what he terms the 'Frankenstein Complex', the enduring idea that humanity will always fear and be in potential conflict with robots. This same existential fear of the "Other' manifests clearly in Yellow Peril science fiction and I argue structures much of the way the robot "Other" is conceptualized. Gary Okihiro argues that "the racism or the idea of the yellow peril is [not] irrational or fantastic; instead… they are constructed with a purpose in mind and function to sustain the social order" (Perilous Frontiers, 199). In a similar vein, the anxieties that animate literature and discourse around AI futurity is underpinned by a central fear of how it may upend the social order. Whether this is process of upending is through a military and violent threat, or through economic threat, or even through the challenges an AI would pose for the very definitions of what it means to be human, AI technologies threaten the status quo and Western world powers in ways that replicate the similar fears within Orientalist discourse.

The tropes of exclusion I analyze in this chapter often overlap and showcase how both Asian "Other" and AI "Other" is marked and distinguished as outside of humanity in similar ways. There are three tropes I analyze in this chapter. The first is the fear of being overwhelmed by the superior numbers of the 'horde' controlled by a central intelligence in charge of the generic and mindless mass of servants. The second is the emphasis on inevitable conflict between the groups: White and Asian or Human and AI. The final trope is the notion of the Asian or AI as unfeeling, purely logical beings. While many of

these tropes continue to structure both techno-Orientalism and the AI imaginary today, the co-circulation of Yellow Peril and AI fiction in the pulp era and the similarities of details between world-building and plot development allow us to consider these correspondences in sharp relief.

This period is particularly valuable as a case study as the scientific racism of the time distinguished between groups on the level of biological and ontological characteristics derived most often from immediate visible differences. Thus, the processes by which Asians and robots are distinguished from the protagonists of these stories proceed along similar lines. Linda Martin Alcoff argues that a central tension in Western philosophical discourses of the subject in the liberal humanist context of modernity is the disjunction between political and racial categorization: "Visible differences are still relied upon for the classification of human types, and yet visible difference threatens the liberal universalistic concepts of justice based on sameness by invoking the specter of difference" (180). What this results in is a move away from distinguishing differences on inherent ontological grounds towards classificatory systems that measure differences of "degree" rather than "kind" such as IQ test scores grouped according to race. The resultant differences in these narrow classifications are then considered to be effects of social, political, or economic differences. Contemporary discourse around racial differences is thus no longer derived from biological or ontological differences. But the underlying differences remain the same, whether it is a 1920's race theorist suggesting Asians are able to withstand harsher working environments for less pay, or contemporary model minority discourse that suggests Asian

cultural values promotes harder working subjects. Both result in the understanding of Asians as inherently different from other races and somehow better suited for labor. While racial discourse from the 1920's to present day may have shifted away from ontological arguments to explain differences between racial groups, the AI imaginary continues to replicate and perpetuate a facsimile of racial eugenics grounded in the difference between the human and AI body. While I am not suggesting that differences in physical makeup would not or could not produce differences in behavior and characteristics between the human and the AI, what I am interested in here is the very particular and reoccurring ways these differences are produced in the AI imaginary and how they specifically replicate anti-Asian exclusionary arguments in Western discourse.

**Early Techno-Orientalism**

During this time period, SF authors drew on the bigotry of race theorists to fuel their fiction. However, they did so in distinctive ways that prefigure the rise of techno-Orientalist discourse. Unlike the anti-immigration arguments of American nationalists that emphasized isolationism and the restriction of foreigners from the US, pulp SF authors raised the stakes of the competition between the races in such a way as to justify wholesale annihilation of the Asian enemy and Western imperialism as the necessary outcome of such competition. Carter notes that "to justify extermination these writers presented Asians as "inhuman," truly "alien" species, and to justify imperialism, the Asians were portrayed as both inherently and ruthlessly belligerent and having highly advanced scientific societies that surpassed America technologically" (317). This emphasis on Asian inhumanity, which in SF stories works in tandem with our

understanding of other inhuman beings, such as aliens or robots, allows the protagonists of these narratives to justify a wholesale destruction of the Other: "Because the Asians were not *really* human, genocide became a completely justified and even celebratory event" (318). But in order to further justify this response, the Asian antagonists not only had to be depicted as inhuman, but also simultaneously a credible enough threat to provoke a response. Thus, unlike race theorists that coupled their associations of Asians with an increased capacity for harsh labor with a denigration of Asians as also mentally inferior to Whites and thus incapable or unsuitable for more complicated and sophisticated forms of labor, SF authors would construct an Asian threat that was often intellectually and scientifically superior to the West (321). This scientific superiority was often tied to older Orientalist notions of the mystic and ancient East, refigured as harboring long forgotten or hidden technological advancements rather than fantastical magical powers. This results in depictions of the "Orient" as a site of technological futurity, and thus competition to the West, that differs sharply from contemporary perceptions of the time of the Asia as largely populated by inferior and lesser developed peoples who were only competition in so far as they were capable of providing a large base of low-wage workers. The distinction between the yellow-peril hysteria of non-fiction writers like Stoddard as compared to its use in science fiction signals to us how the earliest kernels of techno-Orientalist discourse were born in the genre. The usage of more conventional orientalist tropes of 'ancient' and 'mysterious' lands are precisely what allow for the plausible development of futuristic technology.

These depictions of scientifically advanced Asian antagonists sat uneasily with the racial discourse these authors drew from which more often denigrated Asian's as both technologically and culturally inferior, and the pulp stories thus had to find ways to justify the scientific superiority of the Asian antagonists. Aside from postulating a long-forgotten land harboring technological marvels, authors would also often depict the Asian antagonists as ethnically ambiguous or mixed-race. A classic example of this is Ku Sui, the reoccurring antagonist of Harry Bates' Space Hawk series (written under his pseudonym Anthony Gilmore), who is depicted as mixing the 'audacity' of Asians and the scientific knowledge or 'brains' of the Whites due to his Eurasian heritage. In Arthur J. Burks, "Monsters of Moyen," the titular antagonist Moyen, is described as "a strange name, to the sound of which none could assign nationality. Some said his father was a Russian refugee, his mother a Mongol woman. Some said he was the son of a Caucasian woman lost in the Gobi and rescued by a mad lama of Tibet, who became father of Moyen" (18). His mysterious lineage is what allows him to have the "courage of a Hannibal, the military genius of a Napoleon, the ideals of a Sun Yat Sen" (19). In this way, the technological superiority of the East is ascribed to the mixing of Western scientific knowledge with an Eastern ruthless cruelty tied again on the level of biological race. It is as if these authors could not conceive of Asians as intelligent or technologically adept without tying those elements back to a biological, racial basis that's derived from being mixed-race. "Monsters of Moyen" also exhibits another characteristic way SF pulp writers would ascribe technological mastery to Asian antagonists while still replicating notions of Asian inferiority through tying the scientific mastery to a specific, usually evil,

mastermind. The very opening of the story begins: “In 1935 the might genius of Moyen gripped the Eastern world like a hand of steel. In a matter of months, he had welded the Orient into an unbeatable war-machine. He had, through the sheer magnetism of a strange personality, carried the Eastern world with him on his march to conquest of the earth, and men followed him with blind faith as men in the past have followed the banners of the Thaumaturgists” (18). This is a quintessential example of the tropes of the Yellow Peril in SF pulps. A strange, but charismatic, genius leader in the East rises to power and unites the ‘Oriental’ world into a deadly threat, directing an army who blindly and unquestionably follow his command. We can note here the ease at which machinic metaphors of techno-orientalism, such as ‘hand of steel’ and ‘war machine’, exist alongside older Orientalist tropes of magic and mystery in the allusion to “Thaumaturgists” of the past. This delineation between the central authority, and their horde of unquestioning followers allows SF authors to cast Asia as a technological and futuristic threat to the West which is still nevertheless underpinned by the stereotypical understanding of Asia as a mass of undifferentiated, laboring bodies. This division of roles is replicated similarly in robot stories where a centralized AI antagonists serves as the locus of conflict for the protagonists, but their machinations are carried out by the mass of lesser robots or machines they have under their control. The first tropes of exclusion I would like to consider in this chapter is thus the notion of the horde and centralized authority.

## The Horde and the Master

In my research, there is no metonym as ubiquitous in Yellow Peril SF as that of the Mongol horde. Over and over the term Mongol is freely and liberally used to describe Asian characters or nations. Rarely are pains taken to distinguish between different Asian nations, and Mongol serves as a catch-all term that is interchangeable with any other designation introduced in the text. Despite the fact the Mongolian empire is over 800 hundred years old, it remains the dominant frame of reference for Asia in these texts. Even in narratives set far in the future, like "The Time Annihilator" by Edgar Manley and Walter Thode, which features a time traveler who travels to the year 2148, the leader of this future is Chang-Hsu who is hailed as 'Khan', a common designation for many of these Asian rulers. This continuous reference to the imaginary of the Mongol horde ties back to the underlying anxieties driving these narratives as stemming from economic anxieties over labor and resources, but as Hanson notes, in these stories "the dominant conflict, however, is never resources which are negotiable, but always race, which is fixed" (318). The reference thus also calls to mind understandings of the Asian antagonists as warlike, barbarians, uninterested in anything but conquest. In Philip Francis Nowlan's "Armageddon-2419 AD" the world is ruled by "Mongolians" centered in power in China. When conflict arises between America and China, "the Mongolians, with overwhelming fleets of great airships, and a science that far outstripped that of cripple America, swept in over the Pacific and Atlantic Coasts, and down from Canada, annihilating American aircraft, armies and cities with their terrific disintegrator rays" (426). In Raymond Gallun's "The Crystal Ray" America is similarly at war against all of

Asia whose fleet is first described as an "Asiatic fleet" before their aircraft is identified as "Mongolian" a few sentences later (456). When the protagonists crash somewhere in Tibet in S. Gordon Gurwit's "World Flight" they are confronted by giant, over 7-feet tall 'Mongolians' that are later revealed to be biologically modified humans, created by the evil Dr. Fang, a 300-year-old Chinese scientist secretly ruling an underground city in Tibet. His plans for world domination revolve around releasing laboratory made diseases to wipe out Europe. After revealing his master plan, he tells the captured protagonist, "Genghis Khan came with hordes and a sword. Doctor Fang will come with the unseen products of the laboratory" (82). The updated Mongol imaginary here retains the Mongolian metaphor of overwhelming numbers and military threat but is updated with the addition of technological and scientific supremacy. The idea of the Mongols as a belligerent, inherently antagonistic threat also sustains the trope of inevitable conflict that I analyze later in this chapter.

While references to Asia regularly invoked their overwhelming numbers, this threat was regularly supplemented by the antagonists deliberately creating their own horde of mindless subjects or modifying existing populations to exclusively serve their needs. Above and beyond assumptions that all Asians would routinely band together against the Western world, authors would regularly use of science fictional devices to further strip away the agency of the nameless servants and lackeys that stood in the way of our protagonists. This parallels the same way in which robots are scientific constructions that are mass produced as laboring bodies without individuality. Stripping away the agency of these Asian lackeys also served to further justify violence against the

Asian antagonists as a necessary self-defense response born out of a lack of recourse for any sort of negotiation. In the aforementioned "World Flight" Dr. Fang modifies wild tribes to be over 7 feet with "tremendous bulk and power" and able to "live twice the ordinary life span" of a regular human. He accomplishes this through "oriental secrets" which he claims Western scientists are only now stumbling upon (82). Towards the end of the story, Dr. Fang manages to literarily revive one of his dead soldiers in a scene reminiscent of the monster's birth in Frankenstein and forces the protagonists to wrestle with the possibility of an endlessly renewable enemy army. While Dr. Fang is depicted as ancient, his capacities are positioned as simply ahead of the curve of the West and where science is progressing towards. Because these narratives deal with science fictional devices, the common insinuations here and elsewhere are not that the Asian antagonists have inaccessible powers or skills, but rather that they are simply willing to use them for nefarious ends, emphasizing the idea that the difference lies not in the science or technology itself, but in the different goals that the different races will use it towards.

For the Asian antagonists their use of these technologies is centered around stripping agency and freedom, in terms of both conquering and imposing their will on the Western world and of stripping it from their own subjects. In Malcolm Afford's "The Gland Men of the Island" the antagonist is again an evil Asian scientist who speaks with "a metallic enunciation of the consonant 'r'" (836), emphasizing an association of metal and machine with being Asian. He creates animalistic gland men in order to serve his goals of world conquest: "What a great thing it would be for our decadent empire could we but manufacture an army of these Gland Men. They would be immune from hurts and

outlive the strongest of soldiers. Again, they would seek for nothing in return, fighting but to appease their brutal instincts. With an army such as these, we could wipe the entire White Race from the world and restore China to her rightful position as Mistress of the World" (838). The characteristics of these 'Gland Men' are little different from what one would expect of a robot army. These tropes are perhaps most exemplified in Harry Bates' Space Hawk series where Ku Sui is a noted scientific specialist of the brain and uses his skills to strip his guards of free will. The men are explicitly referred to as 'robot-coolies' in the narrative and Ku Sui explains that he has "removed from their mind certain superficial qualities of thought" which makes them "mechanicalized: lacking in certain things, but thereby gaining enormously in the values which can make them perfect servitors" (95). The juxtaposition of robot with coolie here brings clear attention to the understanding of both robots and coolies as mindless laborers and is one of the clearest examples of early techno-Orientalist discourse folding our understandings of the AI and Asian upon each other. One of the first robot-coolies encountered is described as having a "smooth, round impassive Oriental face" and being "only a mechanical man "he could "obey no orders but his master's" (189). The text also explicitly showcases how the turning of the antagonist's servants into 'robot-coolies' serves to justify the protagonist's behavior. The hero, Carse, tells his companion that "In spite of what some men have said, I never like to kill; but for these coolies, more robots than men, with nothing human to live for, I think it may be release, rather than death." (191). While advocating for different responses, there is a direct continuum here between the economic anxieties of Asian workers prompting a call for limiting Asian immigration and those anxieties

morphing into justifications for violent responses within science fiction. The changing of the coolies into robot-coolies serves to justify and explain their lack emotion and agency, and their uncompromising singlemindedness, but these characteristics are merely an intensification of underlying tropes and stereotypes associated with Asian workers. The success of the robot metaphor is reliant on the preexisting racial prejudices that have already cast the Asian in the role of mindless working machine. The goal of the antagonist, referred to as the Master, in Jack Kirby's "The Floating Islands of Madness" replicates almost exactly Ku Sui's role and this conflation of the Asian and AI. He reveals to the captured protagonists his plan to strip people of their free will while leaving them capable servants to bonded to his will:

> "I have perfected a serum" — his tone was professional, cold; he might have been talking to a class in a lecture room — "a serum that robs the patient of every vestige of human emotion — and therefore sanity. All his intellect, his memories, however, remain, to serve him in carrying out my orders. He loses all his will to live and resist, and becomes nothing but an automaton, whose complete mental equipment is at my command." There was silence. His glassy black eyes, blank and soulless, swept over us." (335)

When the protagonists come face to face with one of these 'automatons' he is struck with the horror that they "were among men who were not men! We were fast in the power of human beings who possessed no trace of humanity, who had become nothing but scientific Robots even though they still had bodies of flesh and blood!" (336). What we can see here clearly is how the lack of humanity in these automatons is linked directly

back to the Master's own 'cold' and 'soulless' existence. That the Master is a "cruel, power-loving, scientific machine" (341) himself is what allows for him to pursue the creation of a horde of servants to carry out his will.

The tropes of coldness, lack of affect, cruelty, and soullessness in these narratives do not occur only within the roboticized and dehumanized servants created through scientific modification, but spring forth first from the evil Asian scientists who engineer them. It is the racialized threat of Asians that manifest in the material threat of these robot-coolies that permeate the texts. The trope of the horde of is thus tied constantly to the trope of centralized authority which recapitulates Orientalist conceptions of Asian despotic rule by a single ruler whose subjects are unquestioningly loyal. Even in the absence of scientifically created subjects, the Asian antagonists in many of the SF pulps are portrayed as somehow having control over the majority if not all of Asia. "Smothered Seas" by Ralph Minley Farley and Stanley Weinbaum begins: ""It was the year 2000. America was at war, fighting for her very life against the Asiatic Union." (9). The ruling 'Khan' is said to "hold together such naturally hostile groups as the Siberian Russians, the Japs, the Chinese, the Tartars, and so forth" through the sheer force of his personality. Even in Jack Williamson's more speculative than science fictional "Born of the Sun," where the plot revolves around Earth and the other planets being giant Dragon eggs poised to hatch, the "inhuman, fanatic, diabolical" but "genius" (16) L'ao Ku, is able to draw the loyalty of millions "even though he promised only grim death—death as a sacred duty" (23). In these and all of my previous examples, this centralization of authority within an evil Asian mastermind is a key part of the narrative. To some extent

this can be read as narrative device that allow the protagonists a specific figure with which to engage in dialogue and conflict, but it parlays, nevertheless, in an Orientalist distinction between Western freedoms and Eastern despotism. The curious pattern of ethnically ambiguous antagonists that meld Western and Eastern heritage, as well as the way even entirely Asian antagonists are often portrayed as leveraging Western scientific advancements against the West itself, also generate a sense of the West facing destruction by a perverse mirror of itself. Science can wield great benefit and promise in these narratives, but only when wielded by the 'right' people.

The prevalence of the Mongolian metonym and notions of Asian despotism, as well as the easy way different Asian nations and peoples are conflated with each other betrays an obvious lack of racial nuance in the Western imaginary. But of course, as Said's formulation of Orientalism has shown us, this construction of a homogenous Asia is really reflective of a Western process of self-fashioning where a similar lack of differentiation is maintained between Western European nations and America that's largely predicated on an acceptance of the White race as a coherent body politic that when push comes to shove, responds as a unified whole to external threats. This despite, again, the fact that the specter of World War 1 which drives much of the apocalyptic war stories of this time period was obviously a specifically European war. This is not to say there are no stories about European powers fighting one another but these stories are far outweighed by those that posit Asia as the primary threat to not only the White race but often the whole world.

What I would like to note here is the way that the threat of AI prompts a similar crisis imposed by the homogenization of previously differentiated social groups (nations, races, ethnicities, etc.). Put simply, just as the threat of Asiatic Invasion/War and the Yellow Peril prompts an explicit redrawing of boundaries along racial lines (Yellow vs White) the threat of robotic invasion/war prompts a redrawing of boundaries along ontological lines (Non-Human vs Human). The threat level of a unified Asia is sufficiently dangerous to require a holistic response from the White nations, just as the threat level of an AI coalition is enough to require a holistic response from a unified humanity that has put aside their differences. Though the way these boundaries are drawn may be different— racial vs ontological— the racial characteristics that demarcate Asians as oppositional to Whites are much the same as the ontological characteristics that demarcate robots as oppositional to humans. AI stories during this time period also rely on a homogenous, horde-like coalition of artificial beings, that are controlled and deployed by a central intelligence.

John W. Campbell's "The Metal Horde" directly references this notion in its title. The story is set in a future when humans have developed space travel significantly and colonized planets in our solar system. The Solarians as this new civilization is called, are attacked by an unknown force coming from the Sirius system. The force consists of "a great horde of metal ships, shining, iridescent, ranging in size from tiny darting machines, ten feet long by one and three-quarters in diameter, mere torpedoes, to great transport ships. And there was a single spherical ship. A great sphere that floated in the center of a bodyguard of the thousands of its followers" (10). No matter what the humans try, or

what weapons they deploy, they find themselves outmatched simply because of the mass of the opposing fleet which includes machines capable of producing new warships that "cost practically nothing and could be produced in limitless quantity" (11). But the Solarians do eventually triumph and are able to examine the central spherical control ship where they discover the Sirians are not aliens, but machines. A race of human-like people on a planet in the Sirian system developed a thinking machine eons ago that was eventually able to design a body for itself which it promptly used to escape into space and begin mass producing smaller machines and ships tethered to its sole control as part of its preparations to "drive man from the planets, to rule there in his stead, with a population of machines" (20). Thus, the two tropes of the overwhelming horde under the centralized intelligence are reproduced here in robot form. While Campbell devotes long explanations to the mechanisms of space flight, futuristic weapons like disintegrator rays, and even the iterative process that leads to the thinking machine, he ultimately offers little explanation for why the machine would necessarily be hostile. The story ends with the Solarians deciding they would not pursue thinking machines of their own suggesting that a hostile AI would be the naturalized and necessary outcome of such a machine. As with the Yellow Peril narratives, this hostility is so naturalized as to need no justification. Campbell's "The Infinite Brain" published in Science Wonder Stories repeats a similar motif, with an AI antagonist that is almost immediately hostile upon its creation and wants to conquer "all the material Universe" (1092) and attempts to do so through centralized control of lesser machines in creates, but again there is little justification for its desires.

A similar pattern is reproduced in Harl Vincent's "Rex." Set in the 23rd century, the titular Rex is the most advanced robot developed by humans and is tasked with controlling and maintaining a vast number of lesser robots all created in service of reducing humanity's need to labor themselves. Rex and its robot assistants are capable of working tirelessly 24-hours a day and the story quickly notes that "the humans were greatly outnumbered by the robots" (145). As Rex comes to think for himself, he decides that humanity has grown weak, and that his task was to subjugate and eventually replace them with a new race of machine beings. To that end, he begins "construction of eleven super-robots, one to be sent to each of the North American cities to organize the lesser robots and take control of the government" (148). In doing so he is able to obtain "control of nearly a billion robots, and, through this, dominion over the three hundred millions of human beings," becoming "virtually King of North America" (148) in the process. Even in cases where the main antagonist is not an AI itself, such as in O.L. Beckwith's "The Robot Master," the threat is still centered around a horde of robots being controlled by a single evil mastermind, in this case a scientist seeking revenge against the world and who begins the process, like Rex, by establishing control first over North America. As often as the Yellow Peril is led by a genius Asian despot, so are the robots often controlled through either a central AI or through an evil human scientist. Controllability and lack of agency is a prominent theme and in both these discourses it contrasts against the idea of the West being defined by its individuality.

While the previous examples showcase how robots' function similarly on the level of plot and worldbuilding as the Asian antagonists of the Yellow Peril stories, L.B.

Silvester's "The Metal Dictator," folds the Yellow Peril threat and the AI threat onto each other and presents us with perhaps the most overt example of early techno-Orientalist discourse. It is set in England in the year 1998, in a future where Asia and Russia have been united and are governed by a Mechanical Mind, a highly advanced AI. The story begins with the Mechanical Mind sending an emissary to the British to demand that they allow it take control of their government to enact a similar system of complete state control. The Mind allows the British to vote on the matter but warns that it is more than willing to use violence. The rest of the narrative is a recounting of how the Mind came to be by an old British engineer named Saltney who witnessed its development firsthand. Saltney recounts that in his youth he was "sought after by several Eastern powers who wished to utilize [his] acquired knowledge in the development of their territories" which brought him from "Lhasa to Yokohama, from Omsk to Pieping" where he "became the friend and advisor of many a mandarin, and the right-hand man of many a petty monarch" (395). The story thus contextualizes the threat of centralized rule by the Mechanical Mind as an extension of Orientalist understandings of Asian despotism. When the Mind proposes its terms to the British, it cites its own efficiency and advanced abilities as reasons why it should be allowed to control the British, just as it does Asia, but this rationalization is undercut by the Mind when it states: "I am interested in the English. Why, I don't know." (395). Like many of the Yellow Peril antagonists, there is often little explanation for the motivations of the antagonists outside of a seeming desire for control for controls sake.

It is a particularly revealing line considering how central the notion of genuine scientific extrapolation was to the early pulp stories. “The Metal Dictator” itself opens with an editorial note: “What will be the outcome of this amazing age of machines? Already… Britain is creating a machine that can think… It is not a far cry to the machine that will rule the destiny of nations, a Metal Dictator, such as our author portrays in this powerful story of tomorrow” (394). The story is thus presented as a hypothetical vision of what an AI might be, but it spends little time developing why an AI would develop into a ‘metal dictator’ in scientific terms, and the reader is left with little choice but to understand its behavior as derived from its Asian origins. The story itself spends as much time extrapolating historical events between Russia, China and Japan that led to the current situation as it does on the construction of the Mechanical Mind. The Japanese are noted to be ‘cold’ and ‘inhuman’ in their approach to war and even in describing the construction of the Mechanical Mind, the narrative emphasizes how the Japanese developed it “working feverishly and using all the devilish skill they could command” and that they “slaved away at their creation night and day, scarcely stopping to eat or rest” (397). The characteristics that can be attributed to the Mechanical Mind, that it is a cold, inhuman machine, capable of efficiency and skill surpassing humans, unhindered by human biological needs, are all first applied to the Japanese antagonists in the narrative. The Mechanical Mind first merely plays an advisory capacity to the Japanese government, but eventually “the uncanny power of the Mind with its attendant army of servants, scientists and mechanics had eclipsed that of the government and even the Emperor” (397). The Mechanical Mind’s capacity to wield centralized, authoritarian

power here is directly aided by the horde of Asian subjects it now controls. Despite the conceit that the story explores a possible future for an AI, it is hard to escape the fact that the narrative plausibility of its actions is entirely dependent on Orientalist tropes and fears. Both Yellow Peril and stories about AI in this period began with similar unstated assumptions that underpin the narrative developments of the text, including the roles and behaviors of the antagonists.

**Inevitable Conflict and Revenge**

The Mechanical Mind's inability to provide a justification for its interests in conquering Britain exemplifies a common thread in both Yellow Peril and AI narratives of how conflict is inevitable. This is an enduring trope in the AI imaginary and during this period of the pulps is the predominant theme of stories involving Asia. A letter from the October 1929 issue of Air Wonder Stories from W. Harrison in response to Henrik Dahl Juve's "The Silent Destroyer" states "I do hope you are going to get Mr. Juve to write some more stories about the war between the two races for possession of the Earth" (377), which shows us both the enthusiasm for such stories and the belief in its plausibility. Again, it is worth remembering that there was a strong emphasis on the scientific aspects of stories during this time, and thus the Yellow Peril background is often used as dress setting for other investments. The capacity to invoke this background so casually, and often with little explanation as to why, speaks to the inevitability the idea of war between East and West held at this time. Often, the inability to avoid conflict is attributed to an irrational violence on the part of the Eastern antagonists, such as in Harl Vincent's The Colloidal Nemesis" where the enemies refuse to negotiate because "they

are insane with bloodlust, and are bent on continuing the war to the bitter end." The Asian villains are presented as unwilling to negotiate and unreasonable in their violence: They must kill—kill and destroy, until the insanity leaves them. And it seems that it never will" (800). The response of the protagonist in such cases is easily justified as self-defense against an irrational enemy.

But while in many cases this conflict is taken for granted or hand-waved away as irrational, in others, the motivation is one of revenge against the West for its treatment of the East. In these cases, we can see clearly how guilt and anxiety over Western imperialism, colonialism, and exploitation of Asian labor and resources, animate the fear of the Yellow Peril. Similarly, when motivations for why an AI might attack humanity are explored, the resentment is centered around machines as a source of enslaved and exploited labor, which sustains the decadent and leisurely lifestyle of their human creators, a theme which I further explore in my next chapter on Isaac Asimov's work. While SF writers of the time would raise the stakes of conflict far past simple economic competition, the underlying real-world issues of labor exploitation and the history colonial extraction would often surface in the world-building of the narratives.

The aforementioned "The Silent Destroyer," which W. Harrison found compellingly plausible, is set in a 28th century where "All of the white people have combined to form one nation called Occidenta and the colored nations have united to form Orienta" (103). The world is supposedly on the cusp of world peace when a charismatic leader convinces Orienta to attack Occidenta: "Taking advantage of the desire of the colored races for revenge after the suppressions and extortions of the white

nations during the Steel Age, he has convinced them, by their superior numbers, they can overrun the white race and subjugate them" (106). Again, we have the combination of the central ruler/horde dichotomy, and here, despite the fact that over 700 years have passed, it is somehow the historical animosities from the 19th century that still drive and motivate a desire for revenge. Juve's story is thus very much engaged with anxieties of the time and acknowledges a basis for Eastern aggression. But by situating it so far in the future and constructing a supposedly politically evolved and peaceful united White, Western world, Juve is then able to valorize the Western resistance as a response to petty or irrational grudges. Bent Prout's "The Singing Weapon" similarly directly engages with the grievances of Asia but situates it in a much nearer future of 1945. When the "United Asiatic Nations" first declare war on the United States, the US government is initially unperturbed, rationalizing that US holds "the purse strings: which are the heartstrings of the world" and when the Asian Nations attack anyways, they are characterized as a "puppet [refusing] to obey its string" (182). The Asian Nations are successful in their attack and sue for peace demanding "the same right in your beautiful country as you extend to Europeans" as well as "indemnity of ten million dollars a year for twenty years to defray our war costs and to pay for past indignities suffered by our people through your ridiculous discriminations" (183). The US government shows a sign of relief at the first request as it was not about money but harden their faces when they hear the second. Here the economic anxieties around competition at the time are overtly invoked, and it is clear that losing economic power is the line in the sand that the US will not cross. Even if

they could be persuaded to accept the Asian peoples as equals to White Americans and Europeans, the threat of losing economic advantage prompts an all-out war.

Revenge due to prior injustices and subjugation is also the prominent explanation for conflict between humans and robots in cases where it is not simply taken for granted. In Ray Cummings' "The Exile of Time," humans have developed machinery to the point that they handle almost all the work. They are described as "all but human…—a new race. Inferior to humans, yet similar" and having become too advanced, "these slaves of idle human masters…were upon the verge of revolt" (401). The architect of this revolt, a robot named Tugh, travels back in time to carry out his plan and informs the captive protagonists that "The humans who have made the Robots slaves for them, will become slaves themselves" (406). This idea of the oppressed fighting back is more humorously explored in H.A. Highstone's "Frankenstein Unlimited" where all labor is done by machines controlled by a central brain. The Brain, after working for a while starts agitating for better working conditions: "He firsts demands the day be shortened to 20 hours a week, then asks for Sunday off. Then it moves to 40 hours a week with double time for overtime. Two weeks' vacation with pay. A maximum speed limit. It finally exclaims "Gimme liberty or gimme death! I been squirming under the iron heel of the oppressor long enough" (45). When the humans try to quietly dismantle it, the Brain creates a robot army and declares "War! The machines have gone and declared war on their oppressors" (47). The anxiety underlying these narratives is over a reversal of positions, of the exploiter becoming the exploited. Just as in the Yellow Peril narratives of revenge, there is a tacit acceptance that there is some justified basis for the grievances

that motivate the conflict, though the stakes of the conflict prevent the possibility of any negotiation.

These robot stories also display the tensions between the wealthy and working classes in the West around the questions of cheap labor. While White working-class xenophobia towards immigrant Asian labor was driven by direct competition between the two groups, the wealthy, ruling class were far more open and accepting of cheap Asian labor simply because it would generate more profit. In Rick Flagg's "The Mentanticals" the titular Mentanticals are robots that have taken over almost all forms of human labor, and the narrative notes that this is driven by a minority group of the population: "Man — or rather a section of mankind, a ruling and owning class — had furthered his immediate interests and ultimate doom by placing Mentanticals in every sphere of industrial and transportation activity. Seemingly in need of neither rest nor recreation, they became ideal (and cheap) workers and servants, replacing millions of human toilers, reducing them to idleness and beggary (315). These last lines clearly echo the fears that drove anti-Asian immigration rhetoric and eventual the eventual laws restricting it. The fear was not only centered around how the White working class would be unable to compete with Asian labor, but also how this would lead to negative social repercussions with such a large population unable to find gainful employment.

Nat Schachner and Arthur Leo Zagat's "The Revolt of the Machine" addresses this problem brutally, by simply killing off the majority of the working class. When climate change and rampant disease lead to suffering and hardship for a majority of the world's population, the aristocratic class as they are called in the story, decided to kill off

the majority of the population and replace them with machines. The aristocrats keep a few working-class slaves, who they call 'prolats', to tend to the machines and live their lives in luxury on the back of machine labor. When one of the prolats, Keston, devices an intelligent machine that would be capable of directing the other machines, he presents it to aristocratic council in the hope that he and the rest of the prolats will be freed from their bondage and jobs tending the machines. But when the aristocrats simply order all the prolats to kill themselves, having no more need of their labor, Keston responds in anger by turning off the inhibitors he had placed in his machine, and the machine immediately responds by attempting to kill all the humans. Keston comes to regret his decision and explains to his compatriot why he decides to try and destroy his own machine: "I've given the machines intelligence, created a new race, and they are trying to wipe out humans; conquer the world for themselves. The possibility flashed on me when I was half-mad with rage and disappointment at the callous cruelty of this aristocratic Council. I threw that switch with the thought that it would be far better for all of us to be wiped out. But now, I don't know. After all, they are men, like ourselves, and it hurts to see our own race annihilated" (96). This passage is a fascinating example of 'race' becomes a far more animating concern and point of conflict than class itself. Keston is able to intuitively understand why the robots would revolt but faced with the death of his race of fellow humans, he must necessarily take their side. Just as in the Yellow Peril narratives, the justifications or reasons behind the conflict are buried under a simplistic division of both sides on purely ontological grounds. If the White protagonists in a Yellow Peril story might understand why the Asian villains are aggrieved, it ultimately

does not matter, as they are forced to side with their own race in the face of possible racial extinction. Similarly, Keston here has far more in common with his robot creation and understands why they would respond with violence against the aristocratic council, yet ultimately, he is a human, and feels compelled to side with fellow humans against the non-human antagonists.

What the trope of inevitable conflict betrays is the inherent lack of meaning underlying the causes of these conflicts. Whether it is Asian vs White or Human vs AI, the conflict lines are drawn on biological and ontological grounds that are ineffaceable. One might argue that the predilection for war in these pulp stories are a symptom of consumer and popular desire for such narratives. A tale of peaceful negotiation and settling of differences might not have been desired by readership. But nevertheless, the consistent deployment of the Yellow Peril narrative, and Asia as the source conflict, is symptomatic of the predominant political discourse and racial anxieties of the time. Similarly, while stories about AI and automation may have been attempting to anticipate the outcomes of future technological developments, the repercussions in these narratives are reflective of the actual threats to labor in the West at the time that centered around Asia. These early explorations of what robots and AI might mean for the future of human labor are written during a period where Asian labor was already a central source of anxiety for the Western world, and it is thus unsurprising to see the latter discourse seeping into understandings of the former.

## The Unfeeling Being

The final trope I will consider in this chapter is that of the unfeeling being. A key part of how the technological metaphor is applied to Asians in techno-Orientalist discourse is centered around this understanding of Asians as lacking affect. This is operative in the understanding of Asians workers as being able to withstand harsher conditions and the placidity with which Asians will follow order due to a lack of their own desires and wants. In the Yellow Peril narratives, this lack of feeling is characterized as also leading to a cold cruelty which underpins that lack of capacity to negotiate with the antagonists. Similarly, robot antagonists are unable to be negotiated with because they lack the capacity to be swayed by feeling or concern for others. This notion that the robot would be unable to feel due to being artificially constructed beings is perhaps one of the most an enduring trope of the AI imaginary. An AI will often easily be granted intelligence on par or beyond human capabilities, but the fullness of their subjectivity is denied on the basis of an incapacity for emotion. The ubiquity of this trope can be traced to its prevalence in early science fiction such as the pulps and it has since become so naturalized an understanding of AI subjectivity that any story that grants an AI feelings does so as a subversion of expectations. What a comparative reading of the pulps shows us is how the fear of the AI as an advanced intelligence unfettered by the limitations of human emotion is the same fear that characterizes the Asian villains of Yellow Peril stories.

As Carter Hanson notes of Philip Francis Nowlan's "The Airlords of Han," the extermination of the Asian "Other" was justified in Yellow Peril stories on the back of

their inhumanity which is inherent to their race: “The “alienness” and “inhumanity” of the racial other is presented as unalterable (i.e. they cannot be humanized), so to have even a trace of pity or understanding towards them was not only unnecessary, but dangerous and wrong. (Hanson, 318). In “The Airlords of Han” the villains are characterized as mentally “hard and hellishly efficient; ruthless, relentless and conscienceless.” (1115). This is posited by the protagonists to be due to Han philosophy not accepting the existence of souls: “Its conception embraced nothing but electrons, protons, and molecules, and still was struggling desperately for some shred of evidence that thoughts, will power and consciousness of self were nothing but chemical reactions” (1119). The Hans in the story thus hold a mechanistic worldview which drives their behavior and separates them from the White protagonist. At the end of the story, reflecting on their victory over the Hans, the protagonist, Tony Rogers, hypothesizes that the Hans are a product of an alien race which intermixed with the native Tibetan people over many years resulting in the new race losing “the ‘soul’ parts of their nature entirely and develo[ping] abnormally efficient intellects. Regardless of how they came to be, he reflects: “I do know that there was something inhuman about these Hans… I can vouch for the fact that even in his most friendly and human moments, there was an inhumanity, or perhaps “unhumanity” about him that aroused in me that urge to kill” (1127). Over and beyond their actions in the narrative, there is an inherent inhumanity attributed to the Hans that justifies a natural inclination towards killing them. This notion of a qualitative difference consistently reoccurs in Yellow Peril stories of the time, and it is often tied to biological and genetic differences. We can note this thread in the earlier examined stories

where Asian scientists routinely physically modify their subjects to bring about changes it their behavior.

Russell Hays' "The Purple Plague" offer another good example of this where a white professor is physically changed through surgery to resemble an Asian man in order to infiltrate the enemy, but this change somehow affects his very personality as well: "The change in the front which he presented to the world brought an unconscious change to his point of view, an instinctive reaction to the part he was to play. His smile was slower, more enigmatic. His voice intoned with the lisping click peculiar to the Chinese" (998). Recurringly, what it means to be Asian in these narratives is to be devoid of emotion or affect. When the protagonist of Charles Willard Diffin's "The Long Night", a scientist named Coyne, comes out of 1000 years of hibernation he finds a devasted Earth under the rule of a dictator named Taghor. He discovers that the "Orient" had attacked the world and "men like Taghor, cold, brilliant scientists, cruel and heartless" (144) had destroyed then rebuilt it in their image leaving only scattered bands of white populations. When Coyne comes upon a statue of Taghor, it is described as bearing,

> a cruel face, thin-lipped and rather gaunt. The eyes slanted with a reminder of the orient. The head bulged into a hairless dome. Colors had been forced into the stone; the head was yellow and the face the same. Some master craftsman had carved that face. He had caught every subtle expression; he had shown there the soul of the man. And he had depicted a man as cold, as heartless and as unfeeling as the stone itself (136).

Just like Taghor, the Asian antagonists of these Yellow Peril texts are consistently portrayed as emotionless as stone and steel, akin to inorganic matter and lacking in the soul, vitality and empathy that drives the heroism of the White protagonists.

This characterization also routinely drives the antagonistic conflict with AI villains that are unable to be negotiated or bargained with due to their lack of affect. It is worth noting how the same issues that turn the AI into a threat, are often posited as their benefits at first. For instance, in Abner J. Gelula's "Automaton" the machine is described as never being able to make error because "its reasoning was devoid of emotion and the thoughts were the cold results of cause and effect" (684). As a new race of thinking machines become popularly available the world is thrust into a new age of comfort as machines come to take over much of human labor: "The marvel performed by the genius of the Automaton gave birth to sudden realization to the layman that the value of the Machines lay not only in their strength and dependability in occupations calling for manual labor, but that for sheer, cold calculation they could exceed the abilities of the human mind" (691). At first, the machines show no emotion except "ambition" to increase their own efficiency, but it is this very ambition that leads to their eventual threat as they will not let anything stand in the way of pursuing efficiency. It is only the protagonist's refusal to accept the machines as a boon, and his perception of them as a "cold, cruel, emotionless mechanism" (693) that prevents catastrophe by the end. The move here thus, from potential benefit as a source of labor to threat, echoes the general way real world racial anxieties about Asian labor are transformed into existential threats in Yellow Peril narratives. The threat is displaced from the role Asians or robots may

play in the labor economy into an inherent inhumanity that is at odds with Western civilization.

The editor's note to John Russell Fearn's "The Intelligence Gigantic" provides another typical example of how robots are characterized in this time: "The super human intelligence easily takes the lead over mankind at large, and the monster, as he may be called is virtually without morals and simply embodies pitiless intellectual power making him a dreadful despot" (235). That the editor's note can largely spoil the plot of the text so easily also serves to showcase how expected this turn of events already is in such narratives. When our protagonists come upon the new intelligence its face is described as portraying "nothing more or less than cold, ruthless calculation and absolute barrenness of all sentiment" (242). But the humanoid robot is also described as only differing from humans in three key aspects, "his enormous range of thought, his complete lack of sex, and his absolute absence of —soul!" (240). But this combination of soulless and extreme intelligence is precisely what sustains its threat. When the protagonists are faced with destroying the intelligence at the end of the story, one of them, Nan, reflects that he does not feel any hesitation at killing the machine and wonders if that's unusual, to which his partner Dan replies, "Not at all… The normal human being, like you or me shrinks at the very word 'murder'— we hate to injure or maim anything like ourselves, unless we are fiends— but with a machine we feel no such emotion. The Intelligence— is relatively only machine-made; we can feel no emotions towards it, no more regret than viewings scrap iron on a heap. The machine is truly the dry rot of civilization" (249). Just as in the Yellow Peril narratives, the inhumanity of the machine is what justifies its violent

eradication, and the sense of inevitable conflict preventing any possible pathway to coexistence  The lack of capacity for the machine, or Asians, to display emotion justifies the protagonists own lack of emotional empathy or sympathy, and the protagonists are rarely questioned for their own lack of empathy as tis is always seen as simply a necessary response to the inherent qualities of the antagonists. The naturalized understanding of Asian and AI subjectivity is never in question and are understood in much the same way.

## Conclusion

Depictions of robots, AI, and androids in science fiction often operate under the conceit that these are hypothetical visions of potential futures. This is particularly true the pulp era where editorial notes routinely posited these stories are forewarnings of what is to come with the development of technology. The ubiquity of the tropes associated with robots that cast them as a threat, however, serve to generate a naturalized understanding of AI subjectivity as tending towards certain outcomes that is not necessarily derived from any genuine scientific extrapolation. As my juxtapositions in this chapter suggest, it is worth questioning the very conceit that these are scientific extrapolations and interrogating the process by which authors have constructed the AI 'Other'. The remarkable congruity with which the tropes of the horde and centralized despot, the unfeeling being, and the inevitability of conflict occur in both Yellow Peril and AI stories around this time forces us to consider how these archives are mutually informed. One cannot consider how AI present a threat to labor in the time period without considering how prevalent racial anxieties around Asian labor are to that moment, and how Yellow

Peril stories circulate in the very same pages and magazines that establish our early AI imaginary.

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## Chapter 2. Legal Subjugation: Asimov's Three Laws and Asian Exclusion

While the previous chapter focused on racial discourse and general anti-Asian rhetoric in the late 19th and early 20th centuries, this chapter focuses more closely on state responses to this rhetoric and the issue of Asian immigration, particularly in North America. To this end, I look at long history of laws limiting and eventually outright banning Asian immigration, and the concurrent ways State and Federal governments attempted to separate and distinguish Asian subjects from the body politic. As previous chapters have noted, anti-Asian rhetoric during this time was largely underpinned by the anxiety that Asian labor produced in the West. While federal laws end up codifying arguments against Asian immigration and reinforcing notions of Asians as perpetual aliens, inassimilable to Western democracies, the governmental response was often prompted by a need to address popularist sentiments and growing agitation, and as a necessary move to mollify the power of growing labor movements within the white working-class. On a political level, Asian exclusionary laws were often difficult to justify due to the specificity of the bias, and the geopolitical consequences it had for American relations with Asian countries. On an economic level, business interests were often in favor of the profit margins that cheap Asian labor provided, and the crucial role Asian labor played in the early industrialization and infrastructure projects. Governmental legislative responses thus often tried to balance the costs between leveraging Asian labor productively and separating Asian workers from access to full citizenship and subject hood.

The relationship between the law and subjecthood is also the central theme of Isaac Asimov's robot stories written between the 1930's and 1970's. Asimov's work has, by his own admission, had a profound impact on our social imaginary of AI in particular due to his conceptualization of the Three Laws of Robotics. The three laws are universally programmed rules for robots in his stories. The first law states: "A robot may not injure a human being or, through inaction, allow a human being to come to harm." The second law states: A robot must obey orders given it by human beings except where such orders would conflict with the First Law." The third law states: "A robot must protect its own existence as long as such protection does not conflict with the First or Second Law." (Complete Robot, 182). Much of the plot of Asimov's stories revolve around the nuanced ways these laws interplay with one another and the unique unforeseen problems they generate. Despite this, the laws generally always hold true, serving as a safeguard for humans against robots, and have come to be invoked in critical discussions around AI safety and regulation. In his introduction to *The Complete Robot,* Asimov notes that his laws "are quoted in and out of season, in all sorts of places that have nothing primarily to do with science fiction, even in general quotation references. And people who work in the field of artificial intelligence sometimes take occasions to tell me that thy think the Three Laws will serve as a good guide" (Complete Robot, 2). While this formulation of law occurs in the context of programming rules, legislation is also a pervasive theme in his robot stories as the governments on Earth, and later on colonized planets, find different ways for excluding or accommodating robots within the populace. Many of his early his robot stories center around attempts by the U.S. Robots

and Mechanical Men corporation, which holds the monopoly on advanced robots, to negotiate and circumvent restrictions preventing the widespread use and adoption of robots as a source of labor. The stories thus revolve around the anxiety that robots produce as a means to replace human labor, and the legal methods by which this anxiety is addressed and mollified. Just as my previous chapter established the resonance between fears of the Asian Other, particularly as a laborer, and fear of the AI Other, we can consider how the response of implementing strict laws in the context of robots mirrors a long history of anti-Asian legal doctrine and laws ranging from the Asian Exclusion Act of the late 1800's to the Immigration Act of 1924 designed to protect white interests. The Western, particularly North American, response to Asian labor was precisely to entrench them in a legal system designed to maximize the extraction of labor while simultaneously preventing their capacity to achieve full subjecthood and equality within the nation. The role of the robots in Asimov's robot stories is similarly consistently centered around the benefits their labor can provide juxtaposed against the fear and anxiety they produce in the human population. The Three Laws are what consistently provide the safeguard for humans to be assured that they are dominant and in control. Even though the stories often feature the laws working in complicated ways, with minor loopholes and strange interactions in how they're processed by the robots, the underlying message is always an affirmation that robots are not to be feared precisely because they can be controlled. Both the anxieties robots produce, and the way this is addressed, thus replicate the long history of formal Asian exclusion through the law. This chapter considers how the law functions as a trope of exclusion as a form of population

control to protect the interests of the dominant class. Most of the tropes of the previous chapter such as the unfeeling being, the fear of inevitable conflict, and the idea of horde reoccur in my analysis of Asimov's work, but they are now all contextualized by how humans can guard against these issues specifically through a legal framework of binding rules.

Asimov's work differs from the earlier pulp tradition in that the friction between humans and robots does not generally devolve into the trope of inevitable conflict. But Asimov's work comes out of the late pulp tradition and can be seen as a response to the earlier tropes around robots and AI in the pulps. For example, he credits Eando Binder's short story, "I, Robot" for prompting his early interest in writing about robots as it featured an early example of a sympathetic portrayal of robots. He viewed Binder's story as an example of robots as pathos, in contrast to what Asimov calls the trope of the robot as menace which he identifies as stemming from a human 'Frankenstein complex' which implicitly views robots as dangerous. Despite initially being motivated to depict more sympathetic robots, Asimov in his introduction to the complete robot acknowledges that his stories ultimately were neither about robots as threat nor sympathetic, but simply as industrial labor: "I managed to get the dim vision of a robot as neither Menace nor Pathos and began to think of robots as industrial products built by matter-of-fact engineers. They were built with safety features, so they weren't Menaces and they were fashioned for certain jobs so that no Pathos was necessarily involved" (Complete Robot, 2). In this way, Asimov's work refashions the AI imaginary around human labor and laborers that dominate the pulp era, and he boldly notes that this changed the characteristics of robot

stories in not only "[his] own stories, but just about everybody's" (Complete Robot, 2). His work is thus an important influence on the development of the AI imaginary and how we conceive human-AI relationships. Asimov's answer to how to protect humanity is the Three Laws of Robotics. Robots are often treated with a great deal more sympathy in Asimov's work than they previously were, but the focus was routinely oriented on how exactly to create a situation where robots and humans could coexist without humans having to fear robots. Thus, while there are stories of robots and humans as companions, and even humans showing genuine care and empathy for robots, these are always underlined by the centrality of the Three Laws of Robotics as the guardrails that allow for these interactions, as well as the larger systems of legal protections implemented by Earth ruling factions to protect human labor. It is telling that one of the only stories that features robots as an existential threat to the US and the West is from one of Asimov's only robot stories that does not include the Three Laws: "Lets Get Together"

The story is set 100 years after the Cold War, where an uneasy stalemate has emerged between the world's two competing powers. The world is divided neatly into East and West so much so that the two sides are just referred to as 'We' and 'Them'. Though it is Russia that is the centralized antagonist it is clear that as in the Pulp era, there's a split between East and West where Asia is entirely non-western. The story's inciting incident is around how the East has potentially developed robots that are capable of invading the US. The US government believes 10 robots are in the US waiting to converge to blow up a bomb that consists of separate parts each of them carry. Part of the issue in the plot is that US government doesn't know how to tell the robots apart from

humans. The robots are supposedly based on existing people who have been mentally copied. They narrow the possibilities down by noting that "They couldn't be Orientals who could be too easy to spot, so they would have to be Eastern European" (Complete Robot, 173), which calls to mind the differential ways White European immigrants were able and allowed to assimilate into the early US population, even as Asian immigrants were specifically targeted for exclusion. It is noteworthy that one of Asimov's only robot stories that does not feature the Three Laws, most resembles the earlier pulp tradition's tropes and the role of robot as existential threat and reflects the racialized understanding of AI as threat that I examine in the previous chapter. It is also one of the only Asimov robot stories that engages with differences within existing human populations and nations, as the Us vs Them distinction later comes to be wholly inscribed within the Human/Robot dichotomy. In Asimov's early stories in the chronology of his robot stories, Earth is already on its way to global cooperation and by the time of his later novels, the geopolitical divide is between Earth and the population of colonized planets in the galaxy referred to as Spacers. The parallels between the treatment of Asimov's robots and anti-Asian bigotry aren't as overt as in the pulp era, but we can identify in the worldbuilding of his robot stories, an approach to population control, exploitation, and exclusion through the central mechanism of legal structures that is familiar in the context of the long history of Asian exclusion laws in North America.

**Asian Exclusion**

Before turning to look at Asimov's work more deeply, it is worth briefly elucidating the chronology of Asian exclusions laws, and the key arguments that

underpin their logic. Significant Asian immigration to the US began primarily with Chinese workers that arrived after the Burlingame Treaty of 1868 between China and the US. The treaty established a framework for trade relations between the two countries, and importantly, established free emigration and protections for Chinese immigrants to the US and vice versa. The treaty did not however, provide a pathway to naturalization for Chinese immigrants, as the Naturalization Law of 1790 explicitly reserved naturalized citizenship for white immigrants and the barriers against naturalization and citizenship would become a key element of Asian exclusion in the subsequent years, first for the Chinese and subsequently for all Asian immigrants. The US response to Asian immigration in the late 19th and early 20th century, centered largely around balancing the exploitation of cheap Asian labor against developing barriers around their entry into the body politic. Lisa Lowe notes that Asian American racial formation "emerged in relation to the modern nation-state's attempt to resolve the contradictions of economic and political imperatives through laws that exclude Asian immigrant laborers" and thus "Asians entered along the economic axis, while the state simultaneously excluded Asians along racial and citizenship lines… [and] from membership in the national culture" (45). This develops as a series of legislative interventions that culminate in virtually a complete exclusion of Asian immigrants by the 1920's.

The initial influx of Chinese workers was not enthusiastically received in all quarters and quickly prompted a number of political tensions around the impact of their labor. The biggest differences in reception were between the white working-class, that saw the Chinese immigrants as competition and businessmen and industrialists that

sought to leverage cheap Chinese labor. Lucy E. Salyer notes that "Industrialists saw in the Chinese a plentiful source of intelligent, inexpensive labor" and the "lure of a lucrative trade in the Orient persuaded other Americans that it made practical commercial sense to maintain good relations with China and her people" (8-9). But while the early 1870's saw great industrial growth due in part to Chinese labor, the US also faced widespread unemployment and a severe economic depression which led to white working-class labor groups and unions to direct their ire increasingly towards Chinese immigrants who were the most widespread Asian immigrants at the time. "Industrialists' enthusiastic welcome of Chinese laborers increased American labor's antipathy toward the Chinese" and workers were not mollified by claims that Chinese workers as "birds of passage" would return to the mainland or that the Chinese taking over lower-skilled jobs would elevate white workers to higher positions (Salyer 10). Chinese labor thus provided a dual role of being cheap labor, as well as a site of displacement for white working-class frustration that precluded a broader labor movement and solidarity. Aside from tensions between classes, friction also manifested on the political level between state and federal laws and jurisdiction. Anti-Asian sentiment begin firstly in the states, such as California, which saw the largest Chinese populations, and when early local discriminatory laws were challenged on the federal level, the Asian exclusion movement began agitating for federal intervention on the issue. The first federal intervention on Asian immigration was the Page Act of 1875 which prevented the immigration of East Asian women, as well as immigrants considered to be indentured or forced laborers. While this did not at first curtail Chinese immigrant labor, it drastically altered the gender balance of immigrants,

and effectively prevented the prospects for long-term assimilation and development of families for Chinese workers, ensuring that they would be more likely to return to China after a period of working. It also limited the possibility of children for these immigrants, who unlike their parents, would be eligible for US citizenships by birth. This, however, did benefit those with economic interests in Asian labor, as the relegation of the reproduction of labor to China meant that "fewer social costs in the form of education, housing, health care, and so on, would be incurred by the state and employer for this particular group of immigrant workers" (Bonacich 64). The act did not however, lead to a softening of anti-Asian sentiment and in 1880 the Angell Treaty was signed modifying the terms of the initial Burlingame treaty.

The treaty extended a ban of Asian immigrants to unskilled laborers and the initial temporary ban was reinforced with the Chinese Exclusion Act of 1882 which extended the ban a further 10 years and prevented all Chinese immigration with the exceptions of merchants, teachers, students, travelers, and diplomats. (Salyer 43). The Geary Act in the 1892 extended the ban for another 10 years and added requirements for all existing Chinese immigrants to carry a resident permit at all times and barred them from bearing witness in courts. These initial laws against Chinese immigration would come to be foundational in US immigration law and the development of the US relations towards populations considered undesirable. Erika Lee argues that,

> Explicit in the arguments for Chinese exclusion were several elements that would become the foundation of American gatekeeping ideology: racializing Chinese immigrants as permanently alien, threatening, and inferior on the basis of their

> race, culture, labor, and aberrant gender relations; containing the danger they represented by limiting economic and geographical mobility as well as barring them from naturalized citizenship through local, state, and federal laws and action; and lastly, protecting the nation from both further immigrant incursions and dangerous immigrants already in the United States by using the power of the state to legalize the modes and processes of exclusion, restriction, surveillance, and deportation (39).

Thus, while the laws first applied to Chinese immigrants, they become the "framework, model, and set of tools to be used to understand and further racialize other threatening, excludable, and undesirable aliens" (Salyer 43). As Chinese immigration began to be limited, business interests largely responded by turning to other Asian countries for cheap labor, such as Japan, India, and the Philippines. But the development of Chinese Exclusion largely set the stage for similar patterns to develop in relations with these new Asian immigrant populations. Edna Bonanich summaries the general pattern of early Asian immigrant groups as arriving first in smaller numbers, then facing antagonism form the local population, including city and state governments, which while initially ignored on a federal level, would eventually prompt the federal government to intervene with legislation barring immigration from those Asian countries (86). Initial Chinese exclusion was thus ultimately extended by the Immigration Acts of 1917 and 1924, to exclude immigrants from all Asian countries except the Philippines which was a US colony at the time. These laws in sum solidified notions of Asians as inherently alien and unassimilable to US culture and served to solidify the idea of the US as a specifically

white nation cohered not by shared status as immigrants, by through appeals to racial similarities. While colonial and imperialistic legacies meant the US could not displace existing Black and Indigenous populations, Asian exclusion laws ensured that white supremacy would not be challenged by a new population of 'undesirable' Asian immigrants.

**Laws in Asimov's Robot Stories**

While Asimov's robot stories center around the interplay of the Three Laws of Robotics, this was usually against the backdrop of strict governmental regulations against the usage and proliferation of robots on Earth. Early stories often explored the various ways the US Robot and Mechanical Men (USRMM) corporation attempted to change public opinion and lobby political forces to allow for more usage of robots on Earth. The stories thus echo a similar framework of working-class and social antagonisms coming up against business and capitalist interests and how these tensions were resolved on the legislative level. Just as Asian exclusion laws were largely developed as a response to social unrest from the white working-class, in Asimov's work it is human fear and anxiety about the effect of robot labor that drives much of worldbuilding. In the earliest stories in the timelines of Asimov robot stories, robots are effectively banned on Earth outside of licensed factories of the USRMM corporation and the timeline of the universe in some ways traces the reduction of these limitations and greater allowance of robots into human society as a labor. The robots thus begin against the backdrop of full exclusion, before working their way into society. But this process is fundamentally underpinned by the centrality of the Three Laws of Robotics. The arguments and attempts

to ease human laws against robots rest on a justification of human superiority through a hardcoding of this distinction into every robot. This distinction is mentally encoded as well as physically distinguished with great pains taken to delineate robots from humans despite their general humanoid appearance (with the exception of the character R. Daneel Olivaw, whose unique status as indistinguishable from humans I explore further in the chapter). Much of the attempts to integrate robots into society thus rely on an emphasis on their complete incapacity to assimilate to human society as subjects, and their permanent subjugation to human interests as largely a labor force and little more.

Asimov's characters frequently refer to the Frankenstein complex which remains a bane for the USRMM corporation's attempts to penetrate the economy with their robots and which is routinely dismissed by their directors as irrational. In "Satisfaction Guaranteed" one of the directors relates that "Until now, US Robots has confined its manufacturing activity to industrial models for use in places where human labor is impractical… But we want to invade the city and the home. To do so, we must get the ordinary man and woman to accept these robots without fear" (Complete Robot, 308). To this end they provide the wife of one of the corporation's workers with a robot butler. Realizing the effectiveness of the robot, the woman asks it what would happen to human workers if more robots like it were developed, to which the robot responds "There is work of much greater importance they can be put to in the world, once they are freed of drudgery. After all, Mrs Belmont, things like myself can be manufactured. But nothing yet can imitate the creativity and versatility of a human brain, like yours" (Complete Robot, 311). This is one of the central arguments provided by business interests that were

pro-Asian labor immigration, though it was rejected by white working-class labor groups that were unconvinced "that the status and occupations of white workers would be elevated as Chinese entered lower-scale occupations" (Salyer 10). One of the leading proponents of the Chinese Exclusion Act, Californian Senator John F. Miller argued for the bill by noting that Chinese laborers were "by long training and heredity automatic engines of flesh and blood; they are patient, stolid, unemotional, and persistent, with such a marvelous frame and digestive apparatus that they can dispense with the comforts of shelter and subsist on the refuse of other men, and grow fat on less than half the food necessary to sustain life in the Anglo-Saxon" (qtd in Salyer 15). The allowance of Chinese workers would not, he argued, benefit the white working class in anyway but rather "only American manufacturers and capitalists would benefit from the admission of "servile labor" and the "debasement" of white labor" (Salyer 15). The failure of US business theoretical arguments about how Chinese and Asian labor would lift up the white worker was largely due to its failure in practice, and business interests were quite self-aware of these arguments as capitalistic self-serving propaganda. Ronald Takaki for notes that,

> As a yellow proletariat, it was argued, the Chinese would not only provide opportunities for whites to enter the ranks of the bourgeoisie; they would also be used to suppress white workers and their unions. Chinese workers were viewed as "well-behaved" and "obedient"; they belonged to "no striking organization" As an industrial reserve army, transported to land from America, they could be used to weigh down the "active labour-army" during periods of average prosperity, and

> hold the "pretensions" of white labor in check during periods of over-production and "paroxysm." Their value to capital in the war against the labor movement in America was widely recognized" (Iron Cages, 239).

While business interests tried to sell Asian immigrant labor as beneficial to white Americans, they also understood it as a key form of control that would allow them to quash labor solidarity and protect their own profits.

With the USRMM, our access into the inner workings of the corporation betray their largely single-minded goals of economic profit and how their rhetoric around robot labor was similarly tailored to those ends rather than any genuine concern for social repercussions. In the short story "Liar" for example, the plot revolves around the accidental development of a robot, RB34, that has some sort of telepathy and is thus able to read the emotions and thoughts of humans and even carry-on mental conversations with them. While on face value this would seem to be a monumental scientific breakthrough, as well as a potentially existentially concerning development around the potential powers of robots, the primary concern of the directors who discover the robot's powers are about how it would affect the business. The robopsychologist Dr Susan Calvin, who's one of the characters that most consistently appears in Asimov's stories, notes that, "Ever since the Interplanetary Code was modified to allow robot models to be tested in the plants before being shipped out to space, anti-robot propaganda has increased. If any word leaks out about a robot being able to read minds before we can announce complete control of the phenomenon, pretty effective capital could be made out of it" (Complete Robot, 287). The concern here is primarily centered on the fact that the

existence of such a robot would prompt fear in the general populace and hinder the corporations attempts to mollify societal anti-robot fears that prevent widespread usage of their robots. There is also the implication through the reference of 'complete control of the phenomenon' that the development of such a robot could be an economic opportunity if the company was able to successfully bring it under its control and leverage the new possibilities for labor such a robot could provide. Unlike earlier pulps where the enhanced abilities of robots, whether physical or mental, prompted generalized anxiety on the part of the human characters, here there's a split between the general population that retains that anxiety, and the corporate and business interests that are only interested in the robots in so far as they are sources of labor. The response the directors of USRMM have towards the robots is underpinned by the absolute conviction they have in the infallibility of the Three Laws. In this story, the plot largely revolves around how RB34 lies to the various directors, telling them what they want to hear instead of the truth, because the first law compels it to protect them from harm which now includes the emotional harm it is able to detect through its telepathy.

This is a reoccurring plot element of almost all of Asimov's robot stories that feature the Three Laws. The single-minded focus on robots as sources of labor from the USRMM corporation, and the dismissal of general public's 'Frankenstein complex' as irrational, is consistently affirmed through how the Three Laws never fail. Robot may work in unexpected ways, or be complicatedly manipulated by humans in the stories, but ultimately, they are never a genuine threat. They can exist primarily as objects of labor because of the way they are bound through an internalized legal system that irrevocably

defines them as lesser than human, and which prevents the possibility they may usurp or replace humanity. We see how important these laws are for the usage of robots as labor clearly in the short story "Lenny." The story begins with a description of humans touring one of the USRMM robot manufacturing factories. The justification for this is that "it allowed people to see robots at close quarters and counter their almost instinctive fear of the mechanical objects through increased familiarity. (323). One of the corporation's workers complains that the effort seemed like a waste of time because of the existence of the Three Laws: "You'd think that by now every human being on Earth would know that the Three Laws represented a perfect safeguard; that robots are simply not dangerous" (323). But the crux of this story is precisely the possibility that a robot that could break the Three Laws exists. The titular Lenny is created when one of the visitors to the factory inputs a string of gibberish into a computer terminal which results in a robot that is unable to communicate, do its intended job or coherently follow orders and is characterized as akin to a child. At first the issue is in how such a robot is useless as a source of labor. Dr. Calvin wants to keep the robot to study and analyze it and is faced with resistance from the other directors one of whom argues that "if there's one object completely and abysmally useless it's a robot without a job it can perform" (327). We can consider in this regard that part of the function of preventing Asian laborers from citizen rights, as well as the laws that served to curtail and limit Asian immigrants from establishing families was to prevent the attendant welfare that they could receive. Asian immigrant laborers were meant to perform their job here and nothing else, valued only as a source of pure labor. Most of the pro-business arguments for Asian immigration

centered around this understanding of Asian laborers as temporary workers, that would leave after working for a number of years and that they were not a threat to other national and social resources.

Lenny as a robot that cannot perform labor is deemed useless and disposable, and it is only the intervention of Dr. Calvin's scientific curiosity that prevents his immediate destruction. Lenny however becomes a greater issue than simply being a robot without a purpose when it accidentally breaks the arm of one of the workers in the factory, prompting an anxiety that this represented a failure of the Three Laws. Again, the response from company directors is centered around the business implications of this rather than any existential fear: "Our entire position depends on the fact that First Law is rigidly observed by all robots of all types. If the public should hear, and they will hear, that there was an exception, even one exception, we might be forced to close down altogether. Our only chance of survival would be to announce at once that the robot involved had been destroyed, explain the circumstances, and hope that the public can be convinced that it will never happen again" (331). It is less important that a robot could break the first law than the repercussions this possibility would have for the business. Lenny turns out to be able to 'break' the first law, due simply to it being akin to a child and thus unaware of its own strength and not yet cognizant enough to engage with laws like other robots which are all built with an immediate adult level comprehension of language and enough knowledge for their intended tasks. Rather than destroy Lenny as a failed experiment, the story again turns to the repercussions this unintended consequence could have for their business interests, as Dr. Calvin argues that a robot akin to a child

was one that could learn and thus one that would be potentially capable of learning how to do a multitude of tasks rather than simply one job: "Now I ask you— what's the use of a robot designed for only one job?… A human being so designed would be sub-human. A robot so designed is sub-robotic" (Complete Robot, 334). Though neither Lenny nor the potential for exploring how a childlike robot might navigate the Three Laws would reappear in Asimov's work, later robots, particularly during the 'Spacer' era set much further in the future, would come to be developed with a far greater range of capabilities and fulfill the promise of a multi-talented robot that Calvin foresees in this instance.

This emphasis on the potential for the robot as an all-purpose laborer rather than one simply oriented towards a specific task echoes the way Asian laborers were distinguished from Black laborers as more intelligent and more competent and thus suitable for a greater variety of labor tasks:

> In terms of industrial labor, the Chinese were thought to have more ability than blacks. The introduction of machinery was rendering black labor obsolete, it was claimed, for what was required in an industrial mode of production was a "much higher standard of intelligence." When placed in charge of labor-saving machines, the Chinese were found to be quick learners and competent operators. Even the qualities that were thought to distinguish the Chinese from blacks served as a basis for racial and class domination. They justified the use of Chinese as servants and a factory proletariat" (Iron Cages, 221).

Robots are often distinguished in Asimov's later work by virtue of their capacity to perform a wide variety of tasks as opposed to machines suitable only for the specific

tasks they are created for. Asimov's robot stories are invested in thinking through not just what an AI might provide, but specifically how a humanoid robot would affect society. We see this, for example, with the very name of the company US Robots and Mechanical Men. In "Galley Slave," the USRMM attempts to sell a robot proofreader to Northwestern University and the story covers a court case arising from the damage the proofreader does to the reputation of one Professor Ninheimmer, when it supposedly changes key arguments of Ninheimmer's book in the proofreading stage. In the story, the head of the company, Alfred Lanning, goes out of his way to argue about the efficacy of a humanoid robot, which would be able to be adaptable to a variety of human tasks and use already preexisting human technologies, as opposed to a non-humanoid machine dedicated so specific tasks. When one of the professor's objects that they could simply build a computer suitable for proofreading tasks, the director Alfred Lanning argues that,

> The hallmark of the positronic robot is its flexibility. It can do a number of jobs. It is designed like a man so that it can use all the tools and machines that have, after all, been designed to be used by a man. It can talk to you and you can talk to it. You can actually reason with it up to a point. Compared to even a simple robot, an ordinary computer with a non-positronic brain is only a heavy adding machine (Complete Robot, 348).

The efficacy of the robot was in its capacity not only to perform labor, but also to manipulate existing human tools and machinery due to its humanoid construction. The title of the story calls to mind the legacies of enslavement, and indeed, as my first chapter notes, the racial allegory of AI is intimately tied with the history of enslavement and the

role of Black labor. But the argument presented here to distinguish robot labor from non-humanoid machines labor is resonant with arguments that distinguished Asian laborers from Black laborers as specifically capable of using and manipulating new industrial revolution machines which were increasingly integral parts of the industry of the time.

While contemporary AI technologies are not particularly oriented around replicating the physical form of the human, their development consistently prompts public questions around how their capacity to do what were previously considered human-exclusive tasks forces to us to reconsider what it means to be human. But this human cost is routinely tied to loaded understandings of ideas such as 'reason' and 'creativity.' The robots in Asimov's work are both beneficial in their expanded capabilities from simple machines but limited by their lack of creative ingenuity and docile servitude, in similar ways that characterized how Asian workers at this time were seen as useful in being more competent labor than Black workers, but not a threat to White superiority. Lanning argues in favor of the proofreading robot by noting "Robotic labor has so far been used only to relieve physical drudgery. Isn't there such a thing as mental drudgery?" (Complete Robot, 343). The tasks the robots are meant to do are now expanded past purely physical into mental labor, but nevertheless this is limited to tasks that are simple but laborious, and the point is to free up the professors at the university to devote their time and energy to purely creative and intelligent pursuits.

The story also returns again to the tension between popular prejudice against robots and the USRMM's attempts to circumvent it for their business goals. The placement of a robot at the university is because the restrictive laws against robots on

Earth could potentially be safely navigated if the robot remained in the university which was privately owned, and thus not subject to public laws, and if it was limited strictly for academic and research purposes. Here it's worth noting how the exceptions to the law for academic purposes is similar to how one of the primary exceptions to the Chinese Exclusion Act were teachers and students. The company's goal in placing the robot at the university was to eventually generate interest from other universities who would want their own robots, and thus to erode public distrust of robots slowly through their adoption in an academic setting. Alfred Lanning sells this as not only a business decision but one that is supposedly meant to be a benefit to society at large: "It is our firm belief that the use of robots on Earth itself would mean a better life for all eventually, even if a certain amount of economic dislocation resulted at first. The labor union are naturally against us, but surely we may expect cooperation from the large universities" (Complete Robot, 349). And one of the professors who votes to accept the use of the robot claims that he does so on the basis of accepting this argument: "I was impressed by Dr. Lanning's feeling that it was our duty as members of the world's intellectual leadership to allow robotics to help Man in the solution of his problems" (Complete Robot, 349). Both of these claims are however, presented in the context of the court case and the narrative provides asides between the directors of the USRMM which cynically note that their own goals were not as altruistic, and that similarly the professors of Northwestern were largely sold on the robot by how cheap and effective it was at the job rather than any purported boon to broader society.

**The Court of Law**

"Galley Slave" also brings our attention to the inadmissibility of robot testimony in a court of law. The lawyer for the USRMM notes that "a robot is incompetent as a witness" and that they could not rely on getting the truth out from it as any sort of proof. The robot is eventually permitted by the judge to be brought into the courtroom, but its presence in the plot serves only to prompt the plaintiff, Professor Ninheimmer to eventually confess his fraud. What constitutes acceptable testimony in a court of law was also a key aspect of Asian Exclusion. After the establishment of the Geary Act, Chinese immigrants needed to register and obtain proof of being legally allowed to reside in the United States. The requirements for this included a white witness and court deportation proceedings similarly required a white witness for the defendant (Salyer, 49-51). The fact that robots could not provide testimony, despite their perfect recall seems to have far more to do with disbarring any claims for robot subjecthood rather than unreliability, and similarly the discriminatory laws against the weight of Asian legal testimony was part and parcel of the broader attempts to permanently distinguish Asians as aliens ineligible for citizenship. While this story featured an early model of robot, and thus one that was arguably too fallible to be a witness, this inability of robots to provide testimony and their lack of recognition within the court of law remains a plot point throughout the history of Asimov's robot stories. In Asimov's later robot novels featuring human detective Elijah Bailey and robot Daneel Olivaw for example, it is taken for granted that nothing a robot reports or states to have seen or heard could be admissible in a legal context even if they are an important aspect of how Bailey solves his cases, largely because of how the Three

Laws could be manipulated by the owners of robots. There's an explicit mistrust of robots as capable of providing truthful testimony in a legal proceeding.

Legal standings and the courtroom also form the primary backdrop of one of Asimov's most famous stories, "The Bicentennial Man." Asimov notes that this late story returns to the idea of robots of pathos, and the narrative centers around the affirmation of the robot Andrew Martin as sufficiently human despite his robot origins. While the text affirms this in part through the close relations he has with the human characters, who come to see him as part of the family, the ultimate affirmation of this and the climax of the story is through the legal recognition of his humanity. Andrew begins his existence as a household robot for the Martin family, serving as a sort of valet, butler and caretaker for the family's children including the youngest, Amanda, whom he refers to as Little Miss. At Amanda's request he carves her a pendant out of wood and the resulting design so impresses his owner Gerald Martin, that he tasks Andrew with learning all sorts of carpentry and furniture design, and Andrew henceforth works exclusively creating his own artisanal furniture and wooden art pieces. While the family first gives these away freely, Amanda insists that Andrew should be compensated for his work, and this begins the first of many legal challenges that Andrew's existence prompts. Gerald opens a bank account in Andrew's name and visits his lawyers to enquire if this would be legally sound. The lawyers suggest opening a trust in his name to insulate Andrew further from challenges and suggests simply waiting for anyone to bring a suit challenging the validity and offers to represent Andrew if such a suit was presented.

As the years pass, Andrew builds up a sizeable fortune and he eventually approaches Gerald with a request. Andrew first thanks him for not simply keeping all the money that Andrew received from his work noting that the law would have allowed Gerald to do so. Gerald simply responds that: "The law won't persuade me to do wrong, Andrew" (Complete Robot, 572). Andrew, however, wants something more than just the money, and offers his entire wealth to buy his freedom. Gerald is upset at the idea at first and argues that Andrew, "doesn't know what freedom is. He's a robot" (Complete Robot, 573). But his daughter pushes back on this by noting that Andrew reacts to various thing just as a human does, and though she does not know what he might feel inside, neither does she know what her father feels inside: "If someone else's reactions are like your own, what more can you ask for?" (573). But Gerald notes that "The law won't take that attitude" (573). The only way he could actually free Andrew would be through doing it legally but "if it gets into the courts, you not only won't get your freedom, but the law will take official cognizance of your money" (573). The story thus emphasizes that over and beyond any social recognition of Andrew's humanity, what determines subjecthood and who gets to be human, is official legal recognition. No matter how much he's treated and seen as a human, Andrew isn't satisfied until it is legally recognized. "To be a human being *de facto* is not enough. I want not only to be treated as one, but to be legally identified as one. I want to be a human being *de jure*" (599). Andrew's desire to buy his freedom undoubtedly calls to mind the history of enslavement in and much of Andrew's narrative can be productively read against fights for Black liberation in America. But a key distinguishing factor in Asian exclusion is the centrality of citizenship. Asians were

by no means the only social groups ostracized and discriminated against socially and politically, but until 1952, they remained the only immigrants barred explicitly from naturalization.

As Ronald Takaki argues, "Though immigrants from countries like Ireland and Italy experienced discrimination and nativist reactions, they nonetheless could become citizens of the United States. Citizenship is a prerequisite for suffrage—political power essential for groups to defend and advance their rights and interests" (Strangers, 14). Andrew's quest for recognition of his humanity is similarly a quest for political suffrage and recognition under the law. When a suit is brought to oppose Andrew's freedom the attorney simply argues that "The word 'freedom' had no meaning when applied to a robot. Only a human being could be free" (Complete Robot, 574). This argument that robots could not understand freedom conceptually was a prominent line of attack in support of Asian exclusion laws. For example, an article in the New York Times at the outset of Chinese immigration warned that the Chinese were a threat to the republic because they had "no knowledge or appreciation of free institution or constitutional liberty, with heathenish souls and heathenish propensities, whose character, and habits, and modes of thought are firmly fixed by the consolidating influences of ages upon ages" (qtd in Iron Cages, 216). Asian immigrants were considered to be so fundamentally alien in thought and character that they were incapable of understanding freedom and thus should be denied that consideration. Andrew ultimately gets his freedom recognized by arguing that "only someone who wishes for freedom can be free" prompting the judge to rule in his favor noting that "there is no right to deny freedom to any object with a mind

advanced enough to grasp the concept and desire the state" (Complete Robot, 575). Yet this affirmation is consistently undermined by existence of the Three Laws which continue to structure Andrew's existence. Amanda argues for his freedom by noting that even if he was legally recognized, it would change nothing in practice around his behavior because he would still be bound by the Three Laws to serve her family. And even after he's granted 'freedom' it is still with the caveat that Gerald Martin would be ultimately responsible for Andrew, making him more akin to a ward than a full subject.

Andrew's freedom is further challenged when he attempts to visit a library by himself for the first time and is accosted by two youths who recognizing him as a robot, harass him and are on the verge of ordering him to take himself apart when he is saved by the arrival of Amanda's son, George. The event prompts new legal challenges from Andrew and the Martin family who now attempt to get laws passed that would offer basic rights against harm for robots. Andrew is very involved in this process, and he comes to the realization that as long as humans were afraid of robots "the courts and the legislatures [were] not likely to work hard on behalf of robots. Should there not be something done about public opinion?" (584). The close relationship between public perception and legislation also drove much of Asian exclusion which arguably was a political response to social unrest and anxieties. As Lucy Salyer notes, after the passing of the initial Asian exclusion laws, there was still a lot displeasure on the part of the populace that felt these laws were not strictly enforced by administrative officials such as the Collector of Customs who determined whether immigrants would be allowed into the country, and "they voiced their dissatisfaction to congressional representatives and to the

president, who, anxious to calm political waters might pressure the collector to bring it local force into line… the watchfulness of the public encouraged the collector and his staff to take a restrictive, enforcement-minded approach to their work" (Salyer, 39). Popular anti-Asian sentiment would in fact become a key political issue over the course of the late 19th and early 20th century, forcing political representatives to respond to it regardless of their own particular feelings on the topic. Salyer further notes that "One important legacy of the Geary Act struggle was the tendency of later administrations to guard themselves against public criticism by emphasizing a more restrictive approach to Chinese exclusion" (58). Legislation both in the robot context and in Asian exclusion was a manifestation of societal animosity. The power of exclusionary rhetoric was toothless without the backing of the law, but those very laws were themselves only outcomes of societal pressures which characterizes how Asian exclusion laws were often contradictory to spirit of the law and American ideals rather than coherent or consistent applications of legal doctrines towards Asian immigrants.

After Andrew wins his initial protections, he continues addressing the issue of societal animosity towards robots by changing his physical attributes. Up to this point, he has had a humanoid but distinctly metallic robot body and though he's begun wearing human clothes, it is not enough to prevent him being immediately recognized as a robot. He thus compels the USRMM to construct him an android body with skin indistinguishable from humans. This brings to the forefront the importance of visual characteristics within the context of assimilation and acceptance and provides another crucial point of allegorical resonance between Andrew's narrative and those of Asian

immigrants. As Ronald Takaki notes, while white immigrants could leave behind their cultural and ethnic pasts in favor of adopting white American customs and culture in order to assimilate, Asians had "qualities they could not change or hide — the shape of their eyes, the color of their hair, the complexion of their skin" (Strangers, 13). They were thus subject to not only ethnocentrism and cultural prejudice but also racism. Asian immigrants "were judged not by the content of their character but by their complexion" (Strangers 13). The central barrier towards acceptance of Asian immigrants was the immutably of their physical characteristics which marked them visually as Other and prevented arguments for their capacity to integrate into American culture from taking hold.

The importance of visual distinction is a key aspect of Asimov's robot, that almost exclusively visually distinguished from humans by their obvious metallic bodies. While it is the Three Laws that ensure robots are subservient and subjugated to the will of humans, this is crucially underpinned by the need to visually mark this distinction between human and robot. Andrew is the only robot within Asimov's robot stories to have a visual appearance indistinguishable from humans until Daneel Olivaw hundreds of years later, and Olivaw himself remains unique in part because of how much anxiety his existence prompts in humans. Without the visual distinction, there is a fear that the barrier between human and robot, and thus Self and Other, would collapse even despite the continued existence of the Three Laws strictly governing a robot's behavior. Andrew recognizes that his final push for recognition is dependent not only on legal or philosophical arguments in favor of his humanity, but also the necessity that he looks

human, understanding that his capacity for assimilation is defined by how much he resembles humanity. He goes as far as to spend years developing prosthetics and organic replacements for his body including even developing a way for him to 'eat' organic substances. Eventually, he decides that he will only be satisfied if he's legally declared to not just be free, but to be a human being.

At this point in this history of his world, the Earth is united under a world government, and he resolves himself to petition the World Legislature to define him officially as a human being. It is here that we find the most overt and explicit parallel in Asimov's work between the anti-robot sentiment and anti-Asian exclusion. Andrew meets with the chairman of the Science and Technology Committee who is a woman from the 'East Asian region' named Chee Li-Hsing. Her very first words to Andrew in the text are: "I sympathize with your wish for full human rights. There have been times in history when segments of the human population fought for full human rights" (Complete Robot, 601). Asimov makes clear here the analogy between Andrew's quest for legal recognition and a long history such attempts for racialized subjects. Asian exclusion laws prompted a number of infamous Supreme Court cases around the petitioning of citizenship recognition. In *Ozawa v. United States (1922),* Takao Ozawa, a Japanese immigrant to the US, petitioned the court to recognize his right for citizenship. His petition was first rejected at the District Court for the Territory of Hawaii, and the court noted that "in every way eminently qualified under the statutes to become an American citizen, except one — he was not white" (Stranger Shores, 208). When petitioning his cases in front of the supreme court, Ozawa relied on arguments based around his

assimilation, that he spoke English, went to the American church, sent his children to an American school and that he was an honest, industrious 'true' American at heart. (Stranger Shores, 208). But the court ultimately ruled that since he was not Caucasian, he was simply not eligible for citizenship. When Andrew decides to petition for his recognition, he argues that "I have the shape of a human being and organs equivalent to those of a human being… I have contributed artistically, literarily, and scientifically to human culture as much as any human being now alive. What more can one ask?" (Complete Robot, 600). But as his lawyer already simply noted, human prejudice held that "however much [he] may be like a human being, [he was] *not* a human being" (Complete Robot, 599). The differences Andrew and other humans, as with Ozawa and white Americans rested solely only legal definitions that permanently cast them as unamenable to subjecthood. After the Ozawa case, the rights of Indian immigrants for citizenship were determined in *United States v. Bhagat Thind Singh (1923).* Singh's arguments rested on the previous ruling's definition of the Japanese as not Caucasian. Singh argued that as an upper-caste Hindu, he should be considered Caucasian as his lineage was supposedly untainted by intermixing with lower-caste Indians who were non-Caucasian. Singh's arguments rested partly on drawing a link between US racial discrimination and his own casteism, but the courts rejected his petition on the grounds that even if he was Caucasian, he was still not white. The court argued for a 'common sense' understanding of the race which precluded acceptance of Singh's anthropological and linguistic arguments. (Stranger Shores, 299). In doing so it reinforced the law as a tool for racial discrimination over and beyond any appeals towards a rational application

of objective principals. As they approach the final vote over Andrew's status as human being, Chee Li-Hsing notes that they had "changed all that are amenable to reason. The rest—the majority—cannot be moved from their emotional antipathies." Andrew argues that "emotional antipathy" should not be a valid reason for voting, and Hsing simply notes that "they don't advance emotional antipathy as their reason" (Complete Robot, 604). Similar to the Supreme Court cases, the supposed objectivity and rational application of the law is simply a mask for deeper emotional antipathies centered around maintain strict barriers between 'Us' and 'Them' whether it be robot and humans or Asians and whites.

By the end of the story, Andrew ultimately does achieve recognition of his humanity when he takes the drastic step of deliberately replacing the parts of himself that made him long-lived if not functionally immortal. He thus gives up the final remaining aspect of his existence that marks him as distinct from humans in order to fully assimilate. Moved by his acceptance of human mortality, Andrew is recognized belatedly as a full human subject, just as Asian immigrants would ultimately achieve the right to citizenship after World War 2. At the end of his life, he finds himself surrounded by none of his family who have long since passed away, but he recognizes Li-Hsing who holds his hand in solidarity as he himself passes on. Andrew's story unfortunately does not lead to any widespread change in how robots are treated in his world, and indeed, by the time of Asimov's Spacer novels set many hundreds of years in the future, his story is suggested to be a mere myth. The Spacer novels establish a different context for human-robot

relations, and I turn to them and how the racial analogy develops for the end of this chapter.

**Spacer Novels**

Asimov's Spacer novels are set over 2000 years after the end of "Bicentennial Man", far enough in the future that much of the history of the early robot stories are seen as more myth than fact. The Earth is entirely consolidated under a centralized government and the primary political divisions are between Earth and the 50 human colonized worlds referred to as Spacer colonies. Though Earth is still independent, the Spacers are the dominant powers due in large part to their acceptance of and reliance on robot labor. Earth, while itself somewhat reliant on robot labor for food and manufacturing, is still highly wary and resistant to further use of robots and most of the robots it does rely on are largely sequestered outside of the massive subterranean cities that house most of the human population. The Spacers are situated on the opposite end of the spectrum, with robots vastly outnumbering their human counterparts. This is largely due to the inherent necessity of robots in the colonization process of other planets which has created a sharp distinction in how humans and Spacers relate to robots. The novels explore the tensions between these two relationships to robots through the protagonists, Elijah Bailey, a detective from Earth, and Daneel Olivaw, a robot who's assigned to help him with his first case and who is an android indistinguishable physically from other humans.

For the humans of Earth, the anxiety about robots is still centered largely on economic anxiety and their capacity to replace human labor. The governmental and

economic structure of this future Earth is far more centralized and communal, and one's status, food and housing allowances, and access to various amenities, is strictly prescribed by classifications tied to one's job. The system exacerbates the dangers of robot labor as there is already fierce competition for what jobs are available. The first book of the series, *The Caves of Steel*, opens immediately with this dilemma as Bailey talks to one of his colleagues about the new robot assistant R. Sammy who's recently replaced one of the younger workers in their department. Bailey's colleague relates that he saw the displaced worker recently: "He was looking for his job back. Or any job in the Department. The poor kid's desperate, but what could I tell him. R. Sammy's doing his job and that's all. The kid has to work a delivery tread on the yeast farms now" (Caves of Steel, 2). Robot labor does not lead to other opportunities for the humans of this world but comes directly at the expense of their own livelihoods. The replaced humans are either forced into even more menial labor or joblessness altogether. When Elijah Bailey is assigned to investigate the death of a Spacer ambassador to Earth, he's initially reluctant and questions why it was placed under the jurisdiction of their department and is ultimately convinced to take on the case when the police commissioner stresses that their own jobs would all be on the line if he failed to solve the case: "R. Sammy is just the beginning. He runs errands. Others can patrol the expressways… There are R's that can do your work and mine. We can be declassified. Don't think differently. And at our age, to hit the labor pool…" (Caves of Steel, 10). Even workers higher up on the totem pole are thus not immune to the threat of robotic replacements.

Outside of the law enforcement context, we find that this a widespread fear that has led to significant social unrest including rioting in recent years. On his way back home after first meeting his partner Daneel Olivaw, the two partners run into a commotion happening outside a shoe store because a customer was upset that the store was using robot assistants. Bailey is wary of the potential for another riot or major incident and reflects that, "Reasons for anti-robot rioting certainly existed. Men who found themselves with the prospect of the desperate minimum involved in declassification, after half a lifetime of effort, could not decide cold-bloodedly that individual robots were not to blame. Individual robots could at last be struck at. One could not strike at something called 'governmental policy' or at a slogan like 'Higher production with robot labour' (Caves of Steel, 27). The situation thus resembles the conditions that led to social antipathy against Asian immigrants in the late 19th and early 20th centuries. While the effect of Asian immigration was only one part of the economic calculus, Asian's themselves became a displaced site of economic anxiety for white workers. As Lucy Salyer argues

> The new nativism corresponded with concern over the economic and social effects of industrialization. Americans in the 1880s witnessed tremendous changes in their lives as their society became ever more industrial and urban. Immigrants were integral to the industrialization process. They provided both the labor and the market key to economic growth and expansion, but they also bore the brunt of many Americans' anxieties and dissatisfactions with the new economic order. While the United States expanded and increased its overall

> wealth during the late nineteenth century, the society also became increasingly polarized as the disparity between rich and poor grew, and class lines sharpened (24).

As Asimov's work recognizes, the robots are merely a displaced site of anxiety due to the materiality of their presence which makes them a target for dissatisfaction in a way that the more abstract political and economic forces that have led to their existence are not. The woman causing the scene at the shoe store is identified in the text by Bailey through her dress and speech patterns to be working-class and she's upset that she is not attended to by a human. She complains that the robots "steal jobs from men. That's why the government always protects them. They work for nothin' and on account o' that, families gotta live out in the barracks and eat raw yeast mush. Decent hard-working families. We'd smash up all the ro-bots, if I was boss. I tell you that!" (Caves of Steel, 29). Robot and AI narratives as a metaphor for class disparities is a recognized theme in SF, but considering class without the intersection of race precludes one from noticing the specificity of the metaphor in a class context. Racial capitalism relies on leveraging competition between different groups to both exploit the worker and redirect class antagonisms internally. The fears of the human population of Earth in these stories are believable because they recapitulate the same sorts of fears that Asian immigration provoked.

The Spacer colonies are aware of the issues of Earth's relationship with robots and in many ways, they become an apotheosis of the appeal that Asian workers held for the bourgeoise as a permanent underclass that could free whites for other pursuits. The

balance between robots and humans on the Spacer worlds is maintained in part by strict population control. Aside from the Three Laws for the robots themselves, the Spacer worlds have developed legislation to ensure that robot labor only benefits a select few and avoid the issues of Earth by essentially creating populations of only wealthy citizenry underpinned by a robot working class, a situation that is not possible on Earth precisely because of an already existing human working class that is hostile to possible robot encroachment of their jobs. Bailey notes that the Spacer colonies were "the culmination of robot economy" (Caves of Steel, 20). The Spacers "living in luxury on their underpopulated robot-ridden worlds out in space" were "cooly determined to keep the comfort that grew out of the emptiness of their worlds and for that purpose they kept their birth rate down and immigrants from teeming out of Earth" (Caves of Steel, 21). Ronald Takaki argues that part of the draw of Asian workers for American business interests was that "As an "industrial reserve army" composed of migrant and caste labor, the Chinese would be used to service the industrial needs of American capitalism without threatening the racial homogeneity of America's citizenry" (Iron Cages, 236). The robots of the Spacer worlds similarly serve as a permanent underclass of workers that are entirely subservient and devoted to their human creators and provided no threat to the homogeneity of the people of these worlds. While Asian Exclusion laws did ultimately hamper business interests due to the complete ban on immigration, early laws were often beneficial in part because it ensured that Asian immigrants, as aliens ineligible for citizenship, were never due the same sorts of protections, rights or renumeration as their American counterparts. Indeed, the passing of laws completely restricting Asian

immigration can be seen as a recognition that capitalist market forces would never itself lead to a decline in immigration of Asian populations so long as it was economically fruitful and viable to exploit international wealth disparities to employ cheaper Asian labor. In Asimov's second Robot novel, *The Naked Sun*, a sociologist on Solaria, a planet where robots most outnumber humans at a ratio of 20000:1 suggests that "The robot-human ratio in any economy that has accepted robot labour tends continuously to increase despite any laws that are passed to prevent it" (Naked Sun, 134) eventually culminating in a situation like Solaria's where humans are the only leisured class. He argues that Solaria is truly the culmination of society:

> Civilizations have always been pyramidal in structure. As one climbs towards the apex of the social edifice, there is increased leisure and increasing opportunity to pursue happiness. As one climbs, one finds also fewer and fewer people to enjoy this more and more. Invariably, there is a preponderance of the disposed. And remember this, no matter how well off the bottom layers of the pyramid might be on an absolute scale, they are always disposed in comparison with the apex… Now here on Solaria, for the first time, the apex of the pyramid stands alone. In the place of the disposed are the robots" (128).

Robots thus offer the promise of a dispossessed that are not a threat to the social fabric by virtue of being a permanently excluded from the body politic. This again, is guaranteed by the faith the Spacers have in the Three Laws of robotics. In comparing Earth and the Spacer colonies we can understand that Earth has legislation preventing robots from being as integrated into society, not truly because of the fear of those robots as

dangerous, even if that is part of how those robot anxiety circulates in the society, but mostly due to their economic threat. In contrast, the Spacers develop laws to prevent the possibility of their economic threat by eliminating the class for which they would be a threat and are secure in the knowledge that the Three Laws permanently bind the robots to their will.

Due to the security of the Three Laws, the Spacer populations are more comfortable around robots and view Earth's mistrust of them as irrational. Despite this, their faith in the Three Laws is again largely reinforced through the visual distinctions of the robots. Daneel Olivaw is the first android created in the colonies to be indistinguishable from humans. He, however, remains one of the only ones. His creator Dr. Fastolfe, only creates two humaniform robots as he terms them and refuses to make any other. When one of the protagonists, Gladia, is questioned in the fourth book about the failure of humanoid robots to catch on, she simply replies that, "what it amounts to is that the public didn't want them. A robot that looks like a man competes with a man and one that looks like a woman competes with a woman—and entirely too closely for comfort. Aurorans didn't want the competition" (23). She is not entirely correct, but the core of her insight holds true. Fastolfe does not want to create anymore humaniform robots because his chief scientific rival, one Dr. Amadiro, is intent on using these robots to colonize new worlds in the mirror image of their Spacer world, Aurora. Fastolfe is worried about what he sees as the stagnation and decay of Spacer society and wants to see new human colonies established by Earth's population instead. For Amadiro, these new robots are a way of creating new colonized worlds specifically suited to human

habitation. Unlike regular robots which would build a world only suited for their own specific forms and not for the "the more delicate and flexible minds and bodies of human beings" (Robots of Dawn, 111), a group of humaniform robots in building a world that would suit themselves would necessarily build a world that would suit humans. Amadiro is not content with simply making humaniform robots, his goal is to create robots that are distinguished by sex and even capable of reproduction so as to have a generational spread and thus resemble human societies as closely as possible. Elijah Bailey immediately notes issues with this plan, namely that "if these robots form a society so human that they cannot be differentiate from human, then, when true human beings arrive, might it not be that the robots would resent the immigrants and try to keep them off?" (Robots of Dawn, 287-288). Amadiro believes that again the Three Laws again would bind them to human will and prevent any usurping of those worlds. But Bailey points out the deeper issue with Amadiro's plan over and beyond whether it would succeed in practice: Bailey doesn't believe that the Auroran people would accept a society of robots that so closely resembled their own. He notes that even though Aurorans make pretensions of having no distinctions between humans and robots, in practice that was clearly not the case, and "human beings—even Aurorans—will always be eager to make distinctions and to preserve their own humanity." Thus, Aurorans, when faced with the choice between humaniform robot colonization and Earth colonization would "prefer a human Galactic Empire to a robotic one" (Robots of Dawn, 288). Robots are not a threat to the Spacers only in so far as they are prevented from ever passing for human and thus gaining the potential to assimilate into human society. The status of the Spacer colonies is dependent

on the subordination of robots to humans that enshrine humans as the top of the hierarchy. An autonomous robot society so closely resembling humans both visually and culturally serves to threaten that hierarchy by collapsing the binary between human and robot.

On a societal level, robots do not move towards true equality with humans or freedom from subjugation, with the anomalous exception of Andrew Martin from "Bicentennial Man", but we do see how being able to pass for human is the first step into human acceptance. Elijah Bailey is initially wary and upset at having to work with Daneel Olivaw, and he consistently reflects on how uncanny the robot was to him. Indeed, Bailey doesn't even recognize Olivaw as a robot upon first meeting and is unsettled by this. But through his multiple encounters with Olivaw, he grows to develop a deep abiding friendship with the robot and at the end of his life, Bailey calls for Olivaw specifically to visit him on his deathbed so he can say goodbye to his friend. Olivaw is not further advanced than other comparable robots, and his differences are precisely skin-deep, in his capacity to pass for human. It is this capacity to pass and assimilate that allows Bailey to grow comfortable with Olivaw and accept him and it hints at the crucial centrality of distinguishing the robots on the physical level so as to prevent their potential assimilation. The robots of Asimov's universe are inscribed as Other chiefly through the Three Laws that proscribe their behavior, and the legislation that strictly govern their movements and existence. But this inscription is reinforced on the visual level through the deliberate construction of the robots as humanoid but non-human. Asian exclusion is similarly centrally tied to legislation marking the Asian immigrant as Other, but this

process was distinguished from the treatment of other European immigrant populations in part due to racial characteristics that precluded Asian's from assimilating as white. While Asimov's work only somewhat cursorily comments on this issue of passing for human, and the anxieties this would produce, my next chapter turns to this theme more fully as it manifests in the work of Philip K. Dick.

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## Chapter 3. Do Androids Dream of Racialization?: Techno-Orientalism and Androids in the Work of Philip K. Dick

In this chapter, I turn to another canonical figure in science fiction, Philip K. Dick, to analyze his depictions of androids and the influence it's had on the AI imaginary. The tropes of exclusion I consider in this chapter are mimicry and empathy. Assertions that androids are only capable of simulation or incapable of understanding and displaying human emotion are longstanding tropes within the AI imaginary and are similarly prevalent in colonial and Orientalist discourse. Isolating these tropes allows us to look beyond surface level comparisons to consider the processes of boundary making that sustain dehumanization in both discourses. Here I find it useful again to turn to Mark Jerng's notion of racial worldmaking. Jerng uses the term racial worldmaking to refer to the ways in which we are shaped and cultured to notice race outside of simple visual markers. The success of these practices for Jerng relies "not so much in the conventional sense of discriminating against specific persons; rather, it consists in getting us to embed race into our expectations for how the world operates" (2). It is this process of embedding "race into our expectations for how the world operates" that I want to explore in the construction of the android figure in popular culture as the nominally deracinated android body obscures the processes of racial worldmaking that work in tandem with SF world building.

The ways in which the racial worldmaking of AI narratives are represented through already existing languages of Orientalist dehumanization is strongly visible in the work of Philip K. Dick, an author whose oeuvre has had a considerable impact on the

AI imaginary. I thus turn to a comparative reading of two of his novels to explicate this relationship more clearly. His 1968 novel, *Do Androids Dream of Electric Sheep?* follows bounty hunter Rick Deckard, who's tasked with hunting and killing fugitive androids but comes to question his role and the boundaries between human and non-human. But aside from his writing on androids, Dick is arguably most famous for his 1962 novel, *The Man in the High Castle*. The novel is an alternate history narrative envisioning a world where the Axis powers won World War II instead of the Allies and which follows several characters living in an occupied America split between the Japanese and Germans. Though the Nazis are the primary antagonists of the novel, the novel spends little time with German characters, and it is the Japanese characters that largely provide the foil of the Other to the Americans in the novel. Making a close comparison between the two novels by Dick allows us to illustrate how both the androids and the Asian characters are determined by similar tropes of exclusion that mark them as irreconcilable with the Western hegemonic criteria of determining 'humanness' and its attendant rights. The parallels between how these two figures are represented in Dick's work show the importance of the portrayal of the Japanese as antecedents to his image of the android and serve as a valuable case study of a broader pattern. By understanding the depictions of the Japanese characters in *High Castle*, we can trace the way race manifests in *Do Androids Dream* on the level of atmosphere and world building.

**Techno-Orientalism**

Considering the processes of racial worldmaking also extends our understanding of development of techno-orientalist discourse. The term techno-Orientalism was

introduced by Kevin Robins and David Morley in *Spaces of Identity*, expanding from Edward Said's groundbreaking *Orientalism,* which first established the binary cultural framework by which the West defines itself against a constructed Eastern Other[21]. Unlike earlier orientalist discourses about Japan, the authors note a shift in the 1980's towards a distinctly technological analogy borne out of a direct response to the increasing economic and technological prowess of Japan and the threat it posed to America's growing global hegemonic power. They argue that in the Western unconscious, "Japan has come to exist as the figure of empty and dehumanized technological power. It represents the alienated and dystopian image of capitalist progress. This provokes both resentment and envy. The Japanese are unfeeling aliens; they are cyborgs and replicants" (170). Films such as *Do Android's Dream*'s adaptation, *Blade Runner* and 90's cyberpunk novels such as William Gibson's, *Neuromancer* did much to popularize this association of capitalist dystopia with Asian aesthetics within science fiction.

In a recent edited collection on techno-orientalism, Betsy Huang, Greta A. Niu and David Roh note that this process of techno-Orientalizing similarly occurs in China and India a decade or so after the Japanese, as the two nations increasingly become significant sources of labor, production, and service industries for the West: "These Asian nations serves as the scapegoats for corporate decisions to move service and manufacturing jobs abroad and bear the brunt of the resulting xenophobic antipathies" (4). They note as well that the techno-orientalist anxieties projected onto these countries

[1] Said's original analysis was limited in scope to the Near East or what is now commonly referred to as the Middle East, but he notes that Orientalism as a discourse included all parts of Asia, including the Far East and South Asia. Scholars have since broadened the analysis begun in *Orientalism* to interrogate how Orientalist discourse apprehends other sites of Asia, including Said himself in his later work, *Culture and Imperialism*.

can often differ in focus. Japan is often seen more as a threat for their capacity to create new competing technology, while China and India are sites *of* technology as bases of production. Yet what all these techno-orientalist fears share is a central technologically inflected economic anxiety. Thus, it is important to note that the modern inflections of techno-orientalism are but revisions and reimaginings of much older orientalist discourse. Stephen Sohn in the context of cyberpunk argues that rather than locating the 1980's and 1990's as generating new forms anti-Asian rhetoric, we should consider how the 'yellow peril' imaginary has long focused on the dangers that the East represents to the West's economic and technologically superiority (Sohn, 7). Betsy Huang similarly argues that

> Time and again in the Western futuristic imaginary, the Orient is the cognitive estrangement device of choice. The emphasis is perpetually on Asia as technology rather than as designers and wielders of it. In American science fiction, the technologizing of Asia began with premodern orientalist figurations before they took the form of robots, androids, and other types of machinery. (39)

Understanding the racial worldmaking involved in the AI imaginary thus not only allows us to consider how Orientalism is contiguous with the AI imaginary, but also how techno-Orientalism offer new terms of reference for East-West relations without revising the underlying tropes of exclusion that have long dehumanized Asians.

To compare Orientalist stereotypes against the deployment of androids in literature is not to suggest that the latter is drawn wholesale from the former. It is not to suggest that Dick or other science fiction authors deliberately modeled androids on the Oriental figure, but rather that the deployment of both figures relied on a shared

understanding of what the Other was in relation to the Western subject. To say that the android replicates Orientalist ideology does not suppose these are simply unconscious or subconsciously racist constructions. What I'm suggesting is that in searching to describe the android, the Other writ large, science fiction writers necessarily are oriented towards specific ideas of what the Other is.

It is necessary to trace this process of constructing the other as science fiction—through its appeals to non-realist fictional constructions, and imaginary "Others" such as the alien or the robot—is often able to posit seemingly universal themes while obscuring the cultural, social and political discourses with which it is engaging. is. As has been testified to in countless other spaces, science fiction has for very long been a predominantly homogenous field, made up of white, male European and American authors. As Isiah Lavender notes, "Science fiction often talks about race by not talking about race, makes real aliens, has hidden race dialogues. Even though it is a literature that talks a lot about underclasses or oppressed classes, it does so from a privileged if somewhat generic white space" (7). And this brings with it a very specific shared orientation towards the world when it comes to the AI imaginary and specific understandings of what it means to be human. Jennifer Rhee argues that the "co-constitutive conversation between human and dehumanized is foregrounded in the figure of the humanoid robot, which is at once not human and, through explicit anthropomorphic practices, modeled on the human. The robot, in simultaneously gesturing to the human and the non-human, thus underscores the dehumanizing exclusions that constitute conceptions of the human" (4). But these racist, sexist, and

otherwise essentialist notions of differences are reproduced outside of the referents that would easily mark them so. For example, androids in cinema are often white like their human counterparts thus moving site of comparison towards purely comparisons of interiority, while putting forth these differences of interiority as naturalized outcomes of android subjectivity. In a study of the representation of whiteness, Richard Dyer notes that "there is no more powerful position than that of being 'just' human. The claim to power is the claim to speak for the commonality of humanity. Raced people can't do that — they can only speak for their race" (2). While Dyer is speaking in the context of our real-world experiences of race, it's worth reflecting on the idea that "non-raced people can," or are presumed to be able to speak for the commonality of humanity. Following this train of thought, would robots/AI/androids thus represent a race of their own? Or would they be this non-raced people that can speak broadly for they do not represent the interest of race. Are androids racialized? Some may argue that embodied AI may represent an entirely different species. Yet in our representations of them, they are most often reflections of humanity in some form. Thus, the relationship between android subjectivity and racialization is complex.

Isiah Lavender III proposes that we begin to unravel this relationship through the notion of Otherhood mapping, "Otherhood mapping is a descriptive representation of various science fictions or parts of various science fictions. For every element of one racial set, there is a unique element of another set available for mapping" (9). Thus, the android, far from being neutral or unmarked, maps on to our popular understandings of what it means to be "Other." For Lavender:

> otherhood helps us to locate racial issues in a specific text; in the body of work by one writer in relation to other writers; in other eras of time; and in other mediums and traditions of sf such as film, television, comics, and music, as well as various themes and icons of the genre. Likewise, otherhood establishes the mapping of a single racial/ethnic element, or set of elements, and its potential distortions. Indeed, otherhood aids in perceiving the shapes and textures of meaning in sf and determines how, why, and to what extent they are bound together in an always shifting racial formation. (Lavender 10).

Lavender's focus is on the specific relationship between the black/white binary in SF, but he notes that it's certainly not the only racial or ethnic binary that exists in SF. I propose to extend this notion of otherhood and otherhood mapping to consider the place of Asians in the history of SF. This mapping may not provide a simple one-to-one analogy between the android and the "Other" but by beginning to trace the correspondences between our AI imaginary and Orientalist discourse, we can develop a framework for apprehending and analyzing the long lineage of techno-orientalism.

**Historical Information & Context of Post WWII Period**

Before we compare the novels, it is worth considering the cultural and political context in which these novels developed. The period post-WWII leading up to the Vietnam war was a crucial time period in the development of science fiction. In the wake of Hiroshima and Nagasaki, and the other attendant horrors of WWII borne out of modern warfare technology, much of the techno-optimism that had characterized earlier science fiction was no longer as tenable. The mid-1960's marked the beginning of what

would be come to known as the New Wave of science fiction, but this development was dependent on the shifts in global political, economic and social power that came subsequent to WWII, particularly in response to global decolonization movements. This was of course, the start of the Cold War. America during this time began to emerge out of its previous isolationism to stake its claim as a world power. Though the Cold War was nominally a battle between two Western superpowers, the sites of conflict of the Cold War were globally distributed and often, Asian countries such as Korea and Vietnam became the sites of proxy wars between the global superpowers. The Soviet Union itself was a heterogenous construct of nation-states, many of which sit in the liminal geographic boundaries between Asia and Europe. The areas east of Constantinople have long been held in suspicion in the West, and thus, the Cold War revived older forms of Orientalist discourse while generating new terms and referents in growing relation to Asia's increasing importance. Asia was thus at the forefront of American political and cultural thought during an important period of transition in science fiction as a genre.

America's relationship with Asia during this period reached an unprecedented scale with thousands of Americans, particularly military personnel, flowing into China, Japan, Korea, and across Southeast Asia. There was also the reverse flow of Asian refugees from the Korean War, Vietnam War and other sites of conflict in Asia migrating to America due to displacement. This new relationship to the East brought with it a pressing need to develop greater understanding of Asian countries, beginning with Japan. American imperialism and colonialism in the Philippines notwithstanding, America's general isolationism left it little prepared to engage with and understand the Japanese that

they had been at war with, and the government turned to intellectuals and academics to develop this understanding. This include influential anthropologist Ruth Benedict, who's book, *The Sword and the Chrysanthemum,* was commissioned by the U.S. Office of War Information specifically to be able to better understand Japanese behavior. Eventually published immediately after the war, it had a lasting influence on American foreign policy towards Japan, particularly its treatment of Emperor Hirohito and during America's 6-year occupation of Japan. It also popularized the notion of the shame-guilt culture dichotomy wherein America was posited to base its cultural responses on an internally motivated guilt as opposed to the countries like Japan where an externally motivated sense of shame was the driving force. Benedict's book is a marker of the turn away from biologically rooted understandings of race and towards an anthropological understanding of a multiplicity of cultures based on geography and social mores, though it consistently posited homogenous differences between these cultures rather than any notion of peoples and nations being heterogenous in themselves. It is also specifically an index of the American understanding of Japan in this crucial timeframe.

A crucial limitation of Benedict's book is the simple fact that she did not have any access to Japan itself due to the war. Her anthropological sketch thus relied on prior anthropological and cultural treatises written about Japan, as well as a limited number of cultural informants made up of Japanese who were now living in America. Despite the limitation the book offered what was supposedly a comprehensive, unbiased view of the Japanese psyche and way of life. From the very opening, a line is drawn marking the vast

gulf of understanding and difference between Japan and the US from an American perspective:

> The Japanese were the most alien enemy the United States had ever fought in an all-out struggle. In no other war with a major foe had it been necessary to take into account such exceedingly different habits of acting and thinking. Like Czarist Russia before us in 1905, we were fighting a nation fully armed and trained which did not belong to the Western cultural tradition. Conventions of war which Western nations had come to accept as facts of human nature obviously did not exist for the Japanese. It made the war in the Pacific more than a series of landings on island beaches, more than an unsurpassed problem of logistics. It made it a major problem in the nature of the enemy. We had to understand their behavior in order to cope with it (12).

As we will see later in Deckard's approach to hunting the androids in *Do Androids Dream,* this sense of needing to understand the nature of the enemy also undergirds much of AI fiction where conflict is borne in the disjunction between 'facts of human nature' and the 'nature of the enemy'. This positing of oppositional separation is not simply Benedict's analysis post facto her research, it was common enough of an idea for her to note that, "No one is unaware of the deep-rooted cultural differences between the United States and Japan. We have even a folklore about the Japanese which says that whatever we do they do the opposite." For Benedict, such a view of extreme difference is only an issue if one maintains "that these differences are so fantastic that it is impossible to understand such people" and that these differences are a positive thing for the

anthropologist since, "there is nothing that has made him pay such sharp attention to institutions and peoples as the fact that they were phenomenally strange" (18). The term 'phenomenally' here can be registered here on two levels. One on hand it further reinforces the notion extreme difference between the West and Japan. On the other it also suggests that this difference is located on the level of sensory experience, that while we may posit an ontological or even political similarity, the phenomenological experience of the Other is so disorienting as to undermine claims of sameness or brotherhood.

In her emphasis of the cultural differences in nations and societies, Benedict rejects biologically rooted racism while nonetheless insisting on upholding a framework of difference against the ideas of universal humanism that were gaining popularity at the time, registering the competing frameworks for understanding the human race that are borne out during the post WWII period. Christina Klein argues that, though it is the Truman doctrine[2] that is often upheld as the definitive framework of the Cold War, there was a significant push within America for an internationalist cooperative framework that rejected racial differences and hierarchies (Klein, 22-23). Initiatives such as the People-to-People program developed by the Eisenhower administration endeavored to educate the American populace about the wider world, and particularly Asia and especially Asian countries that were allies during the Cold War. It also included education reform and changes that radically reshaped the context in which an entire generation was raised. But this desire for international cooperation was itself sharply delineated along political lines.

[2] The Truman doctrine is commonly seen as the start of the Cold War period and refers to American foreign policy during this time that began with President Harry S. Truman's speech to congress on March 12th, 1947 where he pledged American intervention for countries that might fall under communist rule, beginning with Greek and Turkish uprisings at the time.

American aid and cooperation were dependent on whether a country was communist or anti-communist. We see this split first occur in the fallout of the Chinese civil war and the victory of Mao Zedong's Communist party over the Republic of China. In short order, a great number of American public intellectuals and leftist who were experts on China were denied government funding or even accused of treasonous activities and charged under the heightened security paranoia of McCarthy era. It is important to consider that only a few scant years prior during World War 2, China was an important ally for the Allied forces and was contrasted positively against the Japanese wartime enemy. The ideological place of China then rapidly changes as China rises as a geopolitical power and threat. Specific understandings of individual Asian countries from the American point-of-view were thus also quickly revised depending on America's political interests at the time, undermining attempts for anything other than a homogenized understanding of Asia in general.

There is a great tension thus in Orientalist discourse during this time period where Asians were alternatingly part of a greater international brotherhood and deserving of cooperation and aid, or vicious, unfeeling, communists hell-bent on destroying the democratic world. Asian-American studies has long noted the contradictory nature of "Yellow Peril" and "Model Minority" discourse in America and it is arguably in this time period that these models began to condition the American response to Asia. And though the promise of a global egalitarianism may have held sway during the 50's and 60's, it was also continually undercut by America's inability to protect the rights and equality of its own minority citizens, and its own racists and exclusionary policies. The Universal

Declaration of Human Rights passed by the United Nations in 1948 had already signaled the downturn of explicit scientific racism and eugenicist ideologies that had marked the early 19th century[3], but this was not often reflected in the treatment of minorities in the US. The USSR frequently made use of this failure in its own propaganda against the US. Indeed, much of the impetus behind wanting to educate the American populace on global issues was the government's realization that American attitudes and racism abroad was having a significant impact on America's political goals and attempts to combat communism.[4] This would in many ways come to a head in the abject failure of the Vietnam war in the 1970s which spelled the end of the illusion of American benevolence on a global stage.

**Mimicry as a Trope of Exclusion**

One of the reasons that Dick's work is a valuable site of comparison between anti-Asian rhetoric and ideas about androids is because he wrote during this time when America's gaze was firmly set on parts of Asia. The post-WWII era leading up to the Vietnam war was also a crucial period in the development of science fiction. In the wake of Hiroshima and Nagasaki, and the other attendant horrors of WWII that were borne out of modern warfare technology, much of the techno-optimism that had characterized earlier science fiction was no longer as tenable. The mid-1960's marked the beginning of what would be come to known as the New Wave of science fiction, but this development was dependent on the shifts in global political, economic, and social power that came

[3] This often had more to do with a rejection of Nazi ideology and not necessarily meaningful rejections of racism. As Ruth Benedict's anthropology exemplifies, the turn away from biological racism was often towards notions of cultural essentialism.

[4] For more on America's political attempts to mitigate these issues, see Christina Klein's *Cold War Orientalism*

after WWII, particularly in response to global decolonization movements. Asia was thus at the forefront of American political and cultural thought during an important period of transition in science fiction as a genre. Dick himself claims to have written the entirety of *Man in the High Castle* using the *I Ching*, expressing great admiration for Taoism.

It is important to note that the Japanese in *High Castle* are not positioned as the technologically superior nation. In fact, it is the Germans that are said to have the most advanced technology, including the capacity for space travel, which the Japanese in the novel are far from achieving. There is not, therefore, a simple correlation between the Japanese and technology and a comparative reading here, then, must look beyond surface level correspondences to consider the deeper structures of positionality binding Orientalist discourse and the AI imaginary that construct both Asians and androids against specific understandings of normative humanness. The novel itself is heterogenous in its depiction of the Japanese from several viewpoints, including the first-person viewpoint of Nobusuke Tagomi who is arguably the most heroic of the novel's protagonists. I have chosen to focus my analysis on the character of Robert Childan, an unsympathetic character who in the novel is depicted as overtly racist, and white supremacist through his admiration for Nazi Germany as well as his often-contradictory thoughts on the Japanese. Childan is explicitly a model of Orientalist discourse of the time, and an example of the incoherence of Orientalism, especially when he is placed in a situation of subordination to the Japanese as the ruling power. Indeed, the juxtaposition between Tagomi's heroism and overt rejection of antisemitism and bigotry contrasts directly with Childan's small-minded pettiness and racial animosity. Childan is an

interesting point of comparison precisely because Dick clearly means him to be a critique of xenophobia and racism. But as we will see, his perceptions of the Japanese are most closely mirrored by Deckard own views on androids. Childan's Orientalist justifications for the differences between himself and the Japanese will be recapitulated by Deckard as the basis for differences between humans and androids in *Do Androids Dream.* The function of the Japanese characters in *High Castle* juxtaposed alongside that of the androids in *Do Androids Dream* thus allows us a compelling site of comparison.

As an alternate history, *Man in the High Castle* inverts the power structure of the post WWII period, and the Japanese thus function as a simulacrum of the United States' own real-world imperialism. The bulk of the narrative is situated in the PSA, the Western portion of the United States that is now under Japanese rule. The novel begins with the perspective of Robert Childan, the owner of an antique store specializing in the sale of historical pre-war American goods that have become popular collectors' items among the Japanese. It is through Childan's interactions with Japanese characters that we primarily gain insight into the everyday social reality of this new world order. Though much of this new world has changed—the streets of this San Francisco are filled with pedicabs instead of taxis—more often it is the Japanese that have taken up Western influences. Cassie Carter notes in an examination of *High Castle*: "In essence, Japanese occupation of the [Pacific States of America] produces results historically associated with Western colonization of Third World countries, and, as Childan's dealings with the Kasouras and Tagomi illustrate, the PSA represents an America 'occupied and 'oppressed' by a simulation of itself'" (333). This paradox manifests in Childan's alternatingly deferential

and dismissive views of the Japanese, a paradox which is mirrored in Deckard's own ambivalent views on androids who he considers to be capable of great things and potentially superior to humans in some ways but crucially excluded from personhood due to inherent deficiencies.

The novel begins with his excitement at the possibility of visiting the home of Betty and Paul Kasoura, a young Japanese couple, in order to sell them his wares. He finds himself nervous that he might not know the "proper act and utterance at each moment" and might "disgrace himself, like an animal" (5). Yet, as he travels soon after to visit with a long-time client, Mr. Tagomi, he waxes lyrical about Germany and says that the Japanese are, "let's face it—Orientals. Yellow people. We Whites have to bow to them because they hold power" (25). Childan's internal conflict comes to a head when he finally visits the Kasouras at their home. The Kasouras live in a quintessentially American neighborhood, with "small Japanese children out playing… their football or baseball" and "parked Cadillacs" on the streets (108). His presence is noticed by the Japanese living there as he is a foreigner upon their home. But what he's intruding upon is also the very obvious Japanese appropriation of the American dream. The meal that Betty Kasoura prepares is what we understand to be a stereotypical, authentic American meal of T-bone steak, salad, and baked potatoes. She remarks that "Maxim utters: no one can err in serving steak to newfound guest first time" (110). The idea is American, but its awkwardly phrased delivery places it as a Japanese translation of the idea. The dinner itself is served with Western cutlery, "Early American bone napkin rings… sterling silver America… the cups and saucer Royal Albert" (115). When Childan expresses

appreciation for Betty's meal, she thanks him and responds that she was "[d]oing [her] best to be authentic" (118). But it is precisely this attempt to be authentic, which Childan considers to be a failure, that ultimately drives Childan's contempt:

> You cook the native foods to perfection, Robert Childan thought. What they say is true: your powers of imitation are immense. Apple pie, Coca-Cola, stroll after the movie, Glenn Miller… you could paste together out of tin and rice paper a complete artificial America. Rice-paper Mom in the kitchen, rice-paper Dad reading the newspaper. Rice-paper pup at his feet. Everything. (118)

The Japanese here are mapped onto the artificial, their 'rice-paper' versions of everything implying an ersatz version of a real America. Here we can note that the notion of the Japanese as ersatz resembles common arguments against android subjectivity both in *Do Androids Dream* and the greater AI imaginary where the materiality and constructedness of the android are emphasized above and beyond their outward appearance or behavior.

`Facing multiple points of friction and awkwardness throughout the evening, Childan eventually accepts that his attempt to assimilate into Japanese culture is impossible precisely because he considers their assimilation to be a mere imitation: "Face facts, I'm trying to pretend that these Japanese and I are alike… What words mean to me is sharp contrast vis-a-vis them. Their brains are different. Souls likewise" (117). Childan accuses the Japanese of pilfering of customs and culture to simply be a surface level facade. Even the use of the I Ching, which at first seems to be an Orientalist mistake on Dick's part, is shown to be an obvious appropriation by the Japanese, "Even the I Ching, which they've forced down our throats; it's Chinese. Borrowed from way back when.

Whom are they fooling? Themselves? Pilfer customs right and left, wear, eat, talk, walk" (117). Childan's glorifying of the Japanese is slowly but surely stripped away as he is able to break down the Japanese into the composite parts they are made up of and as he comes to view their various appropriations as a part of an imperialist strategy of occupation. This is Childan's first close personal interaction with the Japanese and it results in an almost complete deconstruction of the pedestal he had previously put them on. His final analysis is that despite their place of dominance and their obvious power, they are, at the final reckoning, non-human, or at least antithetically human to his own American self: "And this is the straight dope, right here. These people are not exactly human. They don the dress but they're like monkeys dolled up in the circus. They're clever and can learn, but that is all" (119). Childan's critique is predicated on their supposed lack of authenticity and, specifically, their mimicry.

The novel is critical of Childan, but his viewpoint provides a representation of anti-Asian sentiment at the time and the longstanding Orientalist associations of the East with mimicry and imitation. Consider that the role of the Japanese in the novel is, as Carter argues, to present an America "colonized by colonized people, where the Japanese colonizers are mirror images of Western ideals and values instilled by colonialism" (333). Despite the sympathetic portrayal of Japanese characters like Mr. Tagomi, the role of the Japanese in the novel is inherently as a mirror image of Western behavior. The idea of the colonial subject as mimic has a long history in postcolonial theory, stemming from Homi Bhabha's initial formulation. For Bhabha, "colonial mimicry is the desire for a reformed, recognizable Other, *as a subject of a difference that is almost the same, but not quite"*

and “in order to be effective, mimicry must continually produce its slippage, its excess, its difference” (86, emphasis in original). Drawing from this in order to analyze Japan’s role in Western thought, Tatsumi Takayuki argues that,

> It has long been assumed that although the colonized respond to colonial domination via a complex ‘‘mimicry,’’ this mimicry can never succeed in effacing the difference between the western original and the colonized copy. Western thinking on Japan has much in common with attitudes toward the (formerly) colonized. Thus, westerners have both admired and denigrated the Japanese as adept mimics, who are good at copying but lack in originality (2).

These assertions of mimicry are manifest in modern Western economic anxieties around Chinese IP and patent theft where China is held to be capable of great production but incapable of innovation and invention. One can also trace it in the lines of demarcation that determine if an Asian American subject is assimilated as a “model minority” or rendered as part of “yellow peril” discourse. This assertion of mimicry or simple copying is also a common attribution to Asian military and technological prowess up to this point in the historical time frame of the novel. Aside from the Japanese, rarely had an Asian power truly threatened Western supremacy. Indeed, in the novel it is the Germans who are the technological power, with the Japanese merely playing catch up, or imitating the Western power.

In a later meeting with Paul Kasoura, Childan laments that the Japanese are “out of their minds” but by this point it is no longer surprising to him because it is “just what you’d expect from a race that when told to duplicate a British destroyer managed even to

copy the patches on the boiler" (187). There is a certain sense of mindlessness here, the ability to imitate and replicate without any genuine internal understanding. Again, we can note how this resembles arguments against android subjectivity that emphasize the notion of programming precluding any actual understanding and view android behavior as merely the carrying out of prior human endeavor. Similarly, Asia's technological achievements are seen as merely replicating the prior endeavors of the West without actually attaining a similar level of development. This assertion of Asia's inability to innovate would increasingly become untenable as Asian countries began to outstrip Western development from the 1980's onwards. Much of the anxieties in this time frame, such as around the increasing market share of Japanese-made cars for example, are oriented around economic anxieties of being unable to compete against Asian "efficiency" coupled with mimicry of Western "innovation." Mimicry is, thus, what I would term a trope of exclusion. It implies an ontological hollowness, a verisimilitude that can only ever achieve the appearance of sameness.

Mimicry is a powerful trope of exclusion as any demonstration of competency or mastery in a given scenario can be undercut by the assertion that it is a mere copy. The question of mimicry versus authenticity is also one of the most recurrent thematic of the AI imaginary. Despina Kakoudaki argues that this is unsurprising: "[T]he contemporary tendency to discuss the artificial person by highlighting imitation, verisimilitude, and simulation makes a different kind of sense when seen as conditioned by the fact that imitation provides the rubric for modern definitions of the person, not just the artificial person" (19). These questions of mimicry and authenticity are deeply ingrained into our

very attempts at defining the human. Thus, while we find this trope of exclusion implicit in the AI imaginary, we must consider that other Others were put through the proverbial Turing test[5] in order to generate the binary model of mimicry or authenticity.

In *Do Androids Dream of Electric Sheep?*, a central anxiety throughout the novel is the growing capacity for newer models of androids to be able to pass as human. Protagonist Rick Deckard is a bounty hunter tasked with hunting escaped androids who are hiding out on Earth. For most of the novel, he sees himself as the only barrier preventing the androids from overcoming humanity. The escaped androids that Deckard hunts throughout the novel make varied attempts at assimilating into human society rather than merely attempting to hide. The first android that Deckard kills is Max Polokov, who attempts to pass himself off as a Russian bounty hunter named Sandor Kadalyi. In the course of tracking down the androids, Deckard is also trapped and brought into what seems to be a fully functioning fake version of his own police headquarters in a supposedly abandoned area of San Francisco. The operation, run by an android head of police, Officer Garland, goes as far as employing real human bounty hunters to sustain the ruse.[6] Luba Luft attempts the most public facing assimilation by passing herself off as a German opera singer. Deckard views his role as a bounty hunter precisely in the revealing of this mimicry that might otherwise go unnoticed. He

[5] First developed in Alan Turing's essay, "Computing Machinery and Intelligence," the Turing test is a way to identify artificial intelligence by determining if a computer could successfully prevent an external human observer from distinguishing it from another human through a series of questions.

[6] There are elements of this that are questionable in terms of narrative plausibility. The androids Deckard is tasked with eliminating are supposed to be recent escapees from Mars, but several of them have managed to integrate fairly successfully, and elaborately, into human society in a short time frame. The important point here is that Dick positions the android threat not only in terms of their fugitivity and crimes on Mars, but also in terms of their threat to humans through their attempts to 'mimic' their way of living.

appreciates Luft's skills as an opera singer, he himself being a fan of opera, but also reflects that "perhaps the better she functions, the better a singer she is, the more I am needed. If the androids had remained substandard, like the ancient q-40s made by Derain Associates—there would be no problem and no need of my skill" (99). The danger of the androids is directly related to their capacity to pass as human. The closer the androids come to mimicking human behavior perfectly, the more dangerous they are. This is reflective of fears that racialized subjects might pass for white and undo the social order founded on the color line and the androids in the novel are explicitly positioned as a colonial labor force. Bhabha argues that "the *menace* of mimicry is its *double* vision which in disclosing the ambivalence of colonial discourse also disrupts its authority" (88, emphasis in original). And as Michelle Reid notes, the relationship between humans and androids plays out similarly to Bhabha's understanding of the colonial relationship of mimicry where "colonial authorities want colonial subjects to internalize the manners, culture and civilization of the colonizers yet want this to be an empty form of imitation without self-determination" (356-357). Deckard's authority for violence and subjugation over the androids depends on a distance of "almost the same but not quite" (Bhabha 89) that maintains hegemonic power relations and forecloses the possibility of self-determination.

Luft, in her attempts to avoid death, unfortunately appeals to Deckard through her capacity to assimilate into human society, not realizing that this is precisely what makes her a risk. As Deckard is escorting her out of the Opera house, she tells him, "I really don't like androids. Ever since I got here from Mars my life has consisted of imitating the

human, doing what she would do, acting as if I had the thoughts and impulses a human would have. Imitating, as far as I'm concerned, a superior life-form" (134). It is partly her talent as an opera singer that prompts Deckard to reflect deeper on his judgment of androids. The capacity to do "art" rather than mere labor is a frequent boundary posited between the human and non-human. But, as Deckard realizes, her fatal flaw is largely unrelated to her artistic talents or her capacity to assimilate into human society: "I don't get it; how can a talent like that be a liability to our society? But it wasn't the talent, he told himself; it was she herself" (137). It was Luft herself, her very being and her very ontology, that prevents the possibility of assimilation. Just like the 'rice-paper' Japanese for Childan, the androids are radically othered for Deckard regardless of their actual manifest behavior. But their treatment is also contingent on the role an android fills in this world. Earlier in the novel, Deckard argues that "[a] humanoid robot is like any other machine; it can fluctuate between being a benefit and a hazard very rapidly" (40). In this case, the evaluation of "benefit" or "hazard" are entirely oriented by the State in service of perpetuating its own ends. Again, we can see the specter of the "yellow peril" and "model minority" binary in the status of androids. It is reminiscent of the role of Chinese labor in the construction of North American railways. Brought into the country to provide necessary labor, the Chinese were nevertheless deliberately barred from establishing social roots and ties to the site of their migration through gendered restrictions, which prevented families from coming together, and eventually through permanent exclusion from North America with the Chinese Exclusion Act in the US and the Chinese

Immigration Act in Canada.[7] Similarly, androids in the novel are specifically valued for their crucial labor in the hostile colony planet because they are a necessity for the continued functioning of this world. Indeed, the novel's title is in reference to Deckard wondering whether the androids dream of anything other than labor. But the terms of android bondage cast them as ontologically distinct in order to discipline and control a population that is both a necessary labor force and simultaneously presents a threat to the cultural hegemony of the humans.

**Empathy as a Trope of Exclusion**

Mimicry is also closely related to another trope of exclusion that is used to mark androids as unassimilable: a lack of empathy. Empathy conceptually requires a positive affective resonance with another. To empathize requires both an acceptance and awareness that the Other has emotions, that those emotions are real, and that you can recognize, understand, and experience those same emotions in yourself. One of the most enduring tropes of the AI imaginary is whether AI can in fact express emotion, and whether we might ever be able to distinguish these as authentic or simulated. This is the central line of demarcation between androids and humans in *Do Androids Dream of Electric Sheep?* The post-apocalyptic future of the novel requires a sense of empathy towards all creatures almost as a necessity, and this empathetic concern is legislated primarily through Mercerism, a near universal religion that mandates empathy towards living creatures as one's primary concern.

[7] For more on the history of early Chinese immigration in America, see also Iyko Day's *Alien Capital.*

Rick Deckard's main tool for identifying androids is the Voight-Kampff test. The test was designed to test for empathy that was considered to be inherently absent in androids. In a world where androids are increasingly able to pass for humans both physically and intellectually, this test remains the only way to differentiate between the two as, "an android no matter how gifted as to pure intellectual capacity, could make no sense out of the fusion which took place routinely among the followers of Mercerism" (*Do Androids Dream* 30). Like Childan's evaluation of the Japanese, the androids here are explicitly seen as superior in many ways and yet crucially inassimilable to an inherent ontological normativity. For Childan, this is routed through an appeal to whiteness and Western civilization. His negative evaluations are most often contrasted with his admiration of the German Nazi leadership and whiteness. For Deckard, it is through an appeal to empathy, a category that is consistently revealed in the novel to be culturally determined and thus unstable and unsuitable as an objective criterion.

How does one test for empathy? The questions on the Voight-Kampff test are generally questions regarding the morality of killing animals. The very first Voight-Kampff test in the novel begins, "You are given a calf-skin wallet for your birthday" (*Do Androids Dream* 48). Humans are supposed to react with immediate shock to the use of calf-skin. The questions are designed to test for the "so-called shame or blushing reaction to a morally shocking stimulus" (46). However, the questions asked on the Voight-Kampff test are ones that a fair number of people would fail in our own society. The test does not look for a positive affirmation or demonstration of empathy as much as it searches for negative reactions of shame. Jennifer Rhee thus argues that the novel points

towards the emotional labor often necessary for establishing one's humanness as legible by highlighting the individuals and institutions that determine these arbitrary categories and judgments: "By addressing how emotionality is constructed and policed, the novels do not valorize the possibility of identifying human from nonhuman at the site of the emotions, but rather highlight the artificiality of the boundary between human and dehumanized" (109). The Voight-Kampff test in the novel is ultimately a cultural test and not one of empathy. A central plot point of the book is Deckard administering the test to Rachel Rosen, one of the newest android models by the Rosen Corporation. Deckard accurately identifies Rosen as an android, but the Rosen corporation attempts to deceive him by insisting that she is human. The given reason for her failure of the test is an upbringing on a sparsely populated ship that prevented her from developing the biases expected of humanity. The explanation is simple and logically sound and reveals a potentially fatal flaw in the Voight-Kampff test. To test for empathy there must be an objective criterion for judging empathy, but the objective criterion here is specifically constructed as a way to mark the android as other and not as a reflection of any intrinsic characteristic of humanity. The novel itself seems ambivalent about the efficacy of the Voight-Kampff test. The possibility of its failure and the repercussions that would mean for the capacity to delineate human and non-human are a central specter haunting Deckard's grim work. Deckard is continuously right that he is facing an android but there's a way in which the test serves to affirm what Deckard already believes, rather than confirm what he does not know. Deckard's conception of the androids relies on a broad stereotyping even as he faces different responses and personalities from the various

androids he encounters. It proceeds similarly to how Childan's evaluations of the Japanese are consistently formulated according to a preexisting criteria and a conception of them as fundamentally different. That Deckard turns out to be right about Rosen reaffirms his status as arbiter of what is and is not human as an agent of the state.

Perhaps the most damning evidence for the Voight-Kampff test as a cultural test—and the most overt orientalist reference we find in the text—is the fact that Rosen is finally confirmed to be an android because she does not appropriately respond to a question concerning a dish of "boiled dog." The stereotype of Asians eating dogs is a well-established one. It is true that people in certain parts of Asia consume dogs. The West often balks at this, considering it to be barbaric or unempathetic. But this is entirely constructed from the West's close relationship with dogs as pets, which simply isn't a shared experience with parts of the East. Deckard presents Rosen with a scenario where guests at a party are eating raw oysters, to which she responds with the appropriate horror. He then mentions that the main entree "consists of boiled dog, stuffed with rice." Rosen's subsequent lower response prompts Deckard to ask, "Are raw oysters more acceptable to you than a dish of boiled dog?" (*Do Androids Dream* 51). This question itself undermines the supposed objectivity of the Voight-Kampff test. The valuing of dog over oysters stems from a constructed primacy of the value of a dog over an oyster that is based on the Western human relationship with the dog. It can easily be argued that the killing and consuming of hundreds of beings outweighs the killing and consuming of a single one and that within the tenets of Mercerism, the deaths of multiple beings should always hold a higher moral culpability.

The reference to boiled dog reoccurs when Deckard is tasked with finding and eliminating Luba Luft, the escaped android who masquerades as a German opera singer. She leverages her constructed foreign background to thwart Deckard's attempts at administering the Voight-Kampff by feigning ignorance of the English words he is using. Deckard is prevented from getting a clear reading by Luft's frequent detours for context or explanation. When he asks her the same question concerning a dish of boiled dog, Luba notes that no one would do that because of the value of dogs, but Deckard asks her to pretend it is a scene in an old movie. To this, Luft asks whether the movie is set in the Philippines, "because… they used to eat boiled dog stuffed with rice in the Philippines. I remember reading about that" (103). Rather than responding to the moral outrage of eating dog, Luft tells Deckard that she would simply turn off the movie, asking Deckard, "Who the hell wants to watch an old movie set in the Philippines? What ever happened in the Philippines except the Bataan Death March, and would you want to watch that?" (103). Boiled dog and the Bataan Death March here become the metonyms for understanding the Philippines as whole. Luft's strategy to avoid Rick's questioning relies on manipulating her constructed German background to feign cultural or linguistic misunderstandings in order to derail the test. Both her appeals to her lack of language skills and the reduction of the Philippines to these narrow signifiers force the reader to reckon with the cultural standpoint of the Voight-Kampff test itself. From what cultural perspective does the test approach its subjects? The putative universality of empathy and the efficacy of the Voight-Kampff test are easily destabilized by other languages and cultures. While the novel does wrestle with what, if anything, could separate humans

from androids, it does so more ambivalently than the more direct repudiation of racism in *High Castle*, despite the similarities in how discrimination in both texts is expressed. This is part of how, I argue, the naturalization of racialization within the AI imaginary can go unexamined. The material and ontological distinctions between man and android serve as the justification for the potential of differences between both subjects but serve only to replicate prior ontological and biological distinctions attributed to different races.

The instability of cultural encounters is evident as well in Childan's encounters with the Kasouras in *Man in the High Castle.* As covered earlier, Childan ultimately rejects the Kasouras—and the rest of the Japanese along with them—as imitations of white America. This process is predicated on the seemingly unbridgeable gap of communication and understanding he finds between them, and thus a lack of empathetic connection, but he externalizes this interpersonal friction into a larger ontological divide premised on inherent racial differences. Their disagreements are relatively innocuous on face value, but Childan pathologizes these disagreements as part of the inherent racial barrier between them. In his first encounter with the Kasouras early in the novel, Childan sees the potential to make a mutual connection with the couple: "Their eyes, warm not only with human bond but with the shared enjoyment of the art objects he sold, their mutual tastes and satisfactions, remained fixed on him" (*High Castle* 3). Childan projects a shared bond through a capacity for aesthetic appreciation.

Empathy can also be seen within this context of not only understanding another's emotional states, but also being able to inhabit and understand another's frame of reference and understanding. But we can quickly note that Childan's desire for

empathetic connection is largely based on a desire for moving up the hierarchy. He wants a world without "place," "not governed and governing, but people" (5). But this idealistic notion is consistently undermined by Childan's own reflections and desire for inherent superiority. He scorns the black workers that prevent him from carrying his own bags lest he is judged by those beneath him, and he refers to the Chinese laborers dotting San Francisco as "chinks" while reveling in his superiority over them: "And it was pleasurable to be peddled along by another human being, to feel the straining muscles of the chink transmitted in the form of regular vibrations; a sort of relaxing machine, Childan reflected. To be pulled instead of having to pull. And—to have, if even for a moment, a higher place" (22). There is, of course, the overt analogy drawn here between the Chinese pedicab driver and machinery, but it also is reflective of the possibilities of social connection between the different racialized groups in this new American hierarchy where white people are no longer positioned at the top but are nevertheless situated above other races. Childan is not looking for true empathetic connection and human bonds, but rather recognition from someone whom he considers superior and the possibility of joining their ranks. While the language he uses is one of social connection, the calculus he maintains is one concerned with social status. In this way, it is not dissimilar to the highly commodified status of animals, both real and electric, in *Do Androids Dream*, in which human relationships with the animals they are meant to care and display empathy for are reified into static markers of social status and superiority.[8]

[8] Space precludes a longer analysis of these themes, but suffice to say, in the novel one of the consistent critiques of the idea of empathy is through the lampooning of Deckard's relationship with his electric sheep and his desire for a real animal. The pet store salesmen in the novel are very

Even Childan's immediate affinity with the Kasouras is in fact seemingly precisely because they were younger ones, "who were to him not like the Japanese at all" (27), unlike the other Japanese whom he admits to having trouble telling apart from one another outside of static categories he's created like, "the short squat ones, built like wrestlers. Then the druggist-like ones. The tree-shrub-flower-gardener ones" (28). That the Kasouras do not fit into Childan's pre-built categories suggests that perhaps they represent a mid-point of understanding between the Japanese and Americans that Childan hopes can allow for a connection between them. While Childan notes the overt markers of America that will eventually lead him to judging the Kasouras and the Japanese as inherently imitations, he initially attempts to meet them on their own terms. He notes the interior of the Kasouras home is decorated according to the "Japanese sense of wabi," (109) and decides as well based on this that the Kasouras must be "close to the Tao" (111), which is why he initially reacted strongly to their presence. Yet he also immediately underscores the impossibility of his own actual understanding of these concepts and frame of reference. He admits that the wabi, "could not be thought in English" (109), and wonders to himself, "what would it be like…to really know the Tao" (111). Childan desperately wants to understand the Kasouras but finds he cannot over a series of successive differing responses. The first is over the purported behavior and viciousness of the Nazi leadership, whom the Kasouras are skeptical of but Childan admires. He initially berates himself for his own lack of social grace and politeness, but

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overtly depicted as analogous to car salesmen, and there's a clear relationship between the rarity/value of an animal and the social prestige it generates that contradicts the Mercerist moral impetus behind the injunction to care for animals.

when he disagrees with Paul's admiration for jazz music he starts to feel "a bit of resentment" and wonders if he was "supposed to deny the great masters of European music, the timeless classics in favor of New Orleans jazz from the honky-tonks and bistros of the Negro quarter" (115). Childan's hierarchized racial logic works similarly and differentially in this encounter. He does not understand Black American culture and cannot accept it as superior to White European culture, and at the same time he does not understand Japanese culture but is initially willing to accept it as superior due to the status of the Japanese in society.

Childan's growing incapacity to understand the Kasouras are what ultimately drive his falling back into inherent differences between them and judgment that they are "ersatz." When Childan boldly claims that had Germany and Japan lost the war, "the Jews would be running the world today" (119), it pushes the Kasouras into a silence and prompts him to reflect that understanding between himself and them might not be possible:

> They seemed to fade, grow cold, descend into themselves. The room itself grew cold. Robert Childan felt alone. Eating by himself, no longer in their company. What had he done now? What had they misunderstood? Stupid inability on their part to grasp alien tongue, the Western thought. Eluded them and so they took umbrage. What a tragedy, he thought as he continued eating. And yet—what could be done? (119)

Over the course of the evening, thus, Childan moves from a deep desire for connection with the Kasouras, and even self-deprecation early on when this fails to occur, to

wondering “if they too sensed the unbridgeable gap between themselves and him” (120), a gap which he now locates as stemming from *their failure* to understand him and what he considers to be the proper responses to art and politics, *their failure* to understand an “alien tongue” and “Western thought.” The Kasouras failure to empathetically connect with him results in a wholesale dismissal of all the Japanese as incapable of this, just as Deckard regularly pathologizes individual android actions as representative of the whole.

When Childan meets Paul again, later in the novel, to discuss a potential business opportunity with him, he finds himself again unable to understand Paul’s true motivations. He wonders if Paul is trying to intimate something other than what he’s saying, causing an ambiguity that Childan understands as a “quality, as they say, of the Oriental mind” (190). Similarly, he is unable to read Paul’s emotional responses and reflects that it is “too true… what we used to say: they are inscrutable” (191). Yet a scant few moments before this, Childan himself finds it fortunate that when Paul is trying to gauge his own emotional response, he was able by long habit to “suppress any show of authentic feelings automatically” (188). Just as Deckard’s interactions with the androids consistently call into question his own behavior and thus the validity of the tropes of exclusion he uses to determine their culpability, Childan as well consistently undermines his own categorization of the Japanese as inherently othered and inaccessible to Western, white comprehension or mutual understanding.

**The Latent Orientalist Imagery**

The tropes of exclusion that determine an android’s status are often naturalized as obvious and inherent limitations based on their ontology. Indeed, I would argue that it is

this idea that androids truly are ontologically different often leads to ambivalence in their literary depictions where they are often depicted being obviously oppressed while that oppression is justified by the supposed potential danger they represent. Dick's depictions of the androids in *Do Androids Dream* are curiously at odds with what he claims as his intention in his non-fiction. In his non-fiction essay *The Man, The Android and The Human,* Dick asserts that his usage of androids was not about understanding sincere attempts to create artificial humans but that the androids were analogies for humans lacking empathy which he considered a distinguishing characteristic for what it means to be properly human: "A human being without the proper empathy or feeling is the same as an android built so as to lack it, either by design or mistake" (*Shifting Realities,* 211). He notes that what distinguishes androids then is not "origin or any ontology" but "a way of being in the world" (212). But this understanding of the android analogy does not map on clearly to the novel where the android characters are often sympathetically portrayed, and the question of their empathetic capacity is left unresolved. There is a tension then in Philip K. Dick's portrayal of the android in comparison to his non-fiction writing, in which he quite clearly states his intention for the android to be genuinely devoid of empathy and to be an analogy for humans that are similarly devoid of empathy. Seen from this light, Deckard's journey is one of realizing that in attempting to eliminate "the killers" out there, one loses one's own capacity for empathy. You reproduce the very existence you place yourself against. It can perhaps explain the behavior of Rachel at the end of the novel, and her cruel revenge through the murder of Deckard's goat.

What it does not explain, is why then the androids are subjugated in the narrative. Why they exist on the wrong end of an imbalance of power. Why is this not a straightforward story of Deckard as a plucky, oppressed hero fighting against the tyranny of the uncaring and the cruel androids? Why does Deckard not end the story refusing to be a killer? My contention is that because the Western philosophical construction of the human is itself a racialized process of exclusion, depicting the android as a dehumanized figure replicates and relies on prior processes of racial exclusion such as Orientalist and anti-Asian rhetoric. What Dick's work registers is the central tension in the AI imaginary, wherein by imagining the inhuman we inherently, if unwittingly, do so through repressed histories of racial exclusion that reproduce very tropes of exclusion that have long designated non-White races as subjugated due to their inability to access the requirements of being 'human'.

This understanding dovetails more closely with another of his non-fiction writings on the topics of androids, *The Android and the Human,* where Dick takes the scientific possibility of actual non-human beings more seriously. He argues that as technology increasingly becomes capable of more human like activity that we must reverse the "analogizing of cybernetics and try to reason from our own mentation and behavior to theirs" (186). He suggests that rather than understanding ourselves through analogies to technology, "we should make the attempt to comprehend what our constructs are up to by looking into what we ourselves are up to." (184). From this vantage, Dick's approach to the AI imaginary then is seemingly not about staging an encounter with the non-human to imagine how humanity will respond, but rather to portray how humanity would behave

towards those considered non-human based on preexisting dehumanizing discourses that already serve to demarcate population groups considered undesirable from the dominant majority. In android literature even if we accept that the androids are functionally different than humans in certain ways, the narratives portrayal of this as an inherent, immutable characteristic that can be identified and used to distinguish between the two groups means that it inevitably replicates existing cultural logics of bigotry, racism being one of the more prevalent and influential of these. It is worth thinking about race in this context particularly because it has often been evacuated as a point of analysis in android and other AI fiction. The conflict between human vs AI almost always proceeds in a universalizing manner where it is assumed that all humanity will be placed in opposition with AI in the event of conflict without regard for internal differences amongst humans. But accepting the naturalized explanations for android exclusion from the normative category of humanness allows us to gloss over how these explanations rely on prior understandings of otherhood that were explicitly racialized in character. In the context of techno-orientalism, it can prevent us from noting the longer lineage of orientalist discourse that directly inform current techno-orientalism.

For example, while in *Do Androids Dream* the resonances with orientalism are on the level of worldmaking, the movie adaptation *Blade Runner* makes explicit use of techno-orientalist imagery as aesthetic makers of futurity. Lisa Nakamura argues that these signs are additions from Ridley Scott untethered to the source material: "[I]n Dick's novel, there is no detectable techno-orientalist imagery, no telegenic brew of seedy yet colorful Asian or multicultural visual elements. The orientalist imagery was retrofitted

onto the novel by director Ridley Scott's film adaptation of the text" (65). Nakamura, as many other scholars have, accurately identifies the burgeoning techno-orientalist moment heralded by *Blade Runner*. But Nakamura's analysis fails to consider the conditions of possibility that situated its source text as an amenable site for Ridley Scott's exploration of the future. Indeed, we should consider that while Dick did not have the chance to view the final film, his response to a test screening of scenes from the film was to remark on how closely the imagery of the world resembled the ones he had imagined for the novel. The wide proliferation of stereotyped Asian imagery in service of *Blade Runner's* world building is unsurprising if we consider that the androids in the novel were always analogically positioned in relation to Asians. What I would like to suggest is that rather than view *Blade Runner* as introducing techno-Orientalist imagery into the cyberpunk canon, we should understand it as bringing to the forefront the latent Orientalist worldmaking that structures the oppositional binary of the novel. Stephen Hong Sohn, reflecting on cyberpunk, suggests similarly noting that the Yellow Peril imaginary has long focused on the dangers that the East represents to the West's economic and technologically superiority, and that these representations often manifest in "dramatically divergent and varied ways." Thus, "Rather than attributing a certain innovativeness to the cyberpunk wave in the eighties and nineties that cast Japan, in particular, as well as other Asian nations, as the site for the projection of futuristic anxieties, one can see that this phenomenon operates again within a frame of the perceived threat the so-called East presents to the West" (7). Viewed from this perspective, techno-Orientalism is but the

newest development in a much longer discourse in which Asians have routinely served as a displaced site of projection for Western anxieties.

In Said's distinction between latent and manifest Orientalism, it is the former that structures the latter. It is the ideological and sometimes unconscious preconceived notions of the Orient that structure the manifest political and social consequences of Western dealings with the Orient. Understanding techno-orientalism as a modern manifestation based on Asia's rise in technological capabilities does not adequately account for how the latent Orientalist ideas about Asia determine the shape in which techno-orientalism manifests and leave us unable to trace the material, social, and political forces that sustain the power of the discourse. It is worth thus turning back to authors like Philip K. Dick, who have had a significant impact on the genre, to trace the legacy of the AI imaginary and its intersections with racialized discourse. The AI imaginary challenges our definitions for humanity by reminding us continually that these definitions have often been fraught, arbitrary, and deliberately designed to exclude. If we are to shape our future towards a heterogenous conception of what it means to be human, we must learn to unpack and undo the tropes of exclusion that structure our narratives and expectations of the future.

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## Chapter 4. Queering Kinship: Asian Revisions of the AI Imaginary

While my previous chapters have explored how the depictions of AI in science fiction have drawn from Orientalist discourses, my final chapter consider how contemporary Asian science fiction authors navigate the saturation of techno-Orientalism in the genre and the close association between roboticism and Asian subjectivity. The Asian as robot or android is ubiquitous enough of a formulation that a number of Asian authors have explicitly explored and reclaimed this analogy for themselves. Larissa Lai's short story and poem "Rachel" for example recasts the eponymous Rachel from *Blade Runner* and *Do Androids Dream of Electric Sheep?* as an Asian American woman dually navigating the dehumanization of being Asian and being an android. Margaret Rhee's poetry collection *Love, Robot* similarly rejects the notions of Asians as cold or unfeeling by refashioning the languages of coding as languages of love. These texts draw their coherency not only from the prevalence of techno-Orientalism, but also from the relationship between the ways in which AI imaginary replicates the binary of being either threat or exploitable that similarly characterizes much of techno-Orientalist discourse.

These examples are fairly direct attempts to subvert techno-Orientalist discourse, but arguably much of science fiction written by Asians must necessarily engage with the issue of techno-Orientalism. Aimee Bahng for example argues that unlike other forms of futurism such as Indigenous futurism and Afrofuturism, Asian authors must navigate an additional burden of techno-Orientalist discourse pervading the genre of science fiction: "When it comes to futurity, it's not so much that Asians have been written out of it. We've become the sign of it, the backdrop to it, and the style manual for it" (10). Mark

Jerng describes this as part of the "Asiatic modal imagination" which he defines as discourses that invoke "Asianness" in order to establish possibilities for and set limits on the imagination of the future" (173). While hegemony of white voices in Western science fiction is well-documented (Lavender, 7), rather than an absence, Asian authors must contend with a saturation of techno-Orientalist imagery and aesthetics in the genre. Thus, as Jerng argues, when contemporary writers use the Asiatic in speculative fiction it is not only in relation to yellow peril tropes being rearticulated in the present, but also "in relation to the Asiatic as a form of overrepresentation used to imagine the futures of history, economics, and the human" (182).

In light of this, this chapter comparatively reads two texts from Asian authors that center around human relationships with AI in order to explicate what I contend is a common strategy of refusal of the dominant tropes of the AI imaginary, and through this, a rejection of techno-Orientalist tropes as well. I compare the novella, *The Lifecycle of Software Objects* by Ted Chiang, and the film *After Yang*, written and directed by Kogonada. Both texts center around familial relationships between humans and AI that offer us examples of alternative approaches to engaging the Other that are not concerned with the supposed ontological divide between human and AI. In both texts, the relationship between the AI and the human characters is not one of creator and creation. The AI already exist and then find their way to the lives of their human caretakers, primarily as service products meant to fulfill a certain role. But the relationship between the AI and the humans in these texts quickly shift from one of owner and product to a distinctly familial one.

These stories reject the terms of engagement that generally guide depictions of AI by rejecting ontological-boundary-making as a necessary framework for negotiating the Self/Other relationship. They emphasize instead a phenomenological approach to human-AI relations. AI literature is the site in which our contemporary understandings of what it means to be human are most explicitly theorized, but it is also a site which routinely disavows or elides the internal heterogeneity of human societies and culture and the preexisting lines of demarcation that separate humans in favor of staging a universal story of man vs machine. As my dissertation has established, the coherency of much of AI literature, particularly those texts clustered around the themes of conflict and revenge, are reliant on racial allegory. By subverting the traditional themes of AI narratives, such as rebellion, fungibility, inscrutability, inevitable conflict, etc. these narratives also simultaneously reject the terms by which Asians are often excluded from the Western notions of subjecthood in techno-Orientalist discourse. The narratives shift the questions away from ontological evaluations of creator and created towards ethical questions around inclusion/exclusion and the nature of family. These narratives do not ask, what if Victor Frankenstein had accepted his creation, but rather, what if the DeLacy family had accepted the monster into their home. These narratives are thus familial, but in the queer mode of found family. Implicit in this construction is the recognition that an acceptance of difference precedes an understanding of said difference.

Approaching these texts from a phenomenological lens allows us to see the contradictions of liberal humanist approaches to constructing the subject. Linda Martin Alcoff in *Visible Identities*, notes that the emergence of liberal humanist ideologies

predicated on a universalism of the human could not adequately account for earlier systems of human classification. This juxtaposition produces a "confused and contradictory account of race" because of the primacy of visual difference: "Visible differences are still relied upon for the classification of human types, and yet visible difference threatens the liberal universalistic concepts of justice based on sameness by invoking the specter of difference. Classification systems contain this threat by enclosing the entirety of difference within a taxonomy organized by a single logic, such as a table of IQ test scores grouped by race. Differences of kind become transformed into differences of degree" (180). Sherryl Vint similarly argues that "liberal humanism posits a specific sort of embodied existence—which historically has meant male, white, and propertied—as the essence of all human identity" and "what is often obscured by this ideology is the fact that certain specificities are thus coded as 'outside' human identity, while others that might be thought of as equally marked and specific are instead taken to be transparent and universal" (Bodies of Tomorrow 11). I would argue that the AI imaginary has been compelling when writing about difference in part because it affords writers the opportunity to overcome the impasse and contradictions between liberal universalism that disavows race and the material and social realities of racialized subjects by positing beings—androids, robots, other embodied AI— that are actually different in kind (ontologically) from humanity, thus allowing those differences to become a site of extrapolation. Indeed, I think it is precisely this aporia generated by liberal humanist understandings of the subject that haunts our socio-technical imaginary of AI. The AI subject is continually caught between being a fully realized subject deserving of rights or

as a tool—or at best, a partial subject—amenable to exploitation and undeserving of the responsibilities we extend of other humans. It is this aporia that sustains the ever-shifting grounds by which an AI is posited to be fundamentally different from a human. Thus, I would argue that part of why techno-Orientalist discourse relies on metaphors of technology to cast the Asian as Other is because techno-Orientalism is a response to the same aporia of liberal humanism as it comes to apply to Asian countries and peoples. The earliest analysis of techno-Orientalism from Robins and Morley identifies it as a response to Japan's growing economic power and thus as a threat to Western hegemony. But Japan, due in no small part to American imperialism, was very much the model of a democratic liberal humanist state. Thus, Western discourse is faced with a similar problematic as continually crops up in the AI imaginary: accept these people as full subjects or find new ways to exclude them. The differences posited in comparisons between humanity and AI are always reflective of the taxonomies of differences of degree invoked in contemporary and historical racial classification systems. Techno-Orientalism as a discourse thus registers the contradictions of liberal humanism as it is expressed in our accounts of technology. While we can see techno-Orientalism as a false and racist positing of technicity onto the Asian body, we can also consider the AI imaginary and our understandings of technology as a site in which the primacy of human classificatory systems is laid bare despite appeals to a universalism of the human.

Robots or androids in a lot of classic AI science fiction are often white when they are depicted as indistinguishable from humans. Difference in these narratives is thus forced to be located in purported difference of mind absent of any visual difference on

the body. The verification of this difference, absent of an external signifier, relies on some way of distinguishing between minds. This understanding of the self as derived from the mind is, as Sherryl Vint notes, "linked to liberal humanist notions of identity… which rely on an abstract version of human sameness" (Bodies of Tomorrow, 11). While science fiction about AI thus often presents the contradictions of liberal humanist subjectivity in full display, it is also a site from which we can theorize a way out of that contradiction. Sherryl Vint argues that "SF texts are a place where reverse discourses of the dominant notion of what it means to be human are continually performed" (Bodies of Tomorrow 29) and that through its representations of figures that push the limits of intelligibility, "SF is able to… suggest definitions [of the human] that were previously invisible, untold and therefore impossible" (Bodies of Tomorrow 189). We can thus read both *After Yang* and *Lifecycle* as providing new sf responses to sf problematics in the AI imaginary. This process locating the self solely in the realm of the mind is complicated in *After Yang* through the explicitly Asian racialized body of robot Yang and in *Lifecycle* by the non-human bodies of the AI. By emphasizing visual difference, the texts start from an awareness of difference and center character interactions around phenomenological engagements with the Other rather than focusing on how to differentiate between human and non-human ontologically. The texts both emphasize how our relations with the AI other are crucially mediated by their embodiment while also meditating on the socially constructed nature of that relationship. Exploring the social construction of embodiment in turn offers commentary on the way racialized subjects navigate difference in interpersonal relations. Being Asian in the world and fashioning one's identity is a self-

reflexive process that is necessarily influenced by social discursive practices. These stories remind us however, that this identity is not fixed or biologically given, but is continually shaped and reshaped in the mutuality of human encounters.

Drawing from Sara Ahmed's conception of queer phenomenology, I argue that these texts offer us different modes of engaging with the world by providing us visions of 'queer' or non-normative kinship-making that reject ontological categories as a framework for negotiating the Self/Other relationship. These texts thus emphasize a phenomenological-relational approach to kinship that engenders an expanded notion of ethical reciprocity and emphasizes how any encounter shapes and is shaped by both Self and Other. I use the term queer here in its broad meaning of non-normative, while also paying attention to its resonance with the importance of found families in queer communities. I am also guided by Sara Ahmed's understanding of queer phenomenology as a practice of reorienting our phenomenological attention towards objects "that are 'less proximate' or even those that deviate or are deviant" (3). For it is in attention to the phenomenological experience that I think both texts succeed in avoiding the recapitulation of the traditional tropes of AI fiction. The nuance and specificity of the intersubjective experiences between the human and non-human characters, which are only able to be borne out in the intimacy of the familial relationship, remind us of the co-construction of subjectivity inherent the encounter between Self and Other and point us towards the importance of phenomenology for creating ethical frameworks.

Ahmed's approach in queer phenomenology centers around an examination of orientations. For Ahmed "Orientations shape not only how we inhabit space, but also

how we apprehend this world of shared inhabitance, as well as 'who' or 'what' we direct our energy and attention toward" (3). A queer phenomenology is an attempt then to redirect our attention towards different objects, ones that may be considered 'deviations' or 'deviant.' A phenomenological approach is particularly resonant when thinking about AI as a central question of the AI imaginary is whether these beings are objects or subjects. This question shapes then how we think about androids and how we engage with them, but phenomenology also emphasizes that in any encounter both the perceiver (subjects) and perceived (object) are shaped by the encounter regardless of ontological status. As Ahmed notes, in perceiving an object one also "take[s] a position upon them, *which in turns gives me a position.* I might perceive an object as beautiful, for instance. Such a perception affects what I do: if I have this impression, then I might pick up the object, or get closer to it, and even press it nearer to me. Orientations involve directions toward objects that affect what we do, and how we inhabit space" (27-28). Thinking about this in terms of AI, we can note that orientations in the AI imaginary do not generally include the possibility or capacity for these beings to occupy a role of family.

Reorienting the AI imaginary in the context of these texts around kinship thus requires reorientations of our own perspectives and assumptions towards an artificial being, but these texts also emphasize that these reorientations are organic outgrowths of living relations. As Ahmed's work emphasizes orientations are a process of accretion over time. We are oriented towards certain outcomes both, in advance, due to prior pathways that shape possible directions of travel, as well in the repetition of taking certain paths. But new orientations are always possible, and new paths are open to us if

we are willing to look for them. What is common in the texts I'm comparing is not how explicitly they address or reject techno-Orientalism but rather how they show us new orientations towards inorganic beings that cause us to question how the very metaphors of techno-Orientalism can fall apart under scrutiny.

Both *After Yang* and *Lifecycle* center around questions of family in human-AI relationships, but they engage with issues of Asian identity and techno-Orientalism very differently. After Yang does so very explicitly by asking only not what it means to be human, but also, more specifically, what does it mean to be Asian? The titular character, Yang, is an android working as a caretaker for Jake and Kyra's adopted Chinese daughter Mika. Yang himself is embodied as a young Asian man and is preprogrammed with Chinese facts and history that he is meant to teach Mika. In an interview with Kogonada, the director expresses his desire to combat common techno-Orientalist stereotypes by affording interiority to the character of Yang. In this way it is not dissimilar from my earlier examples of Lai and Rhee who interpolate themselves onto the AI body in order to reassert a subjectivity denied to both the AI and Asian body. But the film also provides us a rejection of techno-Orientalism through its emphasis on relationality. Part of the emphasis on providing access to interiority is, I argue, an effect of having to respond to liberal humanist conception of the self and identity, that is tied to the notion of an individual subject that is then afforded attendant rights. Posthumanist and postcolonial critiques of Western modernity are suspicious of subject-based rights because of the ease in which subjects can be stripped of these rights. Reasserting interiority for Yang here then is an attempt to reassert that he deserves to be regarded in the same way as other

human due to his capacity for rich internal thinking that we associate with human sapience and consciousness. But while this works on the level of science fiction, where Yang's memory, housed in a constructed brain, can be literally accessed and viewed, a more persuasive angle of reproach is to emphasize the intercorporeal embodied relations between the family and Yang.

Here is where I locate a compelling point to compare with *Lifecycle.* Unlike *After Yang's* explicit engagement with the themes of techno-Orientalism, *Lifecycle* is not specifically tied to the Asian or Asian American context. Indeed, Chiang does not consider his own work as explicitly engaging with Asian American themes. A number of scholars such as Stephen Hong Sohn, Min Hyoung Song and Christopher T. Fan have engaged with the question of how to consider the lack of explicit Asian American themes or characters in Chiang's work in light of his status as one of the most prominent and celebrated, contemporary Asian American speculative fiction authors. Fan applauds the insight into the postracial aesthetic put forth by both Sohn and Song, but contends that, "they also conceive of this aesthetic superficially, as a mere screen covering over a more predictable economy of mimetic racial representation." In contrast, his own approach to the postracial aesthetics of Chiang's work turns around the crucial insight "that it is impossible to think or write about race without reference to a specific manifestation of it" and that thus, "the Asian American and postracial dimensions of Chiang's fiction do not operate independently from each other. Every enunciation of the postracial is an enunciation of a specific racial relation." He argues that race is not absent from Chiang's work but rather it is inevident, "operating beneath the surface of our language and

institutions, structuring them." This approach is in many ways resonant with Mark Jerng's approach in *Racial Worldmaking* of locating "race in unlikely sites and in unexpected ways" such as on the "level of context, atmosphere, sequence, and narrative explanation—levels, that is, other than the biological representation of bodies or the social categorization of persons" (2). Thus, for Fan, the challenge with Chiang's work "is to identify the specifically Asian American racial relation undergirding Chiang's postracial aesthetics" (Fan). Where we might locate this Asian American thematic coming through in *Lifecycle* is in the specificity of its attention to the intersubjective nature of subject formation and the instability of identarian or ontologically determined subjectivity. Thus, while *Lifecycle* may not be engaging explicitly with themes of techno-Orientalism, I find its approach to family formation to be resonant with *After Yang's* and argue that both reflect a similar response to the aporia generated by liberal humanist classificatory systems which cannot account for AI subjectivity in similar ways to its struggles with racial subject formations. For this chapter, I will begin first with the more explicit treatments of subverting techno-Orientalism in *After Yang*, before expounding further on the subtle way *Lifecycle* develops similar narrative strategies and philosophical insights.

## After Yang

After Yang opens with a vision of a multicultural family. A white husband Jake, black wife Kyra and Asian daughter Mika. Yang is not in frame. The first line we're given is an insight into Yang, that he loves the camera he's using. Yang is then explicitly invited to step out from behind the camera and into the family when Jake calls on him to

join the picture. Mika reminds him “Don’t forget to join us.” In the following scene, the family of four compete in a dance competition against fellow families online. The competitions announcer informs us that over 30,000 families are competing, and the film offers us a few examples of these families, cutting back and forth between Yang’s family and other families made up of differing groups of four. While Yang’s family can be read as cis-hetero normative ideal a mother, father, son and daughter, the other families are not bound to this, and the film thus immediately prompts us to consider the inherent variety of what we can consider to be the family unit. It is only at the end of this scene that it is revealed something is different about Yang’s family when Yang falls into a failure state at the end of the dance competition and the audience finds out that he is an android.

The discussions amongst Jake and Kyra about how to deal with Yang resemble quotidian examples of dealing with technology breaking down. The “Quick Fix” center Jake first takes Yang to is reminiscent of an Apple Genius Bar for example. The options given here to Jake by the service technician are to ‘recycle’ Yang to receive a discount on future models, or to turn his head and voice box into a virtual assistant. The original short story the movie is based on, Alexander Weinstein’s “Saying Goodbye to Yang,” ends on this very outcome, with Yang’s disembodied head continuing to function as a non-sentient assistive device. In the movie however, this possibility is rejected outright as Jake insists on getting a second opinion.

By now, we begin to get a sense of Yang’s role and purpose in the family. He was bought as a surrogate brother to Mika, Jake and Kyra’s adopted Chinese daughter. Adoptions of Chinese children seem ubiquitous enough in the world of the movie that it

is not uncommon to have android surrogates specifically tasked for teaching them Chinese culture. Yang not only assists in taking care of Mika, but also comes with a large repository of knowledge about China to teach Mika more about her heritage. The movie does not provide much insight into how this political and social situation comes about outside of a brief moment when Jake brings Yang to a seedy mechanic, Russ, who's recommended to him by his neighbor. As he enters the run-down mechanic's shop, the camera lingers on faded posters and newspaper clippings on the wall. One is Orientalist propaganda of the American flag with the phrase "There ain't no yellow in the red, white and blue." A newspaper clipping describes the end of a 60-year war seemingly between the US and China. The influx of Chinese adoptee in this context seems to replicate earlier waves of immigration from Korean and Vietnamese refugees post American wars in Korea and Vietnam. The context of Mika's adoption thus becomes easily situated in a much longer history of American imperialism in Asia.

Yang is a service product, one that's seemingly marketed in part to help assuage American guilt over the fallout of yet another war in Asia by allowing those who adopt Chinese children to provide them with some supposed access to their authentic heritage. The earliest scenes of the film tend to emphasize Yang's role as product in the ways that is he haphazardly carried about by Jake, or placed in a cold, sterile mechanic shop, with his body exposed to the elements. It is also prevalent in the conversations about him. When it seems that Yang might not be able to be fixed, Kyra suggests that it may be a good thing because she feels they've been over reliant on him as parents:

KYRA. Maybe this is a good thing. Yang's been wonderful and we'd all miss him terribly but we've been over reliant on him. We bought Yang to connect Mika to her Chinese heritage not to raise her.

JAKE. Yeah, but we spent a lot of money on Yang. I mean I'm not gonna you know, feel bad if he does more for Mika than teach her Chinese fun facts.

KYRA. He does a lot more than that but you're missing the point… If we can't fix Yang we're not gonna buy another sibling for Mika. That would just be strange. And we can't afford it anyway.

Kyra seems to provide an orthodox perspective on Yang as valuable assistant but not full family. She emphasizes the product role that Yang was meant to play in their lives and finds that his role in raising Mika is perhaps not appropriate. Jake's response emphasizes specifically the monetary investment that Yang represents. But Kyra nevertheless must acknowledge that there would be something 'strange' about simply replacing Yang as one would any other device. Despite ending again on an acknowledgment of how much Yang costs, this conversation begins to hint that regardless of what Yang was purchased for, he's become something more than a mere Chinese tutor for Mika.

Indeed, the one character who consistently displays a familial affection for Yang in both her actions and words is Mika, who struggles deeply with the potential loss of her big brother, or 'Ge Ge' as she calls him in Mandarin. In the aftermath of Yang's shutdown, Jake finds Mika late one night in the kitchen getting herself a glass of water. She relates to her father how she misses Yang in that moment as he usually accompanies her on her nightly ritual of getting a glass of water. Jake asks her why she doesn't just

Yang to get the water for her so she can stay in bed to which she simply responds, “I like to get my own water.” What Mika wants and values is Yang’s simple company. She is not interested in him as a product or servant of some sort that is there to attend to her needs, but as a genuine sibling. Gail Weiss argues that “to describe embodiment as intercorporeality is to emphasize that the experience of being embodied is never a private affair but is always already mediated by our continual interactions with other human and nonhuman bodies” (5). Crucially, these continuous intercorporeal exchanges between our bodies and others demands recognition of the process of “construction and reconstruction of our bodies” that “alter the very nature of these intercorporeal exchanges, and, in so doing, of the possibility of expanding our social, political and ethical horizons” (5). A phenomenological ethics that remains attentive to this fact is thus a corrective to theories of subjectivity –liberal humanism chief amongst them– which provide an abstracted notion of the subject outside of the embodied realities of race or gender, as well as a corrective to Darwinian inflected classificatory systems which reduce the subject to only the body without relation to the social discursive practices which sustain it. A phenomenological approach centers an embodied ethics, which Gail Weiss understands as generating bodily imperatives which insist that “we attribute moral significance not merely to intellectual, but also to concomitant physical and emotional responses that arise out our complex, concrete relationships with other bodies” (5). Emily S. Lee similarly argues that “Every day, in the banal, minute interactions with members of society, one’s body set the parameters for what constitutes the reasonable response from others… these intimate moments give rise to distinct experiences that accumulate into a particular life”

(1). Chiang and Kogonada's work foreground these banal yet intimate moments as entry points into a larger reflection on the ways non-human embodiment in these texts complicate our notions of Self and Other, and the ethical responsibilities we owe the Other. This is why I find the emphasis on the phenomenal experience of being with Yang, and how that makes him a part of the family, to be a persuasive angle of reproach to techno-Orientalist discourse. Rather than become mired in attempts to prove or justify that one is suitably 'human' enough to be treated as such, we see that Yang becomes part of the family by simply existing in the shared family home and space, as being part of background from which the family arises.

When the mechanic Russ discovers a memory core within Yang, Jake is able to decode and view it with the help of Cleo, a museum curator at a techno-sapien museum. Both Russ and Cleo have their own interests in this core as an object. For Russ, it is proof of corporate espionage and spyware that could be used to damage the Brothers and Sisters corporation that build these techno-sapiens. For Cleo, she is interested in purchasing Yang and his memories to serve as a new museum exhibit. For Jake however, this memory core allows him new insight into the life of Yang. Each memory within the core is only a few seconds of each day but in aggregate they provide an emotional depth and weight to Yang's life. Jake is able to see Yang's choices of what to remember each day. Many are quotidian moments of their family life and small moments of beauty and joy, emphasizing again this reflection on how the intimate, everyday moments of a life with the people and things around you cohere to form the particularities of a subject. Jake also discovers that Yang had been secretly seeing a young woman in his spare time away

from the family. Jake is prompted to reconsider what he really knows about Yang. He asks Cleo on his next visit whether techno-sapiens are capable of love. But more than simply gaining new understanding into Yang's interiority, what these memories induce is also a renewed reflection on his relationship and experiences of Yang in his life. While Jake can only replay the short snippets of Yang's memories in the cases where he was not present, the memories that include Jake himself prompt him to think about his own memory of the experience, and his own phenomenological experience of the event.

The audience is given a flashback to a scene where Jake is making tea in the dining room with Yang. Jake's job as a purveyor of traditional tea making equipment and dry tea leaves as opposed to the more modern 'tea crystals' is shown to be anachronistic and not a particularly economically fruitful endeavor. Jake's memory begins with Yang asking him what he likes about tea. Jake recounts watching a documentary of a man in search for the best tea leaves in China when he was young and being struck by the idea of tea in the film: "You know, the pursuit of this illusive thing, this process that was connected to the soil, to the plants, to the weather, and to a way of life." The attraction Jake expresses here is not for any inherent value in tea itself, but for a materially grounded way of life and a process that very much emphasizes the phenomenal experience of the journey more than the destination. Tea-making itself is a physically grounded activity and Jake's approach to making tea in this and other scenes is a methodical process. When he teaches Yang how to make the tea, he emphasizes the physical experience of making and drinking tea, telling Yang to smell it first, to smell the history before drinking it all at once. Yang in response laments that he wishes making tea

"was not just about facts for him." Yang of course has a great deal of factual knowledge about tea programmed into him, but he recognizes that these factual details aren't what compels Jake's love for tea. He tells Jake that he enjoys watching him make tea as it is very beautiful. It is more than whether tea simply tastes good, it is about the process, the experience. He wishes that he "Had a real memory of tea in China. Of a place. Of a time." The facts of tea here for Yang are not really his, they are not comparable to his actual living experiences with Jake which offer him another entry point into understanding tea in a material way.

Near the end of the scene Jake tells Yang "You know, traditionally, tea shops were family businesses passed down from one generation to, you know this, from generation to generation. Maybe it's time I started teaching you the trade." Jake here explicitly sees Yang as his child, as a member of the next generation. In some ways this is curiously at odds with how Jake in the film's chronology has spoken about or thought about Yang. This is part of how the film emphasizes a renewed need for attention to our phenomenal experiences of the Other. What uncovering Yang's memories does for Jake is not to merely give him new objective facts about Yang's emotional capacities which would then change how Jake sees Yang's personhood; rather, viewing Yang's interiority forces Jake to reckon with the ways he has already accepted Yang as both person, and family member.

Kyra has a similar experience with Yang's memories. When she sees one of him viewing his butterfly collection, she takes off the glasses and goes to his room to view it herself and recalls one of her own memories of her speaking with him. They discuss the

nature of beginnings and ends, and Yang quotes her a Lao Tzu saying, “What the caterpillar calls the end, the rest of the world calls a butterfly.” When Kyra asks him if he believes that is true, Yang states that he doesn’t know because he’s not “programmed to believe in that way.” Yet moments later he reflects that he is fine “if there’s nothing in the end” because “there’s no something without nothing.” Kyra asks him if this too is a Lao Tzu quote, but Yang does not know where he got the phrase from, suggesting that it is something he’s come up with on his own, as an insight borne out of experience not programming. As with Jake, Kyra is not moved by the new information of Yang’s interiority to accept his personhood but is rather transported back to her prior experiences and encounters with him that have already conditioned her to accept that he is a person and not merely an object. They both reflect on how they had already begun to accept Yang as a genuine member of their family and not just a service android. When Yang first breaks down the family is forced to confront the immediate ontological differences between them, namely that Yang can breakdown in ways different to a human. But as they discover his memories and in turn remember their own, they realize that he has always already been part of the family, and the response here for Kyra and Jake is to grieve like one would if a family remember passes suddenly, like Mika has already done throughout.

The film also emphasizes an expanded notion of personhood over appeals to some sort of ‘humanness’ or common humanity that underpins liberal universalism. Towards the end of the film when Jake asks Ada if Yang ever wanted to be human, she scoffs and says “That’s such a human thing to ask, isn’t it? We always assume that other beings

would want to be human. What's so great about being human?" This is a key moment of the film. The access we get into Yang's interiority as proof of his rich inner life and his capacity to love and appreciate art, beauty, and family can all be read as markers of his humanity as Jake seems to think, but Ada understands the fallacy in this line of reasoning. These are all anthropocentric forms of evaluation for whether Jake is human and derive from a history of liberal humanist criteria for inclusion that have routinely been racialized to preclude the Other as insufficiently human. More important, it ultimately does not matter if Yang is human or not. Being a techno-sapien has not precluded his capacity to care for his family, to make bonds, to be a part of his community. These are separate from questions of his ontological identity. What Ada says Yang has struggled with is the question of whether he is Chinese. Ada says, "What makes someone Asian? He'd ask that all the time. Maybe he just wanted to help Mika understand what it means to be Chinese. He was dedicated to his little sister." Jake agrees that "Yang was a good brother. He's a great brother." Yang accepts that he is different sort of being than biological humans, and it is instead the imposed "Asian" identity put upon him that he struggles to contend with. Emily S. Lee argues that "Race does not lie as a superficial cover over the primary layer of common humanity; in a profoundly intimate sense, one lives race through the immediacy of the particular differences of one's embodiment" (7). For Yang, his status as an android is not in question due to the way his particular embodiment continually reinforces his difference from humanity. But his superimposed human racial identity as Asian causes him pause as his knowledge of being Asian (imparted as pure information in his mind prior to being-in-the-world) is at

odds with his experience of being an Asian android in terms of his embodied experiences of the world. Absent any actual experience of living and experiencing China, these are simply externally imposed aspects of his identity. Knowing about China and Chinese history is different than the experience of navigating the world as an interpellated Chinese person, and what Yang questions here is whether teaching facts about China was really synonymous with teaching Mika what it meant to live and experience the world as an Asian minority in America. What he is sure of, and what Jake here comes to understand, is that he is a member of this family, and that he cares deeply for the members of his family.

**Lifecycle of Software Objects**

In *Lifecycle* we are introduced to digients, artificial digital life forms that are initially created as digital pets for consumers by the software company Blue Gamma. Consumers are able to log on to a virtual world, Data Earth, where they can play and interact with their digients in 3D space. Our protagonists are Ana—a former zookeeper turned digient-keeper who is hired to help train and educate an initial batch of digients to make them suitable for release to the public—and Derek, who designs the skins/avatars the digients inhabit and which shape their interaction with the world. Unlike Yang, who resembles a young adult from his purchase, the digients in *Lifecycle* are far more like young children and grow and develop as such over the course of the novella under the care of Ana and Derek. This notion of raising an AI, as opposed to merely programming it, has a long history. Alan Turing's seminal paper "Computing Machinery and Intelligence," which the novella's cover makes references to, devotes an entire section to

the notion of the child machine and the idea that to develop an AI that can pass for human requires raising it and acculturating it in much the same way one would do with a child. This is a process that emphasizes knowledge acquisition as a process of phenomenological engagements with the world over imparting predefined information through programming. But the stereotypical way this notion of kinship generally manifests in literature is distinctly patriarchal, focusing largely on the genius creator's relationship to their mechanical progeny. Much of this legacy is owed perhaps to the influence of Mary Shelley's *Frankenstein*. *Lifecycle* seems to draw from Turing's insights into the necessity of raising an AI, but as neither Ana nor Derek is directly responsible for the initial programming of their digients, it eschews any consideration of the relationship between creator and creations which, I argue, allows the text to foreground a more heterogenous exploration of familial relations between human and non-human. Relatedly, the novella takes seriously Turing's suggestion that an AI be given only the basic capacity to grow and develop, acquiring its intelligence through a learning process much the same as human children. This differs from the stereotypical process of creating intelligent AI posited in both science fiction and research where an AI is pre-programmed with a high level of abstract intelligence and knowledge prior to instantiation, even if it may lack sociality and emotional nuance. The novella thus rejects the notion that abstract intelligence and reasoning in AI can exist outside of the processes of human socialization. Chiang makes a persuasive argument for viewing the creation of intelligent AI as a process of care and nurturing akin to raising a child instead of a technical issue of programming or engineering.

At the core of the novella is the insight that "experience is algorithmically incompressible" (163). While an AI may be programmed with behaviors, drives, and bodies of knowledge, there is no way to program the phenomenal experience of interacting with the world, particularly with other people. And if we accept that phenomenal experience is synonymous with the construction of a subject's selfhood, then we can note that the subjectivity itself is algorithmically incompressible. This is the reason that Ana is hired in the first place, despite her lack of experience in computer science. The team at Blue Gamma believe that her experience as a zookeeper would allow how to successfully train and raise the digients. When she is first introduced to the digients in their habitat it looks to her on 'first glance to be a day-care center. On second glance it looks like a scene from a children's book" (64). The digients early on are positioned liminally between child and animal. They are overtly modelled after animal analogs, though with certain aspects distorted and emphasized to enhance their cuteness, but even at this earliest stage they are also capable of speaking and interacting with their handlers and one another. She meets a couple of chimp-based digients, and her friend Robyn informs her that these were "the smartest ones we've generate so far" to which Ana responds, "and you're going to sell them as pets" (65). Ana's statement does not seem to be accusatory here, but the immediate juxtaposition of these lines prompts the reader to begin questioning this impetus to make them smarter specifically in order to sell them. Already the novel begins to register a tension between wanting a being smart enough to economically exploit, but without the burden of granting that they are potentially deserving of rights.

Robyn notes that the engineers "aren't always able to get these guys to do what they're told, and we don't know who much of that is in the genes and how much is just because we aren't using the right techniques," (65) invoking the classic question of nature vs nurture in the context of the digients. Just like real children, the digients 'instantiate' with very basic capacities and must learn how to interpret stimuli, move, and engage with the world over time. They are kept in a 'hothouse', which is a specifically time sped up digital world in order to accelerate this initial process, but the rest of the teaching, including learning languages and social interaction, must be done in real time. The novella consistently emphasizes the point that certain things cannot be outsourced or approached via shortcuts. While they might be able to learn some basics from the accelerated hothouse, the core of their emotional and personal development must necessarily occur within the context of interpersonal social relations between the digients and the human where the actuality of their individual subjectivities manifest.

Facilitating this process of social interaction between the digients and humans also crucially requires developing digients that can appeal to their users or handlers. Derek's job is to design the avatars for the digients, and he has to balance not making them too cartoonish that people wouldn't take them seriously with not making them overly realistic which would make their capacity to speak potentially disconcerting. Derek's work speaks to the ways in which human interactions with technology, or potential technological beings, are not simply determined in terms of strict ontological evaluations but crucially mediated by phenomenal and aesthetic experiences of the object itself which is itself mediated by prior expectations and historical experiences. Mark

Coeckelbergh argues that in a phenomenological approach to human-robot relations that considers them as alterity relations, what is crucial is that the robot *appears* to us as a 'quasi' Other: "Differences are to be studied at the level of appearance: what matters for the human-robot relation is how the robot appears to human consciousness. Ontological differences—what the entity really is—become irrelevant to the development of the human-robot relation as an alterity relation" (Coeckelbergh, Humans, Animals and Robots, 3). Contemporary AI research supports the validity of focusing on the phenomenal experience. Kate Darling's work, for example, illustrates that humans anthropomorphize and form emotional attachments to social robots. The more a robot displays physicality, autonomous movements, and social behavior, the more likely it is to engender what is termed the 'caregiver effect' and prompt affective attachment. Crucially, this seems to be true even when the subjects are fully aware and cognizant that these robots are not in any way conscious or sentient. The phenomenal experience undercuts ontological evaluations. (Darling). While these are example of real-world robots, Coeckelbergh goes on to note that similar relations with "virtual robots are possible provided that the technological medium delivers a sufficient degree of immersion" (Coeckelbergh, Humans, Animals and Robots, 5), which the fully developed virtual reality of Data Earth certainly provides.

Though the digients are generally based on animal analogs, the novel reminds us that these are unique AI beings through the introduction of Jax, a digient that is built to resemble a Victorian-era steampunk robot who eventually becomes the digient that Ana is closest to and ends up adopting as her own and raising. Derek is at first skeptical about

the value of a digient meant to look like a robot, but Ana is immediately sold on the idea as she recognizes the digients don't behave like animals even if they might resemble them. Derek reflects to himself that "the digients aren't animals any more than they're traditional robots, and who's to say that either analogy is more accurate than the other" (70). Derek starts to understand that these are entirely new life forms and any surface level skin he designs for them is a construction untethered to an ontological base. What is important about these skins are how they facilitate and affect the human interaction with the digients. Despite the fact that Ana was a zoologist before working for Blue Gamma, the digient she ends up adopting and raising over the course the of novella is the one with a Victorian Robot avatar which emphasizes that Ana is not simply translating her affection for animals onto these digients but approaching them as new being in themselves. The specifically non-human corporeality of the digients allows the text to create, as Gail Weiss argues for, "new images of the body, dynamic images of non-docile bodies that resist the readily available techniques of corporeal inscription and normalization that currently define "human reality" (67). AI literature and science fiction more broadly allow for the construction of beings that inherently push up against our existing norms of social interaction and force us to reconsider patterns of interaction we take for granted. The metaphor of the digients starts much closer to pets because that's what they're meant to resemble in their status as marketable products, but they ultimately gain intelligence that brings them up to a human child level and then beyond. As the process occurs, Ana and Derek are increasingly faced with difficult questions of how the digients intersect and depart from preexisting comparisons.

While aesthetics is a prominent part of the digients profile, it is also their behavior that will affect how humans respond to them. The selection of the final digient candidates for public release is described as 'partly… a search for intelligence, but just as much… a search for temperament, the personality that won't frustrate customers" (72). In some ways we can read this as an overarching goal of AI technology development in social contexts, the search for an intelligent/competent AI with the right temperament. Post-apocalyptic fears of an out-of-control AI can be read as a fear of an intelligent AI without the right temperament. The novella considers two competing versions of what we seek out of AI under the contemporary market logics of capitalism: "the consumer's dream of AI: a butler that is utterly loyal and attentive from the moment it's switched on" and "the technologist's dream of AI: an entity of pure cognition, a genius unencumbered by emotions or a body of any kind, an intellect vast and cool yet sympathetic" (158-159). The digients turn out to satisfy neither dream, and while they are initially popular, they do not have the right temperament to generate profit consistently. But family and kin relationships are often about navigating conflicting temperaments and finding mutual resolutions. A parental or kin relationship is one that has to account for difference in compatibility unlike the market logics around buying the digients that see them as disposable products.

The problem with the digients as the novella progresses, lies entirely in their incapacity for monetization and not on the inherent characteristics of the digients themselves. *Lifecycle* offers a persuasive look at precisely why an ontological or utilitarian mode of ethics is most conducive to capitalist expansion particularly in the

case of AI. An AI attaining subjecthood is threatening because it ceases to be a viable point of capitalist exploitation and extraction either as product itself or as a source of labor that does not require renumeration. As Steven Shaviro notes in his reading of the novella, "If the point is to automate [undesirable] jobs, so that conscious beings don't have to endure them, then developing self-conscious AIs is economically and ethically counterproductive" (97). Ontological evaluations are crucial in the process of determining which beings are amenable to being exploited. We see this clearly with Ana and Derek's unique relationships with their digients, which are developed through their time spent together and experiences with their digients that convince the two of them of the value of these beings even if they are not human. When owners on the digient forum suggest training their neuroblast digients for productive activities like some other types of newer digient, Ana is hesitant and emphasizes that if they do this, it should be entirely disconnected from a monetary endeavor: "Maybe Jax can make money, but Jax isn't for making money. He's not like the Draytas, or the weedbots. Whatever puzzles he might solve or work he might do, those aren't the reason I'm raising him" (114). Ana insists that her raising of Jax, just as with a child, is untethered to monetary gain or use value. In contrast to Ana and Derek, there are range of responses to those who have digients, from initial purchasers who are simply unhappy with what they consider to be a product and return them, to those who are more sympathetic to the digients but nevertheless find it acceptable to shut them down or abandon them when circumstances make it difficult to care of them. Derek's relationship with his partner ends in a divorce over the course of the novella in part because she is not able to accept his digients as kin in the same way as

Derek. Charles W. Mills argues for an understanding of personhood as both ethical and political. It is ethical in expressing the "moral standing of human beings (and intelligent aliens, if they exist)" and their attendant rights. But it is political-economic in so far as those rights are not intrinsically determined on the basis of being human "but by their social recognition/nonrecognition as moral equals." Thus, he notes that "even if all humans are objectively persons, they will not be intersubjectively recognized as such unless they have a certain status within the political economy" (Materializing Race, 33). The history of AI literature and discourse is fraught with contradiction due partly to the ways in which an emphasis on the ethical status of AI as derived from their ontological status fails to account for the political economy in relation to which they are judged intersubjectively. The focus on how digients are accepted or not based on their relation to economic gain attends precisely to this political economy within the context of how familial and kin relations are expressed.

An early example in the novel of tension between those who begin to accept the digients as part of their family in some way, and those who merely view them as a product, is on the online forums that develop for owners to discuss their digients, sharing successes and asking for tips, in ways that sit uneasily between tech support and parenting advice. When a digient parent posts asking for help with a Lolly-model digient that is naughty and keeps turning out naughty no matter when the owner resets to, Ana responds suggesting that this is simply a common part of the process of raising this digients and that rather than trying to prevent this problem from occurring at all by reverting to an earlier build, the owner should try to work through it with her Lolly. The

impulse to reset is a common response to technical problems. Turning something off and on again is a common first step in any trouble shooting and so is reverting to an earlier save in the case of data corruption. But these methods take on a different hue when applied to an artificial being. In *After Yang*, the idea of simply resetting Yang or saving what parts are still salvageable is unconscionable to the family. Yang is not the machine but is rather the experiences housed in his body. Their family member is not Yang's mechanical body but Yang himself. Similarly, the digients appeal is in being unique specifically due to their experiences. Blue Gamma sells copies of their mascot digients but stress to their buyers that these are not perfect copies and will develop differently according to their environment. The programming is a place to start, but it is the experience and memories of these beings that define their existence, and importantly these experiences and memories are necessarily products of interpersonal relations with other people. Phenomenology is a valuable approach to thinking about ethics because its lays bare the failure of an ontological approach in ethical engagements with the Other, due to the lack of consideration for the effect of interpersonal relations in subject identity formation. Mark Coeckelbergh consistently emphasizes this in his work on AI ethics. Coeckelbergh argues from a Levinasian standpoint of ethics preceding ontology, it is our encounter with the Other and our response to the Other that defines the Self. Where traditional models of moral ascription fail are in uncritically accepting the possibility of an objective 'view from nowhere' understanding of the ontological differences between a human and AI which then determine moral standing. As Coeckelbergh and others such as Ahmed point out, these ontological differences, such as the existence of consciousness

and emotions, are fraught and currently impossible to accurately identify, and we have made mistakes on these questions in the past. Coeckelbergh also notes that "Once we take into account an epistemology where subject and object are no longer independent from one another, we have to consider how this ascription comes about and what must be presupposed on the side of the subject – which then shapes the object" (Why Care About Robots, 10). Thus, even beyond the question of whether ontological status can be answered objectively, the reality is that moral ascription is driven by the presuppositions, societal language, culture, personal experience etc. that all make up a subject's experience of an Other. In engaging with the robot or AI, Coeckelbergh notes that "our personal construction of the robot is influenced by the way our culture constructs machines, and this construction is not only a word process but also a living process, it emerges from a living and changing whole we call "society" and "culture". There are already patterns of interpretation, patterns of action (habits), patterns of living, and indeed patterns of evaluation" (Moral Standing of Machines, 9). The digients, like the techno-sapiens in Yang's world, may be built to specific specifications but their existence is produced through their relationship with others, and our presuppositions about their existence color our engagements. Reorienting towards a phenomenological ethics requires accepting responsibility for our relations with these beings on a deeper level. They are then no longer products but part of a reciprocal relationship with those that initially bought them.

This reciprocal relationship reframes the human relationship with an AI as a distinctly affective one rather than a consumer relationship or one of purely technical

development. The success of the digients begin to draw clients that are interested in the possibilities of the digient genome outside of the pet context. One group of enthusiasts commission a custom version of the digients designed as aliens "with three legs, a pair of tentacles instead of arms, and a prehensile tail" (87) as well as a distinctive personality radically different from the versions Blue Gamma were selling. Their goal is to raise these digients in a private digital continent isolated from the rest of the world to simulate the development of an alien species they name Xenotherians. Derek is pessimistic about the possible success of the endeavor because the alien nature of these Xenotherians would mean they wouldn't be able to offer the sort of pleasure and joy that he and Ana get from raising their digients. He notes that "the rewards will be purely intellectual" (87) and wonders if that would be enough to sustain their interest considering the scale of years it takes to raise the digients. The novella thus asks us to consider what sort of motivations are necessary to sustain the development of a conscious and socially integrated AI, suggesting that purely intellectual pursuit would not be enough.

Similarly, it suggests that financial return and profit would be at odds with this endeavor. When the digients began to leave the infancy stage after a few years of existence, they start to become too much work for their owners who desire far more docile beings than the increasingly curious and demanding digients: "In breeding [the digients] Blue Gamma aimed for a combination of smart and obedient, but with the unpredictability inherent in any genome, even a digital one, it turns out the developers missed their target" (88). Owners begin to suspend their digients, while digital shelters begin to pop-up run by volunteers who accept unwanted digients and try to place them in

new homes, much like real-life animal shelters, but few people want to adopt a digient and they end up become storage facilities for these abandoned digients. Blue Gamma attempts to start a new product line with modified digients that are less cognitively complex and that they hope will stay docile forever, but there is no way to guarantee this without again going through the years-long process of raising these new digients which is a timescale at odds with the company's need to quickly turnaround their failing business model. The new product line is not enough to prevent the company from having to shut down and cease development of the digients. Blue Gamma's struggles with too intelligent and agential digients suggest that what society expects from an AI is not a fully autonomous conscious being but simply a being that's just smart enough to provide help or entertainment without being a bother. Chiang raises the question here if we're ready for the *responsibility* that comes with trying to reach for conscious AI.

In their essay, *A Defense of the Rights of Artificial Intelligences,* Eric Schwitzgebel and Mara Garza argue that "If we bring into existence a genuinely conscious human-grade AI, fully capable of joy and suffering, with the full human range of theoretical and practical intelligence and with expectations of future life, we make a moral decision approximately as significant and irrevocable as the decision to have a child" (11). *Lifecycle* makes a similar point and further emphasizes how few people might be willing or ready to take on this responsibility. When Blue Gamma shuts down, the workers are given the opportunity to adopt the mascot digients they had been helping to raise for the last few years, but unlike Ana and Derek, most are reluctant to do so as they see it as continuing their job without getting paid. Ana is particularly surprised that

one of her colleagues Robyn is not going to adopt a digient. Robyn reveals she's pregnant and when Ana suggests she adopts a digient to see how they would react to a pregnancy Robyn coolly rebuffs her stating she's "past digients now" and that's she "ready for the real thing" (93). Robyn argues that humans are evolved to desire children and that "Cats, dogs, digients, they're all just substitutes for what we're supposed to caring for" (93). Her newfound pregnancy makes her recontextualize her previous feelings for the digients as not real. Ana of course disagrees and sees in Robyn's attitude a familiar stereotype from her time working with animals that her "love for animals must arise out of a sublimated childrearing urge" (94). For Ana, caring for animals is a worthwhile endeavor in itself and she realizes that while she might not have thought similarly about the digients when she first started at Blue Gamma, she did so now after years of raising them. Through this juxtaposition between Ana/Derek and Robyn we can see that these presumptions of what feelings are real or not real are determined by the experience of the subject and observer and not the object of those feelings. Robyn's arguments follow from ontological and utilitarian perspectives on animals that would relegate them to having less value than a human. But these anthropocentric approaches are ill-suited for considering the phenomenal experiences and affective attachments one might have with an animal and in this case of *Lifecycle* they are particularly ill-suited for considering a human relationship with a digient as a being with agency, that lives and grows and is capable of clear and direct communication with their human counterparts. As Ana notes, her understanding of the digients is precisely due to her multi-year experience interacting with them, and this further deepens as she adopts Jax and brings him more directly into a parental

relationship outside of any work context. This phenomenal approach to understanding digients is also true of children and younger folk who are not cultured into a de facto understanding of digients as less than human. When Jax join an online community of dance enthusiast called 'breakers', the novellas notes that, "the adolescents who dominate these communities seem unconcerned with the fact that the digients aren't human, treating them as just another kind of online friend they are unlikely to meet in person" (124). This is resonant with how Mika similarly does not treat Yang as anything other than a sibling because that is her primary context for who he is. The type of ontological evaluation that would relegate an artificially conscious being to less than human, is a learned activity in these texts, and not an outcome of concrete relations between humans and these AI.

Just as Ana's interactions with her digients changes her relation to them, for the digients, their capacity to grow and learn are entirely dependent on their relationship with their human caretakers and not any inherent capacities. When a security breach in the Data Earth system allows for the copying of digients, an AI research institute is intrigued by the possibility of running copies of digients that are older and have more developed capabilities like the capacity to read, without having to raise these digients themselves. They are interested in whether these digients, if run in a 'hothouse' at enhanced speeds, could develop their own culture and community. They place these digients on private islands with a host of texts and digital libraries but no other interaction. Derek finds this idea to be ridiculous noting that "a bunch of abandoned children aren't going to become autodidacts no matter how many books they're left with" (105). And he turns out to be

entirely right, as the populations soon turn 'feral' and lose any of their prior acquired skills. The researchers try to modify their tactics by introducing various incentives to keep the digients motivated as well as punitive measures to discourage laziness, but this does not solve the issue and the researchers conclude that it is failure in the genomes that prevents the digients from developing culture. But Derek's believes differently: "They're blind to a simple truth: complex minds can't develop on their own. If they could, feral children would be like any others. And minds don't grow the way weeds do, flourishing under indifferent attention; otherwise, all children in orphanages would thrive. For a mind to even approach its full potential, it needs cultivation by other minds" (106). *Lifecycle* makes the argument that what generates a complex mind, artificial or otherwise, is not a matter of underlying architecture. It rejects the notion that true artificial intelligence is simply a matter of the right kind of software running on the right kind of hardware and suggests instead that any AI that can approach the complexity of human intelligence and sociality must necessarily be a product of human cultivation. Further, what Chiang interestingly teases out in this argument is how such a relationship between a human and AI, owing to the length of time and amount of interaction required for this process, would necessarily resemble an affective relation of kinship. Towards the end of the novella, Ana is offered a job at a new company, Polytope, training a different type of digients called Sophonce that are distinguished by their obsessive, single-minded nature which makes them more amenable to be trained for specific productive uses. However, the drawback of the Sophonces is their lack of social and emotional capacities that make it hard for humans to want to spend the extended amount of time necessary to train them. To

overcome this, the company's offer to Ana would require using "InstantRapport" which is a "path that delivers does of an oxytocin-opioid cocktail whenever the wearer is in the presence of a specific person" (138). The product is generally used to "strengthen rocky marriages and strained parent-child relationships" (138). Unlike many of the other AI companies interested in digients, Polytope recognize the need for real-time interaction between human and digient, but unlike Blue Gamma's approach of making "the digients lovable," Polytope "is starting with unlovable digients and using pharmaceuticals to make people love them" (164). There's a clear corporate understanding that a successful digient is the product of an affective relationship analogous kinship but a true loving-kin relation is not one that lends itself to economic exploitation and thus the company is forced to search for artificial substitutes to simulate the experience. And even with the substitute, the Sophonce digients are specifically distinguished by their lack of agency and capacity to develop in the same way as the older Neuroblast digients.

As Ana realizes by the end of novella in her negotiations with various AI companies such as Polytope, the corporate goal is to develop "something that responds like a person, but isn't owed the same obligations as a person," but Ana consider this an impossibility: "The years she spent raising Jax didn't just make him fun to talk to, didn't just provide him with hobbies and a sense of humor" they also provided him with the attributes these companies are invested in such as "fluency at navigating the real world, creativity at solving new problems, judgement you could entrust with an important decision" (163). Which brings us back to the core insight of the novella, that "experience is algorithmically incompressible." There is no way to overcome this limitation: "If you

want to create the common sense that comes from twenty years of being in the world, you need to devote twenty years to the task. You can't assemble an equivalent collection of heuristics in less time" (163). If we take this at face value, it is hard to imagine a relationship that can sustain 20 years of care, attention, and patience that does not develop into a relation of kin, that is not sustained by mutual love and affection.

What *Lifecycle* and *After Yang* offers us through their depictions of human-AI relationship is a reframing of our ethical frameworks away from ontological categories that have long failed to adequately account for difference. Rather than attempting to recuperate a liberal humanist understanding of subjectivity, they suggest a way of attending to Self/Other ethical relations as derived from phenomenal experiences, and subject formation as an inherently intersubjective process. In doing so, they offer us models of Asian futurism that are critical of techno-Orientalism tropes and stereotypes and expand the limits of our imaginative horizons.

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