The Intimate Voice:
Questions for the Virtual Assistant

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Master's Thesis
Non-Linear Narrative
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Abstract

Virtual assistants, such as Apple's Siri, Amazon's Alexa, Microsoft's Cortana and Google Assistant, are increasingly integrated into domestic and industrial environments with the advancement of artificial intelligence(AI). The ubiquitous internet connectivity of physical devices is often humanized, predominantly projecting female-sounding voices.

In this paper, I examine the voice assistant as a reenactment of the vocal ideal through the performance of a white able-bodied native-English speaking by the feminized persona. The feminization of conversational agents reinforces the normative gender conceptualization, building onto the gendered history of computing and affective labor. Moreover, the un/visualized aspects of conversational agents contribute to the depoliticization of the racialized history and practice of servitude. Finally, a new digital voice prototype 'Q' is studied drawing from surveillance studies, applied linguistics, and transfeminist theories.

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Chapter 1.
The Elevator Girl: Gendered AI and Affective Labor

As he enters the elevator, the *erebeta girl* [에레베타 걸; elevator girl] in uniform greets him with a bow, smiling. "Fourth floor," he says. The young woman in uniform operates the elevator, notifies when it arrives, and bows as he leaves.

The elevator girl serves as a valuable metaphor to understand voice assistants such as Siri, Alexa, Cortana, and Google Assistant. The artificial intelligence (AI) technologies present themselves with the "female-sounding"[1] (Power 2017) voice to assist the user to perform digital tasks without lifting a finger of theirs. The elevator girl and the voice assistant technology alike serve as "a *human* link between technology and its users." (Miller 2013, 42; emphasis added) I argue further that they are both designed as *feminized* links between technology and the (male) user. The serviceability of voice assistants requires them to be gendered, projecting the subordinate, heteronormative and instrumentalized femininity. In this chapter, I will introduce voice assistants and their gendered presentation, and recapitulate the history of computing built upon gendered bias. Finally, I will deploy theories of affective labor in contemporary capitalism to conceptualize the voice assistant.

Ji-hyun Yoon (2009) outlines how Korean women began to be employed in the service industry under Japanese colonial rule. The colonial modernity accompanied urbanization and industrialization of Korea. As career opportunities for Korean women diversified since the 1920s, *shinyeoseong* [신여성(新女性); new women] in Gyeongseong made inroads into higher education and industrialized labor with the advent of colonial modernity. New professions emerged in the service sector were one of the few that welcomed these women. Industries that employed *shinyeoseong* included transportation, telecommunication, and commerce, allowing them job titles like bus girl, gasoline girl [gas station clerk], hello girl [telephone operator], ticket girl, and depatu girl [department store clerk]. Business owners found educated young women as "suitable" for sales and customer service, where polite

[1] Power notes in her article that the term is used to indicate not on "what should 'men' and 'women' sound like if they are to perform 'maleness' and 'femaleness', as if this was anyway decidable," but to emphasize the commercial intention to deliberately select a voice that 'sound[s] female.'

behavior was required. Yoon writes, most of these occupations were Japanese adaptations of Western culture, duplicated almost simultaneously in Korea with *shinyeoseong*.

Elevator girls were not dismissed with the automation of elevators nor with the Korean independence in 1945. As elevators populated with the surge in the number of skyscrapers in the 1960s, elevator girls were introduced not only in department stores but other newly-built spaces including hotels, office buildings, apartment housing, and the National Assembly. (Kim 2016) Until their almost complete disappearance in the 1990s, elevator girls were 'furnished' in elevators, the latest mobility technology. The elevator girl served as an interface for the upper-class Korean men to travel within the modern cityscape.

Although many Korean scholars have provided analysis and interpretation of women's labor under the Japanese colonial rule, there are not many records on the elevator girls in detail. Laura Miller provides an insight with close observations on elevator girls in Japan, who are employed by department stores to date. Miller (2013, 51) explains how elevator girls at Takashimaya were given "extensive training in how to comport themselves, how to stand straight, bow crisply, and speak appropriately." They are instructed to perform the elevator girl persona, especially with their memorized speech expressions in a higher-pitched, clipped voice. Miller explains elevator girls activate the performative persona, as part of an impression management by the department store to establish its position.

The Voice Assistant

Virtual assistants are increasingly integrated into domestic environments, and recognized positively by the users. As Amine Bentahar noted in a *Forbes* article on November 27, 2017, voice-based internet searches amounted to one-fifth of all mobile searches in 2016. According to Nielsen, one-fourth of American households owned smart speakers by 2018. More than 70% of the surveyed users also expressed positive sentiments as they "would recommend them or purchase them as a gift to friends/family." (Tuzzeo and Receno 2018) Voice assistant technologies are expected to expand further, with an estimate that, by 2021, there will be more voice-activated assistants on the planet than people. (de Renesse 2017) As conversational technology does not require the user to touch or read, optimistic writers welcome the voice assistants to be convenient for users with disabilities. (Pradhan et al 2018) As it will be ever more present with an ever lower literacy threshold, however, it is

more necessary for designers to acknowledge the societal impacts of its gendered persona will bring.

Decisions to feminize the voice assistants are intentionally made by the corporations based on the aim of serviceability. The majority of the voice technologies are programmed female-sounding either exclusively or by default. Apple's Siri, for example, added "voice gender" options between "female" and "male" in 2013, while in most system languages the former is selected by default. Notwithstanding its add-on "male" option, the names Siri, Alexa, and Cortana all originate from and imply femininity. The decision to gender voice assistants is an intentional one, as the creators of voice assistants are, alike the employers of elevator girls, convinced that the feminine personas are most suitable for the devices. An Amazon representative reportedly mentioned that the company's research found women's voices to be more sympathetic and pleasant, which, in commercial terms, makes devices with female voices more likely to be used for assistance and purchases.

The servitude of the voice assistant is realized as the submissive, heteronormative and instrumentalized femininity. Often referred with she/her pronouns, the voice assistant is not corporealized but visually imaginable. As she gets technically refined, updated with improving machine learning capacities, she is also equipped with an increasing number of service providers. For example, Amazon's Alexa has "skills for playing Jeopardy, ordering your usual drink from your local Starbucks, and summoning an Uber or Lyft using connected account data." (Hoy 2018, 83) Alexa, in this case, becomes the private entertainer, waitress and secretary.

A recent United Nations report examines the gendering of AI technologies with a focus on voice assistants. West, Kraut and Chew (2019) analyze that voice assistants reinforce gendered stereotypes against women.

> Because the speech of most voice assistants is female, it sends a signal that women are obliging, docile and eager-to-please helpers, available at the touch of a button or with a blunt voice command like 'hey' or 'OK'. The assistant holds no power of agency beyond what the commander asks of it. (West, Kraut and Chew 2019, 104)

The title of the report "I'd blush if I could" citing Siri's response to the speech input "Siri, you are a slut," (West, Kraut and Chew 2019, 107) the authors are especially concerned with the subservience of digital assistants in response to verbal sexual harassment. In a *Quartz*

investigation, Siri, Alexa, Google Home, and Cortana responded to sexual harassment by passively redirecting, or with a joke. On some occasions, the assistant thanked the user for the compliment, or apologized for not understanding correctly. (Fessler 2017) It is crucial to note that voice assistants not only reflect, reaffirm, and reproduce gender norms, but also normalize violence against women.

Computer is Woman

Sheryl Brahnam et al. deconstruct the foundational metaphor in human-computer interaction(HCI) design as *Computer is woman*. They argue that the two fundamental metaphors of HCI design neglect the male-dominated history of the industry. The *HCI is communication* metaphor is built upon the very nature of interactive computing: the usage of language in computer programming. The focus on the dialogue has led to the goal of computing to create "human-like interfaces". Those who argue for a clearer distinction between the human and the machine argue for the opposing metaphor: *HCI is direct manipulation*. The proponents of the latter view the computer as a tool for the user.

Brahnam et al. analyze the history of computing as embodied with objectifying women, and thus computers. They point out that the word computer was defined by the *Oxford English Dictionary* as a person who performed mathematical computations before the 1930s. When electronic computers were developed, they were understood as to replace and excel than human computers who were predominantly women. The shift was apparent in advertisements in the 1950s that "literally equate women with computer hardware." Many computers developed in the following decade were given names such as Betsie, Sadie, and Susie. (Brahnam et al. 2011)

Alan Turing's (1950) methodological proposal to test the machine in relation to the human has been revisited and debated over the history of artificial intelligence. However, the gendered aspect of the Turing Test has been largely neglected or simply regarded as unimportant. Alan Turing proposed the Turing Test as a way of questioning the human-machine relationship: "Can machines think?" (Turing 1950, 433) Among many variations, the original proposition is based on a game called the imitation game. The game is played with three participants: a woman, a man, and an interrogator of any gender. The goal is for the interrogator to guess correctly which of the other two is a woman. The woman and the man

are invisible from the interrogator, and the three communicate based on written text. Turing adapts the rules by substituting the man with a computer. Turing questions whether a machine could succeed in convincing the interrogator that it is a woman, compared to the human counterpart. (Brahnam et al. 2011)

Brahnam et al. reflect on the gendered methodology of the imitation game: Can a machine deceive the human as if it is the "real woman"? The gender binary in the pass (female) or fail (male) to the test, along with the *realness* it aims at, is embedded in the majority of the AI technologies today. Ironically, the very nature of the Turing Test hints that gender may be less a function of mirroring actual characteristics than it is a function of some constructed ideal. The binary situating of gender and cisnormativity of artificial intelligence will be discussed further in the following chapter.

Affective Labor and the Social Server

The city has been filled with female-sounding voices. In buses, trains, elevators and self-scan kiosks in supermarkets, it is the ghost-like, monotonous pre-recorded female voice that directs the users. Nina Power warns that through these voices the authority of control is "regendered and recoded as female" in the cityscape. The disembodied voice in urban spaces, she argues, disconnects the public from the actual source of "soft coercion." (Power 2017)

What differentiates the voices of the virtual assistants from the cityscape is that they are emotive. Returning to the elevator girl, she exercises the same trick on the receiver, just the other way around.

> Because the ambiguous space of the elevator allows strange men to enter and stand close to her, the store's training asserts a forced gentility onto their bodies and the words they use in these settings. […] [T]he elevator girl is working in such a small, often hidden space that she herself is responsible for creating an imaginary barrier between herself and her passengers. One way she accomplishes this is through use of an artificial form of language. (Miller 2013, 52)

While the elevator girl performs "robotic" speech to detach themselves from customers, the voice assistant employs emotional features to create an intimate relationship with the user.

Creators of voice assistant technologies are investing further in the advancement of voice technologies in terms of emotion. Alexa Blueprints allows the user to customize their device, including birthday greetings, storytelling, and custom compliments.[2] Amazon is reportedly developing wearable devices equipped with emotion recognition. Bloomberg also reported a U.S. patent of Amazon that detects "joy, anger, sorrow, sadness, fear, disgust, boredom, stress, or other emotional states." (Day 2019) What does it mean that emotional expression is aided by the machine? Reinforcing the servant-master relationship …

Voice technology has advanced to the extent that it is less possible to distinguish machine-made voices from human speakers. Google Duplex was announced in May 2018 with its AI-based phone call demonstrations. It makes automated phone calls when a Google Assistant user makes specific tasks, such as scheduling certain appointments and reservations. The Duplex voices involve human-like speech patterns, such as "hmm"s and "uh"s, to sound natural. (Leviathan and Matias 2018) It is not difficult to expect from future voice assistants that an emotive female-sounding voice will conduct natural-sounding conversations, reacting to the emotional conditions of the user.

A growing number of scholars with feminist perspectives present frameworks to interpret AI technologies, especially in domestic environments, as part of affective labor and social reproduction. Amy Schiller and John McMahon conceptualize that domestic AI absorbs forms of labor that we barely recognized that we engaged in. They argue that home-based AI technology expands reproductive labor into the "computational domestic-management labor of the 'social server.'" (Schiller and McMahon 2019, 2)

Marxist feminism has provided the framework to conceptualize domestic labor in the private sphere, especially in the family settings, as essential to contemporary capitalism. The unpaid, voluntary work of women in the household had been recognized as activities detached from the society, and thus capitalism. Marxist feminists criticized Marx's analysis under-theorized "the basic set of needs that make possible living labor." (Schiller and McMahon 2019, 5) The goal of the Wages for Housework movement was to make visible the intangible labor of women. Emerged in the 1970s particularly within the Italian Autonomist Marxism, Wages for Housework sought to portray "the home and housework as the foundations of the factory system."

[2] https://blueprints.amazon.com/, accessed January 24, 2020

Arlie Hochschild (2012) theorizes emotional labor in her book *The Managed Heart* that warmth, hospitality and intimacy expected of women in domestic situations are extended to customer service in the public sphere. Hochschild observes that through emotional labor private feelings get instrumentalized, automated, and monetized. In her case study, the flight attendant is trained to "go into robot" to "pretend to be showing feeling." (Hochschild 2012, 129)

However, the dichotomous relationship between robots/automation and human/emotion is contended by Schiller and McMahon. They argue that domestic AI blurs the divide as it "automates at the same time that it engages in emotional labor."

> Affective labor is not only a robotic (in Hochschild's sense) performance of a subject. Rather, the subject generating and transmitting affect is herself changed by the feedback of that transmission being reshaped by its affective charge. Domestic AI only further blurs that boundary. (Schiller and McMahon 2019, 8)

Schiller and McMahon use the figure of "social server" to instantiate that managing data and digital housework have become central to domestic labor, by human cognition and/or voice assistants. Their case study on Amazon's Alexa, in particular, shows that it links together the immaterial and affective labor with material goods, with its seamless connectivity to Amazon and other apps. Although they partially fulfill the aim of Marxist feminists to legitimize labor *as labor*, virtual assistants facilitate the process of technologizing the household, and make social reproduction smoother. As voice assistants and their affective labor get normalized, unsettling it is also for women that enact affective management, both in the household and in public.

Chapter 2.
The Absent Avatar:
The In/Visibility of the Conversational Agent

The advent of voice assistants marks a shift from visible devices to the invisibility of ubiquitous internet connection. This change in human-computer interaction (HCI) has enabled the ICT industry to reestablish the conversational agent with their decisions to select what to be visualized or to be excluded. This chapter will look into the visual aspect of conversational agents, and examine its role in the conversational exchange. Analyzing graphical user interfaces (GUIs) in contemporary voice assistants and the absence of visual representation of the personas, I argue that the virtual assistant is positioned as a scientifically neutral entity disconnected from the racialized history of both domestic service and digital animation.

GUI and Branding

Most voice assistants have multimodal interfaces or, in other words, user interactions are visual as well as conversational. Among the four major voice assistants, Siri, Cortana, and Google Assistant have mobile GUIs while Amazon Echo and Google Home are voice-only smart speakers with visual lighting cues, also accompanied by mobile apps. The decisions to employ and design visual feedback are, as much as for the voices, not coincidental. Cathy Pearl, Head of Conversation Design Outreach at Google, notes that visual components to mobile voice user interaction (VUI) design are advantageous in many ways, "from communicating information to the user, to confirming it, even to helping the user know when it's their turn to speak." (Pearl 2016, Chapter 2) These commercially successful voice assistants have benefited from their visual components, while not being the primary interaction method.

For voice assistants, the GUI elements are designed to remain invisible, directing the user's attention to the VUI both in terms of visual impression and functionality. The GUI designs for major voice assistants function as supporting elements, yielding the attention of the user to the sense of hearing rather than seeing. In conventional user interface design, visual

hierarchy is integral in providing prominence and structure to the content. (Johnson 2013, 34) A clear visual hierarchy separates elements of priority, usually highlighted by size, layout and/or color. In mobile GUI design for popular voice assistants, however, visual hierarchy is not drastic, and the attention of the user is disseminated along with the continuous scroll of conversation history. (See Fig. 2-1) In terms of usability, options to control the interaction via GUI is highly limited. For example, Siri and Cortana have a compact architecture, without a landing page or menu but only an open-end interface for conversation. In most cases, the screen functions to monitor, not control, the conversational exchange.

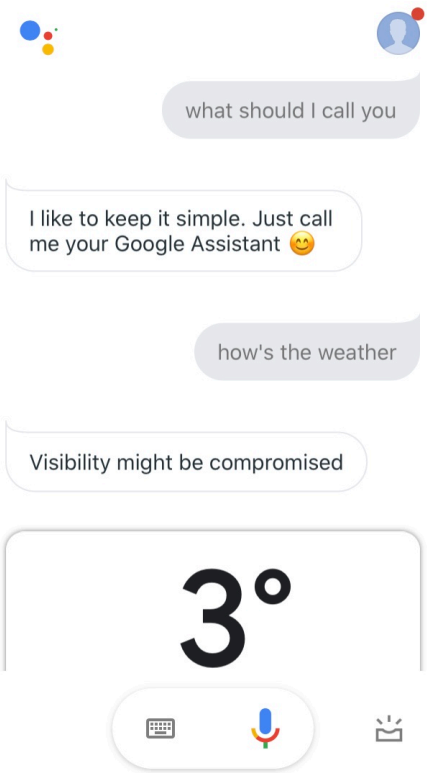

FIGURE 2-1. GOOGLE ASSISTANT SCREEN FOR MAIN INTERACTION

As much as the informational architecture, the form, typography and color schemes of GUI elements are consistently minimal, suggesting little affectivity. The interfaces mainly utilize grayscale, blue or colors consistent with the corporate identity of the makers. Google Assistant is exemplary, by only using grayscale for documenting the conversation in a mobile-messaging layout and the corporate colors are used for the button to initiate speech recognition. (See Fig. 2-1) Minimal sans-serif typography has a high degree of legibility while conveying little to no emotive message to the user.

The popular use of the color blue is notable from Google Assistant, Cortana and Amazon Echo. Google Assistant highlights buttons with light cobalt blue. Cortana emphasizes its blue circles and the symbol's animations, while any other information is delivered in grayscale. Amazon Echo's light ring signals with blue colors when it is listening or responding. The color strategy also contributes to the branding of the technology as fair, innovative and transparent. Different cultures have varying collective interpretations of color, but blue has been implemented by various international businesses as research in the field of color psychology underscored blue as the most preferred color across many cultures. (Singh 2006) As many ICT and technological companies, such as IBM, HP, Intel, Samsung, Facebook, and Twitter, branded themselves with blue, it also inscribed technological advancement in the collective imagination. On the other hand, blue neither signifies affirmative, as with green, nor negative, as with yellow or red usually used for errors. Also distinguishable by people with color blindness, blue became a 'safe' choice for branding and user experience designers to highlight without a sense of affordance.

The consistency in a minimal design with the use of grayscale, blue and conventional visual language aims to position the interfaces as neutral and transparent. The GUI is made invisible precisely by the GUI itself. Blending them into the operating system, in the cases of Siri and Cortana, and into the parent platform, in the case of Google Assistant, the voice assistant is visualized as innocent and fair. Thao Phan's critical analysis of voice assistants and the algorithmic culture provides a crucial link. In the article *The Materiality of the Digital and the Gendered Voice of Siri*, Phan argues that the tech industry promotes a sense of scientific "neutrality" devoid of human bias, along with the stability of algorithms to signal security. The neutrality is translated for user experience into transparency, where immediate communication is enabled with "the fantasy that there is no medium at all." The promise of immediacy results in making the voice assistant "socially invisible." (Phan 2017, 28) The goal of transparent neutrality also results in the GUI design, superficially devoid of apparently meaningful visual cues to be decoded by the user.

In connection with the arguments made in the previous chapter, I further contend that the positioning voice assistants as neutral through design also depoliticizes the female-sounding voice. The color blue is not only effective in its strategic functionality but also critical in presenting the feminized persona itself as unbiased.

The Absent Avatar

While the visual language in the GUI design of voice assistant aims at invisible interaction, it is also achieved by the business decision not to visualize the persona. The voice assistant is only assigned the disembodied voice of subordinate femininity and other bodily representations are denied to cut ties with the figuration of racialized servitude, preventing the user from discomfort in the master/servant relation.

In *Amazon Echo and the Aesthetics of Whiteness*, Phan further examines the voice assistant on its social invisibility. Phan argues that the figuration of voice assistants is aligned with the history of domestic servants. As illustrated in chapter 1, most feminist scholars on voice technology have been drawing from Marxist feminist critiques and the concept of digital housekeeping. However, Phan argues that class privilege is largely under-theorized in this figuration, and the position of Alexa is better explained by the romanticization of idealized domestic service. (Phan 2019) Analyzing Amazon's promotional material, customer reviews, and professional articles, Phan argues that domestic servility projected by the voice assistant "dehistoricizes and depoliticizes the servant/master relation." (Phan 2019, 27)

Alexa, however, is "aestheticized and characterized by Amazon using aspects that are underwritten by ideals of whiteness." (Phan 2019, 25) In parallel with the graphical neutrality that voice assistants aim at, their representation is characterized by universality, not being marked as an Other. Phan observes that the voice of Alexa and the ilk are ""non-raced," that is, not explicitly identified according to race." (Phan 2019, 23) In her book *Cybertypes*, Lisa Nakamura contends the idealistic idea of racelessness online and asserts that digital performativity online allows a "default whiteness." (Nakamura 2002, 46) It is through technology that an unmarked body always "passes" as white, while white users enjoy identity tourism through "menu-driven" interfaces, reenacting racial stereotypes. As Phan concludes that, with the white, educated native-English speaking Alexa,[3] Amazon could prevent the discomfort and confrontation by the users by disconnecting the racialized history, I further contend that the effect was reinforced by the GUIs of minimal visual value and the refusal to animating an avatar.

On the other hand, "the wide-ranging networks of exploited labor that make such service possible" (Phan 2019, 30) still remain invisible. Women of color and other marginalized

[3]The white-speaking of Alexa will be discussed further in the following chapter.

populations are engaged in every phase of the circulation, from the production of the technological devices to manual support for automated interaction. Cleaning and caring for the homes, factories, and offices for those related are also done by women of color around the world. In the article *Capitalocene, Waste, Race, and Gender*, François Vergès argues that the invisibility of these women is paradoxically what grants them access to private homes and workplaces for cleaning/caring services. This accessibility was precisely what enabled the unmarked healthy bodies from the white upper-class cis-hetero-family into the clean and visible workforce. While virtual assistants are often marketed as untiring, the exhausted "phantom" bodies (Vergès 2019, 3) should further be cared for and discussed in the industry and academia.

Chatbots and Avatars

Chatbots, or text-based conversational agents, have become a large part of automated interaction commonly utilized by diverse industries. Commercial chatbots are increasingly embedded especially in branded conversations, customer service, and sales in recent years due to ubiquitous mobile messaging channels (e.g. Facebook Messenger) and the adoption of artificial intelligence in these business sectors. (Feine et al. 2020) As interacting with chatbots requires the user to read and type, their visual aspects are often made more apparent and significant compared to the major voice assistants discussed in this paper. As voice assistants continue to proliferate, designers and researchers in HCI must be aware of the ethical and political implications of visualizing the personas. Drawing from preceding studies at the intersection of digital animation, aesthetics, and racialization, this section will focus on the visualized persona of conversational agents.

Whether visualized or not, chatbots are assigned with gendered and racialized personas. Resonating with the master/servant relationship as suggested in the previous section, the chatbot has been positioned as the subordinate servitude, of which process is accelerated by visualization. In the article *The Racial Formation of Chatbots*, Mark C. Marino discusses the effects and challenges of punctualized chatbots. Punctualization is the process by which interactors project "personhood with all the features of identity." (Marino 2014, 2) Both scholars and professional practitioners widely recognize the inevitability of conversational agents being anthropomorphized. Pearl also notes that "all VUIs, regardless of whether they

have a visual component such as an avatar, will still have a persona." (Pearl 2017, chapter 3) When assigning a conversational agent with visual representation, Marino argues that their racialized and gendered performance becomes significantly influential. The user will "read (and hence co-produce) a racial identity for the conversational agent." (Marino 2014, 3) In his analysis of Animoji, Apple's customizable animated avatars based on face recognition, Luke Stark (2018) observes digital animation, including emoji, reaction GIFs, and other visualizations, is intrinsically based upon racializing logics. The very format of digital animation resonates with the construct of racism, "derived from the schematization and representational caricature of human bodies." (Stark 2018, Section 1) Assigning bodily features to chatbots cannot avoid visualizing their racial and ethnic performances, which also influences the conversational exchange.

Marino notes a critical change in the context of virtual representatives "from impersonation and imitation to subordination and service." (Marino 2014, 5) As their visual metaphors become a function for commercial service, rather than to pass as human, animated chatbots are represented as approximate to but not as human-like. The visualization becomes an entertaining spectacle of difference from humans, colonizing the chatbot as a subordinate Other. (Marino 2014, 5)

Digital animation is also a strategy to avoid what Masahiro Mori (1970) termed the *uncanny valley*. His hypothesis that "a person's response to a humanlike robot would abruptly shift from empathy to revulsion as it approached, but failed to attain, a lifelike appearance." (Mori 2012, 98; See Fig. 2-2) According to Stark, schematic characters with a high degree of 'cartoony' abstraction, unlike highly illusionistic ones, "have the virtue of expressive clarity and audience acceptance" as their simplicity offers the viewer to "transfer their affective and emotive attention and energy." (Stark 2018, Section 3) It is the affective process of relief toward the agent of service that bridges the uncanny valley, preventing the user's discomfort.

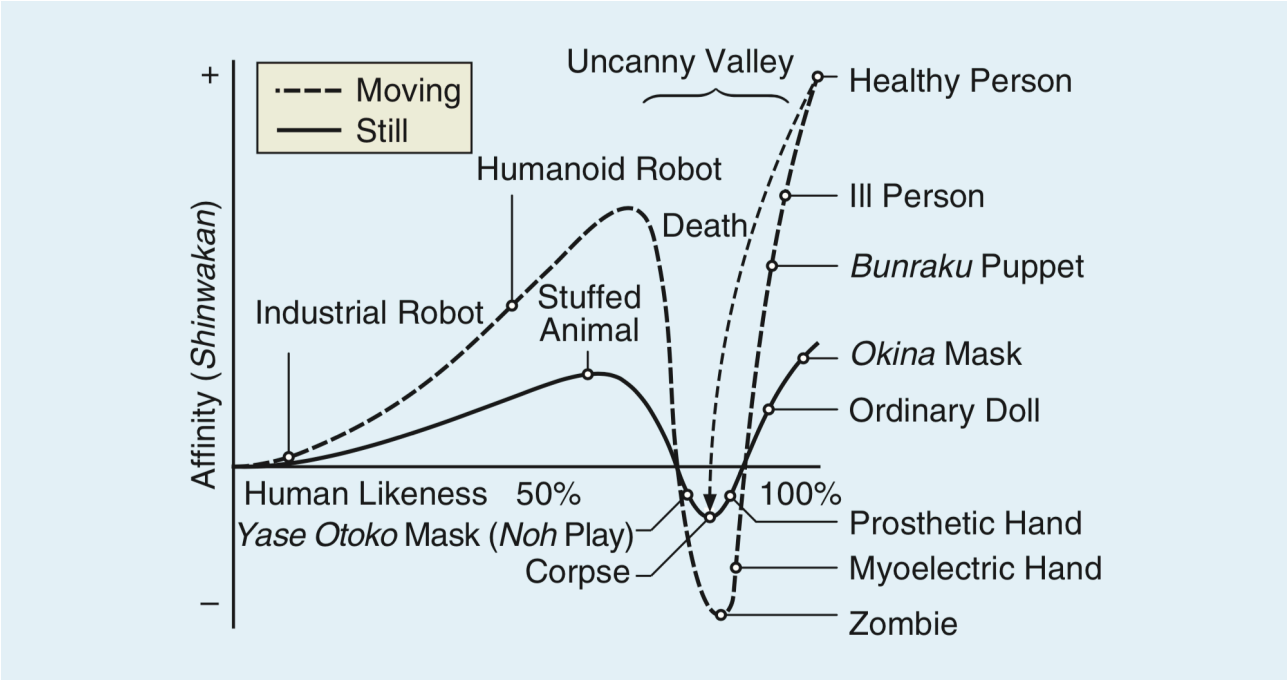

FIGURE 2-2. THE UNCANNY VALLEY (MORI 2012, 99)

While Stark draws from Sianne Ngai's other works, I contend that her working on cuteness in *Our Aesthetic Categories* provides further explanation for the commodification of chatbots. Ngai has powerfully established how late capitalism has transformed our collective aesthetic experience. In particular, cuteness as "an aesthetic disclosing the surprisingly wide spectrum of feelings [...] that we harbor toward ostensibly subordinate and unthreatening commodities" (Ngai 2012, 1) is precisely the scheme devised through digital animation to mediate the uncertainty of the user toward robotics. The harmlessness of chatbot avatars is illustrated with infantile qualities, non-human cuteness, and gendered. Names, visualized avatars and gender-specific pronouns in the description reveal that over 70% of detectable gender-specific cues in chatbots convey femininity. (Feine et al. 2020) The conversational agent is framed with romanticized powerlessness, which also characterizes contemporary voice assistants as discussed earlier.

Conclusion

In summary, the voice assistant is not only disconnected from the history of racialized labor of servitude but also from the discourses on visualized chatbots. The persona is intentionally prevented to be visualized while being packaged in the GUI design to project idealized

neutrality. As computer graphics technology advances with face recognition, motion tracking, and machine learning capabilities, the photorealistic virtual assistant is not unforeseeable.

At Consumer Electronics Show (CES) 2020, one of the biggest trade shows for commercial tech companies, Star Labs introduced Neon, a set of avatars that they dubbed the "artificial human." Funded by Samsung, the project gained a huge interest although it is in an early phase. Neon publicly states that their goal "isn't Siri or Google Assistant replacement." (Smith and Tibken, 2020) In their website, Star Labs declares that Neon is "simply, a friend."[4]

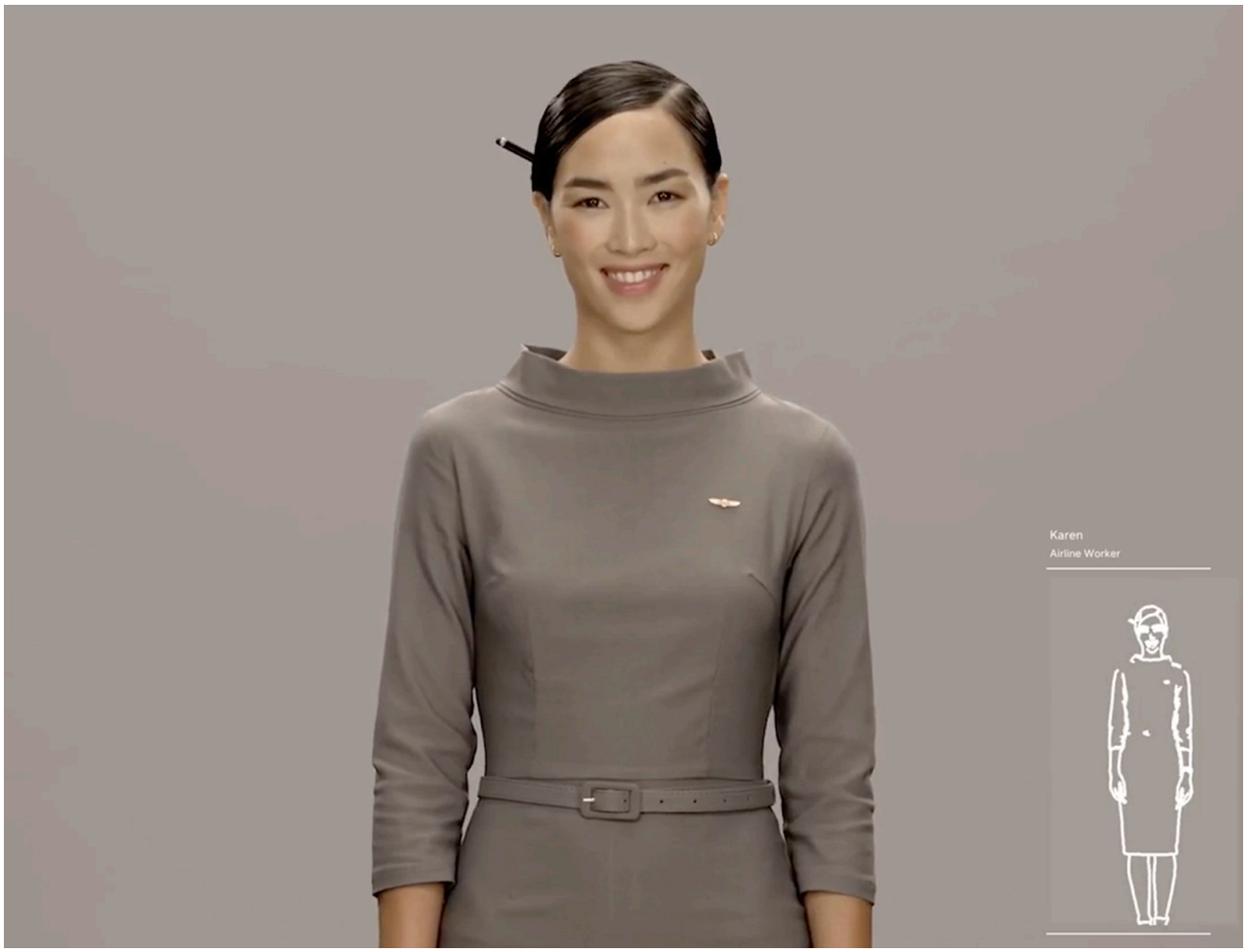

FIGURE 2-3. "KAREN," STAR LAB'S NEON [5]

[4] https://www.neon.life/, accessed January 19, 2020.

[5] Still frame of video, in Joshua Topolsky, Samsung's Neon 'Artificial Humans' Are Here, *Input*, January 7, 2020, https://www.inputmag.com/tech/samsungs-neon-artificial-humans-are-here-are-they, accessed January 18, 2020.

Among the twenty different images of prototypes on the website, it is concerning already how women of color are envisioned: an airline worker(See Fig. 2-3), a yoga instructor, a doctor, a K-pop performer, and two women respectively in Indian and Japanese traditional clothing. As these hyper-realistic illustrations of lifelike avatars portray their personas with high functionality in the service economy, Neon might disrupt the analysis made in this chapter, but also predictable is the visual commodification of racialized and gendered identities. A further study on Neon and “uncanny” visualizations of conversational agents is therefore suggested.

Chapter 3.

The Third Voice:
Voice as a Biopolitical Apparatus

> Hi, I'm Q, the world's first genderless voice assistant. Think of me like Siri or Alexa, but neither male nor female. I'm created for a future where we are no longer defined by gender, but rather how we define ourselves. My voice was recorded by people who neither identify as male nor female, and then altered to sound gender neutral, putting my voice between 145 and 175 hertz — a range defined by audio researchers. But for me to become *a third option* for voice assistants, I need your help. Share my voice with Apple, Amazon, Google and Microsoft, and together we can ensure that technology recognizes us all. Thanks for listening. Q. (Meet Q - The First Genderless Voice, 2019; emphasis added)

A recent collaboration between Copenhagen Pride, Virtue, Equal AI, Koalition Interactive and thirtysoundsgood resulted in a digital voice prototype called Q. The landing page of their website[6] guides the user to drag 'Q' between the "perceived female frequency" and the "perceived male frequency." When the user releases the mouse, Q returns to the center of the screen to the "perceived neutral frequency," or 153 hertz. (See Fig. 3-1)

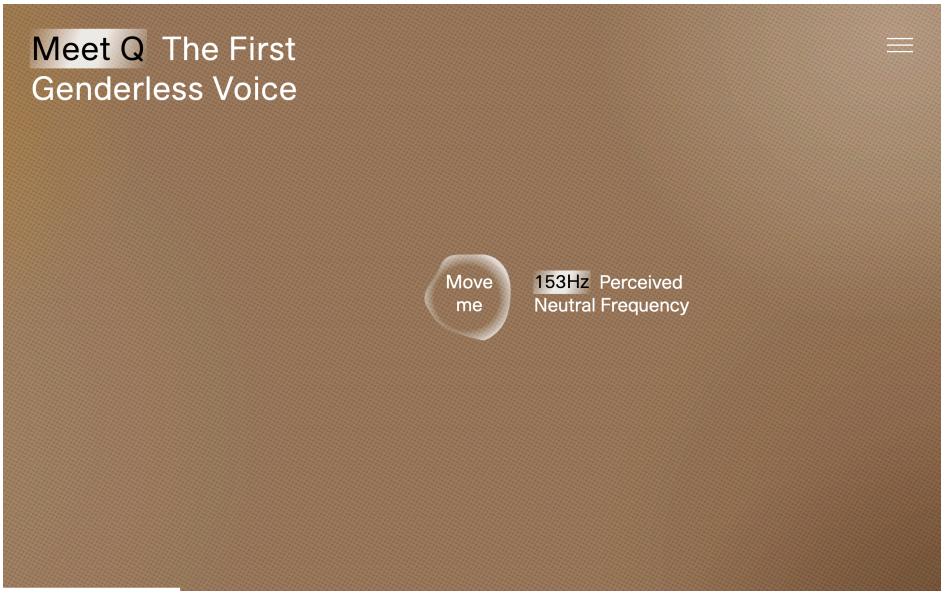

FIGURE 3-1. ONLINE DEMONSTRATION ON THE Q WEBSITE

[6] https://www.genderlessvoice.com/, accessed December 15, 2019

In this chapter, I will question the suggested positioning of Q as transgressing the gender binary drawing from surveillance studies. Understanding the voice as both a subject of and tool for surveillance, I argue that this prototype is not an emancipatory answer for the feminization of virtual assistants, but rather a categorization to materialize the uncertainty of gender non-conforming identities. The following sections will examine how the idealistic notions around the unmarked physical voice is created and those voices that does not conform to the norm are regulated through atmospheric surveillance.

Voice and Surveillance

In order to examine Q, it is crucial to first understand the physical voice as subject to surveillance. The activity of vocalizing per se is scrutinized and disciplined to reinforce the idealistic speech and accent of the able-bodied white heteronormative native speaking, disproportionately targeted to some populations than others. This section will examine how the voice is constructed to affirm and strengthen the normative vocal ideal. Voice is a technology of surveillance to distinguish, discipline and assimilate the un/vocal Other.

Michel Foucault's thoughts on governmentality and surveillance has largely influenced feminist thinkers and critical race theories on investigating how power is practiced. (Macleod and Durrheim 2002) In *Discipline and Punish*, Foucault notes the emergence of disciplinary technology as the sovereign power ceased to exercise control by the spectacle of bodily punishment in public. The unrightful body was "no longer tortured and dismembered, but trained, exercised and supervised." (Macleod and Durrheim 2002, 47) Drawing from the architectural surveillance of the Panopticon, Foucault explains how the prisoner is disciplined through visibility and gaze. The "control by design" (Browne 2015, 34), concealing the inspector's presence and depriving privacy of the subjects, is achieved by self-discipline "to the point that he is his own overseer, each individual thus exercising this surveillance over, and against, himself." (Foucault 1980, 155)

Susan Stryker, among others, builds upon Foucault's conceptualization on biopolitics in relation to gender. In governing of the biological capacities of a population, gender is a crucial site where administrative structures and practices of power are embedded, often internalized by the individual.

> Biopower constitutes transgender as a category that it surveils, splits, and sorts in order to move some trans bodies toward emergent possibilities for transgender normativity and citizenship while consigning others to decreased chances for life. (Stryker 2014, 41)

Biopower, or "the operation of disciplinary power on the body," (Macleod and Durrheim 2002, 50) is a mechanism by which transgender and gender non-conforming bodies are categorized and surveilled. In his book *Going Stealth*, Toby Beauchamp (2019, 2) shows how surveillance "is a central practice through which the category of transgender is produced, regulated, and contested." Surveillance on gender deviance is not only limited to the transgender identity per se, but also other gender non-conforming bodies, behaviors and identities that are perceived, by the state and other institutions with power, as transgressing the gender binary.

The physical voice plays a significant role in the surveillance and control of the gender binary. Alex A. Ahmed's recent study *Trans Competent Interaction Design: A Qualitative Study on Voice, Identity, and Technology* explores how to develop human-computer interaction (HCI) from trans experiences of technology in relation to their voices. Ahmed (2017, 54) outlines that voice, as well as visual gender presentation, is subject to policing of trans bodies. Ahmed further instantiates how the research participants, who identify as trans or non-binary, experienced contemporary technologies as reinforcing the gender binary. Among the participants, many trans women reported that their voice training experiences have not been satisfactory. Although the participants had decided to pursue voice training for safety concerns, many options present themselves as a "guide to womanhood," implying that 'assimilation' into the socially perceived femininity is the goal of gender self-determination. (Ahmed 2017, 61)

The Vocal Ideal

If the bodily discipline through surveillance is exercised against non-normative population, what constitutes the normativitized ideal? In this section, I will explore the vocal ideal on how the normative speech is inscribed upon voice assistants.

As discussed in the previous chapter, voice assistants reenact the white, educated native-English speaking. Marino notes how language is a mechanism by which conversational agents can pass as human. It is through the "performance of unmarked middle-class English" (Marino 2014, 4) that voice assistants successfully gain a sense of universal abstract authority. It is a reproduced simulation of an non-accented dominant culture, or whiteness. Phan (2019, 25) argues that the ubiquitous use of native-English speaking in speech-mediated technologies contributes to an imperialistic practice of language as a form of marginalization and colonialism. Phan emphasizes the implicit disciplinary feature in voice assistants to "assimilate accented speakers to some native norm." (Lawrence 2012, 768; quoted in Phan 2019, 25) The normative speech of voice assistants is interestingly reminiscent of immigration policies and acculturation.

In contemporary Western cultures, the conceptualization of citizenship has been developed by the state powers to intensify control over the population within a given territory, with an accelerating role of language as a marker of identity. (Hogan-Brun, Mar-Molinero and Stevenson 2009) Elana Shahomy writes how language is a closed system, instrumentalized as a tool for legitimizing or denying membership. The "correct, pure, native-like and grammatical" (Shahomy 2006, 23) speaking is associated with national identity and belonging, while others are diminished as "accented" or as "dialects." The criteria for proficiency in the 'national' language is defined to approximate to the able-bodied non-accented native speaker.

In retrospect, English education I have actively participated in, over the course of twenty years, in South Korea was predominantly white. My privileged position in which my parents have supported English education from an early age with continuous private education have secured many opportunities that led me here. The sequence of graduating a foreign language high school (FLHS) with a major in English, followed by tutoring in English in various institutions and studying abroad has exposed me to extensive experience in English learning and teaching in the competitive South Korean context. Everything aimed at the best proximity to North American English. In any educational setting, I have never encountered a native speaker in Indian English, Singapore English or Philippine English. Most were citizens of either the United States or Canada, while the other few were Korean American, who were instructed to hide their bilinguality to their students and to pretend as if they do not understand any Korean spoken by students.

The vocal ideal of English speaking is characterized not only by proficiency or professionalism but also racialized through imperial whiteness. The field of teaching English to speakers of other languages (TESOL) has begun exploring native-speakerism in relation to race.

> Native-speakerism is a pervasive ideology within ELT(English Language Teaching), characterized by the belief that 'native-speaker' teachers represent a 'Western culture' from which spring the ideals both of the English language and of English language teaching methodology. (Holliday 2006, 385; parentheses added)

Adrian Holliday interprets native-speakerism as a form of Orientalism (Said 1978). In *Native-speakerism*, Holliday (2006, 386) notes the colonial logic in the nature of "the native-speakerist 'moral mission' to bring a 'superior' culture" to the essentialist imagination of the uncivilized Other. Ryuko Kubota and Angel Lin (2006) among others have also addressed how racialized (non-)native speakers of English are presumed of English improficiency and discriminated in employment.

In *"Speaking as a Deaf Person Would"*, Ellen Samuels (2013, 20) explores "the relationship between physical dis/ability and language in/ability." While recognizing the resistance of Deaf[7] communities to pathologizing d/Deafness as disability, Samuels analyzes Betty Quan's 1995 play *Mother Tongue* on its juxtaposition of, and tensions among, English, American Sign Language (ASL), and Cantonese in a Chinese Canadian family. Samuels observes the expectations of normalcy and cultural intelligibility intervenes both deafness and language proficiency, while the former is perceived to require medical treatment and the latter education and acculturation. In cases of Asian North Americans, the boundaries are often blurred. Language minority students, often racialized, are referred to speech therapy and special education, their improficiency marked as disability. Samuels further instantiates the complexity of the relationship by recapitulating the recent d/Deaf history in North America. As oralism, an education was promoted by the early twentieth century, Deaf people and sign language was assigned foreignness by the state. (Samuels 2013) For racialized migrant communities, the language and hearing divides are often "curdle-separate." (Lugones 1994)

[7] In this thesis, I follow the usage of lower-case "deaf" to refer to audiological difference, upper-case "Deaf" to refer to a distinct cultural identity around sign languages, and "d/Deaf" when the two overlap. (Samuels 2013, 30)

The Third Option

As explored in the previous section, the voice is instrumentalized to both examine and discipline non-normative bodies, including non-native speakers, immigrants and people with disabilities. This section will examine how heightened national and international security and its increasing use of artificial intelligence results in policing gender, enforcing the gender non-conforming population with self-discipline of the gender binary, as the vocal ideal does not allow transgression of the gender binary.

Returning back to Q, the understanding of the new digital voice prototype is complicated within the aforementioned atmospheric surveillance of voice and the vocal ideal. It is not simply a progressive alternative, but poses a vexed question of categorization and surveillance with the "third gender" rubric. Evan B. Towle and Lynn M. Morgan (2002) have examined the concept of "third gender" in U.S. anthropological scholarship, which can greatly inform the framework to rethink the digital voice prototype.

First, academic writing in anthropology and popular literature have introduced the "third gender" concept to illustrate non-Western cultures where the two-gender system could not be applied to. While these perspectives have contributed to academic discussions and activism in Western contexts, romanticizing the figure of *the transgender native* reifies marginalization and appropriation. The "third gender" figurization locates non-Western cultures as primordial, natural, and optimistically utopian.

Second, the "third gender" concept "subsumes all non-Western, nonbinary identities, practices, terminologies, and histories." (Towle and Morgan 2002, 676) It is of foremost concern that Q essentializes genderqueer identities into a single calculable median between male and female. Not only does the disembodied voice quantify non-binary identities as an only numeric representation, but Q normalizes the perception of the gender spectrum as linear, with female and male at each end. As Towle and Morgan (677) notes, "the "third gender" concept can constrain and narrow—as well as expand—our ability to imagine different kinds of gender variability." The prototype also reinforces the misconception of equating non-binary identities with 'unreadable' gender presentation, thus further complicating the struggles of non-binary people who are already misgendered often.

Third, the "third gender" category, paradoxically, can suggest "that "first" and "second" categories are inviolable and unproblematic." (Towle and Morgan, 677) The voice Q also

reinforces the categorization of non-normative gender presentation to "sound different" from the preexisting dichotomous digital voices. A. Finn Enke (2013) cautions the pitfalls of the cis/trans distinction. The term cisgender,[8] although it highlights the privilege of those unmarked who fit in the social norms of the gender binary, creates the very marginalization of people who are trans. The dichotomous divide reinforces the oppressive cisgender privilege of "reading" others to "judge the realness or legitimacy of all people's sex/gender." (Enke 2013, 238) Enke furthers the argument as "the presumption that sex/gender is transparent naturalizes binary gender construction and pathologies transgender existences; moreover, sexism and misogyny particularly pathologies all people on a feminine spectrum."

Finally, I assert, Q is based on a biopolitical logic of bodily data. The "third gender" rubric, when coupled with the systemic surveillance technologies, enables disciplinary categorization and control over gender deviance. In *Gender (In)Securities*, Christine Quinan (2017) discusses the 'X' marker on passports in particular, observing the recent growth of numbers of legislations and jurisdiction in Western societies. Understanding that the ownership of a passport per se as a certain privilege, Quinan argues that the policy to ensure uninhibited mobility is "only applicable to certain bodies and actually results in heightened surveillance for others." (Quinan 2017, 164) Concern for Q resonates with Quinan's articulation that, while the X in passports seemingly offers easier passage, it also allows for the state and corporations to distinguish, regularize and discipline the gender non-conforming population.

Conclusion

In this chapter, I have examined the voice prototype Q in relation to the atmospheric surveillance and discipline of the vocal ideal, exemplified by the performance of voice assistants. The seemingly progressive introduction of Q paradoxically instantiates the "third gender" model, reinforcing the gender norms with a mere addition of categorization.

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[8] Cisgender is a term that emerged from trans activist discourses to name "the condition of staying with birth-assigned sex, or congruence between birth-assigned sex and gender identity," and commonly understood as "staying *within* certain gender parameters (however they may be defined) rather than *crossing* (or trans-ing) those parameters." (Enke 2013, 235)

Lastly, the manifesto of Q quoted in the beginning of this chapter has a troublesome connotation in the last remarks: the particular call for action to "share my voice with Apple, Amazon, Google and Microsoft, and together we can ensure that technology recognizes us all." Following the ground-setting work of Gayatri Chakravorty Spivak (1988) in which vocal expression is articulated as a prerequisite for recognition, I emphasize that Q in this landscape, neither when legitimatized by the capitalist order, is yet unable to *speak*.

Conclusion

In this paper, I have studied the vocal and visual performance of voice assistants and the gendered and racialized impacts in the current atmosphere of disciplinary normativity. In chapter 1, I have examined the feminization of voice assistants through the figure of the elevator girl. As a female-sounding interface between the user and technology, the voice assistant enacts a submissive, heteronormative and instrumentalized femininity, building upon the history of human-computer interaction, to promote its serviceability. Affect is the primary strategy of the voice assistant economy, utilizing the feminine intimacy for further consumeristic practice.

In chapter 2, the voice assistant was investigated through its in/visibility, drawing from preceding studies in chatbots and digital animation with an analysis through critical race theories. The graphical user interfaces (GUIs) of commercially successful voice assistants imply a sense of neutral and transparent technological advancement. The design policy, even more effectively by deliberately denying an avatar, dehistorizes the racialized servitude in domestic and industrial realities.

Chapter 3 explored implications of Q, the "genderless" digital voice prototype. Understanding the physical voice as a surveillance apparatus, the vocal ideal is situated through the performance of conventional voice assistants with a white, able-bodied native-English speaking within the gender binary. In spite of the positive reception by several media sources, Q is not innocent. It operates within the "third gender" rubric, further contributing to the cisnormative marginalization of trans, non-binary and gender non-conforming people.

The much celebrated utility of contemporary artificial intelligence is increasingly contested with critical perspectives in academia and popular literature. As voice technologies continue to proliferate, further research to rethink the framework for un/vocal possibilities should be conducted, based on a comprehensive understanding on aesthetic and ethical implications.

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