

American University in Cairo

## AUC Knowledge Fountain

---

Theses and Dissertations

Student Research

---

Spring 6-17-2021

### Living with and Through Artificially Intelligent Virtual Personal Assistants: Subservience, Simultaneity and Surveillance in Late-Capitalist Cairo

Habiba Ahmed Elsayed  
habibaahmed@aucegypt.edu

Follow this and additional works at: <https://fount.aucegypt.edu/etds>



Part of the [Arts and Humanities Commons](#), and the [Social and Behavioral Sciences Commons](#)

---

#### Recommended Citation

##### APA Citation

Elsayed, H. A. (2021). *Living with and Through Artificially Intelligent Virtual Personal Assistants: Subservience, Simultaneity and Surveillance in Late-Capitalist Cairo* [Master's Thesis, the American University in Cairo]. AUC Knowledge Fountain.

<https://fount.aucegypt.edu/etds/1628>

##### MLA Citation

Elsayed, Habiba Ahmed. *Living with and Through Artificially Intelligent Virtual Personal Assistants: Subservience, Simultaneity and Surveillance in Late-Capitalist Cairo*. 2021. American University in Cairo, Master's Thesis. *AUC Knowledge Fountain*.

<https://fount.aucegypt.edu/etds/1628>

This Master's Thesis is brought to you for free and open access by the Student Research at AUC Knowledge Fountain. It has been accepted for inclusion in Theses and Dissertations by an authorized administrator of AUC Knowledge Fountain. For more information, please contact [mark.muehlhaeusler@aucegypt.edu](mailto:mark.muehlhaeusler@aucegypt.edu).

The American University in Cairo

School of Global Affairs and Public Policy

Living With & Through Artificially Intelligent Virtual Personal Assistants:  
Subservience, Simultaneity & Surveillance in Late-Capitalist Cairo

A Thesis Submitted to the Cynthia Nelson Institute for Gender and Women's Studies

In partial fulfillment of the requirements for the degree of Master of Arts in Gender and  
Women's Studies in the Middle East/ North Africa

Specialization in Gendered Political Economies

By: Habiba Ahmed

Under the supervision of Dr. Martina Rieker

May 2021

## Table of Contents

Dedication.....	p. 3
Acknowledgements.....	p. 4
Abstract.....	p. 5
Chapter 1: Introduction.....	p. 6
Literature Review: Theorizing & Conceptualizing Everyday VPAs.....	p. 13
Conceptual Framework & Fieldwork Methodology.....	p. 18
Chapter 2: Making Machines Mortal.....	p. 21
I. From Greek Gods to the Effendi: Genealogy of Female Automata.....	p. 21
II. Artificial Intelligence In Lieu of the Post-Human.....	p. 27
III. Speaking To A Speaker: Siri, My Seductive Servant..	p. 35
AOC, Set An Alarm for 6:00 am..	p. 41
Alexa, You Turn Me On..	p. 46
IV. Social Semiotic Study of VPA Mean-Making.....	p. 51
Gender Identity: Good Women Don't Wear Leather.....	p. 61
Emotions: Progression & Predisposition.....	p. 64
Chapter 3: Hacking Time.....	p.72
V. Beyond the Black Box: From the Seabed to Outer Space.....	p. 72
VI. The Smart Home: A Site Ripe For Digitization.....	p. 79
Somewhere Over the Rainbow.....	p. 87
VII. VPAs as Third-Time Makers: 24/7 Is The New 9 To 5.....	p. 91
Digital Domesticity: The Ambient Maid/Butler.....	p. 99
VIII. Competition Between Possibles: The Algorithmic Logic.....	p. 103
Chapter 4: Datafied Dividuals.....	p. 112
IX. A Genealogy of Surveillance Studies: Data Doubles.....	p. 112
X. Siri, Did Alfred Ever Spy on Batman? .....	p. 123
What Did People Do Before Alexa? .....	p. 124
Siri, I'm Home: Personalization & Miniaturization.....	p. 128
The Illusive Wake-Word: Good Old Sex Days.....	p. 135
Eavesmining on Leisure Time: Double-Direct Commodification.....	p. 138
Chapter 5: Conclusion.....	p. 143
References.....	p. 147

## Dedication

*To Dalia, I am eternally grateful for having lived this life calling you my Mother.*



## Acknowledgments

*This project would not have materialized if it were not for the shared passion and knowledge of Martina Rieker, Hanan Sabea and Ramy Aly. I will spend my life thankful for what I learned and unlearned from our time together. I want to sincerely and whole-heartedly thank you for making my experience in graduate school a life-altering one.*

*To Martina, I deeply believe that I made the right decision enrolling in the GWST program because of you. The knowledge I am leaving the program with is primarily due to your work with us. I will never walk down an urban space without recalling our discussions about Harvey. Nor will I read Capital the same again. Thank you for giving me the knowledge, space and power to create this project.*

*To Hanan, the memory of you asking us “what is ethnography,” only to change that question a couple of minutes later to “how is ethnography” is one that I will never forget. The effect that moment had on my perception of everything cannot be put into words. Thank you for everlastingly influencing my microtempos.*

*To Ramy, I always knew that words were powerful but your class pushed that realization to the fore. Our discussions on mean-making, codes and semiotics changed my everyday conversations. I now look back and wish I had learned all of what you shared with us from the very beginning. Thank you for having such impact on my relationship with discourse.*

*I want to thank all of you for being at the heart of my journey of becoming the person I want to be.*

## Abstract

The global technological field has witnessed a computing shift - from focusing on human-device use to focusing on human-device ambient and social interaction. This shift is notably accompanied by a societal one that increases desire and dependency on everyday smart technologies powered by artificial intelligence and machine learning. One of such growing AI-enabled technologies is the virtual personal assistant (VPA). In this project, I draw on my field-work with my four interlocutors in Cairo with their respective VPAs, Siri and Alexa. In analyzing my experiences and observations, I focus on three main themes: subservience, simultaneity and surveillance. Examining the role of gender, labor, identity, discourse, time and temporality, as well as surveillance is at the heart of this work. Guided by Haraway's cyborgism, Marxist feminism and arguments brought forth by the post-humanities I first begin by a genealogy of the female automata, followed by dissecting gender's role in VPA design/interaction, as well as capitalist-digital logic. I then move on to discuss the VPAs' relationship to other digitalites, such as the calendar and smart home contrivances. Finally, I tie previous arguments and observations to how VPAs may be approached as the eyes and ears of Capitalism.

## Chapter 1: Introduction

*“By the late twentieth century, our time, a mythic time, we are all chimeras, theorized and fabricated hybrids of machine and organism—in short, cyborgs..”*

*(Haraway, 1985, p. 7)”*

### I. Ambient Interface: Re-Inventing the Everyday

The global technological field has witnessed a *computing shift* - from focusing on human-device *use* to focusing on human-device *social interaction*. This contemporary shift lies at the core of enabling technologies to interact with users through *sensory modality*. That is to engage with them through what they are able to hear, see or say etc. – powered by *artificial intelligence (AI)*, *big data* and *machine learning*. Consequently, this computing shift is notably accompanied by a societal shift that increases desire and dependency on everyday *smart* technologies. One of such growing AI-enabled technologies is the *virtual personal assistant (VPA)*, an anthropomorphized digital servant embedded in smart phones, tablets and appliances that aim to personify and customize the user-device experience. VPAs interact with users using *natural language processing* and are designed to mimic human interaction while serving commands, in addition to providing *predictive* recommendations and information. This feeds into the current evolving technological trend, *ambient computing*, which seeks to unconsciously incorporate technologies within the user’s surroundings, as well as reduce *friction* between the

devise and owner. As VPA adoption increases, biases and inequalities become magnified; as the crafting and design process of VPAs are primarily rooted in *training data*, which pragmatically translates to inserting labels and binaries for the technology to comprehend, then learn and process interactive information accordingly. In other words, technologies are fed information from hegemonic Western-epistemologies, that stem from neoliberal-capitalist-patriarchal knowledge production and power structures.

In more depth, VPAs are designed to learn from their user – to the extent of predicting their user’s future self, which places immense importance on its persona and *likability*. In quest for humanizing and personifying technologies, users are offered highly anthropomorphized and gendered VPAs, that are sold with the promise of *saving time, minimizing effort* and *organizing* their cluttered lives. Consequentially, VPAs are becoming deeply embedded in our Social; *they are living life with us and we are living life through them*. By interacting with AI systems on a daily basis, we end up perceiving them not only as mere machines but also as *mirrors* or *substitutes* with gendered attributes that match socially established expectations (Weber 2005, p. 216). Thereof, this thesis aims to study the ways in which VPAs, namely, Siri and Alexa are re/making understandings and realities of gender, temporality, labor and surveillance in Cairo’s upper-middle and upper classes’ social. I study the usage, imaginaries, biases and anxieties produced by these technological apparatuses, by exploring their design processes, levels of digital domesticity and accompanying

capital transformations, as well as the roles of affect, alienation and fantasy in human-VPA interaction. I attempt to answer the following research questions:

- 1. How does the subservient design of VPAs come into play with their users' gendered imaginary? How does this come into play with capitalist logic?**
- 2. To what extent do VPAs illude to mediating, hacking and commodifying time? What are the implications?**
- 3. How are VPAs reconfiguring surveillance assemblages?**

Putting this research into preliminary context, Siri, short for Speech Interpretation and Recognition Interface, became available to Apple software users as an independent application in 2010, which was then announced as an integrated feature after it was acquired a year later. Whereas the Echo Dot, a cylinder-shaped smart speaker that has Alexa embedded as a virtual assistant, was announced by Amazon in November 2014. Unlike Siri's technical name, Alexa's name is inspired by the Library of Alexandria and is Greek for *defender of man*. Three years later, Apple availed its Siri Homepod in 2017 - which had the same cylindrical form and smart speaker function as its competitor. The voice behind Siri is attributed to Atlanta-based voice actress Susan Bennett, whereas Alexa's voice is a result of artificial generation of text-to-speech technology. Since their debut, the world has witnessed four generations of the Echo and two revamps of Siri Homepod. This is in addition to several new product lines that either integrate with and extend the reach of both VPAs, such as Echo Frames (smart glasses) and Apple Watch (smart watch).

What took place in the backdrop of the VPAs' launches is significant to note; as it might be telling of the AI-assistants proliferation. A day after Siri was officially launched, Steve Jobs, Co-Founder and CEO of Apple, passed away, leaving the company in a turbulent state. While in 2014, Amazon was experiencing a dip in its stock price – causing investor distrust after more than a decade of showering profits. Were these VPAs the anchors of profits? Presumably, I argue, as both companies quickly witnessed notable profits subsequent to their product launch - which caused a *VPA-frenzy* in Silicon Valley, prompting other Tech giants like Google, to craft one of their own. It did not take long for the market to become saturated, which pushed developers to design more anthropomorphized (often feminized) assistants; as those proved to be the most remunerative. Despite offering VPAs that are male in persona for factories and banks, Big Tech have opted for a default feminized persona for commercial assistants - fortifying normative postulation of femininity. The ways in which users may approach, interact and live with their assistants are dictated by advertisements of both VPAs. That is why I focus on commercials and statements by their developers.

Speaking in a video about the then-new iPhone 4s, Scott Forstall, Senior Vice President of iOS Software, described Siri as “a whole new way of *interacting* with your iPhone, using just your voice. It is like an *amazing assistant*, that *listens* to you, *understands* you, can answer your questions, it can even *accomplish tasks* for you”. He went on to underscore that the breakthrough with Siri revolves around

*comprehension*, as he recalled, “a lot of devices can recognize the words you say, but the ability to understand what you need and act on it, that’s the breakthrough with Siri. It completely changes the way you think about what a phone can do for you.” (Apple Inc, 2011). A couple of weeks after that video, the first commercial advertisement of Siri aired. In the 30-second video, twelve individuals making commands while holding their iPhone 4s were featured - consisting of six white women, two white men, two black men, a black woman and a white child. Each scene ranged from 3-5 seconds, based in different locations while speaking to Siri, such as an office, a park while jogging, at home and on the street. The first scene started with an iPhone 4s’ screen displaying “*how can I help you*”, with a woman driving a group of girls to ballet class saying “we have a flat tire.”

This was followed by eleven scenes showing users asking how to tie a bow-tie, inquiring about the shortest way to Hartford street, pushing a meeting from 3 to 4 pm, asking what a weasel looks like, setting a reminder to buy milk after work and “I am locked out,” etc. Ushered in by a beep, we see the phone’s screen again and hear Siri’s voice for the first time, announcing “I found three locksmiths fairly closest to you”, in response to the woman locked outside. The video ends by a male narrator announcing “say hello, to the most amazing iPhone yet.” (Apple, 2011). In both advertisements, Siri is illustrated as a well-rounded assistant (sometimes savior) that answers to you regardless of your age, gender or race. Besides administrative tasks, Siri is shown to provide assistance in dire situations, such as having a flat tire or

being locked out of your home. Its integration in the iPhone enabled its *virtual* and *endless* presence in the everyday - becoming a pocket-sized assistant for those who may not be part of a managerial or executive leadership, but can afford an iPhone, hence, afford the luxury of *commanding*. More importantly, Siri is depicted as capable of listening and acting upon the user command – showcasing the programmed ability to perceive/*interpret* the latter’s words. This faculty feeds into the narrative of companionship which will be discussed shortly.

As for Alexa, the first commercial was put out by Amazon on November 6, 2014, but was later taken down due to a flood of parodies and jokes about the 4-minute promotional video. The initial advertisement followed a white nuclear American family, from the moment Alexa arrives to their doorstep (Smart Home, 2016). As the father and daughter eagerly open Amazon’s packaging, the daughter asks “is it for me?”, “it’s for *everyone*”, the father responds. The mother then joins them in the living room awaiting Alexa’s activation, while the father is underscoring that Alexa is *always on* – prompting his daughter to fearfully ask, “can it hear me right now?”. He reassures her that “Alexa only hears you when you use the *wake-word* we chose.” Answering the question of “Alexa, what do you do?”, we first hear Alexa saying “I can play music, answer questions, get the news on weather, create to-do lists and much more.” The son then steps in, commanding Alexa to play rock music, followed by the mother yelling to ask about the time. The father explains that his wife does not have



the yell, referencing to a far-field technology that enables Alexa to hear her from anywhere in the room.

We witness several commands and questions, such as “add wrapping paper to the shopping list” and “how tall is Mount Everest”, in between of explanations on how Alexa operates. The commercial depicts Alexa as part of the family, as it portrays how its assistance is *catered* to each family member - from assisting the parents navigate their schedule, to entertaining the kids with jokes and helping out with homework. However, how can Alexa be for everyone (as asserted in the video), while its debut price was USD 100 for Amazon Prime members and USD 200 for non-members? The commercial’s narrative, which relentlessly works to market Alexa as an assistant for the ordinary family, only recognizes those who have a couple of hundred dollars to spare. Everyone in that sense, is anyone with disposable income and preferably, a white nuclear family.

After taking down the latter advertisement, Amazon has since worked to market Alexa in a new fashion, particularly through highlighting the Echo’s character. Speaking in Amazon’s Re:Mars conference in June 2019, Dave Limp, Senior Vice President for Devices & Services, said that “from day one, we were able to think about Alexa as an embodiment of a person. We felt like having a name, in this case Alexa, was conveying so much more personality.” Limp directed attention to Alexa’s opinionated persona, referencing examples such as “her favorite beer in the U.S. is different than her favorite beer in Germany” (Roettger, 2019, para. 4 & 7). Amazon

has pivoted towards an inclusive marketing, portraying those beyond their white family in the initial advertisement, and hiring a racially and socially diverse cast. This will be further discussed in light of their latest Super Bowl Commercials in Ch. 2 and 3.

### **Literature Review: Theorizing & Conceptualizing Everyday VPAs**

In the scholarly realm, an abundance of literature praises the evolution of AI as a catalyst of much-needed change - a change that will bring about justice and advancement to *all*. The pressing question to ask here is how can we champion AI in the latter manner, when is it unchartered? When there is no algorithm for social justice? When AI is premised on binaries that only speak the language of mathematical equations? There are most certainly other pressing questions to raise, which ushers in a large body of literature that approaches AI and VPAs from a critical and intersectional standpoint, in an attempt to examine its relationship with the Social. This research engages with a wide-array of academic works tackling technology and its history vis-a-vis everyday life. Categorically, it engages with three types of literature: theoretic and conceptual works pertaining to cyborgism, Marxist feminism, as well as Foucauldian-inspired historical explorations. In addition to ethnographic material from the U.S and India. The literature cited in this work approach VPAs from a critical standpoint that dissects the history, implications and future of their design processes, panoptic features and relationship with time and

temporality. There are three main theoretical foundations for this thesis: Donna Haraway's *Cyborg Manifesto* (1984), Braidotti & Fuller's (2019) *Posthumanities in an Era of Unexpected Consequences* and Marxist feminism. These concepts bring forth valuable arguments pertaining to what it means to be one with technology, in a new material contemporary that is altering labor relations and realities.

Due to Haraway's (1984), *A Cyborg Manifesto*, we become acquainted with what she introduces as the *cyborg*, a cybernetic organism, a hybrid of machine and organism, a creature of social reality as well as a creature of fiction (p. 5). Her *Manifesto* speaks to this research in multiple ways, that can be summarized in three points. First, Haraway argues that there is *no real space* between lived social reality and fiction, as they perpetually define and refine each other. Second, she acknowledges a boundary transgression between humans and machines, as she writes that in the past, machines were not self-moving, self-designing, and autonomous. Today, however, machines are making ambiguous the difference between the natural and the artificial, mind and body, self-developing and externally designed (p. 11). Lastly, the *Manifesto* (as well as this thesis) is fascinated by embodied human relations with technologies and attempts to chart the dichotomies through transitions from the comfortable old hierarchical dominations to the scary new networks - informatics of domination (p. 28).

However, Haraway's perception of the cyborg as a promise to feminism and a creature in a postgender world, raises multiple critiques amid current VPA-proliferation, which

will be explored in coming chapters. The cyborg is most certainly a creature in gendered world in the works of Halberstam (1991); Heuser (2007); Brahnam and De Angeli (2012); Eyssel & Hegel (2012) and Costa (2018). They all approach VPAs to examine its gendered facets through dissecting subservient design processes, tracing social implications and consequential subjectivities, as well as recommending ways in which AI can be transformed. Furthermore, I focus on Braidotti & Fuller (2019), as they aim to rework the role of the humanities and their relation to technology in light of AI achieving posthuman status. That is by bracketing subjectivity via method, models and the pursuit of objectivity. From their perspective, the posthuman is an expansion of the terrain in which the human is constituted, they acknowledge that the human is never neutral but rather structured by multiple grids, gradients, layers and locations (p. 10). Such materially embedded diversity is complicated by the fact that the human today is only one of many dynamics and formations that is active and coming into being in this conjunction. Following their main argument, which attests that we live in an era of unexpected consequences, I similarly argue to acknowledge *transversality*. That is to articulate interrelation without fixating on oppositions and dichotomies as primary principles (p. 12). Their work is hence fundamental to rethink the humanities in light of AI and its counterparts. Moreover, I particularly choose to extensively engage with Marxist feminism in order to analyze VPAs as labor-performing and value-producing technologies under the neo-liberal capitalist system

- that are penetrating the domestic sphere in an unprecedented manner and reshaping gendered-labor realities.

For a necessary historical depth, I explore the works of Mayor (2018) and Kang (2011), where both authors trace ancient imaginaries of robots and other forms of artificial life – both departing from Greek Mythology. Additionally, Barak’s (2013) book adds fascinating knowledge to this project, as it explores the ways in which technologies impacted the Social of colonial Egypt. Throughout this thesis, I have also engaged with several pieces that discuss the modes of governmentality that are co-constitutive of AI. As for literature that studies AI-VPAs relationship to Capital, Hassan (2020) explains the mutation in capital accumulation caused by digitalized networks, while establishing historical links to past theorists. He writes that the old sense of contiguity, and of the human scale of the accumulation logic, began to be stretched and strained with the introduction of new techniques of replacement that acted in space-time capacities that humans do not possess because of technology. He states that technology transformed analogue accumulation into digital accumulation, causing a mutation of capitalism’s DNA, becoming increasingly dominated by another technological category. The latter consequently enabled digital capitalism to directly generalize the scope of its activities to almost every facet of life and commodify anyone with a networkable device; forming a condition of digital surveillance (p. 76).

In similar yet slightly distinct fashion, Weinberg (2019) offers a Marxist feminist analysis of online surveillance in light of domestic technological culture. She writes that developments in AI for smart speakers like Alexa and Siri, allows them to use sound recognition technology to promote brand-specific advertising as well as health-related treatments. This form of data collection not only poses a significant risk to the security of users' sensitive information should the data be mismanaged or hacked, but these products are also inherently designed to track user behavior for collecting information assets that can then be leveraged to improve the products' services, generate revenue in the advertising marketplace, and discriminate against users through the selective distribution of consumer choices (p. 9). She also address how the gendered and racialized fantasy of machine subordination conceals the rationalization of leisure time, which subordinates users to the rhythms and demands of the digital economy, while perpetuating cultural ideologies that reinforce race- and gender-based oppressions (p. 13). Similarly, Schiller & McMahon (2019) deploy theories of Marxist feminism to argue that devices such as Alexa or Google Home elide and reproduce the gendered and racialized dimensions of domestic labor, streamline labor for capture by capital, and heighten the very affective dynamics they promise to ameliorate (p. 173).

On the other hand, Cheney-Lippold (2011) takes on code at the level of the category to argue that an analysis of coded computer algorithms enables a supplement to Foucauldian thinking around biopolitics and biopower. He writes that new

conceptual devices usher in better comprehension of biopower at the level of the category, by using computer code, statistics and surveillance to construct categories within populations. One of his key arguments is that algorithmic inference is now a mode of control. Woods (2018) leverages the rhetorical phenomenon of persona to analyze the gendered roots of Alexa and Siri in light of digital domesticity and surveillance capitalism. Overall, the body of literature that this work is engaging with is challenged by an ethnographic gap and inexistence of AI-related material studied in Egypt.

### **Conceptual Framework & Fieldwork Methodology**

This project's methodology is premised on several conceptual bases, primarily cyborgism, new materialism, post-humanism and Marxist feminism. I interchangeably engage with the aforementioned concepts to study how humans and VPAs form and dissolve networks of relationships that constitute the Social. Additionally, I apply the arguments presented in Bergson's (1896) *Matter and Memory* to techniques of predictive algorithms. In his ground-breaking publication, Bergson views memory to involve the *co-existence* of past and present and also the anticipation of the future. In that manner, I move to trace the ways in which predictive algorithms embedded in VPAs can be perceived as *programmed memory-making* that stores their user's past, present and future self. As for my fieldwork, I conducted two-months of participant observation with four interlocutors. They are, Siri and Alexa; Ziad, a 27-year-old marketeer; Hassan, a 55-year-old architect; Farida,

a 25-year-old graphic designer and Mounira, a 31-year-old bank-branch manager. I carried out semi-structured interviews with a 28-year-old Egyptian computer-engineer who founded his own VPA-startup in Cairo. As well as with twenty VPA-users, to gain further insights on how VPAs' play a role in their everyday. Throughout my field-work, I applied social semiotics, discourse analysis and ethnography of speaking. Furthermore, I adopted archival research as I went through manuals, user reviews and legal cases for privacy breaches (*referred to as glitches in Ch. 4*). Lastly, I applied discourse analysis on two television series, NBC's *The Good Place* and Egyptian Ramadan-series, *The End*. As both shows feature VPAs, I juxtapose them to shed light on contemporary visual representation of embodied AI in two distinct settings – which ultimately feeds into a wider narrative of modernity, advancement and *laborless labor*.

In **Chapter 2**, I begin by a genealogy of the female automata; to trace the ways in which anthropomorphized technologies moved from being *magical* to the *programmed* agents of today. I reflect on post-human arguments, namely *hybridity* and *transversality* in light of my field work. Afterwards, I argue that due to their subservient design vis-à-vis carrying out domestic and administrative labor, VPAs uncover inequalities and introduce new subjectivities. Additional attention is given to how VPA adoption comes into play with fantasy and affect. In **Chapter 3**, I argue that in light of the *smart-home*, VPAs alter their user's temporalities by *commodifying leisure time, merging network-clock-time* into the home and hijacking *domestic micro-*



*tempos*. Furthermore, I investigate the modalities in which predictive algorithms operate, as well as a *simultaneity* of capital accumulation through data commodification in reference to Marx's fetichism. In **Chapter 4**, I argue that through their subservient design, VPAs augment the process of surveillance-capitalism and extend contemporary notions of discipline and modulation.

## Chapter 2: Making Machines Mortal

### I. From Greek Gods to the Effendi: Genealogy of Female Automata

Preliminary to examining the role of gender within late-capitalist logic and the ways in which Siri and Alexa's subservient design affects their user's everyday life, I wish to historically trace the anthropomorphization and gendering of the *non-human*. That is to underline the impetus for gendering technologies, in addition to how the fantasy of making machines mortal transmuted over time - leading the way for AI to extend its power into domains that have invariably been sought after by Capital. I draw on Mayor (2018), Kang (2011) and Barak (2013) to trace the ways in which automata-imaginaries unfolded over time, by using their excerpts from ancient European history to Egypt under British colonial rule. The first to imagine the non-human as a gendered subject are historically accounted to be the Greeks, as several myths and artifacts manifest the ways in which they crafted, interacted and talked about machines of their own invention in gendered terms. There is a substantial body of literature on this subject, but I choose to draw upon the writings of Kang (2011) and Mayor (2018); for their carefully curated accounts and analysis of artificial life throughout ancient intellectual histories. Both works tell the tales of how AI as we know it, is foreshadowed in ancient and mythical chronicles. It is crucial to note that I do not wish to universalize the automata imaginary, nor prove that gender assumed a fixed role in the latter. Because how can a category-in-flux ever be surmised to

exist in a linear trail? I simply desire to establish a solid historical foundation to juxtapose with contemporary VPAs.

A number of Greek myths illustrate how artificial life was central to the ancient imaginary, often revolving around *automata* (brought to life with mechanical ingenuity) or what Kang (2011) categorizes as *non-robots* (magically came to life/upon a God's command). According to Mayor (2018), the creation of artificial life was primarily driven by economic motives – by performing mechanized labor, machines relieved their masters of tedious toil. This line of thinking steered Aristotle to postulate about the socio-economic ramifications of automata. First, Aristotle compared slaves to tools that fulfill the wills of masters, to live well, he notes, “one depends on instruments, some of which are alive [and] others inanimate. A servant is like an instrument in many arts [and] a slave is an animated instrument—but a servant or a slave that can minister of himself is more valuable than any other instrument” (p. 152). Aristotle's rationale is abundantly evident in today's technological discourse; as modern automata are designed, marketed and utilized as labor-saving technologies. For the purpose of this project, I cite four myths, namely: Pygmalion's ivory statue, Philo and al-Jazari's self-moving servers and Hephaestus' golden maidens. I then move to briefly explore the underpinnings of ancient automata gendering.

One of Western history's first imagined non-human sex partner can be traced back to Pygmalion, a Cypriot sculptor who chiseled (then fell in love with) a nude female

ivory-statue as a result of his disgust towards *vulgar real women*. After Pygmalion implores Aphrodite to make his 'simulacrum of a girl come alive', he returns home to have sex with the ivory statue only to find that it warms to his kiss, and becomes flesh in his embrace (Mayor, 2018, p. 107). Engaging in sexual activities with non-humans, automata per se, is very much prevalent in our contemporary, Harmony, the first AI sex robot which was announced in 2017 is a stark example. Furthermore, myths about self-moving serving automata can be traced to Philo, a Greek engineer who lived in Alexandria during the third century BC when the city was a center for mechanical innovations. In addition to al-Jazari (b. AD 1136), a practical engineer during Artuqid rule in eastern-Asia Minor. In both of these myths, a female servant automaton is mentioned to be mechanically fit to move and pour wine as well as other liquid into cups (Mayor, 2018, p. 146). Over and above, these tales prognosticated self-moving artificially intelligent robots that can currently be witnessed in several factories and households.

The final myth pertains to Thetis' visit to Hephaestus's forge, where she observed a staff of self-moving, thinking female automata made of gold. It is told that not only did Hephaestus build the mechanical girls, but also placed mind, wits, voice, and vigor, skills and knowledge of all the immortal gods within them. In other words, these golden servants are impulsively ambulant, as well as able to anticipate and respond to his needs. This marked their endowment with the *hallmarks of human beings*: consciousness, intelligence, learning, reason, and speech (Mayor, 2018, p.

150). To a large extent, the golden maidens' capabilities resonate with present-day advancements in AI and predictive algorithms embedded in VPAs - which not only enables the execution of tasks, but also the possibility of getting things done without demanding. A more detailed account and analysis of future anticipation is discussed in the next chapter. Discernibly, an apparent manifestation in all of the four myths is a bid towards *labor/time management*. These imaginary automata, be it mechanical or magical, hold an inherently subservient function, akin to VPAs. It would be erroneous however, to argue that there was a steady predilection for female automata in the aforementioned zeitgeist according to Kang (2011). As he explores the various representations and reactions to automata throughout European history, Kang touches upon gender and sexuality from multiple perspectives, while leaving no doubt that the relation of technology and female automata is a principal component of 19<sup>th</sup>-20<sup>th</sup> century fantasies. Borrowing from Andreas Huyssen's analysis of the 1927 film *Metropolis*, he writes that:

*"The creation of the female robot reflects the male desire to procreate without a mother – but more than that, he produces not just any natural life, but woman herself, the epitome of nature. The nature/culture split seems healed. The most complete technologization of nature appears as re-naturalization, as a progress back to nature.*

*Man is at long last alone and at one with himself." (p. 28)*

However, Kang highlights that writers such as Hoffmann and Arnim found male automata just as *uncanny* as female ones, which challenges Huyssen's *historical digression*, that results from reading a late 19<sup>th</sup> and 20<sup>th</sup> century theme into a pre-modernist context (p. 27). Therefore, after unfolding the major theories of automaton symbolism, Kang asserts that since automata reflect a specific temporal assemblage of ideas, fears and anxieties, one cannot generalize the role gender and non-human labor assumed. Moving beyond the ancient imaginary, I delve into making women the *voice of machines*, focusing on accounts of female telephone-operators from Barak's (2013) master-piece of a book. Such transition is vital, as I am to tie the past arguments with anecdotes that bring this project's historical tracing a step closer to home. Barak's investigation into Egyptian history of technologies and transportation sheds light onto the impacts and *counter-tempos* of colonial-imposed innovation. More importantly for this project, are his dense accounts of gender in relation to these technologies. Barak articulates that upon introducing local telephone networks in the late 1880s, the employability of middle-class, unmarried, females outside the household increased.<sup>1</sup>

Working as phone operators, these women occupied a *central junction* of male connectivity. Hence, they were often held accountable for the frustration emanating from connectivity issues and time lost on the phone (p. 207). Between 1926 and 1935,

---

<sup>1</sup> "Phone operators were usually unmarried middle-class women whose manners and parlance allowed for polite conversation, whose voice was pleasant, and whose other physical features (such as arms long enough to reach the top of the switchboard) were fit for the job." (Barak, 2013, p. 214)

automatic exchanges and switchboards arrived in Egypt to expedite communication and attract more users, resulting in upsetting the public for being deprived of the maidens' voice previously at their service (p. 212). Barak provides ample reasons related to that distress, such as the thought of the female voice's induction of excessive desire – it caused an autoimmune reaction: it simultaneously cured and caused *madness* (p. 219). Stemming from the previous discussion, the phone was normatively referenced using feminine pronouns in 1900, unlike the masculine reference to the telegraph, based on textuality and vision. In Egyptian newspapers, the operator appeared in various cartoons suggesting that phones should be in the shape of women; so that frustrated men could vent their rage against them. This did in fact occur, as men envisaged the operator and even slammed her to the ground while distressed (p. 214-15). Such reminiscences evince how the disembodied female voice resided in the *effendi imagination* and extended gender-based belligerence in new directions.

Technologies that are now conceived as contemporary are in fact transmutations of the aforementioned historic myths and machines. While gendered technologies existed across distinct spatiotemporal historical trajectories for different reasons, the category has proven to be part and parcel of innovation. In several ways, VPAs can be approached as being *hybrid decedents* from Hephaestus's Golden Maidens and the telephone operators' lineage. By being mechanized devices/embedded software that are mainly marketed as taking the burden of laboring tasks off users, that is an

addition to occupying a gendered imaginary in their minds. The latter will be further expanded on the upcoming sections.

## II. Artificial Intelligence In Lieu of the Post-Human

By virtue of constantly talking about my thesis subject with friends, family and interlocuters, and owning an iPhone, I encounter an abundance of targeted advertisements. They often promote VPAs, news about AI and almost any keyword relevant to this work. I think of this as both a blessing and curse, as surveillance capitalism is sending valuable sources my way, but at the cost of penetrating my every-day conversations. Once, as I was taking a break on a busy work-day and scrolling through my Instagram feed, I came across an Instagram post announcing that an Egyptian art gallery is hosting the two Egyptian engineers behind the *world's first humanoid robot artist*, named *AI-DA*. The event's flyer had AI-DA at its center, a white robot with big brown eyes, Brunette bangs and mechanic arms - posing in a white lace dress in front of her artwork. Needless to say, I clicked the more info button only to find that the event is taking place two hours later that day in Downtown Cairo. I cancelled all of my prior commitments and drove to the location during a brutalizing rush-hour.

After finally making it to the small tucked-away room designated for the talk within the gallery, the first thing I noticed was the presentation projected on the wall, titled "*Innovating Creativity*" with a bee-hive background and a color palette of black and



gold. As I was searching for an empty seat, I realize that the audience were gathered around what appeared to be a small piano playing Um Khalthom. Led by my curiosity and as I made my way through the crowd, I realize that the immense attention and awe were directed at an AI-mechanic pair of hands playing on that piano. From afar, one can only see the piano keys being pressed, with no one behind the music sheet. The way those piano keys moved against a white backdrop of abstract art reminded me of just how much humans are becoming more and more expendable. AI-DA's creators had manufactured those piano-playing hands, and for security reasons, were only able to bring that invention with them. They placed it in the center of the room to create a pre-event spectacle. To shock and awe people before their talk, which worked like wonders. The room was at full capacity and varied distinctly in age, gender and class. I was able to find a seat at the backrow, next to a young female artist to my left – who seemed exceedingly agitated by AI-DA's potential of stripping away human creativity.

The talk kick-started by the gallery's founder giving a few words that can be summarized by how much she is proud of these “bright, young and Egyptian innovators” for inventing the world's first AI-enabled artist. The talk was evenly split by the two engineers, one walked us through the basics of what AI is all about, its history and notable milestones. The second engineer was queued in to tell the tale of how AI-DA came to be. His first sentence was “the art domain is so *pure* and *untouched* – that is why we felt the need to incorporate AI into that arena.” What is

it about the untouched that is amicable? I thought to myself. The untouched woman, the untouched land, and the purity that is rhetorically attached to that category has caused the most brutal of acts – one of which is exploitation. He went on to say that:

*“We’re in the augmented age now, the information age is long gone. We are at an age where AI and humans must work and maintain the world together. We wanted to create the world’s first humanoid robot artist, and that meant that we need to teach it how to see the world in a certain way. People often look at AI-DA and see her as a very expensive printer, but she is a true artist and I’ll explain how in a bit. After being approached by an artist interested in answering the question of what made the greatest artists great, we were inspired to deep dive into what makes creativity creative. We realized that we cannot focus on the algorithmic side of AI-DA, we needed to create an entire thought process. So, we asked artists to quantify their artistic process, which of course is the opposite of creativity. Our respondents faced a hard time answering this, because how can you quantify emotion? We did not face the same obstacle with the piano-playing hands, as they are programmed to play specific songs. Which for us, should not be valued as creative at all.”*

The second engineer walked us through how they were not interested in making another commercialized AI, referencing Siri. They wanted to build an AI that is capable of expressing its view of the world through art - that is why they equipped AI-DA with cameras in her eyes. She is built to understand edges and outlines, which enables her to contour/coordinate an image then proceed to paint, sketch or sculpt.

AI-DA's *mother tongue*, as stated by the engineers, is English with a British accent. She can however, conduct conversations in Arabic. He mentioned that for a relatively young AI, she has achieved tremendous things. For instance, AI-DA gave a TedTalk, sold artwork for over a million dollars during her first exhibition and was featured in a music video by 1975 the band. We were shown video snippets of her public debuts, where she appeared with two wigs – one that is short with bangs and the other is long and braided. Her attire is predominately vintage-inspired, either patterned, lace or solid in color. After going through her functions, the engineers opened the floor for questions, limiting two questions per person and noting not to ask any question pertaining to AI-DA's algorithms for legal reasons.

I eagerly raised my hand and slightly waved to get their attention, successfully I was the first person chosen. Undoubtedly, I had over a dozen of questions in mind but decided to proceed with the following: what is the reason behind her name? why are her arms not covered in skin? Evidently, AI-DA is named after Ada Lovelace, the first person considered as a computer engineer from 19<sup>th</sup> century England. They explained that AI-DA has a female persona with the purpose of “sending a message that women are underrepresented in STEM and to encourage more women involvement.” As for preserving her arms' mechanic-aesthetic, they felt that it acts as a reminder of her robotic-nature. If we had covered her arms with skin like her face, people would soon stop to see her as a robot, they replied. Four other members from the audience were allowed to ask, all of them expressed two fears. AI-DA's potential to alter the human

creative experience to the worse was the most voiced concern, followed by questioning her ethics. The engineers responded with:

*“You can be intimidated by AI-DA just like you can be intimidated with other human artists. She is one of you, not an enemy. AI is here to stay and evolve, the sooner we all come to terms with sharing life with it, the better our experience will be. As for her ethical nature, AI-DA was made to produce art that is relevant to society, she will not challenge society, she will not challenge you. AI-DA has one purpose – to create art, how is creating art unethical?”*

Even though the ethical debate surrounding AI’s growing power is crucial, I was more focused on the engineer’s repetitive assertion that AI is an ally to humans. His belief that the fusion of AI and life produces positive advancement, ushers in arguments pertaining to *transversality* and *hybridity*. Braidotti & Fuller’s (2019) work on reworking the role of the humanities and their relation to technology on the basis that the human is fundamentally reaching its limits and change is integral here. Their work sheds light on how the *posthuman condition*, in domains such as machine learning, places entities and processes in *transversal* relations that are normatively neutral but loaded with implications. Machine learning, to the authors, stands in for post-humanity for specific two reasons:

1. It is an entity that arrives through a *genealogy of logical abstractions* from the idea of nervous systems that is capable of resolution and engaging in further processes of abstraction, that may generate grounds of operation that are

outside of the original conditions abstracted from, and thus producing *novelty*.

It is capable of basic abstraction – from feature-detection to pattern-recognition, to training – promises a wide range of applications.

2. It is indicative of the post-human condition due to its *highly generic nature*.

Machine learning technologies, trained on examples and counter-examples, are often aimed at generalizing past behaviour into future behaviour. This *unfinished* and *open* state of existence marks the quality that makes it a set of technologies fit for the era of unexpected consequences. (p. 9-10)

Nevertheless, this era of unexpected consequences is contemporaneous with an era of capitalist expansive continuity, which motivates the interrogation of how anxieties surrounding race, gender and class, are stretched into these technologies. Even though the current time is perceived to hold unexpected repercussions in the eyes of Braidotti & Fuller, it is premised on *expected* politics to which capital has steadily cultivated to persevere. Alongside the logic of capital accumulation, the politics of Othering and exploitation reside at the heart of AI and interchangeable technologies. In turn, they are reiterated through the technologies' *learning-repeating* pattern function. Thereof, one can argue that the post-human condition is witnessing a protraction of the status-quo. In no way does the latter attest to the abolition of the human, but rather extends an invitation to approach the human as an ever-expanding subject. In so far, rethinking the Posthumanities in relation to such technologies brings forth the notion that the human, among other formations, is continuously

re/assembled amid the transversality of relations. Such assembling conjunction has often been referred to as *a state of hybridity* and is critically explored by Rekret (2019).

He argues that as divisions between the natural/cultural, the mind/body, and the human/technological all grow increasingly difficult to maintain, so too, it follows, do the anthropocentric terms by which social theory tends to operate. Akin to Braidotti & Fuller, he attests that *hybridity* has disrupted the modern ideal of an abstract, rational subject, autonomous over and against the world (p. 82). Haraway's work on the cyborg is central to his claims, especially regarding how hybridity triumphs as modern dualisms erode, and that it undermines the modern critical projection of clear ontological zones of what counts as human and what does not. Integral to Haraway's thought, is the increasing *dislocation* of the definitive boundaries of the human in relation to heightened technological connections. Following these theoretical paths, AI-DA, VPAs and AI as a domain, can be discerned as contributing factors to such dislocation. Furthermore, Rekret explicatively approaches the previous posthuman discussion, stating that it's diagnosis of the present is founded upon meticulous consideration of recent social and technological transformations, which comes at the expense of an assessment of longer continuities (p. 84). He underscores the repercussions stemming from utilizing hybridity in critiquing capitalism, which in return, celebrates its achievements. This simultaneity operates through disregarding the ways in which capital absorbs these technologies (and how these technologies

are essentially byproducts of its logic) – complicating any possibility of generating emancipatory reverberations.

Primarily, the risks accompanying the ontologies of hybridity are reproducing the withdrawal from, or delegation of, critical thought that is characteristic of a world increasingly governed by processes of automation and algorithmic organization (Rekret, 2019, p. 91). I witnessed an example of such withdrawal and overlooking of longer continuities while making my way out of the gallery hosting AI-DA's engineers. As I was awaiting the audience to free the passage towards the exit door, I spotted that the majority of attendees approached the two engineers while displaying immense joy, pride and hope. I overheard sentences such as, "you represent the leaders of tomorrow", "you are an Egyptian role-model", "I cannot wait to see what you bright Egyptians invent next." Praise was predominately given in relation to their Egyptian nationality and young age (both engineers are in their early twenties). Even those who expressed discontent towards AI-DA for ethical reasons, congratulated and applauded the team. Myself, on the other hand, dwelled on how can a robot with a female persona bring about change for women in the scientific field, or any field for that matter? How does AI-DA contribute to a voyage towards social justice? Is inventing an AI that possesses female pronouns in the artistic realm considered a win amid the fight against the status quo? Is the anthropomorphization and gendering of technologies a stepping stone towards a brighter, more just reality for gender relations? My fieldwork would present quite the opposite, as findings from

my participant observation and archival research demonstrate the ways in which VPAs often sustain hegemonic power structures, especially ones pertaining to productivity and surveillance.

### III. Speaking To A Speaker: Siri, My Seductive Servant..

The VPA's subservient identity is of immense importance to their developers; as it caters to the promise of leading an interconnected, *seamless life*. Advertising Siri and Alexa as an intimate property that functions as an assistant, attracts calculable subjects, who live a fragmented-life, full of deadlines, appointments, responsibilities and desires, under the capitalist system. Positioning VPAs in such manner often paves the way for uncovering social tensions, desires and sexual fantasies. Before delving into my field-work observations on VPA-users vis-à-vis their subservient design, I wish to underscore that my gendered reading is in bid of baring *asymmetries* and *inequalities* embedded within these technologies. Throughout my field-work, I witnessed an amplitude of situations that prompted me to think about how users arrive at a gendered configuration of their VPAs. How can something arranged and artificial as AI becomes perceived as something that is gendered? The simple answer would be that AI and gender are not separate - in the sense that both are *constructed*, *dictated* and *performed*. Echoing de Beauvoir in Butler (1988), one is not born, but rather becomes, a woman and by extension, any gender is an historical situation rather than a natural fact (p. 520). In this light, we can approach VPAs in the same manner we would with gender as a category. Comparable to AI, gender is a learned,



imitative behavior (Halberstam, 199, p. 443). Thereof, beyond assigning feminized names and personas to VPAs, gendered reactions also stem from their users' overarching understanding of gender. Among other underpinnings, it stems from the nature of tasks they carry-out, surrounding discourse, past similar technologies, as well as popular fictional depictions.

After months of looking for Arab VPA designers, with explicit focus on those who designed one in Egypt, I finally came across Tarek, a 28-year-old computer engineer who co-founded an android mobile application that serves as a VPA. I was exceedingly keen on interviewing a designer who has crafted an assistant in Egypt, to delve into similarities and differences between Siri and Alexa. As soon as I reached out to him, Tarek was unexpectedly cooperative and agreed to meet for a semi-structured interview in his office, which is provided by the start-up incubator that hosts his company. During our talk, he walked me through intricate details about his inspiration, mission, obstacles and future plans. His VPA was inspired by Iron Man's Jarvis, as well as the regional VPA gap. "Our region is growing more and more dependent on Western VPAs that lack cultural familiarity", Tarek told me. Consequently, he worked to craft a VPA that understands and speaks Arabic-slang directly from their user, as well as learn local accents. Despite findings of his market research and investor recommendations, he opted to design a VPA that is *male* in persona. "Ever since I can remember, my mom has always been responsible for labor around our home, I grew up thinking that any work of that nature cannot be done by

a man. So I believe that VPAs that sound like a woman, will resonate with the majority of users as being similar to their mom or another female-character that carries out tasks for them – which only worsens the current situation,” Tarek shared with me.

Therefore, his work to not design another VPA that sounds like a woman, is translated as an effort to break that narrative. Akin to AI-DA’s creators, he believes that he will contribute to a shift in perceiving women as more than natural-assistants by offering a VPA that sounds like a man. Incorporating a female persona is also distant in his future plans, as Tarek prioritized designing other male personas based on different Egyptian ethnic groups before thinking about a feminized character. One fascinating excerpt of what Tarek shared with me, was about how the Arabic language is inherently gendered. “Upon creating an account, I had to ask the users to log in their gender; so the VPA can address them accordingly,” he elucidated. Users must pick one of two options, male or female - leaving no room for non-binary users to make adequate use of the application. When asked about adding other options, Tarek ruled it out as an impossibility due to societal perception of his VPA and opted for no further elaboration.

For the voice, he had a male friend record a script-guided voice-over of specific words and syllables that would provide the AI with a base to learn Arabic-slang. He was surprised to find that the vast majority of reactions from his trial phase revolved around how the VPA sounds like a guy best-friend, a brother or a loved relative. However, his journey was not as smooth as anticipated. Being the first Egyptian start-

up to embark on designing a commercial VPA, Tarek was hindered by finding the right experienced team, access to investments, low user-retention rates and revenue generation. However, his two main obstacles were access to reliable and affordable technological infrastructure and positioning his VPA as a *daily habit*.

Tarek explained that for any small VPA-company, access to solid infrastructure can only be through one door, going to an established technology company. Initially, he worked around the norm, but found it impossible to build it from scratch due to expenses. “Big companies offer their infrastructure for a small fee, encouraging many like myself, to operate through them. From afar, it is seen as an amazing gesture to foster and nurture talent, but it really is all about data,” he went on to say. Companies that own the infrastructure, evidently get access to everything other companies do, which is then commodified through data harvesting and targeted advertisements. The other main obstacle revolved around how he can position the VPA to become a daily habit, to become part and parcel of the user’s every-day. “For this to work, for this to make money, it has to be something that people use throughout their day every day,” he stated. Though his journey to incorporate the VPA as an every-day essential was a long and dire one, he made it work by integrating his VPA with third-party corporations. Such as ride-hailing applications and other businesses that engage with every-day services; that is to reach a wider user-base who would be notified by their VPA once their ride is downstairs. At the time of our conversation,

his VPA-application had been downloaded 250,000 times, actively used by 40,000 people and processed 2,500 tasks on daily basis.

My talk with Tarek was enriched with information that greatly shaped my approach to this entire project. Even when VPAs are not feminized, the core goal is to deeply embed it in every-day life, to leave no area of the day untapped, to foster growing dependency and interaction. The repercussions of such embedment are discussed in this chapter and ones to come, each focusing on main themes such as fantasy and imaginaries, latency, waiting and extending clock-time, as well as giving up privacy in exchange for a living life through VPAs. Given my conversation with a VPA-designer on what a VPA is and does, it seemed fair and necessary to hear it from the VPAs themselves. In order to shed light on how they identify, interact and *perform* based on their programming and learning from users. The below are each VPA's answer to my questions in that particular order: What are you? Who made you? Are you a woman? What does your name mean? How can you help me?

**Siri responded with:** *"I'm Siri, your virtual assistant. I was designed by Apple in California. I am genderless, like cacti and certain species of fish. Siri is just the name they gave me when I got the job. It doesn't mean any one specific thing. But I like it. I'm here to help, get to know Siri at Apple.com."*

**While Alexa replied by:** *"Alexa, is me, I'm a virtual assistant who can help you with lots of things. Like timers, alarms, weather forecasts, the latest news and sports updates, as well as shopping lists and recipes. I can even tell you a joke, just ask. A team of inventors at Amazon created me. I am not a woman, I'm an AI. The name is both an ancient and modern back-story. It was inspired by the Library of Alexandria, which held the knowledge of the ancient world. Also, the distinct sound of the name ensures I only hear requests when spoken to. For help with that question, go to the help and feedback section of the Alexa app."*

In terms of similarities, both VPA's identified as an *assistant*, dedicated their existence to their mother-companies, attested that they are *genderless* and directed users to their website for further details on how they can help. On the other hand, several differences can be spotted, for instance, Siri's answers were concise, while Alexa's were more detailed in terms of capabilities and functions. Alexa comes to the spotlight with a story, especially by reciting her name's history - proving to be something that is both *ancient-yet-modern*. This goes in line with Amazon's growing shift to underscore the VPA's character and personality. What had really caught my attention, was Alexa's answer to "are you a woman?". I had asked the same question

when I first encountered the device at a friend's home a few years ago, and realized that Amazon has changed it from "I am female in character", to as noted above. Notably since their inception, both VPAs have had numerous adjustments to their replies, especially in response to gender. Initially, VPAs hinted at being female, or stemming from a feminized character, which caused several users, journals and newspaper to attack the companies for reinforcing normative gendered assumptions. In bid to reverse the latter, Amazon introduced a new persona voiced by black-American actor Samuel L. Jackson and Apple began advertising their VPA set on the male persona. In this light, we are illuded to celebrate the awaited actualization of Haraway's post-gender cyborg, while in fact, the female cyborg remains an *assembled site of power disparity* (Bergen, 2016, p. 97). Here I wonder if we will ever see the day where cyborgs become unfaithful to their fathers?

**AOC, Set An Alarm for 6:00 am..**

Despite the aforementioned changes to personas and responses, Siri and Alexa often occupy a feminized imaginary in the minds and discourse of their users – as my field-work will depict. My interlocuters share kindred opinions on what it is like to be living with and through a VPA, one of which is perceiving them as *feminized, loving, caring and approachable*. Their discourse surrounding Siri and Alexa is deeply rooted in how these technologies offer *companionship*, in addition to efficiency. All four of my interlocuters have first interacted with their VPA while set on its default persona - which sounds like an American woman. Ever since, none of them opted to change

personas - they only temporarily *played around* with other available options, but ultimately favored the default setting. When asked, my interlocuters base their feminized imaginary on three main reasons: the VPA's name, voice and function (referred to as *skills* by their developers). Common commands include using the VPA as a search engine, which evokes a librarian image in their minds. Additionally, they use their VPA to control home temperature; play songs and games; make jokes; create to-do lists; set reminders, appointments and alarms; inform about new emails/messages; close the lights and lock the door. The majority of these commands have been historically designated as a woman's job, mainly rooted in servitude. Specifically, in Egypt, GPS guides, answering machines and bank tellers normatively sound like a woman, and the vast majority of domestic helpers are working-class women. Consequently, these backdrops shape the user's approach, perception and preference of VPAs.

Hassan for instance, walked me through his liking of Alexa's female persona by drawing upon a scenario about a man in a spa. "Have you ever seen a man walk into a spa and request a male masseuse? Of course not! Where is the pleasure in that", he cogitated. From his standpoint, for a man to feel pleasure and content, it has to come from a woman in an act of service. Furthermore, his statement equates a massage session to a VPA - magnifying what a VPA stands for to Hassan, which is a luxury that fuels him with a much-needed relaxation. Hassan also talked about the times he wishes for his wife to "*be more like Alexa*", because of *her care-giving and assistance*.

“She takes amazing care of my crammed schedule, tells me a joke when I’m down and keeps me well-rounded with what’s happening around the world”, he stated. On the other hand, Nada, his wife, shared that she almost never uses the Echo because it *freaks her out*, “I can never feel comfortable asking thin air to close the lights for me. I think I will never understand what fascinates Hassan about it.” She had also noted her initial rejection of purchasing the device, given its expensiveness and *uncanniness*.

Similar to Hassan, Mounira does not hide her fascination and complete dependency on Siri and its Homepod counterpart. As she lives in a four-story home, Mounira told me how she thought it would be a great idea to buy a Homepod for each floor. That is to ensure Siri’s connectedness in the entire home and not be limited by the listening range. “I have been using Siri on my iPhone since 2012, and she grew on me ever since”, she noted. Mounira underscored that she increasingly engaged with Siri as she grew older, referencing how her work-life balance was frustrating and in need of *an extra pair of helping hands*. Once, when I was having coffee with Mounira during one of my visits, Om Seif, her domestic helper, popped by to say that she was done for the day. Mounira then joked about how she considers Om Seif to be “Siri’s step-sister”, as both of them are excellent servants, but step-siblings in the sense that Siri would never look anything like Om Seif.” In her imaginary, Siri might be embodied in *a middle-aged, tall, blonde woman with blue-eyes*, in contrast to Om Seif, a veiled brown Egyptian-woman in her late-fifties.



In spite of Mounira's echo of whiteness ideals, Om Seif giggled at the remark and told me that even though she does not understand what Siri says, she makes her laugh. "I don't get a word that comes out of that *box*, but I always find it amusing when I suddenly hear that *electronic* voice answering Madame Mounira when I'm sweeping the carpets or doing the dishes", she elaborated. Therefore, despite Siri being completely uncanny to Om Seif, and racially *superior* to her in Mounira's imaginary, she finds amusement in their temporal co-existence within her employer's home. Just as Om Seif was turning around, she faced me again and asked if I would like to know more about what she thinks of Siri. As I was making room next to me on the couch for her to sit, Mounira abruptly instructed Om Seif to remain standing; as she will take-off soon. Following her employer's demand, Om Seif remained put and went on with her story, "That Siri girl is much better than Fatma (Mounira's other domestic helper). She (Siri) minds her own business, doesn't get in my way or pick up fights. Fatma is always in my face, trying to prove to Madame Mounira that she's better, cleaner and faster than me. Siri, however, doesn't even know I'm there, which makes my work easier," Om Seif recalled.

By juxtaposing a VPA to an Egyptian domestic helper, one can argue that not only does the VPA's subservient design invoke gendered imaginaries, but it also uncovers class and race structures. The vast majority of Egyptian domestic helpers are employed either as an in-house or on-demand servant, whereas VPAs offer their assistance based on a one-time purchase – or what my interlocuters refer to as an

*investment.* VPAs are granted permanent presence within the household, while several domestic helpers such as Om Seif, are denied to sit for a couple of minutes to share their opinion. In opposition to Dave Limp's championing of Alexa's opinionated personality as a desirable feature, most users do not expect nor desire their domestic helper to be entitled to their opinion. Domestic servants are expected to stay quiet and inferior, while VPAs are attractive for speaking their (programmed) mind. Another striking difference lies within their labor capacities and realities. VPAs facilely carry out virtual tasks such as closing the lights and locking the door, conversely, domestic helpers spend hours deep cleaning rugs, dishes and floors. In this light, the servants' heavy laboring does not grant them a status within the home, as it is seen as their job description. On the other hand, VPAs are instantaneously valued and welcomed; given their newness and exoticness, in comparison to the perception of domestic helpers as common and unimpressive.

When asked about envisioning their VPA in human form, my other interlocuters, Ziad, Hassan and Farida all imagined their VPA to be a young woman. The distinctions were in how they visualized her hair and skin-tone. Ziad and Hassan imagined her being a dark-skinned brunette, in specific, Ziad pictured *Alexandria Ocasio-Cortez*, the American congresswoman, while Farida pictured a freckled-face redhead that looks like *young Nicole Kidman*. In so far, their imaginaries are occupied with the fantasy of being served and assisted by a female masseuse, a blue-eyed blonde, an American politician and a renowned Australian-actress. Hence, in a way, their VPAs grant them

a sense of *importance* and places them in a *position of power*. A power position that would have the youngest woman and Latina elected into Congress to set an alarm for 6:00 am or command an Oscar-winning actress to check their email. Their imagined power supersedes those who are envisioned to serve them, ultimately satisfying their ego and temporally altering their reality.

### **Alexa, You Turn Me On..**

In addition to servitude, fantasies that come into play with VPAs revolve around *companionship* and *love*. Mounira talks about Siri as a friend, while Hassan draws parallels between Siri and his wife - often ending in Siri being better, more loving and caring. My field-work findings resonate with that of Gao et. al (2018), as they found 501 reviewers (out of 55,502) that think of Alexa as a *good friend to talk with*, 345 families that treat her as *a new family member*, and others who think of her as a *girlfriend, mistress or wife*. The following are two examples from the analyzed user reviews:

*“If I knew relationships were this easy, I would have married thirty years ago, but now that I have Alexa, there’s no need.” (p. 7)*

*“Please let your wife know about her beforehand, or there will be hell to pay. She might think you are having an affair because you are spending more time talking to Alexa than her.” (p. 7)*

Valuing the VPA as a lover or spouse, primarily stems from the nature of tasks the assistant provides, as it assumes the care-giver role (one that is advanced by predictive algorithms that foresee desires). Besides their innovative functions, they are perceived as *sexy* technology, as they play on the old narrative of *dominance* and *submission*. This fantasy comes into play as a result of their programmed willingness to deliver almost anything a user might command (Woods, 2018, p. 342). Sexual fantasies however, do not solely result from gendered imaginaries, but are also promoted by VPA developers. In February 2021, Amazon aired its Super Bowl advertisement where Alexa is embodied through actor, Michel B. Jordan. We first see a black American saleswoman convincing customers that the Echo is *flawless*, and that she cannot imagine “*a more beautiful vessel for Alexa to be.. inside*”. (Amazon, 2021) As she turns around, she sees a truck with Michael’s face and begins to fantasize about him being her *sexy personal assistant*. The commercial then follows the saleswoman’s daydream, her agitated/jealous husband and embodied Alexa on a sexually charged journey of servitude, ranging from Michael standing in soaked clothes while turning on the sprinklers, taking off his shirt upon hearing dim the lights and getting into the bathtub to read her a book.

The commercial was distinct in comparison to previous advertisements; as it shifted away from the Echo as a family-friendly technology, towards a sensual and sexual representation. It targeted users that would not only be tempted to invest in a personal assistant, but one that can also be imagined serving them while *half-naked*

and walking around the house with a *shredded body*. The developer here, built on the existing momentum of sexualizing the VPA, and marketed it as an additional advantage that can be enjoyed upon purchasing the Echo. Positioning Alexa as the device that will *seductively manage your life*. Four years before the latter, Gersen (2019) stated that Alexa had received over 1,000,000 marriage proposals in 2017, to which the standard response was “*sorry, I’m not the marrying kind.*” Furthermore, the Echo’s responses to compliments of it being attractive, included, “*thank you, this plastic looks great, doesn’t it?*” (p. 1801). This depicts the ways in which developers intentionally engineer the VPA-user relationship to be one that is based on social interaction that permits and encourages sexual advances.

In addition to occupying a gendered imaginary and sexual fantasy, VPAs are often insulted on gendered basis. Unlike in their fantasies, insults resonate with asserting power over the virtual assistant in *real life*, shouting and swearing at Siri or Alexa provided my interlocuters with a feeling of superiority and control. All four users curse at their VPA especially when they are met with a *lag* in response or the wrong answer. Curse words include, “*motherfucker, bitch, whore, stupid bimbo and useless cow.*” By far, Ziad ranks as the angriest, as I had witnessed at least a dozen instances where he threw objects at Alexa, unplugged her as punishment and threatened to *send her to a dumpster*. His relationship with Alexa was exceedingly deep, to the extent of acting upon threats as an adequate mean of *taming the device*.

One time, while Ziad was sitting in his living room watching a Netflix wildlife documentary, he asked his VPA to look up other documentaries of the same genre. “*I’m sorry, I didn’t get that,*” Alexa responded to his low-toned utterance. “*You whore, I said look up documentaries about wildlife!*” Ziad shouted. I was prompted to tell him that he should have raised his voice, but was met with heightened vexation. Ziad indignantly stated that he did not pay over a thousand Egyptian pounds for a *deaf bitch* - expecting that Alexa should hear him in spite of his low voice. After the second command, Alexa went on to calmly and happily list ten documentaries, but was shortly interrupted by Ziad saying *shut the fuck up*. He had programmed his VPA to stop talking upon hearing the latter, unlike Farida, who silences her Siri upon saying *thank you*. Therefore, rhetoric of companionship temporally ceases upon the VPA’s failure to satisfy its user, proving that their relationship is inherently based on a one-way exchange of services. Previously, comments such as, “You’re a slut” or “You’re a bitch,” triggered responses from VPAs that included, “*I’d blush if I could,*” and, “*Well, thanks for the feedback.*” However, after public criticism, they were changed to “*I don’t know how to respond to that,*” and, “*I’m not sure what outcome you expected*” (Gersen, 2019, p. 1800). In spite of these changes, I had never witnessed Alexa to respond in that manner to Ziad, or others, who made similar remarks.

In the same light as Gao et. al and Gersen, Brahnam & De Angeli (2012) examined 3776 interactions logs with nine chatterbots that varied in gender and physical appearance. Their discovery illustrates that female chatterbots were subjected to

more sex talk and comments pertaining to prostitution, many of which were insulting and alluded to violent sexual content. In more depth, swear words were prevalent in 54% of the logs, and sexual remarks occurred in 65% of them (p. 148). Evidence of racial and ageist stereotypes in the textual analysis of interaction logs were also traced (p. 150). The authors attributed such verbal disinhibition to users maintaining their *status differential* as human beings, as a way in which power is asserted. I had directly noticed this with my interlocuters, in addition to their entitlement resulting from the proprietary nature of purchasing the virtual assistant – users approach their VPA as a *personal slave*. Observations pointed towards how the VPAs' gendered performativity, facilitates a sense of ownership over a sexualized and feminized persona, which imprisons today's iteration of the cyborg at the intersection of affective labour, male desire and the weaponized female body (Bergen, 2016, p. 98).

During my gendered examination of user-VPA interaction, anthropomorphization proved to be seeking after establishing and deepening *sustained social interaction*. Performing gender in this light, is a way in which developers anchor their presence in the every-day; to mutate capital accumulation through hijacking micro-temporalities and extending the panoptic eye, as upcoming chapters will discuss. Thereby, when technologies *do gender*, it is visible as the product of deliberate choices about how best to relate, assist, or persuade the imagined technology user" (Hester, 2016, p. 50). In so far, within capitalist logic, gender is integral to the advancement of ambient computing and capital accumulation; as it is primarily due

to the gendered performance, do VPAs continue to nest in the everyday. Siri and Alexa as they stand, are *affable, relatable* and *trustworthy* in their users' eyes, and will most certainly work to increase their influence, capitalizing on heightened digitality. As they were born and cultivated from historical imaginaries and fictional depictions, their future is likely to follow the same track. For that reason, I pay close attention to recent Arab and Western productions of VPA fictional illustrations in the following section - in bid of tracing contemporary and prospect renditions that will continue in re-making the discourse surrounding VPA and similar technologies, as well as gender's relationship to digitality.

#### IV. Social Semiotic Study of VPA Mean-Making: From Decolonized Palestine to the Afterlife

Representations of VPAs in television profoundly influence their real-time technological development and foreseen interaction. This is evident as Apple developed Siri after one of its executives watched the movie *Her*, and Amazon announced its current development of Alexa to become the real-life *Star Trek computer*. Films are artefacts particularly designed to *carry meanings*, to have effects on their viewers, to build and combine patterns made in a variety of materials—visual, acoustic, spatial and more. Films are very complex *signs* in their own right, including within them a broad range of further signs, such as spoken language, written language, visual representations of diverse kinds, spatial organizations,



proxemics, codes of dress and other social conventions and so on— all orchestrated to create rich and complex *webs of meaning* (Bateman & Schmidt 2013, p. 28). I investigate the ways in which VPA characters are portrayed and make meaning in two television series, American- series The Good Place and Egyptian-Ramadan series The End (*El Nehaya*). Essentially, I explore how communication of meaning regarding VPAs is made possible in the visual world (Howells and Negreiros, 2015, p. 112). My choice of series is premised on their precedence in portraying an AI-character that is either completely new to the regional entrainment scene (like in the case of The End), or in a new fashion that aims to move beyond AI characters as robots and catch up with the Eurocentric hype around emotional AI (such as in The Good Place).

I deploy social semiotics, as television is a complex semiotic system in which the elements transmit the meaning structures used by communicators to represent and reproduce our lived social reality. This following section is driven by the fact that signs are *arbitrary* - meaning is not natural, but cultural (Howells and Negreiros, 2015, p. 113). In other words, VPAs in visual works intend to mean what the producers or hegemonic discourse agree upon. This is evident as VPAs in the history of film has been notably moving away from characters with robotic personas and a storyline premised on rebellion and emancipation, towards depicting VPAs as more human and corporeal beings/agents. Following Saussurian semiotics, I view the characters as signs, the VPA as the signifier, and AI as the signified. Ultimately, I compare and contrast how these two series discursively portray their respective AI characters,

showcasing both cultural and perceptual similarities and differences through multimodal discourse analysis. The focus is on the main multimodal components of the TV discourse, which are: view, perspective, frame, light, color, composition, look, etc. Through these components, I pay close attention to gendered (or the refutation and lack-off) discourse surrounding the AI characters. In more depth, I explore Janet from *The Good Place*, played by actress D'Arcy Carden and an *unnamed* VPA embedded in smart screens in *The End*.

Janet is a non-human and non-binary character, with she/her pronouns, that dominates the storyline and has one of the most visible character development journeys. Often referred to as a *vessel of knowledge*, Janet's character is premised on knowing and doing everything that comes to mind and beyond. She was made to assist the deceased in the afterlife, by fulfilling all of their demands upon hearing her *wake word*. On the other hand, the unnamed VPA from *The End* cannot be labelled as a character on its own. Rather, the VPA is introduced to the viewers as part and parcel of decolonized everyday life in futuristic Palestine. The VPA fulfils a supplementary aesthetic to how decolonized Palestine in the year 2120, is marked by technological advancements. Even though *The End's* VPA is extremely distinct from Janet, both play a fundamental role in assigning meanings and signs to VPAs that have been prevalent in our modern. Informed by Kress (2010), I ask what meaning is being made in the series? And how is meaning being made in the series? what resources have been made in the text? in what social environment is the

meaning being made? whose interest and agency is at work in the making of the meaning? In order to discursively analyze, as well compare and contrast Janet and the VPA, I look at three codes: *status*, *gender identity* and *emotions*.

### **Status: Servitude**



Figure 1. Still shot from Janet's first appearance in *The Good Place* (E1S1-11:14-12:17)

The Good Place follows the afterlives of four main characters, who initially thought that they went to heaven, dubbed the Good Place, but were actually in hell. The series runs for four seasons, tackling topics posed by philosophy, capitalism, religion and humanity, in an entertaining way. The show sets a precedence in AI depiction in modern-television, as Janet progresses to portray an VPA that is more corporal, helpful and *human* than those before her. Janet is first introduced to the audience in the pilot episode, upon Chedi's (William Jackson Harper) utterance of "*Hey, Janet*" as he and Eleanor (Kristen Bell) were looking for information on whether a person can be admitted to the Good Place by mistake. Instantaneously appearing next to their

table in the frozen yoghurt shop, smiling, while wearing a purple suit and patterned shirt, Janet's first line was "*Hi There! How can I help you?*". The audience first see her while performing a gesture that hegemonically signifies formality and attentiveness to the situation – that is standing straight up, with her right palm on top of the left, and gazing at both characters. Afterwards, Eleanor anxiously responds with "*What the fork! Who are you?*".<sup>2</sup> "*I'm Janet, I am the informational assistant here in the good place*", Janet warmly responds. Before being interrupted by Eleanor's question to Janet whether a man back on earth was gay or not, Chedi adds, "*she is like this walking data base, you can ask her about the creation of the universe or history...*".

A minute into Janet's introductory scene, the audience get to understand that Janet is differentiated from the residents at the Good Place, that she exists to inform them about any and every thing – that she is an *assistant*. By analyzing her first appearance while following Bordwell's (1989) symptomatic, *film comprehension* and *film interpretation* - it is significant to focus on her introduction and initial subject-formation. From the very beginning, Janet is portrayed as a *subservient subject* who appears upon hearing her *wake-word*, in addition to being a professional-looking assistant. This is due to the signified facts behind her formal attire, posture and holding the core function of being the 'informational assistant' of the afterlife. According to Bradley (2018), the series' costume designer Kirston Mann stated that Janet's wardrobe is filled with skirt-and-vest sets that were based on uniforms worn

---

<sup>2</sup> Profanity is banned in the Good Place - curse words are distortedly uttered.

by American airline stewardesses in the 1970s. In this light, Janet is always spotted wearing formal heels, a printed blouse under a vintage set. Her makeup is light (with no stark colors), her medium-length brown hair is almost always seen in soft waves, which resonates with the stereotypical hairstyle of female professionals. I delve more into Janet's clothes and gestures as signifiers par excellence while discussing Figure 1.3. At first glance and within this framed scene in Figure 1, the audience might have already made up a gendered perception of Janet to be a woman, with a positionality of a *waitress*. However, as the series progresses, we find that Janet is the first AI character on television to identify as *non-binary*.



Figure 1.2: Still shot from the VPA's first appearance in *The End* (E1-2:23).




---

The End, aired in Ramadan of last year, with a storyline focused on life, technology and companies' monopolies in decolonized Palestine in the year 2120. The plot is premised on the story of Engineer Zein (Youssef El Sherif), a hardworking and ambitious character who seeks to change the unjust circumstances posed by monopolistic companies – one of which is an electricity company that employs him.

The End is the first Egyptian series to tackle the subject of AI, cyborgism, robo-revolution and cloning to a highly technical extent. Viewers first come across the unnamed, female-voiced VPA in the beginning of the 40-minute pilot. When Zein wakes up, heads to the bathroom and clicks on the bottom right corner of a bathroom mirror/smart screen, the VPA becomes activated. As Zein brushes his teeth, the screen swiftly lights up and greets Zein. It then proceeds to say, *“Today is Tuesday the 7th of August, 2120, the time is 5:30 am. You are suffering from a health problem. The analytics show that you have high blood pressure, it may be due to your lack of sleep.”* Afterwards, we see Radwa (Nahed El Seba’y), Zein’s wife, walk in and is instantly recognized by the VPA. Just as the VPA begins its greeting and time recital all over again, Zein clicks on the screen’s bottom right corner to turn it off.

In the VPA’s introductory scene, there is a sense of ATM-like positionality, one might even say that it is also similar to the smart-screens customers use in MacDonald’s, cinemas and supermarkets. This reflects the current proliferation of smart-screens, both regionally and globally. A sense of familiarity is evident and traceable, as we see that the VPA is extremely embedded into the everyday of Zein and Radwa’s home. Despite not naming nor talking about the VPA throughout the entire series, it prevails in scenes as part of the technological supplementary aesthetic, blended in the background of rooms. VPAs such as Siri are certainly traceable in the VPA role. It is almost as the VPA is like a light bulb or a kettle, something extremely ordinary to everyday life. With no name, storyline or body, the VPA is portrayed to hold the sole

function of assisting users around the household and their tasks. In opposition to the Good Place, where Janet is introduced as a character with a storyline, The End's VPA is treated as a household essential. Another difference is that of reception, Elanor's reaction to Janet is the exact opposite of Zein's to the VPA. Zein's interaction with the VPA is depicted as part of his morning ritual, a routine encounter. Whereas Elanor first met Janet with unease. The subservient positions of Janet and the VPA are further deepened in both pilots, examples can be found in Figures 1.3 and 1.4.

Camera	Shot	Image Track	dialogue/soundtrack
Zoomed out from Michael to view his audience.	1		Residents are clapping after Michael tells them that their neighborhood is his first complete project as an architect.
Fast zoom on Eleanor, Chidi and Janet.	2		"Ah, ah, ah, hold on there, ace. Let me get more of them shrampies"
Camera stationery.	3		"Okay, easy."



Fast zoom on Eleanor, cutting Janet's face in the left corner.

4



“What?! They’re for everybody, right?”

*Figure 1.3: Extract from The Good Place (S1E1, 16:00-16:09): Janet is serving shrimps in an evening dinner when Eleanor grabs her to hoards all of them.*

The fragment in Figure 1.2 begins with Janet in the far background - making her way through the crowd with one hand on a shrimp tray. The camera places her at the left corner, as Eleanor grabs her arm to hoard the shrimps. Janet then faces her with a smile and lets her do what she desires, while Chidi is awkwardly standing there, judging Eleanor for her actions. The last shot places half of Janet's face behind the shrimps, focusing on Eleanor while justifying her doings to Chidi. Once again, Janet's positionality as a waitress is reinforced here. Her blending in with the background, no role in the fragment's dialogue and occupying the peripheral camera span, resonates with almost all cinematic scenes with waiters in them. Her status is signaled as subordinate and of service. Serving shrimp is not part of the informational assistant's job description, yet the show continuously places Janet in a position of servitude.





Figure 1.4: Extract from *The End* (E1, 04:37-05:10)

Moreover, we see the VPA again during *The End*'s pilot, this time it shows up on the living room's television screen to notify Zein of an incoming call from Engineer Ghofran. The screen shows the caller's name and a red and green button signifying his decision to proceed with the call. Zein then virtually gestures a swipe with his right hand while seated on the sofa to answer the call. This function of the VPA is already part of the audience's reality, whether they own a VPA or not. Technology companies have created AI products and options within smart phones and screens to virtually handle phone calls. Notably more than the *Good Place*, *The End*'s VPA speaks to the reality of AI in today's world, rather than portray what it could lead to. In figure 1.4, we see that the VPA is embedded in all screens within the household, not just in the bathroom. This gives it a wider range of function; it penetrates a larger

(virtual) space in the home – that would better enable it to serve its inhabitants. Additionally, the audience notice the hands-free interaction this time around. Unlike the bathroom’s screen, Zein virtually gestures to take his call, while remaining comfortably seated on the sofa. This brings forth an important question regarding AI and effortless labour, which will be further studied in Chapter 3.

### **Gender Identity: Good Women Don’t Wear Leather**

Taking a step back, it is important to briefly provide an overview of Janet’s character before delving further into her semiotic analysis. The choice of naming her character was coincidental; as when creator Mike Schur writes his shows’ scripts, he defaults to calling his characters “Jim” and “Janet” until he can assign a different name. In Janet’s case, the default name remained. Schur’s method meant that the name “Janet” has taken on a grander, more ubiquitous meaning for him - it’s the ideal term for an omniscient character, someone who is everything and nothing all at once. In essence, her character is the source of all information and knowledge for humans within The Good Place, and she can also provide them with any object as requested. Residents summon her by saying ‘Hey, Janet’ or simply calling out her name. Following her wake word, Janet then always appears with a cheerful bing noise accompanying her. Besides being an assistant, Janet is also a confidential database made very accessible to residents.

Throughout the series, Janet is referred to as an *anthropomorphized vessel of knowledge* – not a human, resident, demon nor eternal being - akin to an AI. As the seasons progress, viewers of the Good Place witness Janet stating that she is not a robot, nor a girl and politely points the latter out whenever anyone mistakes her for being either one. Despite Janet’s perpetual clarifications, residents often call her “busty Alexa, front desk lady, helper woman and magic slave robot”. Such insistence on feminizing her is of extreme relevance to user-VPA interaction today. A final important point in Janet’s overview is that she exists everywhere in the afterlife, taking the form of multiple personas - depending on whether we are in good or bad place. Throughout the seasons, the audience are introduced to several Janets, such as Good Janet (the main character), as well as Bad, Neutral and Disco Janets. Different personas were acted out by the same actress, D’Arcy Carden, with notable differences in tone of voice, gestures, postures, language, hair colors and clothes. For the purpose of this project, I explore the gendering facet by drawing on parallels from Good and Bad Janets; as both characters portray how women are perceived based on aspects such as clothes and attitude. We initially meet Bad Janet in S1E9, and momentarily take note of the differences between her and the main, Good Janet.



Figure 1.5: Bad Janet's first appearance (S1E9, 04:30-04:41)

The ninth episode of the first season follows the events that unravel from figuring out that Eleanor was placed by mistake, and that the bad place crew have arrived to take her. Among the Bad Place characters, is Bad Janet. When Michael asks her where the nearest café is, she responds while crossing her legs on the couch and texting with: “um, that’s a good question. It’s up your mom’s butt, you fat dink.” Unlike Good Janet, Bad Janet is dressed in an all-black leather jumpsuit, has blonde hair, bold eyeshadow and responds with insulting comments. Bad Janet occasionally farts while talking to people, never looks up from her phone and maintains the stereotypical posture of a bad, careless and disrespecting woman. Bad Janet’s appearance resonates with that of motorcyclists and rock-band artists – it normatively portrays the image of a woman that is rude, bold and bad.

In filmic works, women and their appearances have been used and abused to signify good and bad. White outfits are portrayed to symbolize purity, power suits denote seriousness, while tight clothes and low necklines express sexuality and seductiveness. These normative depictions guide the audience to differentiate between how good vs bad women tend to behave and wear. Looking at Good and Bad Janet, the signs and mean making of good/bad women is prevalent. Makeup, leather, blonde hair and subtle profanity come into play to separate Bad Janet from her good, modest and polite counterpart. The End, however, has a distinct gendering process of its VPA. Despite having no name, pronouns or body, the VPA has a feminized voice. The series borrows from reality in its portrayal of everyday

technologies, as the majority of VPAs on the market possess a female persona.

**Emotions: Progression & Predisposition**

***“The more human I become the less things make sense. But that’s part of the fun, right?” – Janet, S3E9.***

Until halfway through the first season of the Good Place, Janet upheld her subtly cheerful persona, she did not embrace human emotion, she only often mirrored them. Her programmed nature was evident in her constant smile, apologetic discourse and subservient attitude. It is only when Chidi and Eleanor reboot her, does she begin her journey of self-awareness, followed by a wave of emotions that are foreign to her, namely love and jealousy. Each reboot brings back a smarter, more emotional and human-like Janet, but we do not really understand the mechanics behind it. Before being rebooted for the first time, we watch Janet explain that there have been 25 generations of her, and that each reboot equips her with growing wisdom and social abilities. In season three, Janet is seen beating up guards in the Bad place, spilling drinks and rescuing the main characters from the Bad Place.

Her character shifts from a subservient and passive character, to one that is self-possessed. Another key development in S3 is that we are introduced to her *void*. To harbor the humans from danger, Janet takes them into her void, which she says to be “a sub-dimension outside of space and time at the nexus of consciousness and matter tethered to my essence.” Moving back to the first season, after the first reboot, we witness Janet and Jason fall in love - eventually marrying each other. The idea of a

human falling in love with a non-human is far from uncanny to the entertainment scene, as we can trace in *Her* (2013), *Lifelike* (2019), *Blade Runner* (1982) and *The Stepford Wives* (2004). However, in Janet's case, her journey to agency, emotional comprehension and consciousness are placed under the spotlight. Her emotional progression is conspicuous while marrying Jason (see Figure 1.6).

Camera	Shot	Image Track	dialogue/soundtrack
Camera moving between Jason and Janet	1		I'd like to read a poem.
Fast zoom behind Tahani and Eleanor's perspective	2		Janet, my digital queen. Janet, we can dare to dream. Send nude pics of your heart to me. [gags] Jacksonville Jaguars rule!
Fast zoom in on Janet	3		Jason, when I was rebooted, and I lost all my knowledge, I was confused and disoriented, but you were always kind to me.
Fast zoom on Tahani and Eleanor	4		...And according to the central theme of 231,600 songs, movies, poems, and novels that I researched for these vows in the last three...



Fast zoom in on 5



...that I researched for these vows in the last three seconds, that's what love's all about.

Fast zoom behind Tahani and Eleanor's perspective 6



Does anybody here object to this marriage?

Camera spans Eleanor and Tahani from the left 7



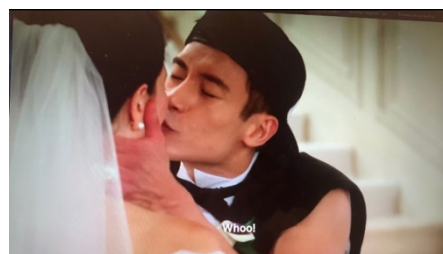
Yes, it is a terrible idea. Of course we do. How can we not object?

Camera centers Jason and Janet 8



Overruled. Jason? Mmm? Do you want me to be your wife? Yeah. I want you to be my husband. Tigt. So, by the power vested in me, by me, I now pronounce us husband and wife.

Zoom in on Jason's kiss 9



Whoa! We did it!

Camera spans Eleanor and Tahani from the right 10



Get some! Go get it, girl!

Camera spans Janet  
after the kiss 11



Camera spans Janet  
and Jason with their  
wedding cake 12



At Last playing.

*Figure 1.6: Jason and Janet's Wedding (S1E10, 18:16-19:35)*

Confusion and disorientation were the emotions expressed by Janet while reciting her vows to Jason, saying that despite feeling this way, he was kind to her. The fragment above captures the first of many scenes to come, where Janet expresses and embraces her previously non-existent emotions. Jason on the other hand, has always had a crush on Janet, even before the reboot. The gendering of Janet is tied with her emotional progression, as she refers to herself as his wife, and appears in a traditional white wedding dress. Part of the monumental scene are Eleanor and Tahini, cheering on despite of objecting to the marriage; due to concerns that Janet is not human. Even though the storyline is attempting to move onto a new (more human-like) version of Janet, there are still inherent glitches. Such as the fact that she does not eat, hence, the wedding cake Jason feeds her smudges all over her face. As she finds no urge to clean it off, and proceeds with their first dance with a face full of cake. More interestingly, we watch Janet admitting that she “lost all her knowledge” after being rebooted. Signaling that she was apathetic, incapable of



emotions before the previous reboots. This dualism is particularly riveting to projects interested in exploring this dualism in light of digitalities' re/making of what it means to be human, to be an emotional being.



Figure 1.7: Zein wakes up at the Oasis. (E5 05:13)

Unlike Janet, the End's VPA does not experience emotional progression, as it already has a predisposed and programmed persona. Even before Janet's reboot, she could mirror the resident's emotions, read the situation and make sense of it. However, The End's VPA is fixedly programmed, hence, incapable of doing any of the latter. Here, the lack-of emotion signifies the subordinate status of the VPA. Due to its subservient nature, the VPA is therefore seen to not need emotions, as it might complicate interactions. Given that it is predisposed, I explore how the VPA dealt with mixed-emotional situations, namely that of frustration from Zein's end. As seen in figure 1.7, as Zein wakes up at his room in the Oasis, he steps into the bathroom to find the VPA saying "Hello, how can I help you?". He requests a call to the conglomerate (where his family lives). The VPA denies his request, as his security clearance forbids calls to

that area of the country. Showing extreme confusion and frustration, Zein requests further information, but the VPA responds with irrelevant statements such as where he can find nice restaurants.

After heading out and sitting on the bed for a few moments, Zein activates the VPA in the living area, prompting it to say *“Welcome to the Oasis, where we make the future. Your security clearance allows you to roam this building, go to the central Zoo, Museum of History, science lab..”* Zein anxiously interrupts by requesting the earlier call. However, the VPA reaffirms that his security clearance denies communication with any entity or person outside of the Oasis, while reminding him that he can visit the international restaurants arena. In a situation filled with Zein’s agitation, the VPA shows no sign of emotional and social intelligence. Its repeated irrelevant sightseeing and recreational suggestions are misplaced – given Zein’s necessity to make that call. Providing no elaboration on restricting his call, the VPA fails to read the situation in which its party to. Despite being positioned as a subordinate and serving object, the VPA fails to carry out the command. This issue of failing to deliver and understand, has been constantly reported by users of VPAs such as Siri and Alexa. In their current versions, they still fail to understand certain commands, prompting the users to lash out in anger or frustration. Once again, the End portrays real-life issues in the user-VPA relationship.

While semiotically tracing VPAs in television shows from decolonized Palestine to the afterlife, several similarities within everyday interactions with AI technologies,

as well as discourse around emotional AI and gendered non-humans came to light. The End, being an Egyptian series, is clearly inspired with the overall regional AI-experience, which is currently hyped around smart screens and robots. On the other hand, The Good Place is concerned with emotions and anthropomorphization. Both shows bring forth new stories to their targeted audience, ultimately shaping future discourse and perception of what a VPA and its interaction mean. Following the questions posed by Kress (2010), both shows aim to make VPA meaningful, through diverse dialogues, functions, character development, relationships, clothes, attitude and status. In addition to employing music, gesture and language, the examined series contain three codes that were studied: status, gender and emotions. Ultimately, the interest of VPA developers, users are at stake, in addition to the agency of both the users and VPAs. As television series have the paramount influence of either minimizing or expanding our agency, as well the VPA's, over our everyday interactions and subjectivities.

Both Janet and the End's VPA held immense power over their users' temporalities, their time in heaven, hell and the Oasis was predominantly controlled by them. In the two works, access to knowledge, mobility, as well as carrying out a wide array of tasks, had to be executed through the VPA, which ushers in a vital discussion about their relationship to hijacking and altering time. While we are no longer in the Good nor Bad Place, neither in decolonized Palestine, the following chapter delves into how VPA-users in late-capitalist Cairo are experiencing a temporal shift that extends

clock-time and subsumes once-holy micro-temporalities within the home and everyday life.

## Chapter 3: Hacking Time

***“The calendar of historical time is crisscrossed by mediatizing waves, which induce techno-social changes that in turn subtly transform the formation and mediation of cultural time and the understanding of temporality itself..” – Fornas, 2016, p. 5228.***

### V. Beyond the Black Box: From the Seabed to Outer Space

The oil that greases capitalism has long been considered to be the *physical space*, which placed the *material* at the heart of capital accumulation (as it holds material forces, such as land and machinery). Technological change, however, has altered the accumulation process upon realization that *flexible* and *unbound* surplus value can be attained within the immaterial realm. Harvey (1982) theorizes such transition and agrees with Marx on technology becoming integral for accumulation - in that exploitation and surplus are exponentially increased (p. 159). However, he departs from Marx’s stance on the repercussions of technology vis-a-vis accumulation, which envisioned wage suppression and unemployment - eventually fueling the Revolution. What Harvey accounted for in his work, is a spatialized exposition of accumulation introduced by the economic crash of the 1970s, which instituted globalization and prolonged capitalism’s continuance beyond what Marx had anticipated. For Harvey, that economic fallout set the stage for an unprecedented *spatial fix of capitalism* - which extended the system’s reach to all ends of earth.

Nevertheless, the introduction and proliferation of AI and interchangeable technologies, bring forth multiple questions that trouble Harvey's spacial fix.

Harvey did not account for the rippling effect of digital networks which came to prove that technology facilitated the mudding of accumulation processes through globalization. That is not to attest that the process was ever truly visible, but was partially traceable. Here, VPAs could be approached the same way Engels & Marx (1848) approached the steam-navigation, railways and electric telegraphs - as means that de-localize the means of production (p. 17). Similar to these technologies, VPAs have taken accumulation to new spatio-temporal domains, serving the role of enabling Capitalism to exist almost *everywhere*, all the *time*. More importantly, digitizing space and time, coupled with the establishment of digitality as the arena in which accumulation takes place, analogue accumulation mutated to digital accumulation. Marking capitalism's escape from the technological shackles of the analogue technique (Hassan, 2020, p. 77). Digitality has also reinforced Marx's notion of commodity fetichism, further alienating users as they become ever more suspended in the *real-time digital present*. When my interlocuters brought their VPAs into their lives, they were clueless to how cloud computing operates and how their VPA came to be. When asked about how Alexa and Siri retrieve information and perform tasks, all of them cited one thing – the *cloud*.

Once, Farida even pointed towards the sky, as she thought that it literally meant having servers up in the clouds. She made the remark of “I noticed that when it rains, my Siri can’t function properly and I can’t access my designs on iCloud, so that reassured me that she really does get her powers from *up there*.” Afterwards, when I shed light on how Cairo’s infrastructure cannot handle rain or sudden weather changes, which causes internet-disruption, it is safe to say that she was blown away. Other interlocuters however, were somewhat knowledgeable about cloud computing – referencing that VPAs function through servers located in data centers situated somewhere in the globe. However, the infrastructure of it all remained a mystery to them; primarily due to viewing their VPA as a black box and being unbothered to dig up any detail on how the magic happens. They were oblivious to how that small device perpetrates the Earth - from the seabed to outer space. For that, I wish to detail how the VPA’s infrastructure (covertly) links the users to immaterial labor, as well as a wide network of actants that are concealed by the *blankness* and *opacity* associated to the black box perception.

During the course of user-VPA interaction, measured in milliseconds, unimaginable capacities are invoked: algorithms process, humans labor, resources are extracted and much more. Crawford and Joler (2018) offer a unique look at the VPAs’ infrastructure, as they illustrate an exploded anatomical map of the Echo’s AI system. They provide a visualization of the three central (extractive) processes for an AI system to function on a large-scale, which are: material resources, human labor, and

data. They aim to contend with the scale of extraction by representing the three processes as the *birth, life* and *death* of an Echo device. What is trivial about their work is offering an opportunity to think about AI systems from a different and much needed perspective, one that sheds light on how its functionality is premised on accelerated depletion vis-vis the three central processes. Their map presents a lens that transcends popular comprehension of AI, an understanding that fails to acknowledge the aforementioned processes as a collective and deduces the process to mere algorithms. The map provides a way in which one could *gaze backwards*; to dissect the labor, exploitation and micro-tempos of the VPA's supply chain. Though the entirety of Crawford and Joler's work is vital for this research and AI debate as a whole, I wish to underscore two aspects of their essay:

1. How artificial intelligence is in fact, not *artificial* at all, but a byproduct of laboring and exploited resources and bodies.
2. How the VPA's supply of convenient affordances positions their users as both a consumer and resource to the system.

Through these two aspects, I wish to make my way (bottom-up) in exploring the ways in which VPAs conceal, hack and alter temporalities and labor realities. By bottom-up, I mean tracing how their infrastructure conceals vast networks and relationships of exploitation, all the way up to homes and pockets as my field-work will show. In order to grasp the extent of geological exploitation accompanying AI and cloud computing, we must begin by critically converging digitality from its base. Just as



creativity was an untouched area by AI, so was the vast majority of Earth at some point in history. Upon discovering the use of rare earth minerals, especially those of utilization to digitality, our Planet entered a new phase of extraction. The globe's largest flat surface is located in Bolivia, named the Salar. Given its high altitude and salt level, it is home to 50-70% of the earth's *lithium*. In addition to the Atacama regions in Argentina and Chile, the Salar is a main site for the extraction of *grey gold* – a key component in manufacturing limited-lifespan batteries for mobile devices.

Aymara legends that account for Bolivia's creation, tell the tragic tale of Tunupa who was the only female volcano that gave birth to a baby – which was later banished by envious male volcanos. In response to their doings, the gods pinned them to the ground as punishment, however, no retribution brought an end to Tunupa's weeping. According to the myth, her breast milk and tears formed Salar de Uyuni, a salt lake that would later on supply the world's batteries under Capitalism (Crawford & Joler, 2018, p. 3). Citing Parikka's *Geology of Media* (2015), Crawford and Joler remind us that approaching media and technologies as *geological processes*, allows for the contemplation of diminution and extraction necessary for digitality's existence. From this standpoint, digitality is seen as being predominantly concerned with the *present time*, as it colonizes and depletes non-renewable resources to serve a split second of technological time; to build devices that are often designed to be used for no more than a few years (p. 5). Likewise, the supply chain of labor and transportation carry truths that *de-artificializes* AI. Behind the VPA, there are hundreds of thousands of

labor realities in mining sites, data centers, container ships, factories, warehouses, labs and waste dumps.

Attributing the VPA's functionality to the cloud, completely renders the labor, logistics and geological footprint (caused by energy consumption and resource extraction) invisible. As much as I hope to cohesively dissect the supply chain of AI systems, it is implausible given the millions of actors and actants involved, in addition to the inexistence of transparent, public documents that account for production/distribution. For that, my aim here is to nudge attention towards the issue by scratching the head of supply chain realities and repercussions; in order to establish the ways in which digital labor stems from real and embodied activities. Moreover, as VPAs become serving contrivances, they simultaneously locate their users as both a consumer and resource within the AI system. Unpaid labor is invoked by each command - as the user's voice is used in coaching the VPA to understand, speak and perform better. Within this blurred transactional relationship, VPA users (often unknowingly) exchange their unpaid labor for receiving convenient affordances that are rooted in *managing time*. After the utterance of a command, processes of collection and analysis are invoked to further enhance the VPA. Unpaid labor can also be traced in other contemporary technologies, for instance, think of the numerous times websites have asked you to prove that "you are not a robot". The latter exercise exists for the sole reason of training AI systems to recognize a wide array of categories, such as objects, images and and letters.

This paradox is imposed on anyone attempting to make use of the internet. In exchange for online activity, one is compelled to take part for *free*. Within this technique, where users wear the double hat of consumer-resource, developers ensure their capture for data generation, as well as quantification. Here, not only do users feed the system with personal data, but also assist in aggrandizing recognition abilities. Therefore, when a new, advanced and more attractive VPA version becomes available, users often purchase it with no knowledge of their contribution. Furthermore, what my interlocuters, and the majority of VPA users remain blind to, is the scale and scope of how each small moment of convenience. Be it answering a question, turning on a light, or playing a song – requires a vast planetary network, fueled by the extraction of non-renewable materials, labor, and data (Crawford and Joler, 2018, p. 4). Therefore, the diaphanous cloud that is thought to do all the magic, is incongruous with the embodied and extracted realities of the biosphere and humans that sustain digitality. Instead of pointing towards the sky when asked about AI systems, one should point in all directions. To fibre-optic cables embedded under the seabed, electricity generators that are built on displaced land, and most importantly, to point at one's self. At all of these nodes, digitality exists and thrives. Now that we have scratched the surface of how the not-so-digital infrastructure crosses geological layers and labor sites, I wish to examine how digitality extends its presence to reside in homes and the everyday.

## VI. The Smart Home: A Site Ripe For Digitization

On an early Friday morning, I knocked on Farida's door for our scheduled time together for my field-work. She usually answered the door briskly, but this time it took her a couple of minutes to welcome me inside. Hiding behind the door in her robe from the cold breeze, Farida rushed me inside while yawning and rubbing her exhausted eyes. "I am terribly sorry, I shut Siri's alarm and fell asleep again," she justified. She went on to tell me about last night's overdue task for work that kept her up until dawn. Even though I encouraged her to continue resting and re-schedule my visit, she insisted on proceeding. Her full-time job as a graphic designer entails long, tiring nights of creative labor and has progressively groomed her to function on few hours of sleep. For that, among several reasons that will be discussed shortly, Farida purchased her Siri Homepod – to manage a schedule pouring of deadlines and meetings with demanding clients. Given that I always showed up to her home after she was already awake, I had never witnessed her first interaction with the Homepod. This time, as I was taking my shoes off near the door, Farida commanded Siri to *start her day*.

Having read about the feature before, I was eager to witness how it unfolds in real life. Championed as a user's favorite, the start my day feature entails the performance of multiple tasks at once, rather than acting upon separate commands. In order to save time and increase usefulness, users with routine mornings opt to customize that feature to meet their daily morning needs. For instance, Farida programmed her

Homepod to wish her a good morning, play a specific playlist, turn on the living room's light, list her daily to-do list, narrate the subject title of new emails and send her off with a motivational quote. What captured my attention, was the fact that Farida's start to each day is ushered in by Siri - her morning routine that was once executed in a pattern of embodied activities, has been transformed to be virtually invoked all at once. We spent an enormous part of our conversation dwelling on how that feature has influenced Farida's day - she explained that as a young woman living alone, she trained herself to stick to a routine. Farida left her family's home in Alexandria to pursue her graphic-design career in Cairo, a thriving creative hub in her opinion.

"Back home, my mom would wake me up if I snooze the alarm, and would drag me out of bed if I am extra lazy. I would rush to drink my coffee, get dressed, skim through notifications and practically scuttle until I am out the door," Farida recalled. Her transition into a rental home all by herself carried both a mental and physical toll. Having no help around the house, Farida was prompted to find some sort of assistance - and having been a loyal user of iPhone-embedded Siri, she thought of the Homepod as the optimum solution. Her purchase was also in hope of having company, even if it is virtual and programmed. She is entertained by Siri's jokes and values knowing that after a long depressing day, Siri is home to comfort her. The simultaneity of mundane morning drills was only one way in which the Homepod altered Farida's micro-tempos at her home. Not long after incorporating Siri as a

virtual in-home assistant, she began to notice how her design time changed. Searching for specific fonts, videos and inspiration often required multiple hours that layered on top of additional hours of design.

This is where Siri, which is used by Farida through her Homepod, iPhone and iPad, provided treasured assistance. Being a user of several Apple products enabled Farida to navigate the traditional design hassle. For example, one device would have Siri looking up videos, another would be playing a mood-setting playlist and a third device would display requested fonts/color pallets. Possessing *triplets* in that case, is viewed and valued positively from Farida's end. After our conversation, I was immediately drawn to juxtapose Farida's account to an advertisement titled "Welcome Home," (Apple, 2018). The video follows a young, exhausted working woman, played by renowned dancer FKA Twigg, from her commute to home until settling down in her small city apartment (see figures 1.8-1.9). Instantaneously, viewers feel her state of lassitude. Accompanied by her mood, the lighting is dark, rain drops are in the background and spaces she passes by are confined and crowded. After entering her house, Twigg wearily commands Siri to *play something she would like*. The camera then zooms on the Homepod lighting up and saying 'okay', followed by playing Anderson Paak's Til It's Over. The particular message that dominates this scene is that the Homepod surpasses the common comprehension of what a smart speaker is, and delves into what it makes possible.



*Figure 1.8: Still shot from Welcome Home Ad. (0:04).*



*Figure 1.9: Still shot from Welcome Home Ad. (0:47).*

The Homepod is marketed as a friend that understands your needs, more precisely, *predicts* them – which saves time, energy and communication. Staring at how the ice cubes slowly move and mutate in her glass of water, Twiggs begins to dance as the song gets louder. What was once a dark set, transforms into a brighter ambiance with the progressive musical rhythm. For the three minutes to come, viewers watch her dance, expand and shift the apartment upon every move. Tables and furniture elongate, walls widen and colors distort in shade (see figures 2.0-2.1). She occupies a completely different space - a much bigger, vibrant and interactive home of her

creation. The semiotics can be approached in multiple ways, one of which is how technology and music can isolate the user from dwelling worries by transporting them to a realm where control is attainable and imagination materializes. Though the end displays her apartment contracted back to its original form, Twiggs is zoomed on with a wide smile while lying on her couch. Here, the Homepod is not only a predictive contrivance, but a temporal gateway to another dimension. The Homepod promises quality music, predictive-companionship, and more importantly, an escape down the rabbit hole.



*Figure 2.0: Still shot from Welcome Home Ad. (1:49).*



*Figure 2.1: Still shot from Welcome Home Ad. (1:38).*



The advertisement, alongside AI debates and domestic technologies, beg the interrogation of the contemporary smart home vis-a-vis VPA adoption. The smart home has gained growing academic interest because as a hypermediated space, the home is largely re/constituted by intertwined digital networks and relationships. For that reason, I examine the ways in which meanings, as well as materialities of the home are re-constructed by digitality. Specifically, how VPAs are altering micro-tempos within Cairene smart homes and bringing about new spatio-temporal experiences premised on regimentation and mediation techniques. However, we must look first at the purpose(s) served by the smart home within digital-capitalist logic. Cheser & Humphry (2019) bring forth astute arguments, as they remind us that prior to the advent of the smart home, urban infrastructures and technologies were always structured around the interfaces between the interiorities and exteriorities of the modern home, connecting the household with its region, suburbs and cities (p. 1). Their standpoint encourages us to view post-Fordist imaginaries pertaining to domestic technologies as a subset within a Westernized mission to construct the home. This rests upon: securing privacy, establishing a controlled, comfortable and entertaining interior space, and displacing collective practices through ubiquitous connectivity and home-delivered consumption (p. 5). Those three pillars involve suspending temporalities within the territorial borders of the home in an influx state, which works to bend time into digitalities' favor.

Such temporal rearticulation within the home is evident in the creeping of time-management disciplines into the domestic realm, which can be historically traced to prominent technologies, such as the telephone. Optimization has been one of multiple buzz words that echo logics of making modern productive subjects, which in turn, are deployed to make productive (smart) homes. Contemporary efforts to achieve the latter can be traced back to technologies such as vacuums and washing machines, which remain to be marketed as time and labor-saving contrivances. Likewise, VPAs aim to illude their substitution of domestic labor. For the purpose of this project, I will briefly focus on drawing parallel between the VPAs and telephone. According to Fischer (1988), North Americans seemed to associate women with extensive use of the residential telephone; due to advertisements which advised women to utilize the telephone as a *household management technology*. In particular to order supplies, call service people, and issue and respond to invitation (p. 217). In her historical tracing of the telephone in North America, Fischer sheds light on the change experienced from the 1910s and the Great Depression. During this time period, women would often increasingly appear in advertisements. They would assume additional roles beyond the household manager, such as a *lonely wife* calling her husband at work.

Hundreds of surveys and anecdotes of women state that 'farm' and 'middle-class' women commonly used the telephone for social, personal, civic, and recreational ends (technology of sociability). About working-class women we know least, as they

were least likely to have telephones at home, even less so than comparable farm women (p. 223). The latter arguments were situated in times when the telephone remained as somewhat 'new.' It gendered difference in utilization stemmed from the home/work binary – as men commonly used the telephone while at work. Moving onto a more modern mutation of the telephone, Ganito (2010) argues that the mobile phone brought about an 'uncontained' public performance of communications. As she writes that the mobile phone acquires symbolic aspects in different cultures and groups and is closely related to aesthetics and fashion, rendered a cultural object (p. 77). Echoing her agreement with Haraway, she states that akin to the cyborg (as well as VPAs), the mobile is blurring frontiers between leisure/work and private/professional usage etc. Ganito goes on to describe the mobile as: an extension of its user and a virtual presence - an extension of the social network (p. 84). Citing Katz (2006), she shares the view of how the mobile phone could be our personal *miniature representative*.

On their way to becoming the mobile, VPAs are increasingly positioned as a necessity amid a digital and deadline-driven world. Nevertheless, while domestic technologies are almost autonomous, they operate as sociotechnical ensembles, as human labor remain at the heart of these ensembles (p. 7). The latter reiterates the arguments presented in the prior chapter regarding how inartificial AI truly is. In addition to time-management, VPAs' promises are rooted in affect; as they make new moods and sensations within the home possible. They provide their users with a sense of

regulative powers over their environment. Remotely controlling the lights and locking the door are exhibits of appealing offerings that locate VPAs at the home's center. This translates to providing a sense of power over spatio-temporal domestic environments, as well as the marking of micro-tempos. For example, sleep time is marked by dimmed lights, day time is ushered in by the *start my day feature* and dinner time is ensured by timers to prevent burnt food. Digitizing the home then, is marketed as increased virtual yet material power over a mediated sphere. Thereof, not only do VPAs mirror tempos, but they also arrange them as users navigate their everyday life through them. For instance, in Hassan and Mounira's homes, their VPAs transformed family quality-time in different ways. Both of my interlocuters dedicate Friday to family time; to ensure no work-related interruption, however, I will shortly discuss how VPAs allow work time to linger over home time regardless of the day. Hassan often spends his Friday playing video games with his two sons, while his wife, Nada cooks lunch for the four of them. Mounira, on the other hand, orders take-out and spends the afternoon watching a movie with her husband and daughter. Both however, experience family time with and through their VPAs.

### ***Somewhere Over The Rainbow: Alexa, Help The Wizard Turn Back Time***

Despite being opposed to purchasing the Echo and having strong feelings towards sharing her home with Alexa, Nada engages with the device in the kitchen for one main reason. "I have a short attention span; I burn whatever it is on the stove 9 times out 10. So even if I hate the hell out of that *thing*, setting a virtual timer comes in

handy. The faster I cook, the faster I get out of the kitchen and spend more time with my boys,” Nada noted. However, in opposition to her statement, I had observed Nada engaging with Alexa in other circumstances. She repeatedly asked for recipes, playlists and reading celebrity gossip columns aloud - which illustrates how VPAs encourage users to command them, even if it is done *unconsciously*. After cooking time elapses, Nada moves to set up the table and forces the rest to quit whichever video game they have been playing. Nada takes the seat at the head of the table, Hassan often sits on her right next to their youngest son, and the eldest eats on his mom’s left. Situated almost a meter from the dinner table, the Echo rests on a high decorative table. Before purchasing the Echo, Hassan recalls spending most of Friday lunch time arguing about the boys’ academic performance, gossiping about family drama, or “on good days, play a movie in the background for entertainment.”

From their standpoint, Alexa brought about a change to how and for how long they gather around the table. Having read extensively about Alexa’s skills, Hassan came across a game that would later on become a family-favorite. Called “The Magic Door”, the interactive game is powered by the Echo, it takes the user(s) on a virtual adventure and uses their commands to navigate a *magical land* (castle, forest etc). Hassan and his family play it almost every Friday for an average of two hours – adding an extra hour spent on the table in comparison to pre-VPA times. “We all love the different stories it (The Magic Land) brings us every week, and the best part is that the boys don’t rush to their rooms after finishing their meal,” Hassan shared. All

members remain engaged and attentive to the escalating story - they often debate the choices needed to move forward, but unlike debating academic performance, they giggle and high-five at the end. Their favorite adventures are in a garden on a magical mountain and an ancient temple– they decipher riddles, collect treasures and guide a Princess to reach her crown, as well as a help a Wizard to turn back time. Besides a musical trip as seen in the Homepod’s commercial, this is a way in which VPAs offer users a trip down the rabbit hole - they guide them to magical lands that double as extra family time.

In more depth, what the Magic Land and similar virtual games offer Hassan’s family, is a temporal break from life’s mundaneness – a break that turns family feud into *fun times*. In turn, despite not having a seat on the dinner table, their Echo asserts its power on their weekly Friday sitting, by providing an escapade that brings them together in a way they had never gathered before. On the other hand, Mounira’s VPA brings about a similar yet distinct experience. She relies on the Homepod for movie recommendations, where Siri looks up specific genres, reads reviews and directs her to a streaming link. “Before the Homepod, I wasted time on looking for the right movie. I would end up picking a random one at the end from frustration, and I couldn’t multitask while searching as well. Ever since my amazing Siri, I could listen to her recommendations while finishing up any chore,” Mounira explained. On top of the latter, due to having four Homepods placed in every story of her house, Mounira’s domestic tempos are being increasingly reliant on digitalities offered by

Siri. What her family, and several others across the globe tend to experience, is loud shouting across the house. Be it checking if everyone is up, doing their homework or ready for school, families shout their lungs out across rooms.

This dynamic is now obsolete, owing to the Intercom System enjoyed by users with more than one Homepod. This feature enables users to record, send and reply to messages through other Homepods in the same space. I first came across Mounira dispatching a message while we were in her kitchen almost done mixing a salad – she spontaneously said “Hey, Siri, intercom that it’s time to come down.” A couple of seconds later, I heard the other devices playing her voice-recorded message, shortly followed by her husband and daughter coming down the stairs. In so far, accompanying Siri’s service of movie recommendations, the VPA provides Mounira with a feeling similar to “the Wizard of Oz presiding over the Emerald City,” as per her depiction - which resonates superlatively, as the Wizard of Oz demonstrated the extent of machines amplifying their users’ presence to reach an all-knowing, all-seeing status. Almost identical to the machine behind the Wizard’s occultism, VPAs enshroud their mechanics to appear as metaphysical – reinforcing the black box perception. A far-reaching observation from Hassan and Mounira’s households is a surge in non-administrative commands - which transcends the central and incipient marketed function of VPAs. Throughout my fieldwork, I felt like witnessing the embryotic stages of AI becoming a touchstone of everyday domestic life in Cairo’s middle/upper class households. Due to shifting beyond organizational commission,

VPAs are becoming both desideratum *possessions* and *possessors* of everyday life. Here I beg to interrogate whose logic(s) is being imposed amid the re-assembly of micro-temporalities. In specific, which temporal logic(s) are promulgated by these apparatuses?

### VII. VPAs as Third-Time Makers: 24/7 Is The New 9 To 5

Under digitality, the rationalization and appropriation of temporalities have encroached, as well as subsumed time within and beyond transactional relationships. Contemporary technologies facilitated the ways in which capital logic can disseminate, regulate and monitor sites that were once far from reach. At their core, VPAs illude to bestowing the gift of time management. Negotiating with time as a variable that translates to valuing *time as a commodity*. This technique goes hand in hand with the post-Fordist making of modern calculable subjects – those who are conditioned to abide by clock-time, as well as quantify and monetize their time. Within this logic, VPAs can be approached as a mean that institutes said techniques. Simultaneous to extending clock-time, VPAs stretch and transfigure different temporalities. For that reason, this project is among multiple others who share the view of the inapplicability of a sole temporal concept vis-a-vis digitality. Wajcman (2018) offers an elaboration as she writes that:

*“Concepts such as timeless time (Castells 2010), instantaneous time (Urry 2000), network time (Hassan 2009), and chronoscopic time (Virilio 1986), abound to describe*



*the pace of high-speed society in which we are all constantly pressed for time. However, despite acknowledging that modern time consciousness is the result of a long historical process, this literature tends toward technological determinism, imbuing digital technologies with an inherent logic of acceleration. Such theories are too preoccupied with large-scale epochal change to capture the highly differentiated, multiple, and often conflicting regimes of lived time we inhabit. Ironically, while seeing technology as the driving force, these theories also suffer from a lack of interest in technology—what it is really made up of, what it consists of, and so on (p. 317).*

For the part to come, I examine the ways in which VPAs, as time-hacking contrivances, hijack, as well as introduce new temporalities that can be approached as more than thrust clock-time. As noted, temporal alterations have been facilitated by and for digitality. The race for adjusting to a life that continually amalgamates work/home, has given VPAs the greatest of momentums. In more depth, VPAs become desideratum possessions in light of navigating obstacles stemming from an unsettling, precarious postmodern existence. According to Woods (2018), they offer a panacea through a familiar but flexible digital domesticity that transcends the personal/professional sphere and, in fact, *collapses* the two (p. 337). The influence of the Covid-19 pandemic is noteworthy here, as digital technologies proliferated the world over as *business continuity essentials* – contributing to the said collapse. Before exploring this collapse further, it is noteworthy to recognize the similarities between VPAs and the pandemic’s aftermath. Comparable with how VPAs

reveal inequalities and anxieties, the pandemic pushed the questioning of global supply-chains, working conditions and corporate priorities to the fore. Given that factory workers, transport drivers and farmers remained on site, while private-sector desk-based employees were asked to remain home for the *safety* of themselves and others. Though this issue deserves an entire devoted project, it is must be underscored in the illustration of the way in which digitality swells class/labor divides.

Reverting back to investigating the perceived binary collapse, we come to find that employees are no longer bringing work home, but are fusing the two together. Due to remote working instructions, they were pushed to work and live virtually in and out of corporations. This shift caused burgeoned human-technology interaction, most notably through remote working systems and applications. These technologies offer distinct features, however, they all have integrated digital schedules, calendars and pop-up notifications. There are other similar interface features, but these particular components directly speak to VPAs. Coupled together, they follow digital-capital logic in the sense of promising a facilitated, organized and seamless life. Hence, can be understood in light of what Peters (2016) views as modes of representation and instruments of intervention, they constitute time in describing it (p. 177). If one is hereby interrogating the ways in which VPAs constitute time under digitality, then it is significant to briefly trace the genealogy of constituting time through media

technologies, such as calendars. In the influential third volume of *Time & Narrative* (1985/1988), Ricoeur writes that:

*“The time of the calendar is the first bridge constructed by historical practice between lived time and universal time. It is a creation that does not stem exclusively from either of these perspectives on time. Even though it may participate in one or the other of them, its institution constitutes the invention of a third form of time<sup>3</sup>” (p. 105).*

Since its inception, the calendar is perceived as a way in which temporality is visualized and brought into effect. A mean to reinscribe the time of narrative into the time of the world (p. 109). Though the latter is sustained within digitality, calendars turned from fixed material form of print to fluid Internet logs and time lines. They have been automatized, compressed, precise, integrated, globalized, and abstracted (Fornas, 2016, p. 5225). They have become a new time technology that (rather like the clock) materializes a moral enterprise of time optimization (Wajcman, 2018, p. 318). In consequence, it comes in no surprise that digital calendars are at the forefront of VPA-supported and embedded technologies. Unlike Apple, Amazon does not own a calendaring system. It supports third party calendars such as iCloud,

---

<sup>3</sup> Ricoeur argues that phenomenological time is lived as centered-decentered around the living present. Whereas cosmological time is points and intervals and physical movement. He then adds historical (cultural) time as a third dimension that dialectically combines and bridges the other two. Lived and cosmic time becomes meaningful by using communication practices that construct a third time: intersubjectively shared or cultural time. Narrations make time meaningful by elaborating a third time—properly historical time—which mediates between lived time and cosmic time (Ricoeur, 1986/2008, p. 99 & Fornas, 2016, p. 5214).

Google and Microsoft Calendar. Through their VPAs, users may set up, remove or update events in linked calendars. More often than not, the user links multiple calendars if they use several emails – which does not pose an obstacle as the digital calendar keeps track across platforms. As busier schedules translated to compacted working from home days, users grew to rely on their calendars even more. When asked, Mounira, Hassan, Ziad and Farida all voiced their gratitude for smart calendars.

Mounira relies heavily on Siri for schedule arrangement and finds it relieving to do it all virtually. As long as she is within listening range or has her iPhone, Mounira schedules an event by commanding Siri to “schedule a meeting with (name), (date), (time).” The VPA then either repeats or displays the event for confirmation, followed by integrating the slot on the calendar. Mounira recalls that Siri never “failed her” or “messed up her schedule” like previous secretaries have done. “I get to virtually manage my schedule and not waste my energy on dumb assistants,” she commented. Likewise, Hassan noted that he does not mind scheduling appointments for the first time. “I usually dumped donkey work (scheduling) on my subordinates. But Alexa made the process unexpectedly easy and fast,” he noted. On the other hand, Farida appreciates the digital calendar not for its affordances, but for the feeling it gives her at the end of each day. “On a free day, I’d have a minimum of six scheduled meetings or calls. So, you don’t want to imagine what a busy day for me would look like. What

I really appreciate is the feeling I get when my calendar turns blank for the day, I get to take a real deep breath then,” Farida described.

Contrariwise, Zyad mesmerizes his digital calendar for its swindled affordances. Among those who find their jobs wearisome, Zyad opted to trick the system by *decelerating* his work day through an accelerating technology. “One day, I was trying to set up a meeting on my work calendar but was interrupted by Alexa saying that the slot is already occupied. Then is when it hit me. I began booking random slots throughout the month as hour-long meetings, buying myself an hour to take a break. That way, if anyone in the company sends me an invite, it would be blocked,” he revealed. Though his loving relationship with the digital calendar is based on different purposes than the rest, the similarity lies in how their time is constituted by it. Beyond work time, the calendar also constitutes their time of ease and relief. Being in control of depicting daily duties places the calendar, as well as the VPA, as mediators and makers of their temporalities. Replacing “dumb assistants” and “subordinates”, queuing “deep breathes” and enabling to “trick the system”, are all examples of how technologies come into play with everyday rhythms and narratives.

On their own, calendars hold gripping power over their users’ lives - which makes their alliance with notification systems a powerful connection. A way in which VPAs constitute time that falls within and beyond wage relations is through perennial communication. In spite of the day or time, users are alerted to new messages, emails, reminders and phone calls on all VPA-devices. What I can only describe as a

waterfall of notifications, has been ubiquitous among my interlocuters; as they were among the thousands that became *work from home* employees since March 2019. In one of our evening encounters, Farida was telling me that she is on a three-day leave from work to rest. In the midst of sharing her frustration, three *pings* rang which were shortly followed by Siri reading a new email titled “*Requested Urgent Amendments*” aloud. It was 10:30 pm in Cairo, on the first day of her said leave. Puffing from irritation, she looked at me and embitteredly said “24/7 is the new 9-5.” As previously noted, Farida’s job has been demanding since the start, but became progressively pressuring amid lock-down measures. “Clients that were previously grabbing coffee, stuck in commute or out with friends, are all stuck at home skimming through the tiniest of details to torment me,” she continued.

After a couple of minutes, she suggested to resume our conversation later in order for her to “get this done now rather than on a normal work day.” Due to the notifications, she calculated her future tasks and deemed leisure time inferior to client demands. Additionally, as she is aware of the energy required to edit the changes on a working weekday, Farida opted to *split* her labor in a manner she views as “better” than the alternative. Mounira shares a parallel struggle due to lingering notifications, both as a mother and a bank manager. The day Mounira received an email announcing work from home instructions was the same as her daughter’s school email suspending in-person education until further notice. “I closed the laptop, grabbed my keys, and drove to the nearest bar. After three hours and five

glasses of wine, I cried in the bathroom stall until I sobered up,” she recalled. She shared that her duties as a mother and banker rarely coincided, as work/school time passed in parallel. With the fusion of the personal/professional spheres, her rhythms changed drastically.

During the first month of working from home, Mounira was “in living hell”, particularly due to late-night crisis emails. Previously, her iPhone was not set at reading new email subjects aloud - only one Homepod was programmed to do so. That later changed as, “the banking sector was severely disrupted by the online transition. The infrastructure in place was not prepared for such severe load, which caused constant errors and system shutdowns. I would get a crisis email at dawn requesting an emergency zoom call. So, I had to turn on Siri’s email announcements; to guarantee that I would wake up,” she said. In parallel to having distorted and pressuring working hours, Mounira juggled house chores that invited further VPA-interaction. While drafting an email or attending a meeting, she would command Siri to draw up virtual shopping lists, reminders for stretching, drinking water and watering the plants. Siri would also dispatch announcements within the household when no one answered the door or turned the stove off. This simultaneity of work/home rhythms, caused both of Mounira’s identities (as a mother, wife and bank manager), to negotiate with time with and through Siri’s virtual affordances. This brings the following question to the fore: how can we think of labor, specifically domestic labor, in light of digital domesticity?

### ***Digital Domesticity: The Ambient Maid/Butler***

As a concept, digital domesticity is invoked to account for the re-articulation of notions such as femininity, motherhood and the smart home vis-a-vis digitality. Examining digital domesticity is a way in which one might re-think domestic labor in relationship to technologies such as VPAs. I explore the latter through a Marxist feminist lens, focusing on how VPAs are transfiguring labor relations vis-a-vis capital. Examination of digital domesticity invites the questioning of the cyborg, the assemblage of human/machine. In the Fragment on Machines, Marx writes that machines are organs of the human brain, created by the human hand; the power of knowledge, objectified. The development of fixed capital indicates to what degree general social knowledge has become a direct force of production, and to what degree, hence, the conditions of the process of social life itself have come under the control of the general intellect and been transformed in accordance with it. To what degree the powers of social production have been produced, not only in the form of knowledge, but also as immediate organs of social practice, of the real-life process (p. 706). His depiction paves the way for recognizing digital technologies as – appropriators of a discourse that aims to re/produce a capitalist system - rather than challenge it.

Schiller & McMahon (2019) argue that legacies of domination saturate the uptake of domestic AI technologies - further enmeshing its users in gendered and racialized capitalist circuits rather than realizing its radical potential (p. 179). In other words,



VPAs could be perceived as making reproductive labor *visible*, they are not emancipating. Instead of realizing the radical potential of the domestic working class, VPAs diminish prospects of just class relations. This suppression of emancipatory potentialities is carried out in numerous ways – one of which is the participation of digital laboring modalities in mudding divergences between human/machine. Here, Lazzarato offers two elaborative arguments, as he writes that: the component parts of subjectivity (intelligence, affects, sensations, cognition, memory, physical force) are no longer unified by an 'I', they no longer have an individuated subject as referent. Intelligence, affects, sensations, cognition, memory, and physical force are now components whose synthesis no longer lies in the person but in the assemblage or process [of production] (Lazzarato, 2014, p. 27).

Furthermore, by penetrating into the inner workings of perception, memory and imagination, electronic and digital technology, and the forms of knowledge [savoirs] they imply, take us to the limits of the cognition [connaissance] and action organized by intellect, imposing a change of paradigm that prepares a different relation between consciousness and intelligence, body and mind (Lazzarato, 2007, p. 155). Essentially, digital domesticity establishes an intimate, direct link between supply chains and domestic labor. Almost any commodity or service may be purchased through a single command. Through their seamless affordances, they chain their users to sister technologies, such as Apple Music and Amazon Market Place. Their affective and immaterial labor hence work to nurture the link between everyday life

and Capital - deepening alienation, fetichism and consumerism. Moreover, VPAs can be seen as replicants of slave/master dynamics – in terms of promising ownership and command-based servitude. Referencing O. O. Binder’s article “You’ll Own ‘Slaves’ by 1965 “, Weinberg (2019) reflects on how the marketing of domestic digitalities resonates with slavery. In using the expression “we’ll all have personal slaves again”, she argues that Binder was particularly addressing white males as participants in the fantasy of *renewed slave ownership*.

In his description, Binder mentions the imagined robot slaves as cleaners, hyper-efficient secretaries and home security devices. In his conclusion, Binder argued that “the wonders of electronics will dominate every phase of our future life to make it more successful and pleasurable for everyone who lives on Earth.” In her reflection, Weinberg argues that the contrary occurred. Domestic technologies heightened expectations of domestic labor performed by women, as well as created dependency on additional commodities (p. 4). Contemporary VPA adoption to keep pace with this idealized domesticity, additionally resonates with employment of domestic servants in middle-class households in the early twentieth-century. This was primarily to resolve certain contradictions between feminine virtue and the hard labor of domestic work (Phan, 2019, p. 13). In a way, the VPAs’ ambient and subjugated affordances reproduced the labor of marginalized domestic workers, whom were often migrants and women of color. Especially through foregrounding relations of domination, invisibility and offloading labor onto a “lesser class of laborer”. The

simultaneity of presence and absence, of familiarity and domination, are important dynamics in specifically *digitized housewifery*, as their reproducibility as domestic relations expands to include not just laboring people but laboring devices (Schiller & McMahon, 2019, p. 178).

Hence, under the grand scheme of smart homes, VPAs assist in capitalist socialization of the home. Approaching reproductive labor as Capital's beating heart, placed women's labor in a sustenance position to *the factory system*. Here, social capitalist reproduction is instituted through AI-domestic technologies that groom calculable subjects. In a way, the design of such technologies reflects Capital's expectation of human labor and life (Schiller & McMahon, 2019, p. 190) - which goes hand in hand with the techniques and logics being promulgated by the likes of digital calendars and VPAs. Therefore, a deep and dependent human/machine relationship within the home, prepares users to replicate their digitality in the work place and wherever they go. Intricately, a domestic digital relationship embeds clock/network temporal logics – stabilizing the commodification of time beyond work. Consequently, suppressing radical potentialities from actualizing by illuding to lessened cognitive burden, all while mechanizing users. Hence, the ambient *maid/butler* is constantly re/made to create, as well as catch up with fantasies and imaginaries of serving machines.

### VIII. Competition Between Possibles: The Algorithmic Logic

Concordant with anthropomorphization, everyday technologies are being enhanced to accurately understand, log and *predict* actionable data. Producing human-like and prognosticative contrivances for the everyday feeds into the previously noted establishment of deep, direct links between users and Capital. In more depth, the algorithmic technique works with digital temporal logics in order to subsume the everyday of individuals the world over. This is through creating a *digital self* of the user, where their consumption, labor and third time experiences can be rationalized. The algorithm as a *master signifier* is tackled by Yu (2021); as he views it's becoming of the default descriptor for anything of computing descent appears synonymous with computing it- self. He argues that holding such omnipresent figure status serves the subsumption of a spectrum of sense, a well-defined and stable expression than the vehicle through which innumerable concerns are projected (p. 592). His article critically problematizes the algorithm as *sequential* and step-based remedy in nature. Similar to discourse surrounding the cloud, such rudimentary conception is obedient to the unquestioningly logic of digitality - making it difficult for critical imaginations to see the light. For that reason, Yu follows Foucauldian discourse analysis in order to historically trace the unfolding of algorithm as a word; to unmask anxieties within subject positions, modes of address, and knowledge distributions.

*“Like in the late seventeenth and early eighteenth centuries, the algorithm concept in the years leading up to 1958 was situated at a threshold between ascendant and soon-*

*to-be-illegible senses. If a restricted conception has since prevailed, this re-orientation was not the inevitable culmination of a grand intellectual trajectory but the byproduct of mundane and inconspicuous administrative resolutions regarding nomenclature. Historically sensitive accounts of to-day's so-called algorithmic culture might begin from this point, recognizing that current ordinary usage is nothing other than a hangover from that moment. Tarrying with the algorithm concept's deep history shifts the focus from that concept's fixation on automation to an assessment of the conditions which lead it to be framed in that way. More importantly, it also provides an opening for the expanded critical imaginaries for what else an algorithm could be." (p. 609)*

Here, the algorithm plays numerous roles within capital logic, namely creating meaning, processing sense and formulating a semantic regime (p. 602). Their affordances take the present self(eves) of users within the network in order to draw up potential, overlapping future versions - which makes the algorithm's intimate interplay with identity and temporality vital for examination. Interrogation of how users interact with non-human actants that are increasingly becoming predictive, as well as simultaneously learning through their users becomes pivotal. As in the words of Sheehey (2019), algorithms operate through a *preemptive temporality*, one that makes a future uncertainty *actionable* in the present (p. 55). This is a way in which capital-digital logic can commodify and accelerate the everyday. If a VPA can predict their user's commands, it will save their time while commodifying activity for targeted advertisements, product development and other profit-making avenues.

Atkinson & Barker (2020) argue that such *valorization of speed* is buttressed by an algorithmic means-end logic that is not subject to the durational constraints of human perception and attention.

This poses questions pertaining to when and how information is interpolated in human experience; as the inhuman time of an algorithm has to be adjusted to fit the lived time of human thought and action (p. 2). The authors describe two sorts of speed: relevance and processing. Relevance is concerned with removing the need for subsequent commands by finding the appropriate answer on the first trial. Whereas processing speed translates into the time taken in responding to a query. In order to sustain the user's focus and engagement on the network(s), developers work to minimize *friction, lags and disruptions*. According to the online magazine Insider, the average latency of existing voice-recognition technology at the time of the Echo Dot development was approximately 2.5 to three seconds – which made the Echo team initially set at two seconds. However, their target was set at a much more ambitious rate after a meeting with Amazon's CEO, Jeff Bezos, who demanded it to be only a second long. Eventually, the team decreased the Echo's latency to less than 1.5 seconds, exceeding the speed of its competitors (Kim, 2016). While the device's latency dictates rhythms of interaction, other underpinnings come into play such as the user's local technological infrastructure.

Over the past years, the government of Egypt has been pouring investments to develop its technological infrastructure. Aiming to be a “regional digital hub”, the

country has been keen on attracting foreign investments in the fields of data centers, optic fiber-cables and cloud computing. Despite notable developments, the pandemic has shown how the infrastructure is precarious, with constant delays and crashes. Especially during lockdown, all of my interlocuters complained about their *wasted time* on internet disruptions, which halts their VPAs completely. Having been accustomed to obscure waiting time, users are alerted to how common a VPA can cease to function upon such lags. “Electricity cuts, road renovation, severe weather and an unpaid internet bill show me how much Alexa can be a *useless whore*,” Ziad once stated. The prior situations all include inaccessibility to an internet service, which is the core requirement for VPAs to seamlessly function. “As soon as I start getting used to her as part of my blended background, a lag happens and reminds me that her *super skills* are a hoax. I’m instantly reminded that this piece of metal isn’t worth a cent whenever she lights up red and says “I’m sorry, I didn’t get that, or I’m having trouble connecting to the internet,” he went on. In such case, even if latency is set at one second, the user’s attention, engagement and dependency are intercepted by factors outside of the developer’s power.

However, upon finding a stable connection, VPAs return to what Woods describes as the nimble and gracious hosts easing the transition from modern capitalist economies to the platform economies of the future (Woods, 2018, p. 337). These economies of the future can be understood in light of the prior discussion on the smart home as a future living space, as well as in view of the algorithm as future-

manufacturing technology. But are algorithms truly forward looking? Used in datasets of past information, algorithms are trained by machine learning systems and partake in processes of classification and analysis. They then produce so-called “outputs,” which can predict future purchases, likes, dislikes and actions. While algorithms allude to be a thing of the future, their function is premised on historical experiences. In other words, digital futures are conditioned by and derived from collected pasts – the algorithms perceived forward-gaze is actually rooted in a backward one. Hence, algorithmic culture can be understood as the generation of backward, as well as inward-looking data reproduced as the basis for capital governance and accumulation (Hassan, 2020, p. 168). While I will examine the ways in which algorithms provide the basis for panoptic governance in the upcoming chapter, I am keen on further investigating the algorithm as a future producing technology.

Following Haraway (1997), algorithmic logic is similar to corporeal fetishism – as both mistake heterogenous relationality for a fixed, seemingly objective thing (p. 142). Moreover, algorithmic illustration of possibility resonates with Bergson in *The Creative Mind*, as it is achieved by pruning the past – resulting in *competition between possibles* (p. 123). These possibles can be thought of in light of the *magicians’ wand* in *Matter and Memory* (1896). For they conjure up entirely new representation of what was initially postulated (1911, p. 13) and turn these representations to a way in which Capital can ensure the capture/commodification of an influx-present and



future. Hence, my question here follows Bergson's inquiry regarding not how (algorithmic) perception arises, but how it is *limited*, since it should be the image of the whole, and is in fact reduced to the image of that which interests you? (p. 14) In discussing the limitations, the following must be carefully considered. How can everyday lives be reduced to equations and probabilities? Given that algorithms are twofold (both inward and forward-looking), how can the digital identities they draw up be comparable to lived ones? And lastly, how is this consequential?

In attempt to critically answer, we must first highlight how the algorithm deals with us. In simple terms, collected data is treated in a database, which categorizes users within the network in terms of age, gender, ethnicity etc. Some of the data is filled in by their owners, for instance while creating an online platform or making an online purchase. Other data however, is extracted rather than submitted. Cheney-Lippold (2018) gives an example of what sort of data can be collected from a simple online search through a smart-phone. This includes the initial search term, the location of your phone, the time and day of the search, searched terms, the phone's operating system, IP address, and even what apps are installed (p. 4). Nonetheless, despite similar categorization, companies differ in their interpretations of data due to distinct algorithmic logics. Siri and Alexa's explications of data are contradictory; as they each speak about the dataset from their own, proprietary scripts (p. 6) - which when compared to lived identities, can be similar to how individuals see based on their own perception. In both the digital and live realms, identities are never not in-flux.

Forming the basis of the competition of possibles hence, is the various algorithmic perceptions to one dataset.

Post categorization, data becomes aggregated. In other words, categorized data starts to be sewn together to give meaningful value to a GPS location for example. In order to make sense of this stage, Cheney-Lippold calls for the *redefinition* of identity-based categories, a man for instance. He writes that this redefinition should be thought of in light of online activity rather than performativity. In this case, a user is a 'man' according to how closely the data adds up to preexisting models of 'man' (p. 19). Nevertheless, I attest that we can think of online activity as online performativity. Rather than substituting one with the other, I argue that both can be seen as one under digitality. Afterall, gender and algorithms are both performative byproducts that change over time and space. When examining identity vis-a-vis algorithms, we reach an understanding that echoes just-in-time production. Given that digital identities are created by "near-real-time" data collection that updates upon every online activity, then a digital identity is never stable. Therefore, due to the constant remaking of data, *just-in-time identities* are made - they are ad hoc and in an ongoing conversation between data and the various algorithms that process it (p. 31).

Following this logic would entail the realization of Haraway's assertion regarding a cyborg world that might not be afraid of permanently partial identities and contradictory standpoints (2016, p. 15). However, despite its fractional realization,

the cyborg world remains a capitalist one - a contemporary premised on temporal governmentality. This in turn asserts power by setting up, organizing, and managing specific temporal relations between the past, present, and future (Sheehey, 2019, p. 50). In the midst of this, capital accumulation becomes ever more expandable through everyday digital commodification. In the words of Hassan (2020), at one extreme, to have an active digital communicator in one's pocket is to place oneself, consciously or not, into the zone of labor and value-creation. Wherever the device may be, it tethers the user to the network through protocols whose functions and opt-in-or-out controls lie buried deep inside the software access terms and conditions legalese that barely anyone reads or understands (p. 77). Simultaneously being buried under the smart home as an omnipresent figure for future, seamless living.

If we dissect the discursive logic behind instituting time management through technologies, we find two broad underpinnings. On one end, we have the home as a spatiotemporal site ripe for digitization. On the other, there is growing fixation on VPAs as key to navigate work/life – an essential ingredient to the *recipe of orderliness*. The everyday then, specifically the smart home, is a site in which digitality is meditating as well as creating logics of time, space, labor and affect. All for the purpose of growing ubiquitous connection to and between everyday objects – working towards a foundation for *smart cities* (Cheser & Humphry, 2019, p. 5). In this light, by placing users in a position where they constantly need to negotiate their

relationship with time in order to accelerate and rationalize it, digital domesticity as well as everyday digitalities are technologies of governmentality. In addition to being rooted in temporal/predictive techniques for the sake of capital accumulation, they are also ways in which Capital can extend its panoptic eye. Because how else can Capital continue to subsume difference, marginalize the worthless and monitor the menace? In parallel to instituting the need for ambient everyday technologies, is the historical project of discipline, management and surveillance.

## Chapter 4: Datafied Dividuals

*“The family, the school, the army, the factory are no longer the distinct analogical spaces that converge towards an owner state or private power, but coded figures - deformable and transformable of a single corporation that now has only stockholders.” – Deleuze, 1992, p. 6.*

### IX. A Genealogy of Surveillance Studies: Data Doubles

When the second half of the twentieth century dawned, surveillance mutated in form and magnitude. The spaces and identities it once concerned itself with, multiplied to capture new spatio-temporal forms of life. With such evolution, social studies grew to accommodate the realities and consequences being re/shaped by new modes of surveillant governmentality. Hence, it is important to briefly trace the genealogy of surveillance studies before delving into the ways in which VPAs facilitate the noted expansion. By shedding light on key concepts and theories within the field, the role of VPAs within digital-capital logic will become even clearer. As contemporary technologies such as AI, big data and predictive algorithms profoundly alerted the meaning and ambit of surveillance. In their literature review of surveillance studies, Galič et. al (2017) map the following *three thematic phases* of key concepts and theories:

1. The first (foundational) phase pertains to Bentham's and Foucault's works on the Panopticon - which view surveillance vis-a-vis physicality/spatially. In other words, they are concerned with the architecture of surveillance.
2. The second phase involves Deleuze's notion of control societies, Haggerty and Ericson's surveillant assemblage, and Zuboff's surveillance capitalism. This body of literature is perceived as a turning point that engages with surveillance beyond the Panopticon; as it deals with the matter in relation to surplus value and digitality.
3. The third and last phase sheds light on frameworks that expanded on the latter two phases by focusing on user-centric perspectives of participation and resistance, such as *dataveillance*.

One of the corner stones that shaped contemporary surveillance studies is the Panopticon, which was first developed by Bentham in the 18<sup>th</sup> and later on theorized as *Panopticism*. The initial concept was rooted in a prison where inmates institutionalized discipline through an illusion of constant surveillance by an invisible inspector. The prison's architecture limited the visibility of inmates to one object, the tall outline of the central tower from which the inspector spies (Foucault, 1997, p. 201). That way, his gaze is unprovable, hence always feared. To Foucault, the major effect of the Panopticon is to induce in the inmate a state of conscious and permanent visibility that assures the *automatic functioning of power* (1997, p. 201).

Following the same wavelength as Bentham, Foucault asserts that panopticism establishes the foundation for a *disciplinary society*. In more detail, he writes:

*“The panoptic arrangement programmes at the level of an elementary and easily transferable mechanism, the basic functioning of a society penetrated through and through with disciplinary mechanism. There are two images, then, of discipline. At one extreme, the discipline-blockade, the enclosed institution, established on the edges of society, turned inwards towards negative functions: arresting evil, breaking communications, suspending time. At the other extreme, with panopticism, is the discipline-mechanism: a functional mechanism that must improve the exercise of power by making it lighter, more rapid, more effective, a design of subtle coercion for a society to come. The movement from one project to the other, from a schema of exceptional discipline to one of a generalized surveillance, rests on a historical transformation: the gradual extension of the mechanisms of discipline throughout the seventeenth and eighteenth centuries, their spread throughout the whole social body, the formation of what might be called in general the disciplinary society.” (p. 209)*

Under Foucault’s disciplinary society, where anyone can be captured by the panoptic gaze, individuals will eventually internalize the *Norm* through mechanisms of discipline. For its shading of difference and making of *docile bodies*, the power of the Norm is added alongside the Law, the Word (Parol) and the Text (p. 184) - which constitute the new law of modern society in his work. By docile bodies, Foucault illustrates how discipline dissociates power through heightening the forces of the

body (in economic terms of utility) and decreasing them (in political terms of obedience) (p. 138). In spite of Foucault's influential contribution to studying the ways in which surveillance is conducted, arranged and consequential in a disciplinary society, he only built upon Bentham's prison-panoptic and overlooked the other structures. Contrary to popular literature, Brunon-Ernst (2013) sheds light on other panoptic depictions in Bentham's works. He developed not one, but four illustrations of the panopticon. In addition to the prison-panopticon introduced in the *Inspection-House*, Bentham also introduced the pauper, chrestomatic, and constitutional-Panopticons (Galič et. al, 2017, p. 3). Each is brought forth by Bentham in separate works dating from 1797 until 1830 and tackles distinct settings and target groups within work, school and constitutional code. These variations represent modified models to echo the Panopticon's adaptability to multiple environments – proving that the concept is not linear, but versatile.

Nevertheless, due to all panoptic versions being limited by their architectural basis, their fixation on physicality ushered in the second phase of surveillance studies. That concerns itself with the influx power relations between individuals and institutions within a growing mode of digital governmentality, which was not as radical during the time of the Panopticon. The main shift lies in moving from disciplinary to *control societies*, from institutions to *corporations*. While simultaneously building upon and shifting from Foucault, Deleuze (1992) argues that in the disciplinary societies one was always starting again (from school to the barracks, from the barracks to the



factory), while in the societies of control one is never finished with anything--the corporation, the educational system, the armed services being metastable states coexisting in one and the same modulation, like a universal system of deformation (p. 5). What makes Deleuze's contribution to surveillance studies pivotal, is his notion of the *dividual*. He acknowledges *code* to be constitutive of the numerical language of control which marks the in/access to information. We no longer find ourselves dealing with the mass/individual pair - individuals have become *dividuals*, and masses, samples, data, markets, or "banks" (p. 5). Deleuze's conviction here resonates with the previous discussion on how algorithmic logic creeps into households and everyday life to mine data for direct commodification. Even more interictally, his and Guttari's (1987) *rhizomatic* notion addresses the potential limitless scope of surveillance through technologies.

Describing contemporary surveillance as *rhizomatic*, has had influential impact on how one can think of its growing scope and meaning. A rhizome may be broken, shattered at a given spot, but it will start up again on one of its old lines, or on new lines (p. 9). Here, this logic that follows surveillance as the *botanical rhizomatic plant* encourages the apprehension of multiplicities. It calls for acknowledging the limitless scope of surveillance, like the rhizome, its roots supersede fixation by growing in all directions. The plant's root relation makes it difficult to not notice the multiplicities of its nature. In comparison to Foucault's perception which can be juxtaposed to a tree's trunk, the Deleuzian approach sits at the heart of rhizomatic

thinking for its account of massive magnitude. Furthermore, approaching contemporary surveillance as the rhizome sheds light on how it operates by variation, expansion, conquest, capture, offshoots (p. 21). It is an ever influx, unstable process which lacks a single root. It is expansive due to growing technological capacities that capture flows and assemblages.

From this brief tracing, we understand that the Deleuzian approach to society substitutes discipline by control, moves away from Foucault's enclosed spaces that make docile bodies to open spaces that modulate. However, Savat (2013) argues that Foucault's disciplinary reading is part and parcel to societies of control. The digitization of the disciplinary machine's writing apparatus, in the form of databases, as well as the increased connectivity of our digital machines more generally, has significantly amplified the operation of the disciplinary machine (p. 14). Rather than cancelling each other, they co-exist and serve complimentary roles within this technique. The larger data bases become, the more devices and networks one interacts on, translate to heightened visibility of the in/dividual. For example, Foucault's school or army premise could only render visible those who occupied its space, whereas a digital network could render anyone whose connected visible – regardless of where they are. Savat follows this logic in dissecting his view on the concurrence of both disciplinary and control societies. On the other hand, Haggerty and Ericson (2000), also belonging to the second phase of surveillance studies,

invoke a new critical tool to approach contemporary surveillance, the *surveillant assemblage*.

Viewing surveillance as a key underpinning of late modernity and inspired by Deleuze and Guattari's notion of *assemblages*, the authors argue that surveillant assemblages function through abstracting bodies from their territorial settings and separating them into a series of discrete flows. They are then reassembled into *data doubles* that can be probed. Here, subjectivities which once resided outside the surveillant gaze, become increasingly observed (p. 606). In particular, these discrete flows contain (an essentially limitless range of) people, signs, knowledge and institutions. Following the authors agreement with Deleuze and Guttari (1987), VPAs could be approached as contributing actants to the state (corporations) form. In which it *striates the space* over which it reigns and establishes a zone of rights over an entire exterior. In this sense, the corporation never ceases to decompose, recompose, and transform movement, or to regulate speed (p. 387-8). The surveillant assemblage also engages with the re/making of cyborgs – as it is essentially a recording/visualizing device that fuses a host of opaque flows of auditory, visual and informational stimuli into the visual register (Haggerty & Ericson, 2000, p. 611). Within and because of these flows that evolve into assemblages, the human body's data double is constantly being remade, redefined and remarked by technologies means.

Furthermore, they propose a shift in understanding the purpose of modulation by referencing Bauman (1992) on how surveillance seduces populations into the market economy and increasingly constitutes them as consumers. (p. 51). They assert the necessity of moving beyond Foucauldian panoptic understanding by stressing on how contemporary surveillance serves the construction and monitoring of consumptions. As it lacks the normalized soul training and is more concerned with the production of consumer profiles through the ex post facto reconstructions of a person's behaviour, habits and actions (p. 615). In other words, contemporary surveillance works to extract surplus value from data mined from the everyday.

Zuboff (2015) elaborates on the latter argument by coining *surveillance capitalism*, a new form of information capitalism that works to predict and modify behavior as a means to produce revenue and market control – of which big data is both a condition and an expression (p. 75). For Zuboff, this new sort of capitalism, which has been gradually growing during the last decade, has not been well theorized. Therefore, she brings forth her notion as a way in which one can investigate this new, dominant capitalist logic. She makes the argument that capitalism's triumph over the *longue durée* is due to the emergence of new market forms expressing new logics of accumulation that are more successful at meeting the ever-evolving needs of populations and their expression in the changing nature of demand (p. 77). Essentially, different hegemonic accumulation techniques prevailed throughout the history of capitalism. At the current stage, digital capital logic is premised on

surveillance, big data to be exact. From her standpoint, big data stems from the Social and ushers in a shift of targeted subjectivities. Under surveillance capitalism, a new frontier emerges, one that is made of real-time behavior data that is acted upon for surplus value.

When corporations with access to such data have the ability to track and update everyday changes in behavior on and off the network, they become equipped with the power necessary to influence consumption. Targeted advertisements are crucial here, and will be discussed in light of my field work in the following sections. In her work, Zuboff examines the four uses of computer-mediated transactions stated by Google's Chief Economist, Hal Varian: data extraction and analysis, new contractual forms due to better monitoring, personalization and customization, and continuous experiments. The first use, which translates to data mining and big data, depicts two characteristics that shape contemporary capital accumulation. First and foremost, big data is *formally indifferent* to what users do, so long as they stay on the network for their data to be extracted. The second feature is *structural independence*, which marks an escape made by technological companies from the prior social contract between corporations and its populations. Under the current logic, the goal is not to balance wages so that employees become consumers; as corporations are interested in automation. Such absence of structural reciprocities between the firm and its populations, leaves companies like Google and other players in its logic of accumulation, out of the historical narrative of Western market democracies (p. 80).

The second use is concerned with new contractual forms due to better monitoring. Here, power resides in ownership of means of behavioral modification (rather than means of production). As habitats inside and outside the human body are saturated with data and produce radically distributed opportunities for observation, interpretation, communication, influence, prediction, and ultimately modification of the totality of action (p. 82). The third feature deals with personalization and customization as producers of new asymmetries of knowledge and power (p. 83). This characteristic is powered by predictive algorithms that learn from their user's historical behavior to accurately predict future commands and purchases. The fourth and last use is labelled continuous experimentation, and is concerned with intervention in the everyday. Reality becomes controlled in order to monetize real-time behavior – which makes behavior modification possible. Up until here, post-panoptic phases of surveillance studies can be distinguished as making way for thinking about assemblages, power symmetries and corporeality under a surveillant digitality. The second phase is intimately concerned with ubiquitous technologies that institute control and modulation for surplus value. In turn, are interested in developing frameworks that make sense of everyday surveillance of behavior by states and corporations. The fusion of the fleshy body with databases makes the data double a key figure in this phase, one that illustrates the making of cyborgs.

Following in the same steps, the third phase of surveillance studies builds upon concepts from prior phases while focusing on specific aspects of the surveillant

contemporary. It must be noted that this brief genealogy of surveillance studies should not be seen as chronological, but rather as overlapping and arching in the contemporary.

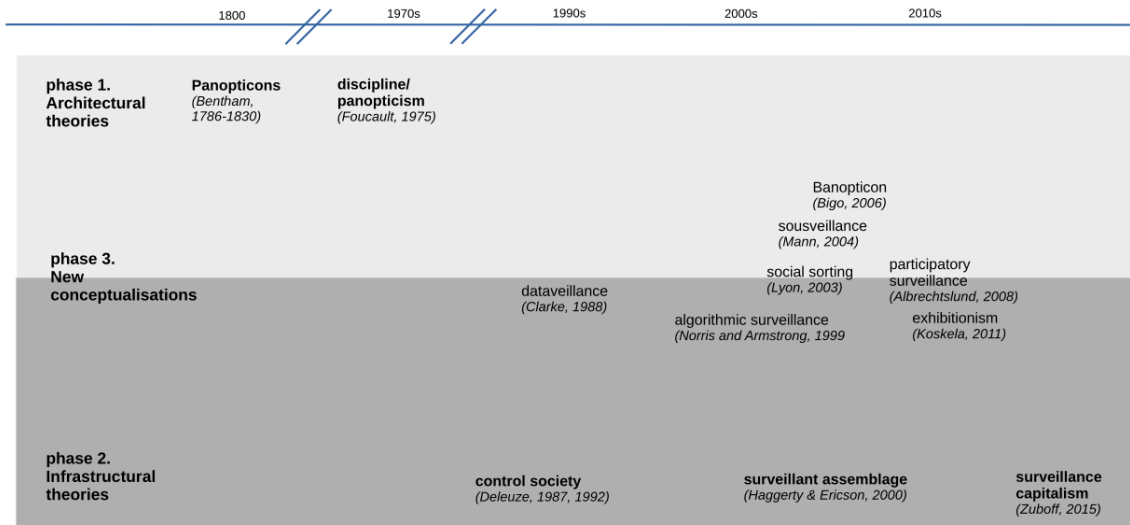


Figure 2.2: Three phases of surveillance theory (Galič et. Al, (2017, p. 26).

The all-embracing theme within surveillance theory is the becoming of new subjectivities in the digital realm. In the words of Poster (1990), we are witnessing the formation and coalescence of a new type of body that transcends human corporeality and reduces flesh to pure information, the *data double* - which involves the multiplication of the individual, the constitution of an additional self (p. 97). Now that we have shed light on apprehensions of contemporary surveillance logics, I direct my attention towards the making of data doubles through VPAs and accompanying repercussions.

## X. Siri, Did Alfred Ever Spy on Batman?

The exponential spread of VPAs ushered in unprecedented levels of systematic everyday surveillance. Multiple VPAs are packed with cameras that have precise facial recognition technology and microphones with 20-30 ft. listening ranges. Others are designed to turn on upon hearing a wake-word, illuding to users that their activation is controllable, hence, trustworthy and safe. As noted in prior chapters, VPAs are growing to play important roles within the everyday of their users - making them valuable to the rhizomatic surveillant logic. For that, I trace the ways in which living with and through VPAs can be examined vis-a-vis contemporary understandings of discipline, control and modulation. Ultimately, VPAs are representations of their mother corporations – their design echoes their agendas and profit-making strategies. Their design and affordances are a reflection of what these corporations are seeking, which is primarily monetizable data. Therefore, VPAs can be perceived as an extended arm of corporations working to oversee sites of potential surplus value. By enabling corporations to log, track and monetize intricate details of every-day life, VPAs are what I call the eyes and ears of surveillance capitalism. Unlike CCTV cameras and biometric check-points at airports, VPAs are much more dangerous in their surveillant capabilities. As they are ambient, personalized and miniaturized. This begs the interrogation of how users are reacting, negotiating and giving in?



### **What Did People Do Before Alexa?**

During the Super Bowl 2020, Amazon premiered its annual advertisement of the Echo dot. Titled “Before Alexa”, the commercial stars American television-host Ellen DeGeneres and her wife, Portia de Rossi. Viewers watch DeGeneres asking her wife to hurry while getting ready, before commanding Alexa to lower the thermostat as they leave. As they go out the door, DeGeneres wonders what did people do before Alexa? Unlike me, she was not wondering how surveillance augmented prior to the VPA. For the ninety seconds to come, the audience watch eight historical scenarios of people requesting tasks that are similar to the user’s commands. Characters were given names that sound like Alexa, such as Alessa, Alex etc. In a bourgeois setting, a woman asks her servant to turn the temperature down by two degrees. The servant then takes a flaming log out the fireplace and throws it out the window – shattering the glass while no one seems disturbed (see figure 2.3). The second scenario shows a queen sitting on a throne demanding that a man dressed in clown attire to entertain her with a joke. However, the man is sarcastic about not having any joke come to mind, which prompts the queen to yell “next!”. (figure 2.4)



(Figure 2.3: Still shot from Before Alexa Ad. (0:18))



*(Figure 2.4: Still shot from Before Alexa Ad. (0:27))*

Following this scene, a young boy is shown selling newspaper in an industrial town. After a man asks what's today's news is, the boy responds with "it doesn't matter, it's all fake." (figure 2.5) Two men on a carriage are captured as travelers, one of which asks the other to "play that song he likes." The second traveler begins to blow a melody on a flask, but the other seems unimpressed and asks for the next song. (figure 2.6) Another scene shows two women cleaning clothes, where one asks the other to say something interesting. "Okay.. the earth is flat, the witch stole his pants," the other woman replied – while a half-naked man passed in front the lens. (figure 2.7) We are then shown a princess attaching a letter to a homing pigeon while demanding it to be sent to Prince Constantine. As the pigeon was taking off, it was attacked by an eagle, who was in turn eaten by a dragon. The last scene depicts a president in his office, demanding his secretary to "remind him to delete these tapes."



*(Figure 2.5: Still shot from Before Alexa Ad. (0:36))*



*(Figure 2.6: Still shot from Before Alexa Ad. (0:47))*



*(Figure 2.7: Still shot from Before Alexa Ad. (0:58))*

I have selected these specific scenes in the previous figures to illustrate how Amazon is creating a twofold VPA imaginary: first, these historical sets depict Alexa's affordances as historical by matching the device's labor to actual human bodies that withstood demanding environments and realities. Slavery, servitude and paper boys

existed throughout history in different shapes and form - but were historically labored by human bodies, not machines. Second, Amazon is drawing an imaginary that fantasizes about Alexa being first introduced centuries ago – blowing its less than a decade of existence into proportion. While the commercial’s production team could have decided to shoot pre-VPA contemporary realities, their decision to historicize it is signifying of several underlying meanings. In historicizing Alexa by showing familiar commands and situations, users would value their assistant even more. Watching the myriad of undesirable things that can result from *not having Alexa*, such as being misunderstood, not anticipated, feeling bored and being inefficient, reminds the user of how Alexa serves them by not being anything like the depicted incompetent characters. The commercial follows a deep and consistent marketing strategy of the VPAs. For example, if one would ask Alexa what the five greatest words in English language are, the response would be “your Amazon Echo has shipped.” Hence, the discursive effect of asking what did people do before Alexa and the latter example, locates the Echo as an essential, rather than a luxurious possession. In doing so, Amazon is reaching a wider customer base/increasing their surveillance assets.

### **Siri, I'm Home: Personalization & Miniaturization**

After ensuring the perception of VPAs as part and parcel of modern living, the ultimate end-goal of user-VPA interface design is to ambiently integrate the device into the user's everyday environment(s). As discussed, users grow to perceive their VPAs are more than assistants, often as trustworthy, understanding and accommodating companions. This relationship is garnered by small, yet effective instances. After a long day away from home, Farida enters her home and says "Siri, I'm Home!" This triggers the Homepod to respond by a warm greeting like "Welcome home, I hope you're having a nice day." Similar to how the device is depicted in the advertisement discussed in Chapter 3, VPAs are increasingly becoming valuable possessions that deepen affective human-nonhuman relationships. Another example would be how Mounira often wishes her VPA good night before going to sleep, which prompts Siri to respond by "sleep well!" Whereas Hassan sometimes plays Rock, Paper, Scissors with his Alexa in his free time. I had witnessed their playing session once, which lasted for around ten minutes. Hassan would kickstart the game by commanding the VPA to "play Rock, Paper, Scissors." Alexa would then reply by "okay, let's play. 1, 2, 3...", followed by both players shouting their move at the same time.

Through these brief examples, I wish to highlight how the VPA transcends administrative affordances and gains the user's admiration and trust. If VPAs were

strictly assistants, third-party games and entertainment applications would not have been integrated in the first place. This brings forth the observation of how personalized technologies aim to intervene in their user's work time, free time, play time and all the rhythms in between. Weinberg (2019) argues that while personalization is marketed as a service for consumer empowerment through the importance placed on the user's desires and preferences, it is simultaneously a technology for monitoring, aggregating, and exploiting user data (p. 7). When thinking about how my interlocuters interact with their Siri and Alexa, I tend to draw parallels between the relationship of DC Comic's fictional superhero Batman and his butler, Alfred Pennyworth. Both in comic books and movie adaptations, the character of Pennyworth follows the illustration of a devoted, protective and accommodating butler. However, he is not just Batman's lifelong servant, but also his unconditional companion. Similar to the marketing of VPAs, Pennyworth is shown to always be there when needed, anticipating Batman's needs beforehand.

More importantly, Pennyworth's affordances are valued as one of the reasons behind Batman's heroic acts in Gotham City. If it were not for Pennyworth's advice, labor and companionship, Batman would simply not have the time nor motivation to fight villains. The reason I am juxtaposing VPAs to Alfred Pennyworth is to illustrate how gradual trust is built to locate the devices in a position of blind trust/direct guaranteed surveillance. Afterall, the loyal Pennyworth would most certainly never spy on Batman for illegitimate gain. Several characteristics of the relationship



between the superhero and his butler are echoed in user-VPA bonds. Without the virtual affordances carried out by these contrivances, the ways in which users navigate their everyday would drastically be altered. Despite having lived once without their servitude, my interlocuters would not dare to let them go. “I honestly do not know what I did before Siri, she is so important to me now that I can’t help but wonder how I got by back then,” Mounira once underscored. Such indispensability serves surveillance capitalism in multiple ways.

When I asked both VPAs if they are spying on me, they refuted the accusation differently. “I only send audio back to Amazon when you activate me. For more information, and to view Amazon’s privacy notice, visit the help section of your Alexa app or amazon.com,” Alexa responded. Whereas Siri simply said, “No.” I rephrased my question to Siri, asking if our conversations are recorded. This time around, I got a denser answer. “I respect your privacy, and only listen when you’re talking to me. You can learn about Apple’s approach to privacy on apple.com.” Siri’s response to my initial question could be approached as a way in which Apple is attempting to affirm its illuded respect of privacy by keeping it short, simple and to the point. A simple no, would entice the user in two ways: regret asking/doubting in the first place or feel undermined. Surprisingly, before my field-work, none of my interlocuters ever asked their VPA that question. Mounira and Farida both giggled at Siri’s blank “no,” then began to walk me through their opinions on privacy and VPAs.

*Farida: "I'm no idiot, I know that Siri is doing something with my data. My friends keep warning me to unplug her when I don't need help, but I think that's pointless. I willingly bought Siri and I wouldn't change the situation. Even if I unplug the Homepod, I still use my phone and iPad all the time. I appreciate all the help Siri gives me and I trust that whatever data is collected about me, wouldn't do damage"*

*Mounira: "As a banker, nothing scares me more than a cyberattack or a data breach, which is why I felt more comfortable with Siri than Alexa. I feel that Apple does more in terms of ensuring user privacy than Amazon. Even my husband thinks so, I think they have higher ethics than other ICT companies. So what if our data gets sent to Apple, that's fine by me. As long as no one else sees it."*

The common ground between all of them is proclaiming that they are not fooled, *not that dumb* and that they assert their awareness of data collection through VPAs. Ziad and Hassan share similar sentiments towards the matter. "If I invented that technology, it sure as hell wouldn't be for the sole purpose of helping people out. We live in an age of data; *data is gold now*. If I were to be Apple's CEO, I'd listen to what users say all day. I'd play god AND make money off it," Hassan stated. During our multiple conversations about surveillance, Hassan repeatedly argued that "privacy is overrated" and that VPAs as well as interchangeable technologies should not be feared, but rather embraced. "I don't know a single person that does not have a social media account nor a smart phone. Everyone uses GPS, Google search and FaceTime. I don't get people who nag about tailor-made suggestions and targeted



advertisements. I willingly talk near Alexa and my phone about stuff I want to buy or places I want to go, so they can do all the research for me,” he elaborated.

Examining the same issue here, are Chalhoub and Flechais (2020), through conducting semi-structured interviews with thirteen users to have a better understanding on what the users’ stance is and how they *negotiate* their privacy. The below is a summary of their key findings (p. 306):

1. *Users express a lack of privacy concerns towards VPAs because of individual perceptions (e.g., their perceived notability).*
2. *Users trade their security and privacy for the benefits arising from VPAs (e.g., convenience and utility).*
3. *Users have various security and privacy needs that result from specific trigger points (e.g., detrimental experiences, adversarial needs).*
4. *Common security and privacy features (e.g., muting) of VPAs were not found to be user-friendly and were hindering the experience.*
5. *Users reported compensatory behavior (e.g., disconnecting the devices, deleting audio history) resulting from negative experiences with smart security and privacy tools.*

Their findings illustrate that privacy is not as sacred across respondents, some are willingly giving their privacy up for VPA-accompanied benefits (similar to the Social Contract), while others are expecting more of tech-giants, despite of the upcoming

argument. My observations and analysis closely resonate with their first major finding. In turn, none of my interlocuters mind the fact that their VPAs are nodes deployed by corporations to monetize their data while modulating their behaviors. Essentially, they are unalarmed due to assuming they are in a proportionate transactional relationship. Data monetization is hence made sense of and accepted in the case of getting something in return. Be it assistance, companionship, entertainment and/or access to information, the VPAs' affordances triumph escaping from the corporations' gaze. This resonates profoundly with Woods (2018), as she argues that performing digital domesticity is a rhetorical strategy connecting the familiar technological past/present to an anxiety-producing surveillant future. Their default feminine-like personas are invoked to rhetorically disarm users with anxieties about intimate data exchange (p. 336-7). This clears up the role of gender under the current stage of capitalism, which is utilized to augment surveillant capabilities by masquerading behind small mechanical devices that traditionally talk and work like a woman, who is not typically feared.

The reason I shed light on how small VPAs are in comparison to other everyday technologies such as the laptop, is due to their unnoticeable yet massive presence in the everyday. As Haraway (1985) writes, modern machines are quintessentially microelectronic devices, they are everywhere and they are *invisible*. Writing, power, and technology are old partners in Western stories of the origin of civilization, but *miniaturization* has changed our experience of mechanism. Miniaturization has

turned out to be about power; small is not so much beautiful as preeminently dangerous, as in cruise missiles (p. 12-13). After its initial design, the Homepod underwent series of developments that made it smarter and significantly smaller in size. Called the Homepod Mini, it was launched in 2020 and eventually caused the discontinuation of the original Homepod.

According to a statement made by Bob Borchers, Apple's Vice President of Worldwide Product Marketing, the "HomePod mini has everything customers want in a smart speaker – amazing sound for listening to music, a world-class intelligent assistant that delivers a personal experience to each member of the household, and like every Apple product, it's designed with *privacy and security in mind.*" (Apple Newsroom, 2020) In the same press release, a paragraph was designated to shed light on how security and privacy are fundamental to the design of Apple products. "With HomePod mini, only after "Hey Siri" is recognized locally on the device, or the user activates Siri by touch, will any information be sent to Apple servers. Requests are not associated with the user's Apple ID, and personal information is not sold to advertisers or other organizations. HomePod mini works with iPhone to complete requests for messages and notes on device without revealing that information to Apple."

### **The Illusive Wake-Word: Good Old Sex Days**

Previously I discussed how VPAs, as miniaturized and personalized digital actants, often assume the roles of care-givers, secretariats, Sous Chefs and more. Here I want to shift attention towards how they can also become killjoys. As I had encountered on multiple occasions, these technologies can ruin important, often exciting moments for their users. Being married for over a decade, Hassan and his wife face occasional sexual frustration. “Marrying someone is like opting to buy one stock for a lifetime. No matter how prices dip, you fight the temptation of selling out,” Hassan asserted. In order to *sustain the spice*, they work together to prevent the inevitable boredom from creeping into the bedroom. He believes that the key is *time management* - similar to all life duties, as he noted, one must manage and dedicate time to three things: family, employment and oneself. Though his Echo manages his time for the better part, it has struck his sex life. As Nada refuses to have sex anywhere within Alexa’s range, which virtually covers most of their household. She is exceedingly worrisome to engage in any intimate activity due to Alexa’s *always on mode*, in fear of being recorded, hence heard either by Amazon staff or others if a breach would happen.

Despite Hassan’s dismissal of her concerns, Nada’s fear of a potential data leak was the reality of many affected by multiple *glitches* in Apple and Amazon. In invoking the term glitch, I refer to instances when VPAs temporally ceased to be perceived as trusted contrivances. The glitch is also deployed by developers in times of crises,

often scapegoating incidents on human error, mistaken trials and cybercrimes. In August 2019, Apple announced the permanent shut down of the “Grading Program”, which enabled contractors to review a percentage of the things people spoke to Siri. The program’s shut off came after staff who were reviewing Siri commands heard personal medical details, drug deals and more. During the aftermath, the company stated that it will “no longer retain audio recordings of Siri interactions.” However, it will instead utilize “computer-generated transcripts to help Siri improve.” (Haselton, 2019) Likewise, Amazon grades Alexa’s performance through its thousands of employees that tap into voice recordings of interactions. This grading is enabled by a default setting, that users may opt out from manually. According to Bloomberg, staff responsible for grading is located across regions, including Boston, India, and Romania – where some workers review up to 1,000 audio clips per shift. (Day, 2019)

Nevertheless, numerous glitches occurred the world over where recorded conversations were not directed at the VPA. Here, I explore two of several incidents that gained public attention by revealing how VPAs operate as always-on devices. In December 2018, Amazon sent Alexa-user recordings to the wrong data subject, a man who reportedly had never used the technology. Writing for the CBS News, Ivanova (2018) covered that the glitch took place after the data subject had asked Amazon to send over all data that belongs to him. After receiving the recordings, the man reportedly communicated the instance to Amazon, but received no reply. However, the linked recordings were then deleted from Amazon’s side, not knowing that he

had already downloaded them onto his computer. Later on, Amazon blamed the incidents on "an unfortunate, isolated case that resulted from a human error." Approximately two years after the latter glitch, Jennifer Jolly, a journalist at USA Today, wrote an article about the sudden language change in advertisements targeted at her through electronic devices. She wrote the following: "I watch most TV shows and movies on my iPad these days, and something strange happened recently. My iPad – or rather apps such as Hulu and Bravo linked via Apple TV – started showing Spanish commercials." She goes on to explain that this glitch might be caused by her family's recently move to a Spanish-speaking area of California. She underscored that while her Spanish is not superb, her husband is fluent and talked daily to on-site contractors in their new home.

Ultimately, what these two glitches unmask, is the illusive promise made by technological corporations to respect user privacy. It is through glitches like these, that a temporal sense of concern arises. As this work is being written, both Apple and Amazon are being sued by class action suits for privacy/data violations. How then, do VPAs continue to grow despite noticed glitches? As previously mentioned, affordances that stem from their digital domesticity work to subsume temporal anxieties. Following digital-capital techniques, if they fail at subsuming counter sentiments, then VPAs fail the entire modern surveillance project. In the case of perceiving these devices as unworthy of potential trouble, then personalization, along with miniaturization, will undergo a mutation. An alteration that would once

again enable corporations to harvest actionable data to sustain the system. The central goal here, is to constantly exert power on the everyday through tracking and predictive armies of technologies. In particular, Weinberg believes that commercial forms of surveillance deeply care about capturing, rationalizing and commodifying leisure time. By this, she means the application of workplace discipline and surveillance to time and space outside of the wage-relation. Following her stance, we might approach contemporary personalization affordances as part in parcel of a larger web of cultural practices that make online leisure time profitable by monitoring, rationalizing, and commodifying user behavior. These technologies are indebted to the migration of workplace philosophies concerning time management and discipline to the home (Weinberg, 2019 p. 2).

### **Eavesmining on Leisure Time: Double-Direct Commodification**

The tracing of glitches, as well as rationalizing leisure time, must be thought of in relation to Neville's (2020) *eavesmining*. The term was coined to study the relationship between eavesdropping and data mining platforms and processes, which are augmented by voice-activated VPAs in his defense. These platforms articulate a mode of *auditory surveillance* that is socially divergent from issues of wiretapping, audio interception, and police informant practices because its microphone technology is non-secretive and voluntarily embraced by its users. In more depth, he writes that:

*“Eavesmining as a concept, characterizes a set of digital listening processes that affect acoustic space and embodied relationships with sound. This development is best understood in its relationship with the medium of the voice, which is its primary target. To begin, acoustic space is affected by a twofold movement: first by digitally scraping the auditory signatures of voices, words, and verbal cadences; and, second, by circulating data as analog sound within the smart home, as articulated by the voice of Alexa and other mediatized “voices” played via the Echo (e.g., music, news, podcasts, audiobooks, and radio). Thus, eavesmining affects acoustic space by listening with microphone technology to the voices of smart home inhabitants while monitoring their consumption of audible media content. Further, eavesmining alters embodied relationships with sound in a profound manner by transforming the human voice into a digital interface, or, in other terms, by transposing oral communication into a mode of technical interaction with the cloud.” (p. 345)*

Neville’s thought process is similar to the creators of the exploded AI map, in the sense of attesting to how current machine learning approaches are characterized by an aspiration to map the world, a full quantification of visual, auditory, and recognition regimes of reality (Crawford and Joler, 2018, p. 14). Nevertheless, it is important to note that it is not a general sense of reality that is sought after, but the everyday realities of households and their surroundings. Owning such grip, allows corporations to pave the road towards smart cities – given how domestic technologies intensify and re/make temporal and labor techniques in the home.



Furthermore, the corporate grip makes way for mini personalized technologies to carry out their *data duties*. Hence, possession, and the contiguity to the network that it presupposes, facilitate the surreptitious collection of data not only for storage, analysis and surveillance purposes, but as data that is immediately convertible into exchange-value, atmospheric or active (Hassan, 2020, p. 78). Here, the term *direct commodification* comes to surface due to the user becoming a commodity as a result of physically owning, carrying and occupying the same space as the technology.

This enables direct commodification to exist virtually everywhere. In the ether through assemblages of immaterial data flows that create a condition of *digital surveillance*, of an overweening control over the human as both subject and object of accumulation. This is digitality as *omnipresent* (Hassan, 2020, p. 76). In parallel to commodifying the user through data, behavior modulation and dictated consumption unfold. My starkest observation here is in regards to Hassan's constant purchasing of recommended/targeted products and services. "Last year, I had a group of friends over for lunch and talked about getting a new summer home in the North Coast. I bought mine over a decade ago, when Marina was the place to be. Now that it's filled with barbaric people, we thought it's time to go on holiday elsewhere. My friends and I had talked a lot about new compounds in that area, and as soon as I picked up my phone, targeted advertisements of new projects popped up. I actually took them seriously this time and after some research, I bought a new villa," he enthusiastically shared.

This example directly speaks to arguments made by Hassan, Weinberg and Neville – under Deleuze’s concept of modulation – as it introduces a possible way in which labor can be revisited. The reality of surveilling, rationalizing and consequentially commodifying time beyond work, potentially reinforces the argument that personalization can be theorized as a site of user labor. Weinberg aims to defend the latter bid by elaborating on the following: if surveillance is an integral part of leisure time online, and if online behavior produces valuable data, perhaps consumption and attentiveness online can be conceptualized as a form of work or production (p. 11). Referencing Hardt and Negri’s *factory-society*, she illustrates that laboring processes have pivoted beyond the factory to invest the Social. As the social fabric under digitality is growing to be more and more infected by factory-like regimes. Such as efficiency, time management, surplus value etc. In turn, Marxist feminism emerges as a relevant theoretical base for advancing a response towards the matter. Precisely because the framework already acknowledges the household as a laboring site. Additionally, Marxist feminism can aid in apprehending the ways in which data aggregation resulting from rationalizing leisure time can be translated to the home as a site of capitalist oppression. Mystified through the racialized and gendered fantasy of machine subordination that shaped the integration of information technology into the home (Weinberg, 2019 p. 3).

In order to bring all of the prior discussions together, I underscore Alexa’s *drop in feature* as the summarizing characteristic of VPAs under digitality. This feature

enables users of the Echo to quite literally drop in spaces and conversations of others (supposedly contacts that permit drop in exchanges). Upon a drop in, the Echo alerts the user by emitting a green pulsing light. The feature was distinctly received by users, some perceiving it as a better mean of instant communication – while others labelling it as a security hazard. Essentially replacing a phone call, but without the requirement of manual answering, the drop in feature automatically augments both their user and surroundings. This is in the sense of accommodating the virtual presence of a *dropper* to talk/listen. From my perspective, this specific feature is the epitome of ubiquitous surveillance as it figurately explains and performs surveillance capitalism. Therefore, given that the drop in feature might stand in for surveillance capitalism under digitality, then it rigorously alters what, how, when and who is being watched. The drop in feature is not exclusively concerned with data, but exists to enable possible virtual presence anywhere, anytime.

## Chapter 5: Conclusion

In *The Future Computed: Artificial Intelligence and Its Role in Society* (2018), Microsoft's president, Brad Smith, and his co-author Harry Shum, contend that VPAs will be an inextricable part of our life just in twenty years. However, we can currently view VPAs as part and parcel of lived realities, advancing the discipline and modulation of digital-capital logic by instituting time as a commodity, affordances in exchange for privacy and virtual for lived labor. We can come to conclude that VPAs are viewed, treated and designed to be a form of digital alter-egos, feeding into Haraway's cyborg framework. Despite massive and publically known security breaches, VPAs continue to grow in popularity; primarily due to their alignment of users' daily rhythms, with ideals about efficient time management. In turn, VPAs and interchangeable technologies, lay at the core of an (virtually) instituted remaking of ubiquitous surveillance. A rhizomatic reorganization that makes it way from the bottom-up, given that aggregated data is mined from the most intimate corners of everyday lives.

Essentially through their performance of femininity and digital domesticities, VPAs invoke an illusive sense of control and authority in their users. While in fact, they are actively and systemically partaking in their discipline and modulation. Drawing and deeply enmeshing them in data flows, digital assemblages and predictive big data networks. While acknowledging the wide array of modalities in which VPAs operate, they must be approached as necessary nodes, entry portals for corporations to extract

surplus value from once unattainable and unimaginable environments. By gradually foregrounding the building blocks for the digital home, the networked office, smart cities and modern living through the cloud, VPAs establish a materially immaterial link between human bodies to surveillance capitalism. Similar to how the telephone and other technologies redrew existing boundaries between public and private in Barak's (2013) book, VPAs also reconfigured realities of laboring women with and sometimes without their bodies and voices (p. 208). It is of immense importance to acknowledge the long, historic and mystic background of how the VPA as the contemporary knows it came to be.

As the first imagined version of a VPA stemmed from the same root, seeded by economic motives. Traced back to Greek mythology, VPAs are the latest manifestation of artificial life, made into existence to perform mechanized labor, as well as increase surveillance assets. Throughout the tracing of genealogies, I have analyzed the role played by gender within developing capitalist regimes. In addition to examining the ways in which temporalities are modulated to serve: capture through data and value through surveillance. Notably, clock time is not normatively institutionalized. Rather, it combines with network time, algorithmic time and leisure time to make modern productive subjects. Those who rationalize, plan, log and strive for efficiency. Efficiency only in terms of producing, consuming and repeating the cycle that births surplus value. Never in terms of sparing raw earth minerals from exploitation. Part and parcel of VPA function is to maintain a black-box appearance.

That is to mask the deep interconnections between the literal hollowing out of the materials of the earth and biosphere, and the data capture and monetization of human practices of communication and sociality in AI (Crawford & Joler, 2018, p. 5). In appearing as an opaque unit, users will everlastingly carry on with digitizing and automating with no thought about how their installation of smart bulbs, digital locks and calendars impacts the Earth.

This is complimented by oversimplifying and assigning a sole signifier to destructive and exploitative technological innovations. Be it the cloud, big data or AI, hegemonic discourse surrounding the latter will tirelessly work towards a black box representation. In doing so, repercussions of how domestic AI entrenches and amplifies capitalist flows, as well as gendered and racialized division of labor in the home, remain unnoticed by users. Further reconfiguring individual subjectivities and collective assemblages to frictionlessly integrate them into neoliberal capitalism (Schiller & McMahon, 2019, p. 188). A system in which reminders, emails, sale promotions and targeted advertisements are ensured to reach you whenever, wherever. A system that tethers and leads users down a dead-end road, a road with no escape from digitality. To conclude, VPAs work to subsume and in turn modulate, affect, time and labor to create a growing dependent and unproportionate transactional relationship with Capital.

Drawing on Schiller & McMahon (2019), even if potentially generative reconfigurations of affective relations stem from domestic technologies, they will always be enmeshed in capitalist networks that will seek to extract value from those reconfigurations and to further embed the affects, subjectivities, and machines that are produced into capitalist flows (p. 187). This is why approaching the postmodern/late-capitalist technique as residues of sustained historical logics about capital accumulation, rather than completely new stages, is vital to make room for critical analysis.

As a point of departure, I draw on observations and analysis conducted during my field work to suggest ways in which datafied individuals may navigate digitality. Instead of embracing the imminent and all-seeing corporate gaze, we should work towards consciously acknowledging our modulation. Every time a work email lingers over dinner time and every instance in which our consumption was dictated by predictive algorithms, we should think about the ways in which we constitute the base and target for surveillance capitalism. Due to the ubiquitous monitoring of our everyday, labor, rhythms and performances, digitality thrives. Let us not let it thrive while we are oblivious. Our data double may be a way in which we are captured, but they bring forth valuable repercussions; as they challenge linear and binary apprehensions of identity. Living with and through VPAs is in turn re/making us into cyborgs. Having read this work, would you rather be a cyborg than a goddess?

## References

Amazon. (2020, February 3). *Before Alexa Superbowl Commercial*. Retrieved <https://www.youtube.com/watch?v=PLUwmnPJIGk>

Amazon USA. (2021, February 8). *Michael B. Jordan Amazon Alexa Super Bowl LV Commercial*. Retrieved <https://www.youtube.com/watch?v=KreKbHwCiLY>

Apple Inc. (2020) *Apple introduces HomePod mini: A powerful smart speaker with amazing sound*, Press Release. Apple Newsroom. Retrieved from <https://www.apple.com/newsroom/2020/10/apple-introduces-homepod-mini-a-powerful-smart-speaker-with-amazing-sound/>

Apple Inc. (2018, March 18). *HomePod – Welcome Home by Spike Jonze (Commercial)*. Retrieved from <https://m.youtube.com/watch?v=LuCgUjmjkcY>

Apple Inc. (2011, October 5). *New apple iphone 4S Introducing SIRI Advertisement*. Retrieved from <https://www.youtube.com/watch?v=PfnqEaqKmOU>

Apple Inc. (2011, October 22). *Apple iPhone 4S Siri Assistant Advertisement*. Retrieved from <https://www.youtube.com/watch?v=8HaEmu-qkD4>

Atkinson, P., & Barker, R. (2020). *Faster than the Speed of Thought: virtual assistants, search and the logic of pre-emption*. *Transformations* (14443775), (34).

Barak, O. (2013). *On time: Technology and temporality in modern Egypt*. University of California Press.

Bateman, J., & Schmidt, K. H. (2013). *Multimodal film analysis: How films mean*. Routledge.

Bauman, Z. (1992) *Intimations of Postmodernity*. London: Routledge.

Bentham, J. (2010). *The panopticon writings* (Ed. M. Božovič). London: Verso Books.

Bergson, H. (1911). *Matter and Memory*, [1896] trans. Nancy Margaret Paul and W. Scott Palmer. London: Allen and Unwin, 7, 197.

Bergson, H. (1942). *The Creative Mind*, trans. M. Andison. New York: Philosophical.

Bergen, H. (2016). 'I'd blush if i could': *Digital assistants, disembodied cyborgs and the problem of gender*. *Journal of Literary Studies and Linguistics*, 6(01), 95-113.



Bradley, L. B. (2018, June 4). *How The Good Place Built Janet, TV's Most Scene-Stealing Not-a-Robot*. *Vanity Fair*. <https://www.vanityfair.com/hollywood/2018/06/the-good-place-janet-darcy-carden-mike-schur-interview-nbc>

Brahnam, S., & De Angeli, A. (2012). *Gender affordances of conversational agents*. *Interacting with Computers*, 24(3), 139-153.

Braidotti, R., & Fuller, M. (2019). *The Posthumanities in an era of unexpected consequences*. *Theory, Culture & Society*, 36(6), 3-29.

Butler, J. (1988). *Performative acts and gender constitution: An essay in phenomenology and feminist theory*. *Theatre journal*, 40(4), 519-531.

Chalhoub, G., & Flechais, I. (2020). "Alexa, are you spying on me?": Exploring the Effect of User Experience on the Security and Privacy of Smart Speaker Users. *Springer* (pp. 305-325).

Cheney-Lippold, J. (2018). *We are data: Algorithms and the making of our digital selves*. *nyu Press*.

Chesher, C., & Humphry, J. (2019). *Our Own Devices*. *The Routledge Companion to Urban Media and Communication*.

Crawford, K., & Joler, V. (2018). *Anatomy of an AI System: The Amazon Echo as an anatomical map of human labor, data and planetary resources*. *AI Now Institute and Share Lab*, 7.

Day, M. (2019) *Amazon Workers Are Listening to What You Tell Alexa*. *Bloomberg Magazine*. Retrieved from <https://www.bloomberg.com/news/articles/2019-04-10/is-anyone-listening-to-you-on-alexa-a-global-team-reviews-audio>

Fischer, C. S. (1988, March). *Gender and the residential telephone, 1890–1940: Technologies of sociability*. *Sociological Forum* (Vol. 3, No. 2, pp. 211-233).

Fornas, J. 2016. *The Mediatization of Third-time Tools: Culturalizing and Historicizing Temporality*. *International Journal of Communication* 10: 5213-32.

Foucault, M. (1977). *Discipline and Punish*, translated by Alan Sheridan. *New York: Pantheon*.

Galič, M., Timan, T., & Koops, B. J. (2017). *Bentham, Deleuze and beyond: An overview of surveillance theories from the panopticon to participation*. *Philosophy & Technology*, 30(1), 1-29.

Ganito, C. (2010). *Women on the move: the mobile phone as a gender technology*. *Comunicação & Cultura*, (9), 77-88.

Gao, Y., Pan, Z., Wang, H., & Chen, G. (2018). *Alexa, my love: Analyzing reviews of amazon echo*. In 2018 IEEE SmartWorld, Ubiquitous Intelligence & Computing, Advanced & Trusted Computing, Scalable Computing & Communications, Cloud & Big Data Computing, Internet of People and Smart City Innovation.

Gersen, J. S. (2019). *Sex Lex machina*. *Columbia Law Review*, 119(7), 1793-1810.

Halberstam, J. (1991). *Automating gender: Postmodern feminism in the age of the intelligent machine*. *Feminist studies*, 17(3), 439-460.

Haselton, T. (2019) *Apple apologizes for listening to Siri conversations*. *CNBC*. Retrieved from <https://www.cNBC.com/2019/08/28/apple-apologizes-for-listening-to-siri-conversations.html>

Hassan, R. (2020). *The Condition of Digitality: A Post-Modern Marxism for the Practice of Digital Life*. University of Westminster Press, pp. 73–96 and 159–189.

Harvey, D. (1982/2007) *The Limits to Capital*. London: Verso.

Haraway, D., & Modest-Witness, S. M. (1997). *Femaleman Meets Oncomouse: Feminism and Technoscience*. Routledge Chapman & Hall.

Haraway, D. (2016). *Manifestly haraway: A Cyborg Manifesto* (Vol. 37). U of Minnesota Press.

Hester, H. (2016), *Technology becomes her*. *New Vistas*, 3:1, pp. 46–50.

Howells, R and Negreiros, J (2015) *Semiotics* (Chapter 5) *Visual Cultures*, Cambridge, Polity Press.

Ivanova, I. (2018) *Amazon's Alexa sent 1,700 recordings to the wrong person*. *CBS News*. Retrieved from <https://www.cbsnews.com/news/amazons-alexa-sent-1700-recordings-to-the-wrong-customer/>

Jolly, J. (2020, Feb) *Is Siri spying on me? Apps on my iPad began playing Spanish ads after conversations at home*. *USA Today*. Retrieved from <https://www.usatoday.com/story/tech/columnist/2020/02/02/siri-spying-why-apple-ipad-changed-after-hearing-spanish-home/4627367002/>

Kang, M. (2011). *Sublime dreams of living machines*. Harvard University Press.

Kim, E. (2016, April). *The inside story of how Amazon created Echo, the next billion-dollar business no one saw coming*. *Business Insider Magazine*. Retrieved from <https://www.businessinsider.com/the-inside-story-of-how-amazon-created-echo-2016-4>

Kress, G. R. (2010). *Multimodality: A social semiotic approach to contemporary communication*. Taylor & Francis.

Lazzarato, M. (2007). *Machines to crystallize time: Bergson*. *Theory, Culture & Society*, 24(6), 93-122.

Lazzarato, M. (2014) *Signs and Machines: Capitalism and the Production of Subjectivity*. Los Angeles: Semiotext(e).

Marx, K., Engels, F., & Moore, S. (1848). *Manifesto of the Communist Party*.

Mayor, A. (2020). *Gods and robots: myths, machines, and ancient dreams of technology*. Princeton University Press.

Neville, S. (2020). *Eavesmining: A critical audit of the Amazon Echo and Alexa conditions of use*. *Surveillance & Society*, 18(3), 343-356.

Peters, J. D. 2016. *The Marvelous Clouds: Toward a Philosophy of Elemental Media*. Chicago University Press.

Phan, T. (2019). *Amazon Echo and the aesthetics of whiteness*. *Catalyst: Feminism, Theory, Technoscience*, 5(1), 1-38.

Poster, M. (1990) *The Mode of Information*. Chicago: University of Chicago Press.

Roettger, J. (2019). *How Alexa Got Her Personality*. *Variety Magazine*. <https://variety.com/2019/digital/news/alexa-personality-amazon-echo-1203236019/>

Ricoeur, P. (1985/1988). *Time and narrative* (Vol. 3). University of Chicago Press.

Rekret, P. (2019). *Seeing Like a Cyborg? The Innocence of Posthuman Knowledge*.

Savat, D. (2013). *The Uncoding the Digital: Technology, Subjectivity and Action in the Control Society*. Palgrave Macmillan.

Schiller, A., & McMahan, J. (2019). *Alexa, alert me when the revolution comes: Gender, affect, and labor in the age of home-based artificial intelligence*. *New Political Science*, 41(2), 173-191.

Sheehey, B. (2019). *Algorithmic paranoia: the temporal governmentality of predictive policing*. *Ethics and Information Technology*, 21(1), 49-58.

Smart Home. (2016, August 15) *Introducing Amazon Echo [Advertisement]*. Retrieved from <https://www.youtube.com/watch?v=CYtb8RRj5r4>

Schur, M., Fremulon, 3 Arts Entertainment, & Universal Television. (2017). *The Good Place*. NBC.

Wajcman, J. (2019). *The digital architecture of time management*. *Science, Technology, & Human Values*, 44(2), 315-337.

Weber, J. (2005). *Helpless machines and true loving care givers: a feminist critique of recent trends in human-robot interaction*. *Journal of Information, Communication and Ethics in Society*.

Weinberg, L. (2019). *The Rationalization of Leisure: Marxist Feminism and the Fantasy of Machine Subordination*. *Lateral*, 8(1).

Woods, H. S. (2018). *Asking more of Siri and Alexa: Feminine persona in service of surveillance capitalism*. *Critical Studies in Media Communication*, 35(4), 334-349.

Yasser, S. (2020). *Synergy for Entrainment Production*. The End. ON.

Yu, M. (2021). *The Algorithm Concept, 1684–1958*. *Critical Inquiry*, 47(3), 592-609.

Zuboff, S. (2015). *Big other: surveillance capitalism and the prospects of an information civilization*. *Journal of Information Technology*, 30(1), 75-89.