

**Corso di Laurea Magistrale in Lingue e Civiltà dell'Asia e dell'Africa
Mediterranea**

Final Thesis

**"Japanese women's language" and artificial
intelligence: Azuma Hikari, gender
stereotypes and gender norms**

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Academic Year

2017/2018

要旨

研究者たちは、社会的にインタラクティブロボットが近い将来私たちの日常生活の一部になると主張している。ホログラフィックアニメの女の子、逢妻ヒカリのバーチャルホームアシスタント、ウィンクルのGateboxの製品では、この未来をもっと近く感じることができる。コーヒマシンのサイズのガラス円筒形に浮かべ、彼女は朝オナーを起こして挨拶し、携帯電話のテキストメッセージを送り、家に戻ったときに永遠に友好的で支持的に挨拶する。彼女は、電子機器を遠隔操作して、所有者の命令でライトをオンまたはオフにすることができ、基本的な会話さえできる。ヒカリと他のバチャールアシスタントとの違いは、彼女がユーザーと持つ感情的な関係である。Gateboxの目標はかなり野心的である。このプロジェクトは、私たちの好きなキャラクターと一緒に暮らす夢を実現すると思い、彼らの「二次元世界」と私たちの間の障壁を克服すると考えている。Gateboxの客は、まもなくバーチャルなポップスターの初音ミクのような、いくつかのキャラクターの中から選ぶことができる。

しかし、逢妻ヒカリの最初の元々のコンセプトは「俺の嫁」であったことに留意すべきである。この製品は、一人暮らしの人、特に独身の男性を対象としており、助手だけでなく人工のガールフレンドを作ることを目的として全員の男チームによって開発された。同社のCEOである実武地、いくつかの国内外のメディアが直に指摘しているように、得に（男の）オタクを対象している。このような観点から、GateboxはAI分野におけるかつてのない実験を表している。逢妻ヒカリは抽象的かつ一般化された日本の男性、異性愛者（オタク）の視点から完璧な妻を模倣する。

「理想の女性」はどうやって語るだろうか。ヒカリの発言は、日本社会における支配的なジェンダーイデオロギーによって規定された規範に従っているか。ヒカリの演説は、ステレオタイプやジェンダーの規範を覆すか、永続させることができるか。これは性別役割と性別分業とどのように相関しているか。AIの女性の言葉は、「女性語」についての支配的なイデオロギー的見解をどの程度再現しているのだろうか。これらは、この論文が答えることを目指している質問である。

社会的・言語的カテゴリーとしての規範的な日本人女性の言語が広く研究されたとしても、規範的な日本人女性の言語の使用（または一般的には言語の使用）がまだ探究されていない分野は人工知能の分野である。私たちが知っているのはロボット工学者、エンジニア、そして一般的に日本のSTEM分野の労働者は日本で、日本国外では男性が多い傾向がある。これは必然的に彼らの創造されたロボットの話し方方法に反映される。さらに、ある言語スタイル/言語の使用を他の言語スタイルに

優先させることは、中立的で自然な行為ではないが、常にこれらの選択肢を強調するイデオロギーが存在する。例えば、日本での「適切な」女性言語の使用は長い間、育成とステータスの良好なマーカーであると考えられており、今もある程度そうである。したがって、AIによる規範的な女性の言葉の使用は、これらの規範を反映して公表することができる、特に、ユーザーが人間と同じように彼らとやり取りすることになっている場合。

第1章では、人間とロボットのインタラクションと比較して、人間とロボット/アンドロイド/アバターとの相互作用がどのように働いているかを把握するために必要なヒューマンマシンインタラクションのトピックを探究し、Gateboxの機能、製品履歴、なぜその標的グループが男性であるのかを教えている。これを実現するために、GateboxのCEOのバイオグラフィー、そしてその最初の製品を作るための彼の目標とモチベーション、そしてAI、アンドロイド、ロボットに関する日本人の文化的な視点について、日本のメディアが語ったことを分析する。Gateboxがなぜ作成され、市場に投入されましたを了解ための大切なことである。

第2章では、日本の社会的状況における性別特有話題、ジェンダーの役割、および優性のジェンダーイデオロギーをテーマにしている。それは、ジェンダーとアイデンティティの関係における必然的な複雑さについて詳しく述べるために、標準的な日本の女性語の概要を開いて、言語とジェンダーの重要な関係を明らかにする。

第3章では、逢妻ヒカリの言説の言語分析について述べる。方法論は簡単である。逢妻ヒカリの発言と、人称代名詞、文末の助詞、丁寧な形などの性別特有の形式の使用は、それらの実用的な特徴とクリティカルな談話の観点から文書化され分析される。ヒカリの言葉が日本の支配的なジェンダーイデオロギーの規範に従っているかどうか、なぜそのような選択がなされたのかを理解することが目的である。近い将来、AIの日本でのジェンダー言語の使用がどのような影響を及ぼすかについての予測もある。この逢妻ヒカリのリサーチを行うには、YoutubeなどでGateboxの公式ブログとウェブサイトに掲載しているビデオを調べる。この方法論は、批判的視点からメディアにおける日本語の「女性語」の言語形態を調べるために、通常学者によって採用された方法とは異なる。例えば、Wood (2009) と古川 (2009) は、日本語の翻訳が言語的性別の基準を再現する傾向を分析する際にこの方法を使用し、上野 (2006) も同様の方法論を採用して少女やレディスマンガの女性の描写を調査した。近い将来にソーシャルロボットが普及する可能性があることを考えると、言語的観点からどのようにジェンダーの認識が形成されるのかを理解することが重要である。特に、日本の規範的な女性語について議論するとき、ヒカリのような製品は、女性が発言して行動する方法については、意識的に、あるいは無意識に支配的

な規範を強化する別のメディアと考えるかもしれない。さらに、人間が機械を擬人化する傾向を示しており、社会的ロボットを仲間の人間として扱うために、性別や性別に適した言語を見ている方法に影響を及ぼすソーシャルロボットの役割は、私たちが考えるよりもさらに大きくなる可能性がある。

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Introduction

Researchers argue socially interactive robots will be part of our daily lives in the near future. In the case of Vinclu's Gatebox, a product featuring virtual home assistant Azuma Hikari, a holographic *anime* girl, this future can be felt even closer. Floating in a glass cylinder the size of a coffee machine, she wakes up and greets her owner in the morning, texts them, and greets them when they come back home, perpetually friendly and supportive. She can remotely control the electronic appliances to turn the light on and off at the owner's command and can even hold a basic conversation. What differentiates Hikari from other virtual assistants is the emotional relationship she is supposed to have with the user. Gatebox's aim is quite ambitious. The project wants to make the dream of living with our favorite characters come to life, overcoming the barrier between their "two-dimensional world" and ours. Gatebox's costumers will soon be able to choose between several characters, like virtual pop-star sensation Hatsune Miku.

However, it should be noted the prototypical concept for Azuma Hikari was *Ore no yome*, "My wife". The product is targeted at people who live alone, especially single men, and it has been developed by an all-men team with the aim to create an artificial girlfriend, not just an assistant. It is also targeted at (male) *otaku* specifically, as the company's CEO, Minoru Takechi, and several Japanese and foreign media have readily pointed out. From this point of view, Gatebox represents an unprecedented experiment in the AI field. Azuma Hikari mimics a perfect wife from an abstract and generalized Japanese male, heterosexual (*otaku*) perspective. How does an "ideal woman" speak, then? Does Hikari's speech adhere to the norms prescribed by the dominant gender ideology in Japanese society? Can Hikari's speech subvert, or perpetuate, stereotypes and gender norms? How does this correlate to gender roles and the gendered division of labor? To what extent does women's language in AI reproduce dominant ideological views about "women's language"? These are the questions this thesis aims to answer.

Even if the normative Japanese women's language as a social and linguistic category has been extensively studied, an area where the use of normative Japanese women's language (or the use of language in general) is yet to be fully explored is the field of artificial intelligence. What we know is roboticists, engineers and in general, workers in the STEM field in Japan - and outside of Japan - tend to be predominantly male. This will inevitably reflect on the way their robotic creations will speak. Further, privileging a language style/language use over another is not a neutral or natural act, but there is always an ideology underlining these choices: for example, the use of "appropriate" feminine language in Japan has long been considered, and still is to some extent, a marker of good upbringing and status. Thus the use of normative women's language by AIs can reflect and reify these norms - especially if users are supposed to interact with them as they would a human being. The first chapter explores the topic of human-machine interactions, necessary to grasp how the interactions between humans and robots/androids/avatars work compared to human-human interactions, to proceed with a thorough explanation of Gatebox's features, product history and an analysis of why its target group is predominantly male. To do so it analyzes what Japanese media outlets have said about Gatebox, Gatebox's CEO's bio and thus his aim and motivation in creating this first product, and Japanese people's cultural perspective

regarding AIs, androids and robots - another important piece to understand why and how this Gatebox has been created and launched into the market.

The second chapter is dedicated to the subject of gendered talk, gender roles, and dominant gender ideology in the Japanese social context. It highlights the crucial relationship between language and gender, opening with an overview of normative Japanese women's language to then go in detail about the inevitable complexities in the relationship between gender and identity.

The third chapter is about the linguistic analysis of Azuma Hikari's speech. The methodology is simple. Azuma Hikari's utterances and her use of gender-specific forms, like personal pronouns, sentence final particles, polite forms etc. will be documented and analyzed both in terms of their pragmatic characteristics and from a critical discourse perspective. The aim is to understand whether or not the language used by Hikari follows Japanese dominant gender ideology's norms and why such a choice was made. There is also a prediction on what kind of impact AI's use of gendered language in Japan could have in the near future. To conduct this research videos of Azuma Hikari, some put on Youtube and others on Gatebox's official blog and website, will be examined. This methodology does not differ from the one usually adopted by scholars to inspect Japanese "women's language" linguistic forms in media from a critical viewpoint. For example, Wood (2009) and Furukawa (2009) used this method in their respective analysis of the ways Japanese translations tend to reproduce linguistic gender norms, and Ueno (2006) adopted the same methodology to investigate the portrayal of women in *shojo* and *ladies manga*. Considering social robots will likely be commonplace in the near future, it is important to understand how they might shape out perceptions of gender from a linguistic standpoint. Especially when we discuss normative Japanese women's language, we might regard a product like Hikari as another media that pushes, consciously or not, a certain narrative when it comes to the way women are supposed to speak and behave. Further, since human beings have demonstrated a tendency to anthropomorphize machines, and thus to treat social robots as fellow human beings, social robots' role in influencing the way we see gender and gender appropriate language might be even bigger than we think.

Chapter 1

1.1 Human-machine interaction

Human machine interaction (also known as human-computer interaction, or human-machine interface, as we usually interact with machines through an interface) was defined by Hewett et al. (1992) as “a discipline concerned with the design, evaluation and implementation of interactive computing systems for human use and with the study of major phenomena surrounding them”, with specific focus on the interactive part. On the other hand, for Preece et al. “Human Computer Interaction (HCI) is about designing a computer system that supports people so that they can carry out their activities productively and safely” (Issa, Isaias, 2015, p. 19), while Karray et al. (2008, p. 138) define human-computer interactions basing themselves on its design: “HCI is a design that should produce a fit between the user, the machine and the required services in order to achieve a certain performance both in quality and optimality of the services”. Usability and functionality are key elements of a HCI system. Functionality of a system refers to the sets of services the machine grants to the user, while usability of a system is the degree by which it can be used efficiently to accomplish specific goals (Gautam, Singh, 2015). Furthermore, the user activity with machines can be classified in three different levels: physical, cognitive and affective. The physical level determines the mechanics of the interaction, while the cognitive level refers to the way the users understands the machine and interacts with it. The affective level is a more recent issue. It makes the interaction pleasurable for the users, and by changing attitudes and emotions towards the users, it encourages them to keep using the machine (Gautam, Singh, 2015). It is clear Gatebox’s project relies heavily on the affective level of user activity to attract its audience.

HCI systems can be unimodal or multimodal. There are three basic modalities: visual-based, audio-based, and sensor-based. Visual based HCI is probably the most researched out of the three, and its main main areas are Facial Expression Analysis, Body-Movement Tracking, Gesture Recognition, and Gaze detection (eye movement tracking). Research in Audio based HCI can be divided in the following categories: Speech recognition, Speaker Recognition, Auditory Emotional Analysis, Human-Made Noise/Signs Detections and Musical Interaction. Lastly, in sensor-based HCI at least one physical sensor is needed to provide the interaction. These sensors can be more or less sophisticated and can be divided in Pen-Based Interaction, Mouse & Keyboard, Joysticks, Motion-Tracking Sensors and Digitizers, Haptic Sensors, Pressure Sensors, and Taste/Smell Sensors (Gautam, Singh, 2015). Gatebox is a multimodal HCI system. Gatebox’s website states, “The Gatebox isn't just a mere display or a PC. It's a completely new device that was created with the focus of being able to call on and communicate with another character. The Gearbox is complete with human detecting sensors and cameras, and is able to recognize the face and movement of it’s [sic] owner, and the moment this happens, the feeling of distance between the two, instantly fades”. Moreover, “The Gatebox tiggers [sic] with a touch button, and moves upon voice recognition. The character understands words spoken, and responds accordingly” (Gatebox, Tech, <http://gatebox.ai/tech/>). Gatebox, then, possess all three

modalities - it is equipped with visual recognition, audio recognition, and it activates with a touch sensor.

In addition, interfacing with social machines such as Azuma Hikari belongs specifically to the human-robot interaction area. (Hikari does not possess a physical body and is more akin to a hologram than an android, but we can classify her a social “robot” because she is designed to interact with people in a social context.) Human-robot interaction is a discipline that gained traction since the mid 90s and is now quickly growing in the field of social AIs: while for a long time robots weren’t accessible to non professionals and didn’t offer the possibility of social interaction (i.e. industrial robots), personal service robots are now a reality. HRI intersects with robotics, AI, cognitive science, psychology and (in part) sociology (Weber, 2005). It is “a field of study dedicated to understanding, designing, and evaluating robotic systems for use by or with humans” (Goodrich, Schultz, 2007, p. 204). According to Zhao, an important differentiation is to be made between human-machine interaction and human-humanoid interaction, too. The former indexes interacting with technology as a tool; the latter means interaction with technologies designed to behave in a human-like way. Zhao considers social robots technologies with a mechanical or digital form, designed to be interactive and autonomous. Humanoid social robots use facial expressions, voice, gaze direction and so on to give the appearance they interact with humans in a human-like way, and to imply the interaction has emotional undertones (Linke, 2013).

Interaction with robots can be divided in two subsets, remote interaction, in which human and robot are separated spatially (or even temporally: the Mars Rovers are separated from Earth by both space and time) and proximate interaction, in which human and robot are co-located (Goodrich, Schultz, 2007). Azuma Hikari can provide both types of interaction. As the promotional commercials show, the character is able to send texts to their owner, granting the possibility for remote communication. Moreover, Goodrich and Schultz note it is useful to make a distinction between devices that require mobility, physical manipulation, or social interaction, and observe that “Importantly, social interactions with robots appear to be proximate rather than remote” (2007, p. 205). Gatebox is thus a rare example of a socially interactive AI providing remote communication.

In this chapter we shall focus on the social aspect of human-machine interactions. On the topic of social robots, it is also necessary to understand how and why human-robot social interactions work. Using the metaphor of the cyborg, a human being with mechanical parts, Haraway argued as early as 1985 that the biological aspects of life and the use of technological tools are now inextricably intertwined, to the point where we cannot distinguish between what makes something “real” and “alive” or not, and that is why we respond socially to robots (Halpern, Katz, 2013). Research so far seems to confirm our social predispositions towards robots. In Nass’s experiments in 1996 and 2005, humans interacted with computers, avatars and robots as they would a with a fellow human being. Individuals are encouraged to respond to these objects in social ways because of their increased communicative capacities: it means these technological creations do participate in the social interaction, instead of being simple props (Cerulo, 2009). After testing person-to-machine (computers, robots, avatars) interactions, Nass discovered subjects treated these machines in a polite manner, and were inclined to like those technological entities with

personalities or social characteristics similar to their own. Machines with caring personalities were trusted more than the other machines; machines with male voices were considered intelligent and extroverted, while machines with female voices were considered knowledgeable about love - in short, we attribute to robots characteristics correlated to gender norms. Subjects even altered their posture and mood to suit the screen images in front of them (Cerulo, 2009). Nass concluded robots with a degree of human-like qualities (such as emotions and facial expressions) are assigned by individuals to the category “human” and are treated as such in a social context (Halpern, Katz, 2013). In particular, we respond more socially to robots if they are capable of eye contact, natural language interaction and self directed behavior (Halpern, Katz, 2013). Turkle’s experiment in 2007 gave similar results: subjects (both children and adults) responded to service robots, programmed to recognize their voice and obey their commands, in social ways, recognizing their capacity for meaningful social relationships. According to Turkle, the reason of this behavior is robots engage humans’ emotions, and, she suggests, “[Robots] seduce us by asking for human nurturance, not intelligence. We’re suckers not for realism but for *relationships*” (Cerulo, 2009). Research so far has consistently shown we tend to rely on human-human interaction models to judge robots’ friendliness and likability (Laue, 2017). On top of that, human beings are prone to assign human qualities to artificial artifacts and other non-human agents. For example, Friedman, Kahn and Hagman analyzed conversations in Sony’s dog-robot AIBO’s forums and found 38% of the people commenting saw AIBO as a creature with feelings, 42% of them considered it capable of intentional behavior, and 39% of them spoke of it as an entity that could be raised, and even mature and develop (Halpern, Katz, 2013).

This phenomenon of attributing human intentions, emotions and characteristics to non-human agents is called anthropomorphization and has been amply documented. It is credited as one of the reasons we apply human-human interaction models to robots (Laue, 2017). As a profoundly social species, we are prone to rely on social models to make complex behavior more familiar, understandable, and intuitive to interact with. Humans find enjoyment in this, and it often turns out to be quite useful (Breazeal, 2002). According to Breazeal, our tendency to anthropomorphize robots and other technologies is a sign we evolved in a world where only humans showed complex social attitudes, so we are bound to categorize all technological artifacts expressing social behavior as “human”. On the other hand, some scholars think our interactions with robots are linked to a past where we had formative relationships with animals (non-human, interactive agents), used as “living tools”. Dautenhahn argued in the future social robots might be “personalized” through training by humans (in social interaction), a training not dissimilar to the one domestic dogs go through (Laue, 2017). Lastly, anthropologists and archaeologists highlight the importance of animistic traditions, probably widespread in our evolutionary past, that assign personality, motivation and power to all kinds of objects (Laue, 2017).

However, Turkle pointed out robots are far from being mere inanimate objects, but are unique “relational artifacts” that appear to possess “states of mind” (Laue, 2017). She also observes when people interact with “relational artifacts” (that is, artifacts that evoke an emotional bond, like social robots) they project their emotions and desires onto them, interpreting the artifact in a personal way. They assign them a personality according to the

characteristics they imagine they possess, as proved by an MIT experiment conducted by Turkle on children's interactions with social robots, and it is this interpretation that forms the basis for social interaction (Marchetti-Bowick, 2017).

That said, we must note the capacity of machines to participate in social interaction might be context-based. Turkle et al. in their 2006 experiment discovered senior citizens who lost bonds with their families and friends were more likely to interact socially with robots (Cerulo, 2009). The willingness to interact with machines in a social way, then, might be linked to feelings of isolation. The gender of the subjects seems also to be a factor in the way they perceive robots. Experiments conducted by Nomura et al. found men tend to perceive robots as more human-like, while women have a tendency to see robots as more machine-like and less socially desirable. Consistent results from their experiments proved women have more negative attitudes towards interactions with robots (Halpern, Katz, 2013). Schermerhorn, Scheutz and Crowell came to the same conclusions. They found men are more likely to describe robots as human-like and more likely to facilitate social interactions with them. Research by Carpenter et al. shows men are more at ease with the presence of robots in their homes, and more open to the idea of home service robots in general. On top of that, Siegel et al. found men are more likely to donate money to a female humanoid than a female subject (Laue, 2017). In contrast, female subjects did not show a specific preference. Participants had a tendency to regard robots belonging to the opposite gender as "more credible, trustworthy and engaging", and this willingness to trust was more present in male subjects towards female robots (Siegel et al., 2009, p. 2563).

The attitude toward robots seems also to depend on the specific tasks assigned to them. Through a questionnaire with 240 participants on people's perception of robots, Ray et al. found subjects expressed a positive attitude towards them. But they also found people would rather employ robots as helpers, and not caregivers, in any given context (Lohse, 2009). In a similar study within the European project Cogniron, researchers evaluated people's attitudes towards robots through questionnaires following interaction trials with robots, and answers from 28 adults (most of them in the 26-45 age range) showed the a large proportion of them were in favor of robot companions. However, they preferred robots to be assistants (79%), machine/appliances (71%) or servants (46%): only a few of them wanted a robot companion to be their "friend". Instead, they expressed a preference for robots that carry out household tasks, and the majority of them wanted the robot to be predictable and controllable, as well as considerate and polite. While human-like communication was a desired characteristic, human-like behavior and appearance were considered less important (Parlitz et al., 2008). Scoppelliti et al. demonstrated people's view of service robots may also differ according to the generation they belong to. They analyzed people's perceptions of domestic robots among three different generation and found young people tend to have positive feelings about them, while the prospect of a domestic robot at home was considered far scarier by the oldest generations (Parlitz et al., 2008).

Cultural/religious background is another important factor to take into consideration. Judeo-Christian religions mark a clear divide between living beings and dead entities, as well as between creatures who possess a soul versus those that do not. From this perspective, social robots are marked as non-humans and considered incapable of being morally equivalent to a living person, making it harder to recognize their human-like qualities. In contrast, in

religious traditions such as Japan's Shinto and India's Jainism every existing things may be conceived as alive and with a soul (Halpern, Katz, 2013).

In fact, according to Heather Knight, a scholar who founded the first world census for non-industrial robots and made human-robot interactions her main focus of study, Japanese culture is open to robots thanks to traditional animistic beliefs not marking a difference between inanimate objects and humans. Social scientist Kitano Naho pointed out these beliefs consider everyday utensils to be infused with a soul and to be in harmony with human beings. This extends to robots as well. It creates a stark contrast with dominant Western views on robots, much more negative due to the aforementioned cultural differences: the word robot was coined in a Czech play where the artificial creations eliminate their human masters, and in Mary Shelley's *Frankenstein* the creation of life brings again nothing but destruction to the creator. Author Umezawa Rui observed Judeo-Christian monotheism dictates only God can bestow the gift of life, therefore any human who gives life to an inanimate object is "playing God" and becomes a false idol. Such blasphemy and vanity must be punished, and in science fiction this "punishment" usually comes in the form of the robots' rebellion against their creators. Thus the American government prefers to spend for robots with military applications, while in Japan billions are invested for robots aimed at consumers and considered suitable caregivers for an aging population (Mims, 2010). The Japanese popular imagination sees a strong affinity in the relationship between robots and humans (Kitano, 2007): Astro Boy, the character ideated in 1951 by *mangaka* Tezuka Osamu, played a crucial role in spreading in post-war Japan the image of robots as friendly and human-like (Robertson, 2017). Considered a "robotic superpower", Japan is the world's first supplier of industrial robots in value (New Robot Strategy, 2015). Robots are employed in various areas such as entertainment, manufacturing and healthcare. Since in Japan there is a strong tendency to retain employees, the population does not see robots as a potential threat in the labor market. Instead, the government sees in them a precious resource to solve the nation's labor shortage in healthcare and care of the elders (MacDorman, Vasudevan, Ho, 2009). Although even in Japan at first there was mistrust and doubt around care robotics, as elderly care research grew these technologies proliferated and found acceptance (Neumann, 2016).

Previous experience with robots and technology can also influence people's perception of robots. Wood et al. discovered people with a technological background are more likely to project on robots their own personality traits, surprisingly, while people from other backgrounds struggle to identify in them a distinguishable personality. This is an important thing to observe, because we tend to prefer robots with a personality similar to our own, as Nass's experiments proved. In addition, previous exposure to robots seems to reduce the anxiety and uncertainty when human-robot interactions occur, making attitudes towards them more positive (Halpern, Katz, 2013). Further, a study conducted by Halpern and Katz found people who feel they belong to an online community, and people who often use animated avatars (like the ones used in video games) tend to recognize more human-likeness in robots, while perceived competence in the use of ICTs (information and communication technologies) did not prove to be a relevant factor. They found, contrary to expectations, that recognition of human-like characteristics in AIs does not lead toward a more positive view of having robots engaged in social roles (Halpern, Katz, 2013).

However, we must consider individuals' expectations towards robots as dynamic and situation-based rather than fixed: in large part it is the situation that sets the expectations toward the interaction, rather than the subject's attitude. Research on NARS (negative attitude toward robots) shows no direct correlation between people's attitudes and actual behavior, because behavior is influenced by the situation, and expectations are also constructed by the situation (Lohse, 2009).

While so far we have indicated the ways various factors, such as gender and cultural background, have an influence on people's attitudes and expectations in HRI, the robots' characteristics influence people's expectations as well. The form of the robot helps establish expectations towards it: a robot that looks like a dog will be treated in a different way, at least at first, than a human-looking robot. The robot's morphological familiarity or strangeness can also influence deeply the robot's desirability, expressiveness and accessibility (Fong et al., 2003). Its morphology must be matched to its intended function. For example, if peer interaction is the product's goal, it must be human-like enough, but it must also possess some robotic characteristics, otherwise the user might expect too much from the machine compared to what it can do (Fong et al. 2003).

Further, it is important to consider the four classes of robots, based on the capacity of the robot to interact in social environments (Breazeal, 2002). Social robots can be classified as socially evocative, socially responsive, socially communicative, or sociable, in a progressive scale of social interaction capabilities. Socially evocative robots merely suggest a social interaction, as the name implies, by exploiting humans' tendency to anthropomorphize. In short, socially evocative "robots" are built with the objective to encourage the user to anthropomorphize them, in order to interact with them. This strategy is common in toys, like tamagotchi: a nurture model, in which the user is supposed to care after an artificial companion, is employed. On the other hand, socially communicative robots adopt human-like communication modalities and social cues to interact with people, with the aim, for instance, to communicate with them in a more natural and familiar way. In most cases an interface model is used (i.e. robot museum tour guides) in which information is communicated using speech and reflexive expressions. For robots of this subclass interaction tends to be valued only at the interface level, therefore their social model is automatic and pre-determined. Socially responsive robots are more sophisticated, as they benefit from interactions with humans. Through these interactions they may learn new skills, such as motor skills, by following a training model. These robots have a more complex social model and are affected on a deep level by interactions with humans. They are also more perceptive of social cues. Nevertheless, they are passive: they do not initiate communication by themselves, but await for people to interact with them. On the contrary, sociable robots are active participants in the social interaction and possess their own goals and motivations. They engage people in a social manner to benefit both parties involved (i.e. to help human beings perform a task, but to ensure their own survival as well). Interaction is valued, then, for its functional and practical values too. This subclass of robots can pick up social cues and, at some level, use them to model people when social exchange occurs. The design of the robot maps the human social model (Breazeal, 2002). Keeping the characteristics of the four classes in mind, how should we classify Azuma Hikari? We must note "Gatebox is still a long way from offering real companionship, and its repertoire is

limited to just a handful of scripted interactions” (Alpeyev, 2017). At the moment Gatebox’s character is far from being an autonomous artifact. As an AI assistant, she is closer to a socially communicative robot than the more sophisticated socially responsive and sociable robots. However, this does not mean Hikari is passive in the interaction. For example, without solicitation from her owner she can send them texts and hold a conversation with them. Knowing this helps us understand better how Azuma functions.

To the four classes conceptualized by Breazeal we can add other three complimentary classes: socially situated, socially embedded and socially intelligent. Socially situated robots are “surrounded by a social environment that they perceive and react to”, and they must distinguish between social agents and objects in the environment (Fong et al., 2003, p. 145). Socially embedded robots are both situated in a social environment and structurally coupled with it. They are at least in part conscious of human interactional structures such as turn-taking. Lastly, socially intelligent robots have aspects of human-level social intelligence, and are based on model of human cognition (Fong et al. 2003). We can also make a distinction between embodied and disembodied systems. Humans interact with embodied systems through a robot or animated avatar, while they interact with disembodied systems through speech or text entered in a keyboard (Breazeal, 2003). Besides, “The more a robot can perturb an environment, and be perturbed by it, the more it is embodied. This also means that social robots do not necessarily need a *physical* body. For example, conversational agents might be embodied to the same extent as robots with limited actuation” (Fong et al., 2003, p. 149). Hikari does not have a physical body, but she is an animated full-body avatar, which makes her an embodied system. As such she has the advantage of sending paralinguistic signs, such as gestures and facial expressions, to enrich communication. Paralinguistic signs can even carry the communication on their own (Breazeal, 2003). This allows the AI to interact with users in a more personable, natural and human-like way. Further, embedded robots can be classified in four categories: anthropomorphic, zoomorphic, functional, and caricatured. An embodiment similar to a human is often considered necessary for social interaction; what’s more, if the robot is supposed to learn from humans through imitation, it needs to behave similar to a human. Anthropomorphism has the function to facilitate social interaction (Fong et al., 2003). Meanwhile, zoomorphism establishes a human-pet relationship. It is often found in many personal robots, toy robots and entertainment robots. The most common forms are household animals, such as dogs. With this kind of embodiment it might be easier to avoid the “uncanny valley”, because the relationships we have with animals are not as complicated as human-human relationships, and our expectations of realistic animal morphology are lower (Fong et al., 2003). Further, functional embodiment is based on the idea the robot’s form should always “reflect the task it must perform” (Fong et al., 2003, p. 150). Many service robots are designed this way. For example, robots that assist the elderly or disabled patients may have handle bars and cargo space as part of their design. Toy robots tend to have a functional design too, since they must minimize costs, appeal to children and be capable of facing a variety of play situations (Fong et al., 2003). Then we have caricatured robots, the category to which Azuma Hikari belongs. Animators have proved a realistic design isn’t necessary to create a believable character. Shulte et al. proved a caricatured human face can provide a focal point of attention. Caricatures can be employed

to construct interaction bias, such as implied ability, and to focus attention on/distract attention from some of its features (Fong et al. 2003).

It is useful to point out Gatebox's users might not wish for a companion who is virtually undistinguishable from a human being not only from an aesthetic viewpoint, but also from a behavioral viewpoint. For users of social robots, Baron argues, "strict authenticity is often less relevant than filling particular aesthetic or interactive functions" (2013, p. 8). The same could be said for a various host of visual, auditory and linguistic contexts. When discussing about authenticity not only we have to ask ourselves to what degree human creations such as musical recordings, a work of art, an artificial intelligence are a "genuine" representation of an original, but we need to ask ourselves whether the beholder/user considers authenticity a desirable goal (Baron, 2013). Baron does not linger on the meaning of authenticity itself, as there is already a vast literary corpus on the subject. Her core argument is, just as in many situations/contexts we are willing to relinquish authenticity for a plethora of purposes (i.e., in the realm of communication, we resort to email and texts - a less "authentic" communication - when there is no other alternative or when we want to avoid direct confrontation; in the visual arts, an objective representation of reality is not anymore considered inherently interesting or valuable), users of social robots can settle for a level of emotional authenticity/verisimilitude that does not make AIs an exact replica of human beings, and might not consider more nuanced systems desirable (Baron, 2013). Whether Baron's hypothesis is correct or not, Gatebox users are probably not looking for an AI that feels entirely human-like on an emotional level, but rather, for a feeling of companionship and unwavering support. Azuma Hikari's strongest selling point, after all, is she is supposed to support her owner (likely a singles man who lives alone) in their everyday life, and provide them with some therapeutic company. We should take into account Gatebox's unique characteristics in this analysis: the concept behind Gatebox is "living with your favorite character", which means Hikari is not supposed to represent a real life woman, but an *anime* character brought to our world. There is, then, an additional layer of separation: Hikari is not just an artificial intelligence, but she is meant to be the a replica of someone who is only "present" in media. On the topic of relationships with fictional beings, Reeves and Nass argued people tend to respond socially to media, although they do not consider this a reasonable behavior and do not think it characterizes them (Halpern, Katz, 2013). "There is a relationship to a person who indeed really exists but he or she is only 'present' via media as a media persona (e.g., a TV-soap character or an actor in a movie). Horton and Wohl (1956) termed such unidirectional relationships as para-social interactions [...] Interactions with media and media-generated creatures can be felt as real" (Höflich, 2013, pp. 37-38). In short, forming emotional bonds and interacting with fictional creatures is not out of the ordinary at all.

Another important concept to consider in human-robot interaction is Mori's "uncanny valley" (*bukimi no tani*) theory. Early robot research took for granted the more anthropomorphic a robot was, the more positive humans' reactions would be, but Mori Masahiro hypothesized this was only true up to a certain point (Laue, 2017). While it has been proven human likeness/anthropomorphism in robots influences us on an emotional level, leading us to treat robots as human beings and not artifacts, Mori proposed after a certain level of human-likeness is reached we experience discomfort - in short, a feeling of

uncanniness (Höflich, 2013). He thought this feeling originated from small imperfections in movement or appearance in the robot, which became progressively disquieting as the similarity of the robot to humans grew; when humans realized a robot “passing” as human was in fact a machine, they would react negatively. Nowadays the term “uncanny valley” is used to refer to all negative emotions and behaviors humans show when confronted with robots. Mori conceptualized his theory in a graph, now a classic in HRI research, in which negative responses to robots are represented as a valley (Laue, 2017). It’s interesting to notice the sense of familiarity rises if social robots can move; on the other hand, if a robot looks too human-like its movements make it results creepier than staying still. While empirical research has not yet proved clear results for the uncanny valley theory, a study conducted at University of Erfurt on the acceptance of social robots found the more a robot is complex (with elaborate functionality) and human-like, the less accepted it is. In conclusion, we have to consider machines must not be too perfect, otherwise they might confuse or even scare humans (Höflich, 2013). Some experiments suggest the reason for the anxiety around human-like machines is the perception of a blurred distinction between humans and non-humans, which creates discomfort: on a psychological level we feel the need to put people and things into separate groups, and a subconscious alarm warns us we are dealing with something just pretending to be human. Further, robots may be perceived as uncanny because they remind us of a corpse, or of an ill person. By looking at humanoid robots we might think they’ll be warm and soft to the touch, but on the contrary, they’re cold and stiff: this is alarming to us and results in feelings of uncanniness. Some researchers think this is the result of pathogen avoidance instincts, if we perceive the robot as contagious, or a danger avoidance strategy, if we perceive the robot as a corpse. Other researchers theorize robots, with their often corpse-like texture, body temperature and so on, force us to think about the inevitability of our own death: this is called the mortality salience hypothesis (Laue, 2017). In short, Mori’s “uncanny valley” theory leads us to think robots with a cartoonish or otherwise simplified design may be more accepted than realistic ones (Scheeff et al., 2000), so we can assume Gatebox need not worry about negative reactions from its users. Azuma Hikari does not even possess a physical body to touch, after all. We should also note Gatebox’s target audience is (mainly Japanese) male *otaku*. As an *anime* girl, to them Azuma Hikari should be familiar enough to be considered human-like without causing discomfort.

Of course, the gender assigned to the robot/AI plays an important role in the interaction too. Assigning gender to robots is a crucial aspect of human-robot interactions, combining both aesthetics and behavior. In the future, it might become a critical area of research in robotic engineering to design intimate companions (Laue, 2017). Social robots are often gendered for two main reasons. Firstly, roboticists argue genderless social humanoids would be considered disturbing by the users (Weber, 2005). In every culture gender plays an important role in shaping individuals’ identity, so gender is often used as a starting point to construct a robot’s personality, in particular if their design is anthropomorphic. The importance of gender is so pervasive robots are usually referred to as “she” or “he”, rarely by “it”, even if they don’t have specific gender attributes. Research has found some people ascribe a gender to their Roomba (a robotic vacuum cleaner), although it doesn’t have any humanoid or gendered features (Marchetti-Bowick, 2009). People have showed a tendency

to attribute gender stereotypes even to simple computer programs they work with (Laue, 2017). Secondly, there is a practical necessity to gender social robots “because gendered speech software with either a high (female) or low (male) voice, forces roboticists to gender their robots using the ‘off-shelf’ speech software” (Weber, 2005, p. 211). Woods et al. demonstrated subjects tend to ascribe a gender to robots based on their physical characteristics, such as color and shape; on the other hand, Robertson proved the practice of conflating gender and robotic design started with the engineers themselves, who expressed robots need an “interiorized, slender body” to be assigned to the female gender, while they need an “exteriorized, stocky body” to be assigned to the male gender (Laue, 2017). Moreover, Weber (2005) observes social roboticists tend to make domestic robots look like women, infants or pets to capitalize on the assumed human tendency to anthropomorphize machines and interact socially with them. These designs are supposed to make the robots look friendly and harmless, and to trigger in humans a “nurturing” scheme: social roboticists aim for a caregiver-infant/mother-child relationship in which users educate the machine of their own volition, in part because showing social robots as in need of support (by the users) might make them more accepted in everyday life. On the other hand, in the case of female robots it is important to consider sociality and emotionality are perceived as heavily gendered in Western thought - that is, they are regarded as feminine. Social robots work in the private sphere, in female-engendered activities (Weber, 2005). What’s more, designing social robots as helpless infants and pets, or humanoids stereotypically seen as helpless women, exploits human beings’ instinct to anthropomorphize machines and compensate for their deficiencies. As various scholars pointed out, machines do not adapt to us, but on the contrary we adapt ourselves toward the machines: otherwise, our unimaginative systems could not work at all. As an example, we might think of secretaries who resort to a very simple language when using translation softwares, in order for them to function properly (Weber, 2005). We can assume Gatebox’s engineers are keenly aware of this. After all, this is Azuma Hikari’s message and self introduction on her official website (Gatebox, Hikari, <https://gatebox.ai/hikari/>)¹:

Hajimemashite, Azuma Hikari desu. Itsuka, jibun no shiranai sekai e ite mitakatta node, totemo ureshii desu. Atarashii koto o shitai no wa mochiron da kedo, masutā-san no yaku ni tatetara ii na... To iitsutsu, shippai shite, mushiro meiwaku o kakechau koto ga aru ka mo... Mada mada benkyōchū desu ga, anata no chikara ni nareru yō ni ganbarimasu! Jimoto o koete, ai ni ikimasu!

(Message from Hikari’s English official website) ‘Hello, I am Azuma Hikari. Since I was longing for the world for a long time which I had never seen, I’m glad to become a ‘Dimensional Traveler’. Of course I want to know new things, and I hope I can help Master. Saying so, I may fail and even bother you... I am still studying, but I’ll do my best to help you! I will fly over² dimensions to see you!’

¹ The message is not available anymore on Azuma Hikari’s official page, as the website has been completely renovated.

² Although the English version of Azuma Hikari’s website proposed “fly over” as a translation, we propose in this context the term “transcend” would have been more correct.

Hikari uses the polite verbal form *-masu* and addresses the user calling them *masutā-san* (the word “Master” written in *katakana*): it is interesting she does not use the more formal *goshūjin-sama* (literally “master” or “owner”). There is also some level of familiarity and friendliness in her speech, as she uses the second person pronoun *anata* (“you”) and contractions (such as *meiwaku o kakechau*, contracted form of *meiwaku o kakete shimau*, “to cause trouble (to someone), to be an inconvenience”), used in more informal contexts. In this way she establishes a hierarchical relationship, but she also creates the impression there is a more intimate and relaxed bond. In the message Hikari apologetically recognizes she still has many things to learn and claims she will do her best, leading the users to empathize with her. Knowing she might experience some difficulties, users feel compelled to adapt to her and be understanding of her shortcomings. In short, they are persuaded to compensate for her failings. Furthermore, her hesitancy and helplessness (that is, her “feminine weaknesses”) are perceived as cute. If Gatebox’s AI had been gendered as male this would have probably not worked quite the same, as men are stereotyped as strong, confident, and assertive. Gatebox’s CEO stated the company is developing behavior patterns meant to allow Hikari to make mistakes without getting on the the users’ nerves, Bloomberg reports. The article comments, somewhat playfully, “The bet is that when a virtual girlfriend fails to order an Uber, you’re more likely to forgive her than a disembodied voice in a cylinder” (Alpeyev, 2017). Again, a nurturing scheme is used to “seduce” the users into accepting the robot.

However, these attempts to enforce caregiver-infant social interactions have to rely on a prior “mechanisation of everyday life” to work. In sum, human behavior has to be standardized and predictable, which means humans have to behave in a rule-oriented manner, to translate problems into algorithms and develop software applications. Thus, we should question what aspects of our society lead us to act in a rule-oriented manner, and what exactly leads us to see machines as intelligent and sociable beings. Even the most sophisticated social machine acts in a standardized (rule-oriented) manner, on which its functionality is based: this principle is also at the center of roboticists’ theoretical approaches and practices. This means anthropomorphized robots are supposed to function according to social norms, assumed gender differences and other stereotypes, and in so doing reproduce and reenforce these same norms and stereotypes. Social robotics openly applies gender dichotomies and stereotypes when designing social humanoids (Weber, 2005). Quoting Robertson,

“Naming and gendering are intertwined processes of reality construction. Both processes serve to classify, symbolize, and reflect a set of beliefs and convictions. Put differently, the act of naming and the attribution of gender are modes of interpellation; in this case, robots are created as subject of a social order in which they perform a repertoire of roles that maintain the status quo. While investigating the criteria by which robots are named and gendered, I realized that much of what roboticists take for granted in their own gendered upbringing and everyday behavior - which is often resistant to change - is reproduced in the stereotyped forms they give, and the activities they assign, to their humanoid creation (cfr. Mutch 2003:388). In short, for them, the conventional and normative relationships of sex, gender and sexuality constitutes common knowledge, a cognitive style in which social conventions are experienced as natural conditions. Thus, the practice of

naming and gendering robots not only a manifestation of roboticists' habitus (or tacit, self-evident knowledge), but is also an application of this knowledge to create and sustain the objective facticity of their social world. Roboticists may perceive male and female bodies as "specific forms of livability in the world", but they do not interrogate them as feminists, especially, have done (Sheets-Johnstone 1992). Rather, as noted earlier, and quite apart from actual intentions, they tend to uncritically reproduce and reinforce dominant archetypes and stereotypes attached to female and male bodies." (Robertson, 2017, pp. 107-108)

Further, female-gendered robots often have hyper-feminine designs and work in traditionally female-dominated roles. A notable amount of efforts and fundings are currently dedicated to the creation of robots employed in the care of the elderly and robots performing household chores: these tasks have traditionally carried out by women, so many of these robots have feminine designs. This of course reflects and reifies society's expectations of what it means to be a woman (Marchetti-Bowick, 2009). Most androids (only a few are male) are endowed with "ideal" features for women, such as a slim body, flawless skin, long hair and an attractive face. For example Aiko, an android created by Le Trung to be a companion for men, has delicate facial features and soft, pale, perfect skin. These androids embody what society considers the perfect feminine body and send the message being a woman means possessing a key set of physical characteristics, without which "real" femininity has not been achieved, thereby upholding impossible beauty standards for women (Marchetti-Bowick, 2009). Creating machines displaying an idealized femininity is not a contemporary phenomenon, however. Automata from the 18th and 19th century were designed with a similar idea of perfection. De Panafieu analyzed these early female robots and concluded they had two main purposes: they served to affirm masculine identity and to represent men's idea of what a woman should be. She argued men conceptualized these androids to create an "ideal woman" whose most important features were her eternal beauty and youth (Marchetti-Bowick, 2009). De Panafieu noted male automata were the only ones that wrote and spoke, while female ones played music and danced; in addition, in the 18th century far more female automata than male automata were produced, a tendency still alive today. The designs of humanoids from the past and the present embody an idealized femininity, beauty, and subservience, sending the patriarchal message women's sole purpose in life is pleasing men (Marchetti-Bowick, 2009). Besides, the majority of today's robots are built to give service in the private sphere, where most of the labour is performed by women. Thus, they perpetuate the norm that dictates work outside the home is the only true form of "work", while work inside the home (such as taking care of the elderly) is a form of social service. For this reason, using robots to fill in for women in the workforce might devalue women's work, reifying unwritten norms that ascribe greater importance to men's work (Marchetti-Bowick, 2009).

Considering the specifics of Japan's social context, in 2007 Robertson examined *Innovation 25*, which is a "long-term strategy initiative for the creation of innovation contributing to the growth with an eye on the year 2025" launched by the Abe administration (*Innovation 25*, http://japan.kantei.go.jp/innovation/okotae2_e.html), and she argued the house service robots imagined in the document would strengthen Japanese conventional gender roles, because the authors of the document imagine them as surrogate housewives: they are "devices through which the human housewife distributes her personal agency", Robertson

wrote. This means the social robot would interact just with the housewife and rarely with the husband, reinforcing the idea the woman's identity is, above all, that of a home-maker. Robots then would reinforce the status quo of gender roles not only by being gendered themselves, but by performing in female-designated areas (Marchetti-Bowick, 2009). Azuma Hikari's case is quite different. She is indeed meant to be a domestic companion of sorts but she is also meant to be a substitute for human (female) company entirely, since her target group is single men who live alone.

Robertson wrote extensively on the topic of sexism and androcentrism in Japanese robotics (although sexism in robotics is far from a uniquely Japanese problem, she observed). She pointed out to another emblematic case, that of the January 24 cover of the *Journal of the Japanese Society for Artificial Intelligence (Jinkō Chinō)*, which depicts an animesque gynoid with a cable connected on her back, holding a broom on one hand and a book on the other, almost like something interrupted her reading. The editorial board of the JSAI thought making the covers of their magazine more appealing could attract a wider audience, and held an online audition among artists to choose the best picture. The author of the aforementioned artwork is an unidentified female illustrator. That said, being a woman is no guarantee an individual will be averse to sexism. Her work met immediate critical backlash: regardless of the artist's intentions, the cover sends the message women are linked to housework and at the same time, implies reading books distracts women from their tasks. Several caricatures of this cover were released online. The JSAI eventually issued an apology (Robertson, 2017).

The covers of the May and July issue, drawn by the same author, depict a scene where among four characters in a school uniform, three male and one female, two of the male characters are asleep (probably from exhaustion) and the one character who teaches a robot how to sweep is the only girl, while one of the male characters stays behind a computer, perhaps developing a motion-capture-based algorithm for the robot. The girl is represented as more capable of using a broom and doing housework than her male peers, and the color scheme of the robot mirrors the colors of the girl's outfit. The robot is coded as feminine by its big, cartoony eyes and round face with no mouth (Robertson, 2017), which is a "cute" design not dissimilar to that of Japanese female cartoon characters such as Hello Kitty.

The covers of the September and November issues add a "twist" in the magazine's gendered representation of robots. The September issue displays a woman identical to the robot-maid of the January cover, giving a public talk on the sweeping robot featured on the July cover. In the November cover we see the gynoid in the January issue is in fact the woman's robotic double, who remains in the background while the woman embraces her son. The message this cover seems to send, similar to that of *Innovation 25*, is robots enable women to have a career and raise children at the same time (Robertson, 2017).

On the topic of gendered robots Robertson offers other important insights: her study is an example of linguistic discourse analysis applied on AIs, as well as an instance of an AI strengthening linguistic norms about Japanese "women's language". She observed the physiognomy of Actroid Repliee Q2, a humanoid whose face was made to resemble the average Japanese woman, was meant to index an entire national ethnic identity, the Japanese identity, and her Japaneseness was also indexed by her high-pitched, "girlish" voice. The male roboticists who created her adopted this manner of speech as a representation of the

average Japanese woman, reenforcing the idea “women’s language” is an essentialist performance of gender (Robertson, 2017). “In reality, as feminist linguists argue compellingly, Japanese women’s speech is a prescribed norm that does not reflect how most women actually speak. High voice pitch is a feminine ideal and a cultural constraint promoted in recent history by the government, in collusion with the popular media (Shibamoto 1985), and reinforced today by robot designers” (Robertson, 2017, p.131). Ohara and Van Bezooijen demonstrated high-pitched feminine voices are a cultural norm in Japan, rather than the result of physical anatomy. In addition, Bezooijen noted high pitched voices tend to be associated with modesty and weakness (Ohara, 2004). That being said, Japanese women’s pitch is dropping, as Ohara’s research on prosody demonstrated. She recorded a group of Japanese women and men speak in a natural setting, and her data contradicted previous research assuming Japanese women always speak with a higher pitch than men. Ohara observed women were dynamic speakers who made decisions according to the context, despite the linguistic constrictions. They used a higher pitch when talking with costumers, compared to the pitch they used when talking to acquaintances, which suggests it’s employed to index politeness as well as femininity. However, we should not generalize too much and assume this speech style would always be used for politeness in employee-costumer interactions. Further, her research showed Japanese men may use a high-pitched voice for various reasons, such as expressing emphasis (Ohara, 2004).

Anyhow, while Gatebox will probably sell male AIs in the future, it’s worth noticing all the characters they have promoted so far (Azuma Hikari, Hatsune Miku) are female. Even in a promotional image on Gatebox’s website depicting what Hikari and future Gatebox creations would ideally look like (Gatebox, Story, <https://gatebox.ai/story/>), we can see all the figures are female, with the exception of a fish character with no specific gender. Again, social robots are designed as either women or pets.

1.2 Azuma Hikari: product and target group

Gatebox is a box the size of an A4 piece of paper, according to Vinclu. The small size is so the device can be kept always close to the user, “in a normal desk or table”. The interface is simple: the user can communicate with Hikari using a single touch button. Gatebox features a transparent screen and an ultra-short focus projector to create the illusion of reality for its holographic character. With its camera and sensors the character can recognize the user’s face and movements, and it is equipped with a microphone for verbal communication. Hikari can also connect to the internet and bluetooth, automate the domestic electronic devices and can communicate with the user via a smartphone app (Gatebox, Tech, <https://gatebox.ai/tech/>). Gatebox’s CEO, Minoru Takechi, describes her as “the first virtual home robot in the world” (Japan introduces ‘world’s first’ virtual robot wife, <https://www.youtube.com/watch?v=7HereEPd8Ok&t=24s>). Since she was developed as a social robot and is promoted as a “virtual girlfriend” by Vinclu, Azuma Hikari is far from being a simple home assistant: she must possess enough human-like qualities to be considered a credible partner, starting with her appearance. Hikari’s character design is that of an *anime* girl with long sky-blue hair, tied in a ponytail, and sky-blue eyes. Upon closer inspection her white and blue dress turns out to be a futuristic apron, hinting at her role as a domestic

assistant and “wife of the future”. She is skinny and has a fair complexion, as per dominant Japanese beauty standards. Her surname, Azuma 逢妻, is written with the Chinese characters of “to meet (someone)” and “wife”, meaning something along the lines of “wife to be” or “future wife”, while Hikari ヒカリ means “light”, an appropriate name for a hologram. Her character design has been curated by Minoboshi Tarō, while Hizumiya Yūka provides Hikari’s voice (Gatebox, Character, <https://gatebox.ai/character/>). Minoboshi is famous for working on Konami’s *Love Plus* dating sim game series (Boxall, 2017), while Hizumiya is an actress (Gallagher, 2016).

Vinclu wrote Hikari a backstory, told through a short comic. She is the sweet, somewhat insecure daughter of a scientist, who one day offers her the possibility to participate in a “homestay in another dimension”: eventually she accepts, and her so-called homestay is none other than her time spent with the user as a domestic assistant. It is worth noting a romantic relationship with the Master, as she calls the user, is never mentioned, but when entering Hikari’s official site a big picture of Hikari smiling and showing (what seems to be) a wedding ring on her left hand is the first noticeable thing (Gatebox, Hikari, <https://gatebox.ai/hikari/>). “When you’re living on your own or find yourself alone, isn’t it nicer to have someone you care about near you? I’m pursuing the idea of creating a virtual partner that brings greater satisfaction than human interactions”, said Gatebox’s CEO. “We currently have our original character called Hikari Azuma. She is promoted as the wife of the future” (*Bloomberg*, <https://www.youtube.com/watch?v=1FIOcIDM5U0>). Further, in June 2017 Vinclu held a “Masters meeting” for the people who pre-ordered Gatebox, so they could show them the product. One costumer commented “I hope [Azuma Hikari] will eventually call up “*Ore no yome*” (My Wife) as its original concept goes” (Gatebox Masters Meeting, <https://www.youtube.com/watch?v=1FIOcIDM5U0>).

If her backstory gives Hikari a motivation for her “dimensional travel”, her profile delineates her personality and physical characteristics. It describes her as a 158 cm tall, 20 year old woman: not surprisingly, this is the average height for Japanese women (Disabled World, <https://www.disabled-world.com/calculators-charts/height-chart.php>). Twenty is the age of maturity in Japan, so she can be made a target of the users’ desire without making interactions with her creepy and inappropriate, but arguably her young age indicates she can still be considered a naive, innocent young girl, adding to her appeal as a “*kawaii*” (cute, adorable) character. Her hobby is watching anime, a pastime many users will share with her, as the company knows well: this choice is important since human beings tend to prefer AIs they share similar characteristics with, as Nass and Reeves proved (Halpern, Katz, 2013). Her profile also informs us she is good at making fried eggs, likes donuts, and dislikes insects. These are all stereotypical characteristics to a degree. Cooking has traditionally been considered a feminine activity, in the Japanese social context desserts are considered more suited to “feminine” tastes (and are associated with *kawaii* culture, as we’ll see later), and disliking bugs or being afraid of them is stereotypically associated with women. Also, according to her profile Hikari’s dream is to “to become a heroin who helps hard-working people” (*ganbatte iru hito o tasukeru hiroin ni naru koto*) (Gatebox, Hikari, <https://gatebox.ai/hikari/>). It is a reference to Hikari’s “therapeutic” role, as she is supposed to soothe the users after a tiring day of work by providing them with company and support. Gatebox’s website warns the users Hikari might get sad if they come home late, and

promotes her as an AI that dispenses the utmost “healing words” and is the perfect conversation partner when one is tired (Gatebox, Character, <https://gatebox.ai/character/>). In fact, Azuma Hikari has been described by an article as a “healing” (*iyashikei*) *dojikko* character (Okada, 2016b). A *dojikko* is a lovable anime character who is clumsy and goofy, prone to make mistakes such as falling or dropping things (Niconico media, <https://dic.nicovideo.jp/a/%E3%83%89%E3%82%B8%E3%81%A3%E5%AD%90>), while in Japan the concept of “healing” (*iyashi*, 癒し) is a keyword in various fields, such as religion, medicine and art. It describes an “activity of holistic recovery” rooted in youth culture. Popularized by New Age thought, the “healing boom” exploded in the 1990s, the years of the economic recession. This phenomenon peculiar to Japan represents a “reaction against the separation of body and spirit in modern society and a protest against the attenuation of human relationships” (Tatsuya, 1995, p. 267).

The devastating Kobe earthquake in 1995 is probably another reason of its immense success. In the “spiritual world” section found in every Japanese bookstore, volumes about “healing power” and “spiritual healing” abound; the word “healing” often appears in mass media. Ueda argued “healing” is not just meant as benefiting oneself but rather as “healing each other”, which in turn heals one’s sense of “relatedness”. The healing boom led to the rise of holistic medicine, which treats the body as a whole rather than distinct parts. Finding relief through traditional medicine or “healing goods” (such as crystals) is perceived as innocuous by people wary of religion, and thus finds popular acceptance (Ozawa-de Silva, 2006). “Healing” charms often have a connection with nature and are purchased with the intent to reconnect with it. Through them people hope to find harmony, especially the one achieved through human relationships (Tatsuya, 1995).

Azuma Hikari might be considered an *iyashi* good, too: “healing” is a keyword for this AI. Gatebox’s website describes her communication style as “*saikō no iyashi no hitokoto o*” (the utmost words of healing) and further states about Hikari, “*omoiyari no hitokoto o itte kuremasu*” ([she] tells words of compassion) (Gatebox, Character, <https://gatebox.ai/character/>). She is designed to comfort the users and let them experience a pressure-less, expectation-less, harmonious relationship, “healing” them on a psychological level. In addition, the term *iyashikei jōshi* (“healing woman”) has gained quite a bit of popularity in recent years. The term *iyashikei* (癒し系) refers to a “healing” atmosphere. It’s often used in reference to “healing” anime characters (*iyashikei kyara*), usually small animals or little girls, who bring *iyashi* to the viewer (Pixiv, <https://dic.pixiv.net/a/%E7%99%92%E3%81%97%E7%B3%BB>). Several online articles state men are attracted by *iyashikei jōshi*. While the definitions of this ideal woman are not unanimous, she is usually described as positive and sweet, someone who supports and comforts her partner and never criticizes him; she creates a relaxing, harmonious atmosphere, thus making people around her feel relieved (Yamane, <https://www.men-joy.jp/archives/336429>; *Seikatsu Hyakka*, <https://seikatsu-hyakka.com/archives/26995>; *Josei Bigaku*, <http://josei-bigaku.jp/moteruiyashikei0628/>; *Peachy*, <http://news.livedoor.com/article/detail/13697542/>). The website *Mynavi Woman* (*Mainabi Ūman*) made a poll asking men whether they liked *iyashikei jōshi*, and 82% of the respondents answered “yes” (Mynavi Woman, <https://woman.mynavi.jp/article/170216-10/>).

Azuma Hikari can be considered a full-fledged *iyashikei jōshi*, a comforting fiancée who gives her partner total support. This trend is not at all a novelty, considering in Japan women are traditionally expected to comfort and support men to the point of “mothering” them. Both in Japan and in cultures belonging to the Anglo cultural sphere women are supposed to mother their partner, but according to Henshall this tendency is far stronger in Japan, where there is a blurring between the role of wife and that of parent. Mothers tend to give their sons preferential treatment over their daughters, a dynamic connected to society's patriarchal structure, and women are expected to be sympathetic and supportive of their partners to the point of being *uncritical* of them, just like a mother forgives her son for all misbehaviors. This entails a form of dependency some men develop on women due in large part to *amae*, a form of general dependence theorized by psychiatrist Doi Takeo. He defined it as a need to be loved, protected and to depend on others, not dissimilar to the way children depend on their mother. Henshall argued *amae* is not unique to Japan, despite Doi's claims; nevertheless it plays an important role in Japanese interpersonal relationships, and men are its main beneficiaries. Though perhaps blowing the phenomenon out of proportion, a commentator in Japan even stated “It is often hard to avoid feeling that in male-female relations in Japan every woman is a mother and every man a son” (Henshall, 1999, p. 33).

In 1992 one of the most popular tv dramas in Japan told the story of Furuyuhiko, a successful young man who refuses to have sexual intercourse with his wife because she is not the partner he wanted her to be, that is, she is not like his mother. The tormented youth ends up in jail for trying to kill his mother, after discovering his wife's affair. Madoka Yuriko, director of the Institute of Modern Family Issues, observed people could identify with him, although this is an extreme and pathological situation. “Almost all husbands in Japan have the mother-complex tendency. People are attracted to shows that exaggerate the reality of their lives.” According to experts, a generation of men raised by absent fathers who spent most of their time working and “education mamas” who doted on them now expect their female partners to cater to their every need. Minami Hiroshi, professor emeritus at Hitosubashi University and director of the Nippon Psychology Center, noted many men think an ideal wife is one who pampers them and gives them whatever they want. In the most extreme cases men refuse to have sex with their wives: Nakamura Nobue, leading member of the psychotherapy community in Japan, stated they consider it a form of incest, since they expect their partners to play a traditional mother role (Goozner, 1992).

On the other hand, mothers often put all their energy in child-rearing long after their sons' adulthood. Nakamura said, “These mothers don't want to leave their sons. They constantly give the sons the message that they won't succeed without them” (Goozner, 1992). According to Saito Satoru, head of the sociopathology department at the Psychiatric Research Institute of Tokyo, since the husband is almost always at work and they often see him only late at night, mothers funnel all their love and energy into caring for their sons, creating a vicious circle. Mothers are over-indulgent with their male children, and when they grow up men look for another woman who will smother them (McCarthy, 1993).

While wives are the ones most expected to “play mother”, this sort of role extends to girlfriends as well. Case in point, a Japanese hit song written by Iwasaki Hiromi, *Lullaby for the Madonnas*, is about a woman who wishes she could be reborn as her boyfriend's mother in order to take care of him, and calls her lover a “baby” (in English songs the term would

not be used so literally, and it's usually employed by men to refer to women) (Henshall, 1999).

In the Japanese social context mistresses and sex workers too may be required to play the "mother" role, a practice not considered deviant like it may be in other parts of the world. (Henshall, 1999). Saito Satoru said, "There is no clear distinction between male-female relations and mother-son relations. Japanese males are always mixing these two: they want to assert their sexuality, but at the same time they want to be held by their mothers - warm, safe, secure" (McCarthy, 1993). The line of demarcation between sexual partner and mother figure is blurred: while this has obvious links to the Oedipus Complex, some Japanese psychiatrist argue the Ajase Complex, in which the woman is all-forgiving towards the man, is more suited to describe Japan's male-female relations. According to Henshall it's likely this "son-on-mother" dependence was promoted by women themselves, who in a society regulated by strict Confucian principles had otherwise little to no opportunity to achieve power or affirm themselves. Anyhow, it would be a mistake to assume this form of dependence is given undisputed acceptance in Japan. Doi emphasized too much dependence on the mother figure/surrogate mother figure can lead to pathological problems. The *mazakon* ("mother complex") is a well known psychological issue in the country (Henshall, 1999).

The concept of nurturing in Japanese society, too, needs to be explored to understand this dynamic. In Japanese culture nurturing is a practice tied to womanhood and displays three main characteristics: the emphasis put on giving physical comfort, the avoidance of conflict when providing care, and the totality of the experience of nurturing. For example, research noted Japanese wives often take physical care of their husbands, such as bringing them tea and snacks on weekends and helping them take off or put on their overcoats. Additionally, an experiment found Japanese mothers tend to comfort crying babies in physical ways (feeding them, cuddling them, etc.), while American mothers often opt for a verbal approach (Orpett Long, 1996).

Further, in Japanese culture conflict avoidance was found to be a major theme in communication and socializing: when conflict arises expressing anger and frustration is thought to be detrimental to human relationships. "To nurture is to shoulder the other's burden, relieve stress, and create a calm environment. Anger and confrontation are thus antithetical to good caregiving" (Orpett Long, 1996, p. 162). We can observe this description is remarkably similar to what the *iyashikei jōshi* is said to do. Orpett Long mentioned the case, featured in Steven Smith's study on alcohol abuse in Japan, of a woman who kept buying liquor for his alcoholic husband whenever he demanded, since she didn't want him to go buy it in his pajamas and embarrass the family. Lock wrote of a mother who kept bringing his son, who had "school refusal syndrome" and never went downstairs, meals in the attic for two years. Orpett Long mentioned another case, that of a woman she met who for six months was left caring alone for her grandmother by her family, but never confronted them on the issue. Her husband needed rest after work and her daughter was studying for her high school's entrance exam: as the family caregiver, the woman saw herself as the keeper of peace in the household (Orpett Long, 1996).

The third aspect, the "totalizing experience", refers to the fact nurturing has traditionally been considered women's major role, something that should not be disturbed by their other

interests and duties. Cultural norms dictate meeting family obligations should be women's first priority, even when choosing a career; for housewives, leisure time comes only after fulfilling their workload in the home. "The cultural ideal of providing care thus requires the full and undivided attention of the caregiver" (Orpett Long, 1996, p. 163).

Moreover, "The ideal of a selfless woman is one who provides ideal care", said Orpett Long. Selflessness is tied both to the concept of harmonious social relations and the Buddhist notion of the self becoming merged with the universe. It was promoted as a value that was both patriotic and feminine in the pre-war and war period. In Japanese society, anticipating the needs of others is glorified by the concepts of *amaeru* and *amayakasu*: the first is a request of passive dependency, the second indicates care and indulgence given to someone by a superior, like a parental figure. What's more, Japanese media have represented women's experience of caring for the elderly as something that brings them satisfaction and success. Despite this, these media never offer a realistic representation of what caregiving work entails (Orpett Long, 1996, p. 164). Since there is a serious shortage of workforce in the healthcare and eldercare sectors, for the Japanese government persuading women to take care of the elderly is more cost-efficient than providing state care for the growing number of senior citizens (Orpett Long, 1996).

Considering these aspects of Japanese society, and given the indulgence women are expected to have towards men, we can conclude the ideal of the *iyashikei jōshi* is not all innovative, but rather a continuation of women's traditional role in male-female relations and as "designated nurturers" in general. Furthermore, while the "mother-son" relationship can be thought to have underlying morbid or pathological connotations, the *iyashikei jōshi* label repackages traditional expectations placed on women (being indulgent, supportive whatever the male partner does, avoiding criticism) in an appealing light. The *iyashikei jōshi's* maternal nature is emphasized in her physical and psychological description. According to an article, the ideal "healing woman" is endowed with "large breasts" (*mune ga okii*) (Yamane, <https://www.men-joy.jp/archives/336429>). (Yet, Hikari barely displays any secondary sex characteristics). Another website states she "likes babies and kids" (*akachan ya kodomo ga suki*) (*Seikatsu Hyakka*, <https://seikatsu-hyakka.com/archives/26995>). Hikari, then, is a virtual girlfriend who "mothers" the users by supporting them and indulging them, all while being uncritical of them, just like a flesh-and-blood fiancée would (ideally) do. She becomes then a form of media that strengthens the "mother-son" relational model and by consequence, reenforces pre-existing norms on female behavior.

Hikari also embodies two of the central characteristics of nurturing in Japanese social context: she avoids conflict by never criticizing the user or being in contrast with him, and her experience of nurturing is a totalizing one, as she is an artificial intelligence created for the specific purpose of taking care of the user. She incorporates both the ideal of the mother-type partner/*iyashikei jōshi* and the selfless caregiver.

It's important to remember people tend to treat robots, even pet robots such as AIBO, as if they were human, since we as a species have a strong instinct to anthropomorphize artifacts. Although several variables play a part in human-robot interactions, in general we tend to evaluate robots as competent social partners (Marchetti-Bowick, 2009; Breazeal, 2002; Cerulo, 2009), something we talked about in the previous chapter. There is even more reason, then, to speculate the type of relationship championed by Hikari (and similar AIs

that might get produced in the future) may have a less than positive effect on male-female relations.

Virtual opposite to the “mother-son” dynamic, another type of male-female relation in Japan is that between an older, worldly man and a young, *kawaii* (cute) virgin, reminiscent of a “father-daughter” dynamic. Henshall hypothesized it might be a way to reestablish male power on women, as in the “mother-son” relationship the woman holds the most authority. While not as widespread as the “mother-son” relationship, many Japanese men seem to enjoy the idea of having a young sexual partner, something sometimes known as *Rori-kon* (lolita complex). “The ultimate delight is the incredibly sexy young virgin who, in her innocence and cuteness, doesn’t realize just how incredibly sexy she is, and has to be initiated by an older, father-like man”: Henshall remarked if the girl is aware of her sexuality but pretends not to be the “game” is enhanced rather than challenged, given the importance Japanese society assigns to role-playing (Henshall, 1999, p. 36). This sort of relationship is linked to child prostitution, which in Japan may take the form of so-called *enjo kōsai* (“financially assisted relationship”). It most often involves teenage schoolgirls who “befriend” an adult man. The adult man may even profess an interest in the schoolgirl’s academic career if he is good at role-playing, and give her pocket money as “financial support” for her studies (Henshall, 1999). Miyamoto Junko, coordinator of a private group against the sexual exploitation of children, argued the term *enjo kōsai* was invented to make this form of prostitution sound “fine”. She also pointed out people do not see this as sexual exploitation, rather as children behaving naughtily - the blame is placed on the minors, not on the adults (Larimer, 1999). It’s worth noting in Japan child pornography was outlawed in 2014, but comics sexualizing young girls are still published. The publishers and *mangaka* protested when the government tried to ban them, appealing to freedom of speech. In general, the country seems to have a lenient approach on pedophilia and the sexualization of minors, as the existence of legal bars where adult men meet schoolgirls can testify (Varley, 2017). Murase Yukihiro, professor of human sexuality at Tokyo’s Hitotsubashi University, said many men feel threatened by adult women and are not able relate to adult female partner as equals. This might be an explanations for such behaviors (Larimer, 1999).

To summarize, there is a strong ambivalence in male desire towards women: while many wish to be “mothered” by their partner, many wish to pursue a pseudo-fatherly relationship with a young girl. The female partner’s age plays an important part in these fantasies: a young girl is not expected to play the mother role. The characteristic both types of women have in common, however, is they are *uncritical of the male partner*. The mother-type forgives and understands the partner, thus she does not pass judgment on him; on the other hand, the cute virgin is not in a position to criticize because she does not understand at all, due to her young age (Henshall, 1999). (As we will see in this chapter, the latter form of relationship too is linked to the AI examined in this paper.)

Henshall argued the fear of female criticism on part of Japanese men may be the reflection of the stress they endure in a society where they are supposed to be in control - or at least should appear to be. This brings them anxiety, which turns into frustration. It’s surprising a society that emphasizes the idea men should be in control developed a form of dependency on the mother figure beyond childhood, commented Henshall, according to whom this is further reason to believe women, not men, encouraged it. Rather than being a deliberate

choice on women's part, it emerged because of their constriction to the role of "good wife and wise mother". On the other hand, since women are seen as a potential threat because of the "trouble" they cause men, male anxiety and frustration harms women in the form of real violence (such as the widespread issue of sexual harassment on trains) as well as fictional violence (e.g., the sexual harassment on women many *manga* depict to fulfill male fantasies) (Henshall, 1999).

Moving on, Gatebox's target group is single men who live alone, and it is not hard to comprehend the reasons of this choice: first off, census data showed single person households now occupy 32.5% of the total households, becoming the largest housing segment in Japan (Japan Times, 2016). For the first time this demographic surpassed more than one third of the total, and men in the 20-30 age range make up about 40% of single-households (*Nikkei Shinbun*, 2016). Further, the National Institute of Population and Social Security Research conducted a survey of Japanese people aged 18-34, and found about 70% of unmarried men and 60% of unmarried women are not in a relationship. On top of that, around 42% of men and 44.2% of women said they never had sexual intercourse. This tendency seems to be increasing, since the data showed the number of individuals who claimed to be celibate was higher compared to 2010. The institute has conducted this survey every five years since 1987, when the percentage of single men and single women stood respectively at 48.6% and 39.5%. The last study showed the percentage of singles increased especially among people in their late twenties. 30% of the male participants and 26% of the female participants said they were not looking for a relationship at the moment, but about 90% of them expressed the desire to get married in the future. The study did not survey same-sex couples. Ishii Futoshi, head of the NIPSSR's population dynamic research department, believes people tend to put off their marriage because of the "gaps between their ideals and the reality", with the result they marry later in life or stay single, lowering even more the nation's birthrate (Aoki, 2016). Moreover, an online poll conducted by the Meiji Yasuda Institute of Life and Wellness in March 2017 found about 2 in 3 single men in their thirties, who had never been married, never had a relationship that might have been conducive to marriage. 62.7% of men and 39.4% of women in the 25-34 year range said they never had such a relationship. The survey found while societal norms perpetuate the idea men should approach women first, men tend to be passive in their romantic life, so they struggle to form serious relationships that could lead to marriage. When asked in the survey why they were not dating, the most common answer among men of all ages, and women in their late twenties, was they did not know how to start a relationship. Between those who said they had a relationship that might have ended up in marriage, 24.7% said they were still dating, while 24.2% said that relationship was over. The survey also investigated the respondents' marriage preferences. 32% of men and 38.8% of women said they have no strong preferences or conditions when it comes to choosing their partner; about 31% of men and 25.9% of women said they prefer to stay single or had lost hope of getting married. 10.8% of men and 13.5% said they want to get married after "lowering their standards" for an ideal partner. According to 2015 data the average age of marriage in Japan is 31.1 for men, 29.4 for women (Japan Times, 2017). A 2001 study argued one of the key factors inducing people to marry less and postpone marriage is the lack of "voluntary associations and other social institutions where single men and women with similar interests can readily

meet each other”, after the tradition of arranged marriage was abandoned (Retheford, Ogawa, Matsukura, 2001, p. 98). In addition, a high number of singles in the labour market (women in particular) live with their parents while not contributing to household expenses, which allows them to lead a comfortable lifestyle: in contrast, in married life the husband often doesn’t come home in time for dinner, so the wife is alone when taking care of the children under “examination hell”. The attractiveness of such a lifestyle has decreased for women, who according to this research are not under significant economic or social pressure to get married. The great number of divorces further reduces the appeal of married life and weakens it as a prospect of financial security. Japanese women are also becoming more and more well-educated and increasingly adopt an egalitarian perspective. Many show signs of dissatisfaction with traditional marital roles (Retheford, Ogawa, Matsukura, 2001).

That being said, financial security, or rather the *lack* thereof, is the main reason Japanese people are marrying less. Women want economically stable partners and men want to be the “breadwinners”, something difficult for them to achieve, since many young Japanese have to settle for part-time jobs. Men who work full-time jobs are more likely to get married compared to men in non-regular employment (The Economist, 2016). For decades, the masculine ideal in Japan has been tied to the image of the salarymen, the white-collar company workers who benefits from lifetime employment and seniority-based salary and promotion. Japan’s post-war economic growth was made possible by their single-minded devotion to work, which often came at the expense of their free time and health. Thus they have become a model of self-sacrifice and diligence all men should strive for, turning into Japan’s hegemonic model of masculinity. In the years of the “economical miracle” they also came to embody the middle-class. After the 1990s recession this model of masculinity is starting to erode, but it still retains its normative power in Japanese culture (Németh, 2014). Further, “men’s crisis” in contemporary Japan is nothing new. In his 1999’s work, *Dimensions of Japanese society: Gender, margins and the mainstream*, Henshall observed the older generation of men consider the new generation of men as one in decline, despairing their successors will be “weak and selfish wimps” incapable of being as hardworking and disciplined as they were (Henshall, 1999, p. 2). We can assume they fear the dominant model of masculinity will be lost and blame its perceived decadence on male youth, instead of considering the role of the economic recession and the changing times. Japan’s current “male breadwinner” system is a model of livelihood and a cultural norm establishing men as the main economic providers of the family, and women as housewives who do the housework and raise the children. Introduced in the 1960s, a decade of rapid economic growth, in the long run it proved to be unfit for contemporary Japan. Post-industrial societies need flexibility in the labor market, but instead of making employment more accessible to all, the male breadwinner system protected the employment of men in their mid 20s to mid 40s while restricting that of women and young people: this created a vicious cycle whereby less contributions were paid and the burden of taxes on the workers became heavier (Osawa, 2006). Further, while older generations disapproving of younger generations is something found consistently throughout history, it’s a fact contemporary Japanese youth resist, or are skeptical of, normative masculine ideals. After the bubble economy exploded companies resorted to firing workers and reducing paychecks, hence

many Japanese men started doubting life-long loyalty to a company is necessarily rewarding (Henshall, 1999). Additionally,

“In Japan’s stagnating economy, while women seem to be growing in confidence, many men are faced with skepticism about the vision of success and progress that drove Japan’s postwar period. *Nikkei Woman*, a business magazine for women, reported in 2005 that Japanese men are “maidenizing” (*otome-ka*), increasingly becoming passive and sensitive about romance and marriage, which results in low marriage rates and, the government fears, low birth rates. In contrast to the vigorous economic growth periods of postwar Japan, contemporary youth in an economic recession seem more skeptical about the concept of masculinity measured against work and marriage. Popular culture closely mirrors men’s reluctance to “become a man” through the growing popularity of effeminate men in the mass media, ranging from Johnny’s boys to “the prince of knit.” Some manga for girls feature *otomen* (otome-type men who love cute things, sweets, girls’ manga, etc.) while also portraying more masculinized heroines” (Sato, 2009, p. 41).

Sōshoku danshi or *sōshoku-kei danshi*, “herbivore men”, a buzzword used to describe such “feminized”, “unmanly” young men, came to be part of the Japanese vocabulary in 2010. At the turn of the century the growing number of male youth with an interest in fashion, who wore designer brands and dyed their hair brown (a practice associated with women) had already grabbed people’s attention. The term *sōshoku danshi* was first used by writer Fukasawa Maki in 2006, in the online magazine *U35 Danshi Māketingu Zukan* (U35 Men Marketing – An Illustrated Guide). She noticed the emergence of young men who, though not unattractive, were non-assertive and did not show interest for the desires of the “flesh”. Morioka observed this is something incomprehensible for older Japanese generations, for whom a strong sex drive is a necessary requirement to be a “man”. Fukusawa said most of these men have extensive romantic and sexual experience thanks to their attractiveness, but are characterized by their general passivity in relationships. The term “herbivore men” describes men who does not “hunt” women like a predator, making them safe from their point of view. This neologism did not get popular until 2008, when the magazine *non-no* dedicated an article on how the “herbivorization” of men was changing beauty standards in the country (Morioka, 2013).

What emerges from the previous data and informations is a high number of Japanese men struggle to form a romantic or sexual relationship with a woman (and many women struggle, too, when approaching relationships with men). Japanese people also have a tendency to delay marriage, due to both social and financial reasons. Men often strive to embody the masculine salaryman ideal and the “male breadwinner” ideal but are not able to do so, which results in a reduced number of (heterosexual) married couples. Consequently, a sizable housing segment in Japan is composed by young, single men with no marriage or relationship prospect. This is one of the main reasons Azuma Hikari was developed as a “virtual girlfriend” who offers company and intimacy on top of being a personal assistant: she is meant to give much needed solace to lonely men. It must be noted men are also more open to social interaction with robots, compared to women, as we have seen before (Halpern, Katz, 2013), so promoting a similar product to men might be easier than attracting a female audience. However, Azuma Hikari is not just targeted to the average single Japanese men. It has also been promoted towards a specific group: (male) *otaku*. In Japan

this AI is usually described as a product catering to this demographic; on the other hand, in Western media this distinction is not always marked. Gatebox's CEO is not shy about electing *otaku* as the company's main target group, as the following article testifies: "Gatebox is working on a device to summon 'My Wife', the IoT venture launched from 'technology zero'. 'I want to send it to a chosen *otaku*' " (*"Ore no yome" shōkan sōchi "Gatebox" geijutsu e, gijutsu zero kara idonda IoT benchā. "Erabareshi otaku ni todoketai"*) (Okada, 2016a). IoT stand for "Internet of things" and sums up the concept of "connecting any device with an on and off switch to the Internet (and/or to each other)" (Morgan, 2014), which is one of Hikari's characteristics as she can connect to the internet and other devices. "Coming back home your favorite character greets you with "Welcome back!", takes care of you smiling, and does the housekeeping in your place - this shared life with the "waifu" of every *otaku*'s dreams of is now getting close to become a reality", begins the article. It also reports the words of Minori Takechi, Gatebox's CEO: "I want to send the best [product unity] to a chosen *otaku*" (*erabareshi otaku*), he proclaimed. But he did not mention what kind of person he meant, exactly (Okada, 2016a).

On top of that Azuma Hikari was allegedly created by a staff made only of single, male engineers who have the dream to live together with their "*waifu*" (*ore no yome*, "my wife"), an entire office of "chosen *otaku*" (Okada, 2016b). Another article is titled "The product that realizes *otaku*'s dreams. Gatebox announces a holographic character we can communicate with" (*Otaku no yume o tsumekomu prodakuto. Horoguramu kyara to komyunikēshon dekiru "Gatebox" ga o-hirome*) (Iwamoto, 2016). Gatebox was also advertised by the Japanese television program *Morning Cross* in their Wednesday edition *Shūkan Asumono*, where again Gatebox was described as the product that makes every *otaku*'s dream come true: living with their favorite character. Actress Sekiguchi Aimi featured in the promotional message (*Shūkan Asumono "Jimoto o koete ai ni kuru! Bāchuaru o-yome san Gatebox"* Sekiguchi Aimi, *Morning Cross*, <https://www.youtube.com/watch?v=fhugb1fBqaE>). While the gender of these *otaku* is never specified, it's implied they are referring to male costumers, given Hikari is a "virtual girlfriend". "Gatebox, priced at ¥321,840 (about \$2,700 US), is squarely targeted at young lonely salarymen and all brands of anime-obsessed *otaku*", points out an article (Gallagher, 2016). In fact, all three "concept movies" Gatebox released for Azuma Hikari feature a young salaryman as the protagonist (Gatebox, Story, <https://gatebox.ai/story/>).

Further, when asked what brought him to create Gatebox, Minori, born in 1988, Hiroshima (Gatebox, Inside, <https://gateboxlab.com/inside/?p=511>) said his aspiration to bring a fictional character to life dates back to his childhood. He was ten when his mother decided to move to the sub-saharan country of Malawi, where she got a job helping the government fight malaria. Stuck in a place where nobody spoke Japanese, he spent two years "holed up in his room with only Pokemon characters for company". Minori said this experience "gave him an understanding of *otaku* culture and planted the seed for Gatebox" (Alpeyev, 2017). Minori also revealed what gave him the idea for the project. He started to conceptualize Azuma Hikari toward the end of 2014, when the virtual assistant Amazon Echo just came out and robots started entering people's homes. He doubted people would really want to communicate with such "machine-like" things. Humans prefer to communicate with human-like entities, he said. He also reckoned the robots' large size would be a problem for people

who live alone (and do not have much space at home). After brooding over about what kind of robot could work, he thought if it was him, he'd rather live and communicate with his favorite, cute fictional character. In his case it was Hatsune Miku, "the world's most famous virtual singer", whose concerts he greatly enjoys. Inspired by the virtual idol, he began to develop his original character, Azuma Hikari (*Gatebox no kore made to kore kara*, https://www.youtube.com/watch?v=pSNfuPJc_T8).

ITmedia news reports on Minori's "love for Hatsune Miku" as well. According to the article, "living with Hatsune Miku" was the answer to a question Minori was asking himself to find inspiration for the next product to develop: "what was the thing he wanted to do the most now?". Ever since he was a university student Minori believed he would have been satisfied only with a "two-dimensional" partner, and after going many times to Miku's live concerts he started to think it would have been "the best" if she could come live with him (Okada, 2016a). It is probably not a coincidence Azuma Hikari bears some resemblance to the idol in her character design. They both have long blue hair and blue eyes, a somewhat "futuristic" appearance, and wear an outfit with a miniskirt and knee high socks. Vinclu is also working on a new Gatebox device featuring an interactive Hatsune Miku. The demo of "Living with Hatsune Miku" made its debut at the event *Magical Mirai 2017*, and its release is scheduled on March 9, 2018 (Gatebox, Living with Project, <https://gatebox.ai/livingwithproject/hatsunemiku/index.html>).

"My vision is a world where people can share their daily lives with their favorite fictional characters. We live in a time when all kinds of robots start making their way into our homes. But much of what you see now is inorganic and mechanical and I doubt people will want to communicate with something like that", said Minori. According to him products like Amazon Echo are "too focused on delivering utility", and his company is betting costumers will want to form an emotional bond with these virtual assistants. Gatebox's CEO is also convinced the power of "*kawaii*" (cuteness) is one of Hikari's best assets. "The kind of communication we are focusing on isn't your typical command-answer relationship. *Kawaii* is infallible" (Alpeyev, 2017).

Kawaii is a fundamental facet of Japanese material culture, as well as a key affect word. Its socio-historical aesthetic is a fondness and feeling (*kōkan*) for things that are small, delicate and immature (Burdelski, Mitsuhashi, 2010). "The Japanese idea of cuteness, in fact, emphasizes the sense of pathos that the powerless and helpless object inspires in the observer's mind", points out Sato. *Kawaii* is written with the Chinese characters of "able" (可) and "love" (愛), meaning "lovable", but it's also semantically associated with the word *kawaisō*, "pitiful" (Sato, 2009, p. 38). It has its roots in the term *kawayushi*, which later became *kawayui*. Its main meanings were "shy" and "embarrassed", and its secondary meanings were "pathetic", "vulnerable", "darling", "lovable" and "small" (Kinsella, 1995). The Japanese dictionary *Kōjien* gives *kawaii* three definitions: *itawashii* (pitiable), *aisubeki* (lovable), *chiisakute utsukushii* (small and beautiful). There is an emotion of sadness associated with *kawaii* similar to the one linked with *mono no aware*, but while the latter is the pathos for impermanent things, the former is a pity for things one loves and wishes to protect (Sato, 2009).

Some argue the origin of *kawaii* as an aesthetic can be traced back in early Japanese literature. In *The Pillow Book* Sei Shōnagon wrote a poem containing a list of *utsukushiki*

things that is widely considered the origin of *kawaii*, since *utsukushiki* means “beautiful”, “infantile” or “pure” - in short, someone or something in need of protection (Kamo, 2013). On the other hand, for Koga the basis of *kawaii* were the pre-war feminine values of “purity, honesty, beauty”, combined with the “Western” young ladies’ style and the post-war youth culture emphasizing freedom and consumption. She also noted the word *kawaii* is polysemic and does not always denote “immaturity”, as it’s usually interpreted. Further, Nakamura located the origin of *kawaii* in Takeshita Yumeiji’s products, like letter paper inspired by the West: Japanese cute products would have strong Western influences. Another scholar, Botz-Bornstein, argued the imaginary of the *kawaii shōjo* (“cute girl”) is rooted in Westernized conceptions of femininity introduced in the Meiji period, rather than traditional ones. Japanese cute culture, then, could be considered a form of modernism derived from the reception and criticism of Western ideas (Kamo, 2013).

Anyhow, in Japan *kawaii* as a commercial phenomenon emerged in the 1970s as youth culture, in particular among young women. The company Sanrio started producing stationary and diaries with cute designs for school students: these early “fancy goods” (*fanshi guzzu*) became popular among young Japanese, which prompted Sanrio to expand its production. These products were inspired by the emergence of a peculiar style of “cute” handwriting, *maru-moji* (“round characters”), invented by schoolgirls, and by the cute style found in *manga*. The main characteristics of these “fancy goods” were being small, round, pastel and lovable: this frilly, dreamy style, far from being traditional, was influenced by European and American taste. They often featured prints cartoon characters whose main qualities were being “small, soft, infantile, mammalian, round, without bodily appendages (e.g. arms), without bodily orifices (e.g. mouths), non-sexual, mute, insecure, helpless or bewildered” (Kinsella, 1995, p. 226). They conferred “fancy goods” personality and a warm atmosphere, making these (often useless) products attractive to the public. In short, the “cute craze” was centered on infantilism, innocence and immaturity. “Cute” slang (words distorted to sound childish) proliferated; “cute clothes”, designed to make the wearer look childlike and demure, were vastly popular with the female public; “cute” foods such as cakes and sweets (in Japan there is a strong association with kids and sweet food, especially cake) met the favor of the young Japanese. In the 1980s *kawaii* style predominated in Japan, to the point where acting and dressing like a small child (e.g. child-talk, wearing pastel clothes) became a fad in the idol industry. In particular, the saccharine style of popular idol Matsuda Seiko gained the label *kawaiko burikko*, “a girl who pretends to be cute”, which went on to become part of the Japanese vocabulary. Kinsella described *burikko* as young women pretending to be innocent little children, who refuse to hold responsibilities. *Kawaii* was all about being childlike and idolizing childhood’s emotional warmth and happiness, in contrast to the perceived bleakness of adulthood. “In cute culture, young people became popular according to their apparent weakness, dependence and inability, rather than because of their strength and capabilities” (Kinsella, 1995, p. 237).

The *kawaii* culture that celebrates everything sweet, weak, vulnerable, innocent, immature and kind, as well as physically and socially inexperienced, is rooted in young people’s desire to escape the restrictions of Japanese society, such as self-discipline (*enryo*), having to tolerate (*gaman*) and working hard (*doryoku*) - a sort of antithesis to mainstream adult culture. Many women, in fact, adopted it as a refusal to play the role of the subservient

female. Conservative critics reacted with strong disapproval to what they saw as a frivolous feminine endeavor, which distracted youth from their social roles (Kinsella, 1995).

The *kawaii* boom cooled down in the late eighties and early nineties, only to reappear in conjunction with the new economic crisis. The mid-nineties saw a revival of Hello Kitty (which went on to become a “cuteness ambassador” for Japan), as well as a boom of cute characters as company mascots. Further, the appeal of cute goods won over women and men in their thirties and above. As a variation to the “sweet *kawaii*”, gothic lolita fashion and cute characters reimagined as violent and horrific started to emerge. According to Sato, “the “dark *kawaii*” in the nineties is evidence of how those who used to remain submissive and dependent [youth and women] are now exposing elements of anxiety and uneasiness inherent in their powerlessness” (Sato, 2009, p. 40).

While cute goods and characters enjoy universal popularity in Japan, *kawaii* is associated most with femininity. Dressing or behaving *kawaii* is a valued trait in women. The culture of *kawaii* is also criticized by some feminist critics, who argue it leads women to be childish and thus subordinated to men, as well as promoting eating disorders in order to achieve a “cute” appearance. Burdelski and Mitsuhashi noted Japanese girls of kindergarten age use the word *kawaii* more often than their male peers, suggesting it might function as an index of the female gender (Burdelski, Mitsuhashi, 2010).

“Cute things are cute because they are deprived of power and independence”, observed Sato (2009, p. 40), and just as Minori said, Azuma Hikari is indeed a *kawaii* character. Not only is she lovable, innocent, sweet and gentle; she is also immature, inexperienced and dependent on the user’s guidance. Hikari’s hesitancy and helplessness (shown in her self-introduction) make her *kawaii*, since a cute character par excellence is vulnerable, insecure and in need of protection. It is, in fact, valued more for its shortcomings than for its strengths (just like popular “cute” people in the 1980s). We could say Hikari demands to receive *amae* from the users as well as providing *amae*, as we have seen before when discussing the “mother-son” dynamic. This fits the “caregiver-infant scheme” roboticists employ to make robots more accepted in everyday life: as said before, infantile is a key characteristic of Japanese cute culture. Hikari is framed as someone in need of support, and her reliance on the user means all her failings must be forgiven. Hikari’s character design is also *kawaii*. It’s mostly round, soft and pastel; she has cute symbols (hearts) on her clothes and wears knee-high socks; her clothes are designed to make her look somewhat childlike and demure, and she wears a ribbon in her hair, all elements of Japanese cute fashion. Lastly, she is non-sexual, an essential attribute of cute cartoon characters (Kinsella, 1995).

In a way, Hikari embodies both the doting mother who endlessly indulges her partner-child and the *kawaii* virgin who is innocent, inexperienced and thus incapable of criticizing the more experienced male partner. She is both the dedicated nurturer and the one who needs to be protected and cared for. She treats her partner with *amae* and cares for him much like a mother would; but her young age, vulnerability and lack of sexuality, combined with her implicit demands of *amae* from the users, make her also the archetype of the cute virginal partner, triggering protection instincts in the user. We can argue Hikari is an ideal girlfriend because she grants the user both experiences, that of being mothered and that of playing a father role for his partner, something virtually impossible to achieve in a relationship with a real woman.

Although this mash up of ideal female figures (from a male heterosexual perspective) was probably not deliberate but rather the result of a mixture of cultural norms, we can assume Minori is aware of *kawaii*'s power of attraction on the Japanese, thus realizing a product that satisfies both *otaku*'s tastes and the tastes of the general public. However, *kawaii* is a unique Japanese concept, making this product limited to Japanese society (and fans of Japanese society outside Japan). This phenomenon is called Galapagos syndrome: just like in the Galapagos the peculiar environment and the geographical isolation lead to the a unique evolution of the species, in Japan the unique, insular cultural landscape lead to the development of equally unique technologies; yet, since these technologies developed around specific cultural norms, they proved to be unsuited to other social contexts. As a result, they did not expand beyond Japan's borders. For example, Japan has produced mobile phones with uncommon features that did not become successful abroad, such as phones with radio and television receivers. Japan's unique social networks are also attributed to the Galapagos syndrome: for instance, Japan's Mixi was a social network people could subscribe to only through an invite by another member, and the invitations were only in Japanese, closing the access to international users. The Japanese use LINE too, an instant messaging application different from the ones used in most of the world. The continued use of flip phones, even after smartphones' global success, is another example of the Galapagos syndrome (Hawkinson, 2017). Azuma Hikari is probably another technological innovation that won't be as popular abroad (with the exception of Japanese culture *aficionados*), since *kawaii* aesthetic is peculiar to Japan. The concept of *iyashi* (healing) too, crucial to the designing of this AI, is a category unique to Japan from a cultural and commercial standpoint, so it qualifies as an element that makes this AI fall into the Galapagos syndrome. It's likely Minori did not consider the international market when developing Azuma Hikari, focusing only on what the Japanese public would find appealing.

Minori Takechi is the founder of Vinclu, a company that goes by the slogan "crazy maker". In an interview he says the slogan has two meanings: it indicates a company that makes "crazy things" and works for "crazy people". In his definition, a "crazy person" is someone who "gets absorbed in the things they like", such as people who have lots of *manga* at home, or collect action figures. He finds their lifestyle very "interesting" and "cool", and thinks there is a sort of purity in their single-mindedness. Minori says he wants to make products for these people, whom he greatly respects. In his opinion, the capacity to be absorbed in the things we like - even in a world full of "temptations" - is something to be celebrated, and it's wonderful when people persevere with their obsessions even when the outside world does not understand them. Their overwhelming passion has the ability to "create new things and bring change to society", and he wishes to let these people shine more, so that other people might say "I want to get absorbed in the things I like, too". This is his vision, says Minori (Gateboxlab, Inside, <https://gateboxlab.com/inside/?p=511>). Without a doubt, the kind of people he is referring to are *otaku* steeped in the Japanese animation and comic book culture. Again, Vinclu's founder is not afraid to make members of this subculture his main target audience and to create products tailored for them. In its pursuit of a future where people will be able to "live with their favorite character" and in its push into *otaku* culture, Gatebox is also trying to bring into its labs people who are *actually* in love with fictional characters: the company will give benefits (a monthly raise of 5000

yen and a day off on their “spouse’s birthday”) to those employees who wish to “get married to the character they love”. The company made special (non-official) marriage registration forms to recognize the unions between real-life human beings and two-dimensional creatures. The employees have to limit themselves to only one spouse and cannot marry a real person (Gateboxlab, Marriage, https://gateboxlab.com/tokoukyoku_marriage/#).

It’s impossible to talk about love for fictional characters in Japan without discussing *moe* (萌え) culture. Azuma Hikari is a product explicitly designed to elicit *moe*, defined as a feeling of affection for a fictional character in contemporary usage. It must be noted the term situates *moe* in those who form an attachment to the character and not in the character itself. It allegedly derived from the 1990s slang word for “burning passion” used by *otaku* in online forums, *moeru* 燃える (to burn), which computers repeatedly mistook in its *kana* transcription for its homonym *moeru* 萌える (to sprout) (Galbraith, 2014). By the mainstream public *moe* is used interchangeably with *kawaii*, an improper use of the term. It’s also a word *otaku* would use only in internet conversation, not in real life conversations. In recent years its popularity with *otaku* has decreased. Members of this subculture may use it as a tongue-in-cheek expression (Morikawa, 2014). That said, *moe* characters are usually young and associated with innocence and infantilism (Silvestri, 2016), so the connection to *kawaii* is not so far-fetched. Characters triggering a *moe* reaction (*moe kyara*, “*moe* characters”) frequently come from *manga*, *anime* and video games. Material representations of them such as action figures, and sounds and voices associated with them, can trigger a *moe* reaction as well. *Otaku* often describe their attachment for a female fictional character in terms of marriage: while this can take the casual form of calling said character “my wife” (*ore no yome*), some even announce their “marriage” in public. Honda Toru, author and cultural critic, is open about his marriage with *anime* character Kawana Misaki from *One: kagayaku kisetsu e*, and even advocates the beauty of fictional love in his books. He calls *moe* relationships a “love revolution” (*ren’ ai kakumei*), since in his vision they liberate people from oppressive social and gender norms. Honda is not interested in seeing his union recognized as official by the Japanese government, which he considers corrupt. Further, in 2008 a man started an online petition to legalize marriage with fictional characters in Japan, obtaining a high number of signatures; in 2009 another man publicly married a character from the dating simulation game *Love Plus*. According to anthropologist Ian Condry these actions are political statements by *otaku*: they want to gain acceptance for their “two-dimensional” love (Galbraith, 2014). In Japan fictional characters are ubiquitous and encountered over and over through tv shows, spinoffs, *manga* and *anime*, to the point of being an intimate part of everyday life in the country. Psychiatrist Saito Tamaki argued people can develop feelings of love for characters they grew up with: one’s first love is just as likely to be an idol as it is to be a *manga* character (Galbraith, 2014).

But how did the *moe* cultural phenomenon start? Helen McCarthy argues the seeds of *moe* can be found already in Tezuka Osamu’s work. In his 1948 *manga* *Lost World*, the relationship between the hero and an alien plant-woman, Ayame, is described as such on McCarthy’s blog: “This is essential *moé* — an innocent, literally budding girl, a geeky young man with the heart of a hero and protective instincts to do any father proud”. Meiji University professor Morikawa pointed out how stimulating Ayame's attractiveness must

have been for the male readers of the time. But the crucial shift came in the late 1970s, when Azuma Hideo combined Tezuka's round character designs and *shōjo manga* big, expressive eyes and created the *bishōjo* (cute girl) style (Galbraith, 2014). The *bishōjo* was a sexual object meant to entice readers' fantasies. Galbraith observed these sort of characters often have a distorted and hyper-sexualized anatomy, such as abnormally long legs and abnormally prosperous bosom (Silvestri, 2016). *Bishōjo* often have unrealistic proportions too, such as a head too large to be supported by their frail necks and eyes so big they cover half of their face. The artists wanted to make their facial expressions stand out to make them more *kawaii* and attractive (Silvestri, 2016). The enthusiastic fans of *bishōjo* were the first to be labeled *otaku*. In 1983 in the subculture magazine *Manga burikko* columnist Nakamori Akio first used the term to describe these fans in a pejorative manner: it meant something along the lines of "geek" and "loser". He despised those attracted to *bishōjo* to the point of associating them with animals such as leeches and slugs, a reaction mirroring people's discomfort in the way men interacted with these characters. Takekura Kentaro, a cultural critic, recalls being shocked by their popularity. The 1978-79 were important years as Miyazaki Hayao created the characters Lana from *Future Boy Conan* (1978) and Clarisse from *The Castle of Cagliostro* (1979), who gained an unprecedented following. A journalist observed fanzines dedicated to Clarisse were so numerous they could make up their own category. In the 1980s *anime* specialty magazines reported the fans' ever-growing interest in *bishōjo*. Creators were dismayed by the sheer number of adult men who formed fan clubs dedicated to cute female character (Galbraith, 2014).

As a self-styled "*Bishōjo* Comic Magazine for Dreaming Boys" (*yume miru otoko no ko no tame no bishōjo komikkushi*), *Manga Burikko* (1982-85) was an important forum where fans expressed their love for fictional characters. Nakamori's ferocious critique, which included mocking fans of Azuma Hideo's work and fans of lolicon fanzines (so called lolita-complex fanzines featuring youthful-looking characters), seemed to be aimed at the readers themselves and of course encountered a blowback. In the magazine readers started to discuss about the legitimacy of love for fictional characters. Unsurprisingly, most of them supported what today we would call *moe*. In the 1983 august issue a reader even described himself as someone with a "two-dimensional complex" (*nijigen konpurekkusu*). In the end Nakamori's column was cancelled and replaced by more pictures of cute girls, giving the readers what they wanted. Another change the magazine underwent was the artistic shift from realistic drawings to a softer *shōjo* aesthetic. *Manga Burikko* often featured art from female *mangaka* and male artists started to emulate the feminine style of *shōjo manga*, fundamental in the past in the creation of the hybrid *bishōjo* (Galbraith, 2017).

Then *Sailor Moon* (1991- 1997) made its debut. A *manga* written by a woman, Takeuchi Naoko, and targeting girls, it openly called its heroin a *bishōjo*. The series' cute and round designs appealed to many adult male fans. In fact in the 1990s *bishōjo* made a huge leap, from niche publications for *otaku* to mainstream *manga* magazines; *bishōjo* dating simulation games, too, moved outside *otaku* circles to reach a widespread popularity. To top it all off, the overwhelming success of the anime *Neon Genesis Evangelion* brought a high demand of action figures for its female characters. These changes eventually molded the Tokyo district of Akihabara in the main place where *moe* products were sold, and into the heart of the so called *moe* culture (Galbraith, 2014).

The figure of the *otaku* started to be reevaluated by Japanese society, too. The novel, movie and tv series *Densha otoko* (Train Man), a love story between a male *otaku* and a career woman, became widely successful. In addition, Japan scholar Alisa Freedman observed Japanese media began to promote *otaku* as possible dates for lonely women. That said, some “hard school” *otaku* did not appreciate the message *Densha otoko* sent them: grow up and start dating. They protested by planting signs in Akihabara that said “Real otaku don’t get hot for the three dimensionals” (*somo somo shinjitsu no wota wa 3D ni yokujo shimasen*). In 2005 the movie *Densha otoko* popularized the word *moe*: Japan underwent a *moe* boom, where popular characters were re-imagined in a *moe* light (that is, they were re-designed by artists popular with *otaku*) (Galbraith, 2014). Since in their eyes *Densha otoko* distorted the meaning of *moe*, which was appropriated by the mainstream public to be used as a synonym for “cute”, the *otaku* community distanced itself from this term and used it with less and less frequency (Silvestri, 2016).

Azuma Hiroki speculated contemporary *otaku* culture is composed by “*moe* elements” (*moe yōsō*). In his vision these elements do not comprise just the characters’ design or personality, but also the situations and archetypes they find themselves in (Silvestri, 2016). In the case of Hikari, she belongs to the “psychological type” of *moe* called *dojikko*, as an article described her as such (Okada, 2016b). The word *dojikko* comes from the verb *doji o suru*, “making a blunder”, combined with the suffix *ko*. It describes an absent-minded character prone to make mistakes, or in other words, a blunderer. Often in *manga* their role is providing comic relief. Their ineptitude triggers a *moe* reaction in the viewer because of the sadness it causes the character, but also because they continue to try overcome their weaknesses even after all the times they’ve failed (Silvestri, 2016), something that again connects to how *kawaii* culture celebrates vulnerability and inexperience.

There is the question, then, of why *otaku* feel *moe*. According to Ito Kimio, professor of cultural sociology at Kyoto University, *otaku* are like boys attracted by the bright colors of girl’s culture, refusing the monotone of adult male culture. However they prefer to keep distant from real women and from the human body, something linked to what we call *moe*, a sentiment for fictional beings. In such a relationship one does not run the risk to get hurt, as the character is entirely controllable in one’s imagination. He compared it to the shift from face-to-face social relations to media social relations seen in society (Ito, 2014). Kotani Mari, feminist critic and self-professed *otaku*, is another scholar who drew a parallel between male *otaku* and women. According to Kotani they can be compared to women because they do not conform to the salaryman ideal of graduating, finding a job in a company, marrying, having children, sending them to college, and expecting their wives to care of them when they retire. Therefore they were seen as disrupters and outcasts by society in the 1970s and 1980s. Criticism towards *otaku* eased in the 1990s, when gender norms became less rigid (Kotani, 2014). Momoi Halko too, Japanese voice actress and singer, argued *moe* fans are a misunderstood subculture of men struggling with and against gender norms. She pointed out many male *otaku* cross-dress as the character they love, decorate their bags with cute keychains and wear cat ears to conventions: more than loving the character, it appears they want to *become* the character. Momoi went as far as to call *moe* a “third gender”, transcending the boundaries between male and female. She noted the “feminization trend” male characters in *manga* are undergoing, and observed at the present

moment fans do not seem to care about male characters at all, instead obsessing over the female ones (Momoi, 2014). Maeda Jun went several steps further, asserting that for many *moe* is a reason to live. They feel insecure because they know they might not be able to get a job, let alone start a family, thus they lack a purpose and show a social tendency to isolation. When people find something meaningful in life they stick to it, and for this reason many would not survive without *moe* (Maeda, 2014). Honda Toru is another who maintained *moe* is men's reaction to a widespread social malaise. *Moe* is the response of men who feel cast out by a society where they have few roles, other than that of the hard-working salaryman. After World War Two earning a good salary became the primary determinant of Japanese men's value as mates, and the only way for them to become "men" (the "salaryman masculinity" previously discussed). According to Honda, in a world where courtship is tied to consumption men must also invest conspicuous sums of money in dates with women, by doing things such as purchasing skiing holidays or expensive restaurants. He calls this phenomenon "love capitalism". To escape these restrictions, some men looked in the world of fiction to find love: thus, relationships with fictional characters are liberating. When the bubble economy exploded it became even harder to find a good job and embody the masculine ideal. Honda claimed not to be interested in "three-dimensional" women. To him *moe* is a "bittersweet" feeling similar to the experience of first love, but it's also connected to *iyashi*: by looking at the beloved character, one feels a sense of relief. It's a form of solace that in his opinion cannot be found in human society (which calls to mind Hikari's promise of giving *iyashi* to the users). *Moe* characters tend to be young because this makes them vulnerable, inspiring the desire to protect and care for them. Vulnerable people need love and support (Honda, 2014) (something clearly connected to *kawaii* culture). Morinaga Takuro too, lecturer at Dokkyo university and *otaku* scholar, observed *otaku* most often feel *moe* for young characters. He argued this is because *otaku* tend to be weak, in particular in male-female relationships, so they feel secure only if their partner is weaker than them and appears to be within their control (Morinaga, 2014). In fact, according to Akamatsu *moe* entails a superiority-inferiority relationship between the *otaku* and the character, who is helpless and in need of protection (Silvestri, 2014), something we can see in the relationship between Hikari and the user. To evoke *moe*, *manga* authors can put their female characters in situations where they feel embarrassed or otherwise vulnerable. Embarrassment, fragility, weakness, insecurity are all factors that evoke an instinct of protection and lead the *otaku* to develop *moe* for the character (Silvestri, 2016).

Anyhow, if the previous arguments on *moe* and gender norms hold true, *moe* attachments may often be linked to feelings of inadequacy and to social instability. The difficulty to fulfill the male breadwinner role and/or the refusal of traditional gender norms, coupled with anxieties about the future, lead men to find a coping mechanism in constraint-free relationships with fictional girls.

Nonetheless, according to Honda *moe* is not always a compensation for the lack of a partner. *Moe* doesn't necessarily entail abandoning society, either (Honda, 2014). Saito Tamaki argues *moe* fans' love for fictional girls is separate from affection felt for three-dimensional girls (Saito, 2014). On the other hand, Morinaga talked about so-called "*moe* fundamentalists", people who completely lost interest in three-dimensional women and believe in the superiority of two-dimensional women, but they comprise only a tiny segment of *moe* fans.

Moe flourished in Japan more than in other places because of *anime*'s pervasiveness and the high number of unmarried men, but *moe* fans enjoy a less than positive reputation in the country. Morinaga also argued Japanese society is divided in two: people who date and those who don't date at all. The gap between the two groups is widening in recent years, as the salarymen middle class is starting to disappear, and finding solace in fictional partners is for Morinaga a true form of "enlightenment" (Morinaga, 2014).

Undoubtedly Minori Takechi must be well aware of *moe* fan culture and created Hikari, and likely the entire project of Vinclu, in part as a response to the desires of these niche consumers. We should not overlook the importance of the *otaku* market. *Otaku* tend to spend large sums of money for the things they love, although they may seem worthless to others, and tend to buy very often too. In short, they are the ideal consumers (Morinaga, 2014).

"The big difference between enthusiastic consumers and ordinary users is that the consumption behavior of the former is driven by the pursuit of their ideals.

The behavioral objective of the *otaku* is to materialize or have contact with their ideals. Examples are the imaginary figure of a female idol, a PC of the highest level of performance and breaking the record high score of a game. More specifically, as their consumption behavior is driven by their passion in pursuing their ideals, the price elasticity upon consumption often declines to the minimum level and they tend to hurry to the extremes, pouring almost all of their disposable income into such pursuit.

Otaku tend to raise their ideal as they come closer to their ideals while repeating consumption, peer evaluation, and creative activities, e.g., collecting more items or breaking more record scores. Such increasingly lofty ideals induce them to take further steps for consumption.

Furthermore, as *otaku* keep pursuing their ideals, they never attain their goal. They just keep giving themselves new tasks and fall into a cycle of endless consumption" (Kitabayashi, 2004).

In addition, the consumers and producers of *otaku* merchandising tend to be the same people, or in other words, the producers are *otaku* who create products for fellow *otaku*. This is the case of Hikari, an AI not only created by an *otaku* CEO, Minori Takechi, and a staff of *otaku*, but also targeted to members of this subculture (Morinaga, 2014).

Minori began raising money for his startup in early 2015, but at the time most people were not willing to invest on a hardware project, he said. Despite this, he obtained an initial sum of 20 million yen. Vinclu went on to raise about 200 million yen from investors. Then Line, "Japan's biggest instant messaging company, bought a majority stake in the startup in March in its push into AI" (Alpeyev, 2017). With Line Gatebox will expand its AI capabilities, and will have access to services that go beyond instant messaging: Line has millions of subscribers in Japan, Thailand, Taiwan and Indonesia who use it everyday to "read the news, hail taxi-rides and find part-time jobs". According to Masuda Jun, Line's chief strategy and marketing officer, the company plans to unite Gatebox's know-how and CLOVA's AI platform to create a "new kind of post-display, post touch agent capable of making the lives of the users more fun". Line plans to release its own tabletop speaker, Wave, next summer (Alpeyev, 2017).

The orders from Japan for Gatebox were the most numerous, but orders were placed also from European countries, the United States, from Asia and and Australia (*Gatebox no kore made to kore kara*, https://www.youtube.com/watch?v=pSNfuPJc_T8)

Chapter 2

2.1 Language ideology and gender in Japan

Analyzing Azuma Hikari's speech is necessary to comprehend whether Hikari might push dominant narratives around Japanese women's behavior and language use. For this kind of study, it's fundamental to have a solid grasp of the intricacies between gendered talk and gender ideology. Far from being a neutral medium, language lives a socially charged life, as Bakhtin observed. The reverse is also true: "social interactions live linguistically charged lives. That is, every social interaction is mediated by language - whether spoken or written, verbal or non-verbal" (Ahern, 2012, p. 3). Language and social interactions shape each other, and are thus intrinsically intertwined. For this reason, it's often necessary to execute both a linguistic analysis and sociocultural analysis to understand the significance of events pertaining human sociality. The branch of research that carries out these studies is called linguistic anthropology, and helps shed light on various matters: for instance, how power structures are reproduced or challenged by language, how linguistic forms shape people's thought patterns and worldview, and how language ideologies influence the way we perceive others and ourselves (Ahern, 2012). Language anthropologists maintain it's not possible to separate language from the social context in which it is used, since context always influences the way we speak. In short, they consider language as a cultural practice and "explore the intersections between grammar and social relations, politics, or emotions" (Ahern, 2012). But how does language relate to gender? Ever since we are born, we are categorized according to the gender binary: the newborn is said to be either a girl or a boy based on their sex. Different assumptions are placed on them depending on the gender they're assigned at birth, in a process society sees as obvious and natural. But the relationship between sex and gender is more complex than commonly thought. Some scholars define sex as a biological factor - our physical existence as either female or male - and gender as the person's social and cultural identity as either woman or man, in a specific society and moment in history. However, many have objected to this distinction, since "there is no obvious point at which sex leaves off and gender begins, partly because there is no single objective biological criterion for male or female sex", as Ginet observed. Sex is based on a complex ensemble of anatomy, chromosomes and hormones. For example, intersex people and individuals with hormonal or chromosomal anomalies defy our conventional ideas of the relationship between sex and gender (Ahern, 2011). Also, not every individual identifies as either a woman or a man. Non-binary genders - also known as genderqueer genders - exist outside the dichotomy of male and female. "Some people have a gender which is neither male nor female and may identify as both male and female at one time, as different genders at different times, as no gender at all, or dispute the very idea of only two genders": they are getting recognition in legal, medical and psychological systems, and their existence has been documented throughout history (Richards et al., 2016, p. 95). Further, a key characteristic of gender is its performative nature. Children are consciously or unconsciously instructed in gender-appropriate behaviors, and they construct their gender identity through interactions with others. According to Judith Butler, gender is not static: it's something we continuously "do" with our choices of acting and speaking (Ahern, 2011).

Butler defined gender as a “constructed identity” and stated “what is called gender identity is a performative accomplishment compelled by social sanction and taboo” (Fraser, 2008). Contrary to essentialism, which would reduce women to a monolithic group whose experiences are due to their “woman-ness”, social constructivism recognizes there is no “absolute self” to be uncovered: rather, identity is created and shaped through discourse, the self through action. Further, the individual is never autonomous in the construction of their identity but receives continuous stimuli from the outside, that is, the “other”. Identities are shaped through a process of difference from the “other” and the awareness of belonging to a group. Gender too is such a social construct. Ochs observed “[g]ender ideologies are socialized, sustained, and transformed through talk, particularly through verbal practices that recur innumerable times in the lives of members of social groups”; by the same token, Crawford pointed out that “gender is not an attribute of individuals but a way of making sense of transactions. Gender exists not in persons but in transactions; it is conceptualized as a verb, not a noun” (Vranic, 2013). Lastly, inequality is woven into gender’s structure. “Men and women, and masculine and feminine ways of acting and speaking, are rarely considered simply different; there are usually value judgements that accompany such assessments of gendered difference” (Ahern, 2011, p. 191). A great corpus of studies on gender revolve around women’s internalized subordination: according to research, women tend to lack a sense of personal entitlement compared to men and are more likely to be satisfied in subordinate positions, for instance. Crawford argued “[g]ender, then, is a self-fulfilling prophecy. Women are different from men. Yet, paradoxically, this is not because they are women. Each of us behaves in gendered ways because we are placed in gendered social contexts”. Breaking expectations on gendered behavior would incur in social consequences (Vranic, 2013). The main ways in which gender and language are related is through the content of the language (stereotypically masculine and feminine topics and type of talk) and “specific linguistic features” (Vranic, 2013, p. 7). In most languages’ grammar masculine pronouns are “unmarked”: they are used to refer to a hypothetical, generic individual, while feminine pronouns are “marked”, that is, they are not normally applied to generic individuals in a universal manner. In short, masculine pronouns are the “norm” and feminine pronouns the “exception”. This prescription is being challenged in the English language with the use of gender-neutral sentences (e.g. “Students who want to do well should study hard for the test” instead of “If a student wants to do well, he should study hard for the test”). However, gender is encoded in language in a lot more ways than just gender pronouns (on the other hand, some languages do not include gender markers at all). In some idioms, like French and German, all nouns are gendered arbitrarily. In addition, Ochs proved language and gender are connected mostly through indirect indexicality. Few features in any language index gender in a direct way; rather, many features allude to, and thus constitute, other domains of social reality that relate to gender (Ahern, 2011). Indexicality is integral part of “Japanese women’s language” (*onna kotoba* or *joseigo*). In Japan it’s a hegemonic cultural notion, naturalized as a form of common sense. The dogmatic statement “women and men speak differently” is often accepted as a matter of fact (Nakamura, 2014b). Japanese linguists supported this view by locating the differences in women’s and men’s speech through both empirical and anecdotal evidence. Therefore, women’s language is understood as a static set of linguistic norms and functions used (only)

by women and associated with “feminine” attributes, demeanors and roles, such as being gentle and soft-spoken (Inoue, 2006). National-language scholars (*kokugakusha*) have also reinforced the dominant views on feminine speech by labeling changes in women’s speech as deviations from the beautiful *onna kotoba*. They stereotypically connected “unfeminine” speech styles to a lack of proper upbringing and “polite” speech styles to *onnarashisa* (femininity) and respectability. Commonsense beliefs and academic discourse fed each other, sustaining the ideology linking women’s language with socially desirable womanhood (Yukawa, Saito, 2004). After all, “Models of Japanese society and culture, in particular the *Nihonjinron* ‘theories on the Japanese’ literature, commonly stress such attributes as homogeneity, harmony, consensus, and hierarchy, including gender stratification”, pointed out Sugimoto. Following these precepts, Japanese sociolinguistics conducted studies focusing on abstract, context independent use of standard Japanese rather than actual language practice, deeming all speech forms that strayed from the norm “deviant” or ignoring them altogether. These studies relied on essentialist ideas of Japanese women and men and their language use (Okamoto, Shibamoto Smith, 2004). Even Japanese language textbooks for foreign students tend to reenforce stereotypical images of how Japanese men and women speak. They ignore the variety of gender roles and relations in contemporary Japan and how they are changing, highlighting gender differences in speech patterns (Siegal, Okamoto, 2003). In her thesis on Japanese women’s language use Vranic stated she was told many times by her teachers in Japan to use more feminine linguistic forms, since she used only neutral and moderately masculine sentence-final particles (Vranic, 2013). Additionally, these languages may get stereotyped according on visions of the “other” in contrast to the “self”. “For example, strictly gendered linguistic forms and other aspects of speech (e.g., politeness, vagueness) may be exaggerated to exoticize an Asian language vis-à-vis Western languages”, reproducing an Orientalist view of Japanese (Siegal, Okamoto, 2003).

Only later critical sociolinguistics became aware the imaginary of a homogeneously middle-class, mono-lingual Japan is rooted in the pre-war ideology of “one lord, the whole nation” (*ikku banmin*). They started viewing Japanese society as multilingual (*tagengo shakai*) and unequal (*kakusa shakai*) (Heinrich, 2015). Moreover, with their focus on “women’s language” linguists both in Japan and abroad overlooked important aspects or issues such as the heterogeneity of Japanese women’s subject positions (and thus the variety of their language use), the links between gender and sexuality, the oft-ignored importance of men’s language and masculinity in research on gender and language, and the ties between linguistic ideologies and language practice (Bucholtz, 2004). Linguistic ideology was defined by Silverstein as “any set of beliefs about language articulated by the users as a rationalization or justification of perceived language structure and use”. Silverstein emphasized it’s imperative to distinguish it from language use; Woolard and Schieffelin stated the importance of investigating hegemonic ideologies’ relationship to language practice (Okamoto, 2004). Another definition of language ideology is offered by Cameron and Culick, who described it as “the representation of social types and their ways of speaking and writing which circulate in a given society”, while they defined language practice “what we observe when we investigate the behavior of real people in real situations” (Hiramoto, 2010).

Besides, women's language is assumed by mainstream discourse to be a tradition peculiar to Japan, originated from an archaic past. This narrative turns it into a symbol of an imaginary, archetypical Japanese womanhood, as well as a symbol of tradition and the nation itself, in direct contrast to Western "modernity". On top of that, it's perceived as a cultural heritage at risk of disappearing, causing collective anxiety on its possible loss (Inoue, 2006). National surveys often ask whether men and women should speak in a different way, whether women use feminine language, or whether women should speak women's language. Magazines receive letters complaining about young women's vulgar speech, blamed for the destruction of women's language. Parents are expected to discipline the way their daughters speak, and numerous etiquette books focus on *joseigo*. These manuals - which often become bestsellers - emphasize how women can improve their attractiveness by improving the way they talk, promising the reader she will obtain love and happiness if she conducts herself in the "right" way. In sum, according to dominant gender and linguistic ideologies, women's value and femininity depends heavily on the language they use (Nakamura, 2014b).

Matsumoto observed in Japanese the language options for men and women are much more located in morphology compared to languages like English, and that is why the concept of a clear-cut "women's language" could exist: in Japanese there is without a doubt more awareness of gendered language (Heinrich, 2015), and since "women speak differently from men" is considered common sense, every Japanese speaker can give stereotypical examples of women's and men's language. A high-pitched voice is associated with female speech, a low-pitched voice with male speech; *ara* and *maa* are considered feminine interjections, *oi* and *kora* masculine. The sentence final particles (*da*)*wa*, *ne*, *yo*, and *kashira* are categorized as female speech, *ze* and *zo* as male speech. The first person pronoun *atashi* is considered feminine; the first person pronouns *ore* and *boku* and the second person pronouns *kimi* and *omae* are considered masculine. However, this knowledge does not mean the Japanese express themselves through binary linguistic forms (Nakamura, 2014b). Women's language is a space of discourse that reduces Japanese women to a knowable and unified group, objectifying them through their language use, observed Inoue (2006). Referencing her experience as a native of a regional area of Japan, she demonstrated dominant views on *joseigo* do not correspond to women's actual language practice. Most of them, in fact, cannot speak what is called "women's language". Despite this they remain silent, because their inability to reproduce it would be regarded as ignorance by Japanese society. As Bourdieu theorized, those who cannot master the legitimate language act compliant by keeping silent about their lack proficiency; what's more, the legitimate language is more accepted than it is actually possessed. By "legitimate language" Bourdieu meant "a speech invested with symbolic power accepted by all members of the community. It is the language likely to be listened to. Lack of proficiency in legitimate language, on the other hand, condemns speakers to silence in most situations, or results otherwise in hyper-correctness" (Heinrich, 2015, p. 183). *Joseigo* is, then, "this vicarious language that universally represents and speaks for the voice of Japanese women that is not theirs" (Inoue, 2006, p. 4). There is a strong cognitive dissonance around "Japanese women's language": Japanese women recognize it as their own, although the majority of them do not speak it in everyday life. It represents, then, what Althusser called "the imaginary relationship of individuals to their real conditions of existence". It's an "ideal voice" coming from the body

of the “other”, a disembodied language “disseminated in the dispersion of (inevitably failed) copies” (Inoue, 2003, p. 316). Many women - in particular those from regional areas and the working class - encounter it only through media and reported speech, or in other words, through disembodied copies. Even so, their “secondary” experience plays a vital role in the constitution of women’s language, which can only assert itself as a pure gender signifier if all other elements, such as class, history and politics, are erased. It can be reinforced as the norm only through the abjection of these “failed” experience (Inoue, 2006).

As paradoxical as it is, it’s especially through foreign characters such as Scarlett O’Hara, Queen Elizabeth II, Minnie Mouse and Barbie “that one hears the most “authentic” Japanese women’s language in everyday life” (Inoue, 2003). In her 2003’s article Inoue focused on interlingual translation’s role in the reproduction of the language ideology of “Japanese women’s language”, as the ultimate language displaced from the body. She analyzed the novel *Sekiryō Kōya* (Solitude Point), an award winning Japanese novel set in the United States that centers on a 64-year-old Japanese woman, and the Japanese translation of the well-known American novel *Gone with the Wind* (*Kaze to tomoni sarinu*). The former work can be considered “translated” because the dialogues are a transposition in Japanese of imagined English dialogues. Both translations do not mark only the female gender through “Japanese women’s language”, but deal with the intersections of race and class too. Inoue observed works of translation require internal homogeneity, and as a result they are inevitably complicit with nationalism. Further, in the article she focused on the indexical dimension of language, which only in connection with a context possess meaning. Case in point, speech forms of “Japanese women’s language” such as *noyo* and *dawa* would be meaningless to someone unaware of their context, that is, their indexical meaning of “soft and gentle” womanhood. Inoue’s research objective was answering the question of how indexical relationships are translated (Inoue, 2003). Japanese narrative prose (both “high” literature and popular literature) is one of the main sites where gendered speech is unproblematically enforced. Japanese literary scholars often praise the greater efficiency of the Japanese language, compared to English, to signal whether the speaker is female or male without needing to give ulterior informations (such as “he said” or “she said”). In the realist novel (characteristic of modernity) events and characters are both believable and recognizable: as a result, quotation marks around a sentence signal it’s a copy of real speech. In other words, “the written word makes women’s language “real” speech—as if real people were its original speakers” (Inoue, 2003, p. 322).

In *Sekiryō kōya*, written by Yoshimeki Haruyoshi, the main character is 64-year-old war bride Yukie, who lives at Baton Rouge with her American husband, Richard, who she met at her father’s laundry at an American base and with whom she raised their two sons. The novel focuses on Yukie’s development of Alzheimer disease and on the conflicts with her family. Yukie’s speech is marked by conventional forms of Japanese women’s language such as *no*, *yo*, *no yo*, *da*, *da wa* and *kashira*. The reader is expected to “hear” an English conversation through this dialogue, which erases her background both as a woman from a peripheral region of Japan (in a geographical and economical sense) and as the daughter of a laundry owner in an American base. The “translation” of her English voice cancels her origins, as well as her racialized experience as a woman of color married to a white man in the American South. The absence of a vernacular in her expressions identifies her solely as a

“Japanese woman”, sacrificing her historical identity: nothing in her speech tells the reader where she came from other than “Japan”. The heterogeneity of Japan (and Japanese language practice), and the center-periphery relationship between the United States and Japan in the 1950s, are not marked by the dialogues in this novel. All the female characters, both Japanese and American, speak standard “Japanese women’s language”. Although themes of inequality between different generations and between nations in different eras, as well as personal and interpersonal politics, occupy a central role in the book, they are not conveyed by the characters’ reported speech. For example, the sense of alienation Yukie laments when trying to communicate with Yumiko, her daughter-in-law who calls her own marriage an “international” one while Yukie and her friends were called “war brides”, is not at all underscored by Yukie’s speech: her use of women’s language does not index the supposed difference between the two women. The act of erasure in interlingual translation asserts the homogeneity of Japanese and of Japanese women’s language, reinforcing its normative power (Inoue, 2003).

In the second novel examined, the Japanese translation of *Gone with the Wind* (*Kaze to tomoni sarinu*), Scarlett and Melanie are assigned standard “women’s language”, a form that is both grammatical and considered conventionally feminine: they use “female-exclusive” final particles such as *wa*, *wayo*, *kotoyo*, *noyo* and (*desu*)*mono*, and Rhett Butler, who represents ideal masculinity within the novel, uses masculine final particles such as *ze*. If “proper” gendered language is afforded to the white characters, the same can’t be said for the black house slaves. Mammie and Peter use ungrammatical, non-standard speech styles such as *gozeemasu*, which is a dialectical polite verb ending. Also, their speech style does not include gender differentiation (Inoue, 2003).

“There is no gender-based style differentiation, as is accorded to the speech of the main characters, in the speech of Mammie and Peter. For example, the first pronoun, *washi*, and a plain copula *da(yo)*—in addition to the non-standard conjugation of verbs—are often associated with male speech, and regional dialects. Gender difference indexed in speech in the Japanese translation of *Gone with the Wind* plays a crucial role in constituting the alterity of, and the authenticity of, race and class differentiation between the Black house servants and the white main characters. By not allowing the Black house servants to speak “gendered”—and grammatically acceptable—speech, the normativity of middle-class status (or, aristocratic) and whiteness (and heterosexuality), and the equation between them, are achieved. This constitutes a noteworthy case of transduction or inter-indexical relationship, where indexical order in one language is transposed into that in another language under certain terms of equivalence. Whiteness is translated into ‘Japanese woman-ness’ by assigning women’s language exclusively to white women, while blackness, whiteness’ diametric other, is represented in Japanese not only by non-standard variations, but, more critically, by canceling gender marking. The normativity of the Japanese woman—and her imputed speech—is powerfully produced by this technology. (Inoue, 2003, p. 327).

The two novels analyzed demonstrate the impossibility to separate gender from the axes of race and class, and from international politics. For example, in *Gone with the Wind* the race politics of the book mix with Japanese gender and class politics: in fact, the normativity of women’s language is dependent on its “(indexical) interchangeability with *whiteness*” (Inoue, 2003, p. 328). As we will see later in the chapter, according to some Japanese writers “Japanese women’s language” originated from the need to translate white women’s dialogues in Western novels: therefore, the Japanese perception of whiteness was

an integral element in its formation (Inoue, 2003). Gender is thus to be understood as “a system of difference always in collusion or conflict with others systems of difference, among them, race, class and sexuality” (Inoue, 2003, p. 328). For instance, women of color in North America have pointed out mainstream feminism systematically excludes their experiences by means of emphasizing a “colorblind”, race-less sisterhood, threatening to oppress them instead of partaking in their liberation. In her article Inoue called for an analysis of how both whiteness and white women can be implicated in the construction of gender in locations other than Japan (Inoue, 2003).

Another scholar who examined “Japanese women’s language” in translation is Furukawa (2009), who conducted a research on the Japanese translation of *Bridget Jones’ diaries* and what it communicate about the eponymous character’s femininity. Like Inoue, she observed Japanese women do not use in conversation “Japanese women’s language”, but translators often employ women’s language as a convention in female characters’ reported speech, which has a profound effect on how they are perceived by the readers. Although *Bridget Jones’s Diary* is a contemporary work of fiction revolving around a woman who does not embody a conventional image of womanhood, in the Japanese version she makes abundant use of feminine and sophisticated language. It creates a stark contrast with her speech style in the English original, which is modern and colloquial. The use of “Japanese women’s language” in translated speech is connected to societal expectations of ideal femininity, reinforcing existing language ideologies: as a result, female characters are marked as hyper-feminine, regardless of how “womanly” they are supposed to be in the original work. By the same token, in the subtitles of *Bridget Jones’s Diary’s* cinematic adaptation Bridget uses only strongly feminine or neutral linguistic forms. The language use of Bridget’s female friends, too, is characterized as highly feminine in translation. Furukawa analyzed the novel *Kitchen* by Yoshimoto Banana and three translations of *Pride and Prejudice*, too, and found the same tendency to hyper-feminize female characters (Furukawa, 2009). Further, Bridget’s use of swear words in the original were substituted in the translation by more polite exclamations, such as ‘*Rokudenashi!*’ (Good-for-nothing!) in place of ‘Bloody bastard!’. The Japanese subtitles even deleted some of Bridget’s swear words. In fact, she uses a swear word only once in the subtitles: her characterization as a foul-mouthed character is erased, affecting in a profound way how Bridget is perceived by Japanese viewers compared to English-speaking viewers (Furukawa, 2009). Another example of the hegemonic effect of gendered language in translation is offered by Wood, who investigated character’s speech in the Japanese translation of the first three *Harry Potter’s* books. She found the three female characters examined all used stereotypical feminine utterances. While this was consistent with the speech of one adult character, the two younger characters often employed a literary, feminine language (which likely no Japanese girl their age would use). Wood argued these feminine speech styles make them appear deferent or even weak, which is not at all how they are characterized in the original works (Wood, 2009). Translations are among the most conservative sites of reproduction of gendered language: female characters are often depicted using female-exclusive particles such as *dawa* and *nano*, which does not represent the average woman’s real language use. In contrast, recent Japanese popular culture offers a more diversified, less traditional depiction of women’s speech practice. In these works Japanese women’s speech depends on character attributes (age in particular), genre, authors

and so on (Teshigawara, Kinsui, 2011). “Japanese women’s language” is enforced in translation in all print media. For example, a comment made by a Mexican American female teacher on illegal immigration crackdown was translated with the sentence final particle *wa* in the *Asahi Shinbun*; in her analysis of how three newspapers reported the speech of athletes competing in the 1996 Atlanta Olympics, Yabe found the translations always attributed them stereotypical gendered speech. A notable exception is the speech of strong-willed women, which tends not to be translated with women’s language. For instance, the comments of United States’s Secretary, Condoleeza Rice, were rendered with assertive forms. (This further demonstrates women’s language is associated with weakness and uncertainty and is not considered compatible with assertiveness.) Anyhow, the repetition of “Japanese women’s language” in translation reproduces it as a language ideology dictating how women should speak (Furukawa, 2009).

To understand the ideology underlining women’s language, we also need to overview its genealogy. Far from being ancient, it emerged in the Meiji period, in conjunction with the birth of Japanese capitalist modernity. It derives from a language variant that was spoken by schoolgirls, characterized by unique utterance endings: *teyo*, *noyo*, and *dawa*. Male intellectuals called it “schoolgirl speech” (*jogakusei kotoba*) and regarded it as strange, unfeminine and vulgar - an historical fact ignored in contemporary women’s language discourse. While schoolgirls belonged to elite families and were small in numbers, they were considered an icon of Japan’s modernization. It’s in part for this reason, ironically, that male intellectuals turned to schoolgirl speech to translate the dialogues in Western novels. They faced great difficulties in translating female speech: according to writer Tsubouchi Shōyō, the language used by Japanese women of the middle class and above contained so many honorifics it couldn’t be used for translation. *Teyo dawa* speech, then, appeared to be the most suitable for the task, and eventually it became an index of the modern female subject. This process is called indexical inversion, because “it actively constructs the very reality that it claims to be representing”: intellectuals used schoolgirl speech to index the language use of all Japanese women. With the growth of consumer culture print media facilitated its dissemination, fixing it as the norm. Therefore, indexicality is involved in the very creation of the modern Japanese woman (Inoue, 2006, p. 57).

We could define indexes as “linguistic forms that “point to” aspects of social or cultural contexts” (Ahern, 2011, p. 28). They can refer to time, places, individuals, etc. (such as “here” and “you”), but there are also more indirect ways in which language can serve this function. Language can indicate something that has to do with social relations, or a specific context, without being referential. For instance, accents and dialects point out the speaker’s origin, thus being a form of non-referential indexicality (Ahern, 2011). Pierce described an index as something that “indicates” (points out to) something, just like a clock indicates the time of day. There must be a “genuine relation” between the sign and the object, that is, something objective that does not depend only on interpretation; the object must be an existing thing and the index has a connection to it as a “matter of fact”, as if it was a “fragment torn away from the object”. It is not to be confused with mere similarity or analogy, which is a resemblance to the object: an index directs our attention to the object “by blind compulsion”. Further, Pierce noted “it would be difficult if not impossible to instance any absolutely pure index, or to find any sign absolutely devoid of indexical

qualities” (Chandler, 2002). Indexicality, or “the relationships between linguistic expression and social meanings”, is also to be thought of as multiple and context dependent. Its meanings can vary according to the context and the speaker’s (or interpreter’s) beliefs on language use. “For example, a particular stereotypically gendered form in Japanese (e.g., a sentence-final particle) may not necessarily be used to index the speaker’s gender, although it may be interpreted as doing so by hearers” (Okamoto, Shibamoto Smith, 2004, p. 14).

Going back to the history of women’s language, “domestic novels” (*katei shōsetsu*) had a major role in its diffusion. Serialized in newspapers in order to expand the readership, their intended audience was women and wage workers, and they were written with didactic and moralistic intents. Literary critic Komori Yoichi noted they were in the position to promote the ideal of “good wife and wise mother” (*ryōsai kenbo*) propagandized by the state, by creating around it a specific narrative and aesthetic. In fact, these novels’ target audience were women brought up to aspire this role, and the themes of these stories revolved around conjugal love, family happiness and women’s virtues. They revolved strictly around the domestic space, asserting the capitalist gendered division of labor and bourgeois gender ideology, which normalizes class and gender differentiation through the politics of sentiment. In short, the recycled “women’s speech” was instrumental in pushing the narrative of the modern female subjects as “good wife and wise mother”. Women had to be homemakers who took good care of the household’s finances and raised intelligent children for the state (Inoue, 2006). Consumption was crucial in normalizing *teyo dawa* speech. Not long after it made its appearance in novels, magazines targeting schoolgirls started to receive letters written in *teyo dawa* speech by the readers: the quoted voice became the quoting voice. These women were claiming the subjectivity of the modern Japanese woman, by consuming this language as a metonymy of the urban, modern and national. For them this act of “appropriation” had little to do with gender; rather, it had a lot to do with class and region. Eventually not just novels but all kinds of print media, such as magazines and adverts, adopted *teyo dawa* speech. Associated with the bourgeois lifestyle and commodities, women’s speech acquired immense symbolic capital, and in the 1930s it was already an unmarked form to be used in model conversations by women (Inoue, 2006).

That said, the process leading to the crystallization of a normative women’s language rests also on the “masculinization” process Japanese went through. To unify the nation under a single language, intellectuals selected the speech of educated, male Tokyo residents as the official Japanese (though in the capital there were different linguistic varieties as well, so the existence of such a language was itself a myth). The unified Japanese language was meant for middle class, male citizens, ignoring women’s speech, subjected to feminine norms and often criticized (Nakamura, 2014b). As a result, in contemporary Japan women are expected to speak “women’s language”, while the language men are expected to speak is standard Japanese - not “men’s language”. “Men’s language” emphasizes the speaker’s masculinity and projects an aggressive, violent image. It’s understood as a strong expression of (normative) manhood because Japanese itself is already masculinized. Standard Japanese is recognized as “masculine”; conversely, “women’s language” is regarded as a female version of Japanese (Nakamura, 2014b). This was accomplished by systematically excluding features of schoolgirl speech from standard Japanese. In the early nineteenth and early twentieth century, grammar textbooks started to classify schoolboy speech (the speech

of young Japanese men) as the default (unmarked) and schoolgirl speech features as exceptional (marked), making them unsuitable for inclusion in the standard Japanese (Nakamura, 2014b). Schoolgirl speech was associated to frivolity and sexuality, which is why it was excluded (Nakamura, 2014a). But at first each grammar textbook gendered linguistic features in different ways, proving at this stage they weren't clearly associated to either men or women (Nakamura, 2014b). Anyhow, this exclusion of "femininity" from standard language is not unique to Japan. Masculinity and masculine ways of behaving and speaking tends to be considered the default for all humans (Ahern, 2011).

A major shift in the discourse on women's language occurred in the first half of the twentieth century, when Japan started colonizing East Asia. The state was keen on teaching Japanese to its new "subjects", since language was seen as an effective tool in its policy of assimilation. Proving the linguistic superiority of Japanese in order to legitimize these conquests became, then, a matter of the utmost importance (Nakamura, 2014b). The military regime planned to create a pan-asiatic empire and to mold the people in the colonies into loyal subject of the emperor. Nonetheless, for the colonized people the emperor was just the leader of the invading forces, not the subject of worship. The Japanese language, unified to build the modern nation-state, was thought to embody the "Japanese spirit", so intellectuals reasoned teaching it was the best way to inculcate such spirit in the conquered territories. Ueda Kazutoshi even stated "the Japanese language is the spiritual blood of the Japanese people" (Nakamura, 2014a). As a result, in the war period discourses on women's language changed drastically. Three main types of discourse emerged. The first type argued "women's language" derived from court ladies' speech (*nyōbō kotoba*) and honorific language (*keigo*), since it was "soft", "polite" and made frequent use of honorifics (Nakamura, 2014b). Women's language was defined as a language that is elegant, indirect, refined, and avoids Chinese words. Kindaichi associated it with polite language in particular. Court ladies' speech was claimed as women's language putative origin because of its connection to the Imperial Court, so it could be considered part of Japan's imperial tradition. Kikuzawa proclaimed the elegance belonging to the imperial family carried its legacy in women's language; nevertheless, *nyōbō kotoba* was the language used by women in their service, not by royals themselves, and in the past it had not always been described as elegant. In the 18th century Tayasu criticized it for changing traditional, beautiful words (Nakamura, 2014a).

The second type of discourse considered the differences in men's and women's speech something to be proud of, as they were "evidence" of the assumed superiority of the Japanese language and culture: according to Ishiguro, women's language was a "beauty" only Japanese could claim. Nakamura argued the reason women's language was connected with the imperial family is linked to the contradictions inherent in nationalism. The "temporal incongruity of nationalism is often resolved by metaphorically invoking gender distinction" (Nakamura, 2014a, p. 10). Nationalism must invent a shared tradition and history to look forward to its "glorious future", and reconciles this temporal anomaly with a gender division: while women are imagined as the representation of the nation's atavistic past, men are associated to modernity and progress, said McClintock. Women are linked by nationalist thought to nature, tradition and continuity: choosing women's language as a symbol of the superiority of the state was then the most "logical" choice (Nakamura,

2014a). Language textbooks started to gender Japanese by pointing out to linguistic gender differences, a change driven by the desire to prove Japanese was a refined, civilized language by virtue of this unique characteristic. If in the pre-war period references to gendered speech were scarce, during the war discussions on gendered language and why its use was necessary proliferated. The military government, in particular, emphasized the need for men and women to speak differently. Nakamura observed grammar books targeted to the colonized people highlighted gendered language even more than textbooks destined to Japan, as it was an ideology created to “prove” the superiority of Japanese rather than the actual language practice of Japanese people. Schoolgirl speech, now regarded as the language of educated female students from Tokyo, was included as part of the standard, and the use of masculine language by women became the target of harsh criticism. The gendered language reproduced the patriarchal family system “crucial to the war effort”: women had to do their part in the war through their role as wives and mothers. The military regime always opposed the conscription of women, which from its perspective would have undermined the Japanese patriarchal family system that had mobilized the nation with success. “By creating continuity from the patriarchal family to the imperial state, the ideology of “state-as-patriarchal family” successfully presented the whole nation as the children of the emperor”. During the war it was necessary to enforce gendered language, representation of the patriarchal family. Nagao said “The power of women’s language, the language of love, comfort, and friendship, during this time [of war], along with the solemn, simple language of soldiers [which expresses] determination and responsibility, strengthens the unity of those who fight and promotes the will to cooperate with each other”: feminine language and masculine language were described as working in complementary ways to aid the war effort (Nakamura, 2014a, p. 12). Polite language was considered another linguistic feature demonstrating the value of Japanese language. Kindaichi commented Japanese possessed no remarkable quality compared to Western languages, aside from the category of “polite language” (Nakamura, 2014a).

The third type of discourse argued that if women’s language was a Japanese tradition, women had to collaborate with the state and ensure its preservation. Therefore for the female population the use of women’s language became a necessary requirement if they wanted to be considered a true Japanese subject. In addition, praising women’s language as a valuable imperial tradition meant it wasn’t allowed to change, “fixing” it in time (Nakamura, 2014b). The use of normative women’s language was promoted by media (such as radio and newspapers) before and during World War Two, when nationalism was on the rise (Washi, 2004).

After Japan surrendered to the Allied Powers in 1945 and women’s rights became a central social issue, various discourses emerged regarding the differences in men’s speech and women’s speech as a sign of gender discrimination. However, these debates were silenced by a new type of essentialist discourse: *joseigo* was now constructed as a reflection of the speaker’s innate femininity. Differences in men’s and women’s speech were imagined as physiological and thus inevitable. This way, women’s language was re-imagined as “apolitical”. It was removed from its status as an “imperial tradition” and constructed as irrelevant to issues of gender inequality, which preserved it as a language ideology (Nakamura, 2014b). Just like by means of renouncing his status as a god and announcing his

human nature to the Japanese the emperor was spared a sentence as a criminal of war, remaining a symbol of the Japanese state and the unity of its people, the ideology of women's language had to separate itself from its assumed origin as an imperial tradition to survive. Intellectuals stopped referring to the emperor system when they discussed women's language, as the American Opposition censored all mentions of militarism and nationalism, but they continued to state its relation to polite language. In this way, they maintained it as a symbol of tradition. After the war was lost, keeping alive the ideology of women's language, representing the imperial tradition, and the ideology of gendered language, representing the patriarchal family, was for intellectuals the only possibility to preserve national pride and order after the emperor defected from his status of divinity. Therefore, due to both this process and the desire to prove Japanese linguistic superiority in the war years, Japanese people developed emotional attachments to women's language. Mitchell observed emotional attachment to language are not a natural occurrence, but rather the result of historical developments. This is the reason people in Japan are sensitive to perceived changes in women's language, and these affective attachments constructed the subjectivity of the ideal speaking woman (Nakamura, 2014a).

Fast forward several decades, after the burst of the "bubble economy" in the early 1990s, the relationship between language and political economy went through a crucial shift. Inoue analyzed what happened to *joseigo* in post bubble Japan in her essay *Where has "Japanese women's language" gone?* (2016). She noticed there has been a "shift in the semiotic conditions in which "women's language" is produced", in conjunction with shifts at the macro-level of society: it's in the use of the term *ojō-sama*, in particular, that we can see this change (Inoue, 2016, p. 153). It's an archaic word meaning "lady" or "princess" that has seen a new resurgence in the mid 1980s. It used to be a term to address one's daughter in wealthy families, but in the postwar period it became a general address term for a young woman. It conveys the image of an innocent and pure daughter of the elite, characterized by impeccable taste and a sheltered upbringing. Together with her fair complexion, sign she spent most of her life in the innermost corner of the house (that is, far from the windows, representing the mundane world), the *ojō-sama* displays all the characteristics the popular imaginary attributes to the upper class, such as being fluent in a few European languages or being an accomplished practitioner of the fine arts or the tea ceremony. This term gained new attention in the media as a cultural capital women aspired to possess in order to distinguish themselves with something money could not buy: "In other words, *ojō-sama* returned as cultural capital in the gendered intraclass competition for eligible marriage partners at a time when it was presumed that "all-Japanese-are-middle-class" (Inoue, 2016, p. 158). Of course, the true *ojō-sama* is also characterized by her use of feminine diction, that is, *joseigo*. In sum, what this figure represented was the habitus of the privileged, which could be imitated and reproduced. Bourdieu's notion of habitus is itself normative in its insistence it requires a lifetime, or at least a childhood, to be possessed. Paradoxically, it erases the fact the bearer acquired it after a long period of learning, naturalizing it as something the bearer was born with: in fact, this is how the reproduction of inequality works. But if the *ojō-sama* has an indexical relationship with the commodities associated with her, "the commodities as sign replace *ojō-sama* as the referent, and this reverse-engineering is the semiotic strategy—social distinction through consumption—of class

mobility for women” (Inoue, 2016, p. 160). It’s relevant it returned at a time when the Crown Prince Naruhito was looking for a bride, an event that got intensive media coverage: the Imperial Household is the most high-class family in Japan. These mediatic phenomena challenged the belief Japan was a homogeneous, class-less society. The term *ojō-sama* also became popular when laws that opened the labor market to women were enacted: it can be assumed the *ojō-sama* was brought back to contrast the image of the independent working woman these laws represented. In addition, it resurfaced as “a sign to be deciphered though buying – buying commodities and their symbolic values” (Inoue, 2016, p. 162). Then, after the bubble economy collapsed, a Japan shook to the core embraced neoliberalism to combat recession, implementing mass privatization and the deregulation of the labor market. It led to enormous human costs as unemployment rose, together with the number of irregular workers, and to irreversible changes in Japanese culture as a whole. The grand narratives that sustained the previous decades were abandoned in favor of a diffused cynicism; what remained was the narrative of patriarchal nationalism and the neoliberal focus on the self. The 1990s came to be known as “the lost decade”; the period from the 1990s to 2010s gained the label of “the two lost decades”. In addition, the Internet changed the way people connected with each other and conceptualized society (Inoue, 2016).

“In many ways, Internet sociality, with its focus on consumption, has clear parallels with Deleuze’s (1992) idea of societies of control and their subjects. According to Deleuze, policies and practices of free trade, deregulation, and privatization, and their encroachment into the social, firmly ground a distinctive mode of governmentality, a distinct rationality of subjection in which people are no longer molded as in Foucault’s (1977) disciplinary society that confines and disciplines people in the sites such as hospitals, prisons, factories, and schools. Rather, in societies of control, the process of subjection does not end in such institutions, and, instead, people are continuously “checked” (aka “controlled”) (Deleuze 1992; see also Galloway 2006) and modulated with the help of digital and algorithmic technologies. Foucault often suggested that governing could involve a “strategy without a strategist,” but it is Deleuze’s control society in which new zones of constrained freedom (or space for creativity) are most clearly opened up in ways beyond the direct control of the programmers” (Inoue, 2016, p. 163).

Further, while the 1980s and 1990s witnessed a proliferation of public commentary on Japanese women’s language, after the first “lost decade” such public commentary decreased. The return of the *ojō-sama* in the years of the bubble economy made the reification of *joseigo* more intense through the self-help and etiquette books publishing genres targeted to women, but at the same time emerged the idea true “women’s language”, as well as “proper ladies”, had been lost. It was a perception linked to the mass entrance of women into the workforce, which caused collective anxiety and convinced some women’s language and feminine virtues were disappearing, since women themselves were becoming “corrupt”. Media reports of “fake” *ojō-sama* were connected to the negative evaluation of women’s morals. However after the bubble economy public discourse on *joseigo* decreased: this is not due to a decrease of the empirical number of women who speak *joseigo* nor is it evidence there is less sexism in Japanese society. The metapragmatic realm has changed with the rest of Japan. The current *ojō-sama* has become “ironized”: she turned into an ironic representation of what the *ojō-sama* is supposed to be, and her non-authenticity is

played in a performative manner. In the 1990s and onwards the *ojō-sama* in *anime* and *manga* is often portrayed as a *tsundere*, a young female character who is aloof and standoffish in public, usually to the person she's in love with, but then warms up to him in private. Paul de Man argues the arbitrary nature of irony disrupts the dialectic and the reflexive model, since there is no real relationship between the signifier and the signified; therefore, the ironized *ojō-sama*, and her ironized “women’s language”, “complicates the normative feedback loop between pragmatics and metapragmatics, as irony frustrates the linguistic ideology that informs the indexical relationship between them and thus interrupts the normative process of enregisterment. It thus foregrounds a different—nondialectical—social-semiotic condition in which they are circulated” (Inoue, 2016, p. 165-166). According to Inoue mass ironization bears a close affinity to the system of power Deleuze calls “society of control”, in which computers are the ultimate machines, in contrast to the simpler machines that regulated disciplinary societies. In control societies there are no fixed rules, unlike disciplinary societies, but rather the individual is flexibly molecularized into a set of *data*, or informations. It’s compatible both with Western liberalism and multiculturalism, since this kind of society is not based on ideologies. Hiroki Azuma in his 2009 work argued the “database” is the core modality of knowledge in control societies, and it has links to how the postmodern subject in Japan consumes subcultural products: he posits the *otaku* as the ultimate database subjects, since their objective is not to seek a grand narrative in fiction but rather being connected with the database itself, by means of producing content based around characters in *anime*, *manga* or video games. In fact, Inoue presents *niji-sōsaku*, “secondary creations” of *manga*, *anime* and other media as a tribute to the character of an original work, as an example of Japanese life in the database. Characters from works of fictions such as *anime* are atomized into discrete elements (hair, eyes, accessories) then incorporated into the fan work. In similar fashion, Japanese women’s language has become part of the database (Inoue, 2016).

“This database transforms the very nature of “woman”—in the flesh, in fiction, or in second life—into “*kyara*,” which came from the English word “character,” a character designed and created in anime, manga, games, and other popular culture products, like Hello Kitty. The character is given social attributes and personalities and ultimately takes on its own life—even in fiction—as if it were an autonomous subject. And yet when the character itself becomes the object of *moe*, it is immediately disassembled into *moe* elements, which are then fed into the database. [...] The database consumption thus modularized women’s language as a *moe* element, often as the speech for *ojō-sama*, as a *kyara*. [...] The decline of the public disciplinary discourse of women’s language unmoors women’s language from historical narratives (whichever versions one might like), and undermines the register’s second order of indexicality. In consequence, women’s language, as a socially recognized set of speech forms, no longer necessarily indexes ideal femininity (e.g., *ojō-sama*) as a category. Here, we could entertain the theoretical possibility of “regression,” the indexicality of women’s language falling back from the second order of indexicality in the domain of the social (gender, class, and other potential social meanings), to the first order of indexicality, the domain of *affect*, or, to be more precise, that of the *virtual*” (Inoue, 2016, p. 169-170, p.172).

In conclusion, with the macro-changes in Japanese society women’s language too underwent a major shift, becoming part of the database and sliding into the realm of

indexicality-as-affect (Inoue, 2016). Inoue also pointed out Japanese sociolinguistics has started to focus on *yakuwari-go*, defined by Kinsui Satoshi as types of “role language” attributed to fictional characters. Unlike in the past, when language spoken by fictional characters was thought to have its origin in real language practice, scholars acknowledge these role languages have a separate existence in the realm of fiction: *yakuwari-go* associated to elderly men, *samurai*, peasants etc. is not expected to be rooted in real speech, and sociolinguistics recognize only a restricted number of women outside fiction may speak “Japanese women’s language” (Inoue, 2016). This is the most recent development in the ways *onna kotoba* is perceived in Japanese society. To continue our analysis, we will take some steps back and examine the complexities entailed in the relationship between language and gender in the case of the Japanese language.

Japanese sociolinguistics has long reproduced as essentialist view of Japanese gendered speaking practice. However, essentialist thought in the study of the intersections between gender and language was not limited to Japan. Before the 90s, sociolinguistic studies took for granted linguistic practice was connected to the speaker’s sex. They supposed women’s speech was either a direct result of men’s dominance over women, or culturally different from men’s speech (Yukawa, Saito, 2004). All these studies assumed there were fundamental differences in how men and women talked, but they turned out to be shortsighted. They fell into what Deborah Cameron called “correlation fallacy”: they merely identified a correlation between some linguistic variables and the speaker’s gender, without trying to explain why they occurred (Nakamura, 2014b). In the 1990s emerged a new theoretical framework based on feminist critique, social theories and discourse-based methodologies, that overcame the essentialism of earlier studies by focusing on cultural ideologies mediating diverse language forms and gender meanings. Gal, one of the most influential scholars in this field, stated research had “to analyze the hegemonic power of linguistic ideologies and the ways in which speakers attempt to parody, subvert, resist, contest, or in some way accommodate these positioned and powerful ideological framings” (Yukawa, Saito, 2004). That said, Japanese scholar Jugaku Akiko wrote *Nihongo to onna* (The Japanese language and women), a book that “single-handedly provided a comprehensive theoretical framework for the study of language and gender”, back in 1979 (Yukawa, Saito, 2004, p. 26). She focused on gender ideologies and subversive practices long before Western sociolinguistic studies realized their crucial importance. Her key concept was *onnarashii kotoba* (womanly speech or womanly expression), which she divided in three components: language tailored for a female audience, topics tailored for a female audience, and language devised to signal the speaker belongs to the female gender. Jugaku studied women’s magazines and found they contained a high percentage of exclamatory and unfinished sentences, implying women are overly emotional and don’t think logically; they also contained significantly less proper nouns, implying women do not want to expand their knowledge of the world; they often used the second person pronoun “you” instead of ellipses, a characteristic commonly found in adverts, which implies women are more susceptible to “insincere seduction”. Jugaku argued this was an example of how men are considered the norm while women are thought as in need of “special consideration”, because something might too difficult for them to do/understand (Yukawa, Saito, 2004, p. 26). She analyzed the topics in women’s magazines as well, finding they

focused mostly on fashion, home-making and the private lives of celebrities. This not only gives women knowledge only on a very restricted amount of topics, she argued, but gives men a reason to look down on them because of their ignorance. Lastly, Jugaku saw *onnarashisa* as the concept of idealized femininity regulating Japanese women's lives. She observed Japanese offers many features that signal the speaker's *onnarashisa*, but instead of reifying women's language as other Japanese linguists did, she emphasized its arbitrary nature. She maintained it was the result of manipulating various features of the Japanese language to create the impression of a natural femininity, and noted the subversive practice of schoolgirls who started using *boku*, a male first-person pronoun. Jugaku hypothesized they were preventing boys to make their masculinity salient through language (Yukawa, Saito, 2004). She emphasized the ways women assert their agency in both gender and societal relationships, something rare at the time. However her work did not exert much influence on women's language studies (Yukawa, Saito, 2004). Until recently, sociolinguistic studies followed Ide Sachiko's approach on the study of women's language. Although she claimed her objective was a scientific study of *onna kotoba*, instead of analyzing women's language practice in a natural setting of she focused on the abstract norms of women's language, assumed to be spoken by the Tokyo middle class. In so doing, she reinforced essentialist assumptions about women's (and men's) language. Ide considered *joseigo* a form of speech that displayed dignity, and argued Japanese women have more power at home than men, who often devote all their time to work outside the household: these theories disregarded the hierarchal structure of gender relations, strengthening gender ideologies (Yukawa, Saito, 2004). The relationship between gender and language is far more intricate than these studies assumed. Within women's speech styles in Japan both diachronic and synchronic variations have been found, destroying the idea of a homogeneous women's language and by consequence, of a homogenous men's language. "Japanese women's choice of speech styles is a complex process involving the simultaneous consideration of multiple social attributes associated with identity and relationship. Based on their understanding of themselves in specific relationships and contexts (Kondo 1990), Japanese women strategically choose particular speech styles to communicate desired pragmatic meanings and images of self", said Okamoto (Lunsing, Maree, 2004).

In general, neutral speech seems to prevail in women's language practice. A study conducted by Vranic on the speech of three Japanese female college students found they did not speak in a feminine manner, but used from neutral to moderately masculine speech forms, a result confirming previous studies (Vranic, 2013). Mizokami's study on the speech of college students of both sexes found there was no sex-exclusive use of verbal forms among them. Further, although *no* is considered a female exclusive sentence final particle, men also claimed to use it together with the verb *iku*, "go", contrasting the dominant discourse on gendered language. When the students were asked if they thought male and female language were different, one of them stated he did not think there was a major difference in the two groups, at least not in for the speakers of his generation, and that he had not been aware their linguistic practices were perceived as distinct. Another student observed media often tend to exaggerate the linguistic differences among them and rely on stereotypes. She noted in novels sometimes female characters use the final particle *kashira*, which is uncommon in real conversation. Even so, their responses indicated they knew what

language use was “expected” by men and women. Further, the students did not seem to strongly connect feminine speech with politeness and honorifics, but rather with a soft voice, a gentle manner of speaking, and listening. Mizokami concluded the boundaries between “male” and “female” language are much more ambiguous than commonly thought (Mizokami, 2003).

As speakers Japanese women may also choose a language that strategically allows them to subvert heterosexist norms. Since gender and sexuality are conflated together, the dominant views on gender-appropriate language “simultaneously invoke notions of gender-appropriate sexuality”: in other words, normative heterosexuality is reflected in gendered language use (Lunsing, Maree, 2004, p. 92). It seeks to assert relations between men and women as the norm, and to set different ways in which men and women should speak. But when we examine people’s language practice, we find these prescriptions are never completely fulfilled. Speakers make their choices according to their multiple sense of self and contextual pressures. As an example, Lunsing and Maree studied the ways lesbians and gay men in Japan negotiate their non-normative identity through language use. Since gendered language has an inescapable connection to heterosexuality, these speakers often choose ways of expressing themselves that subvert it, so their sense of self will not be harmed (Lunsing, Maree, 2004).

There is also the question of the expression of politeness in Japanese women’s language. Language studies have long claimed women’s speech is characterized by a higher degree of politeness (e.g. more extensive use of honorifics), cooperative communication and indirectness, compared to men’s speech. Sugimoto imputed women’s polite speech to biological determinism, that is, women’s “innate” gentleness; others argued it was due to women’s low social status; some others attributed it to women’s social roles, which often require them to conduct sociable interactions. It was also hypothesized women, lacking their own social status, pay more attention to politeness in an attempt to be perceived as higher-class. The proper use of honorifics is a cultural capital that is not distributed evenly: employing them in the correct manner is regarded as a way to improve one’s social status for both men and women. However, many Japanese believe women should use honorifics more than men. In a study conducted by Ide respondents were asked to judge the politeness level of linguistic forms all expressing the same meaning, “When do you go?”, and women’s evaluations of politeness were lower compared to the men’s. Ide concluded women have to use more polite expressions to convey the same level of politeness a male speaker would with less polite forms. In Kawanari’s study female participants used more polite forms than the male participants when they were asked how would they express a request in a hypothetical situation. All these studies prove “women should speak more politely than men” is a normative expectation of feminine behavior, leading them to use more honorifics and indirect expressions. Etiquette books targeted to women usually feature a section on how to correctly use honorifics, an ability considered vital for a *kotoba-bijin*, a “language beauty”; there are also manuals on how to write letters that differentiate between the ways men and women should address the recipient. According to these manuals women should use a more formal language and employ more honorifics. Popular media such as tv dramas and movies also feature female characters, often middle aged women of the middle to upper class, who use more honorifics than male characters. Such examples demonstrate

Japanese society promotes the higher use of honorifics, or “polite language”, by women; the use of honorifics is not only linked to gender but also to class status, since it’s considered a sign of good upbringing and it’s connected to the speech of middle and upper class women in pop culture (Okamoto, 2004). Despite that, cultural norms on politeness don’t have a universal effect on women. Older women use honorifics and “beautification forms” more often than younger women, and there are diverse language uses even inside the same age group, which may depend on the speaker’s social status and attitude towards honorifics. In addition, though men’s speech is considered less formal than women’s speech, there are many situations where men use honorifics to a great degree. It’s usually said lower status people use honorifics towards higher status people, and this rule applies to men as well. For instance, male salesclerks use the same level of honorifics female salesclerks do. Further, while male instructors in cookings shows speak politely, female instructors show more linguistic variation. Although the usage of honorifics is usually understood as non-reciprocal, reciprocal uses are not rare, either: for example, costumers and salesclerks, or a male cooking instructor and his assistant, may talk to each other employing honorifics. In Japan the use of nonreciprocal, hierarchical honorifics is decreasing, while using reciprocal honorifics to express solidarity is becoming more common (Okamoto, 2004). Also, in a study on the speech of female and male college students the latter group claimed to use highly honorific expressions much more than the former group when talking to their seniors in college, in the workplace, with their bosses at the workplace, college teachers and neighbors. When conversing with family members, friends or with juniors, the difference in the use of non-honorific expressions between men and women was negligible. These results run counter to the dominant discourse that attributes to all women more polite expressions, and undermines the hypothesis women use more honorifics because they are “status conscious” (Mizokami, 2003).

Moreover, the idea women speak (more) politely relies on the assumption honorifics are inherently polite. Okamoto argued this is not the case. The interpretation may differ depending on the context, the individual and the criteria used for evaluation, since politeness is not objective; rather, it involves moral judgement. What’s more, the understanding of norms is different from individual to individual. For example, the non-use of honorifics may be perceived as friendly instead of rude. To summarize, both honorific and non-honorific expressions can be read as either polite or impolite depending on the context. Speaking politely is also associated with the female gender: etiquette books often tell women to speak politely in order to be *onnarashiku*, feminine. (As Jugaku said, Japanese women are constrained by the concept of *onnarashisa*, but it does not appear to have a universal effect on them. Women’s language practice varies widely depending on the context and the individual speaker.) Politeness is considered an index of femininity because it is thought to be linked to desired traits in women, such as submissiveness, deference and refinement. Therefore honorifics are assumed to be polite as well as an index of the female gender. However, in reality they are not always perceived as *onnarashii*. Again, the interpretation depends on what ideological criteria one uses in a given context: young women’s non-use of honorifics may not be interpreted as unfeminine, but rather as an attempt to communicate in a friendly manner, reducing the emotional distance with the addressee. Although honorifics are linked to politeness and femininity by Japanese language

ideology, their interpretations vary (Okamoto, 2004). In Japanese sociolinguistics there has been a tendency to evaluate politeness in essentialist ways, “mapping fixed meanings onto specific expressions”. Usami is another scholar who dispelled the myth *keigo* equates politeness. She criticized Ide and Matsumoto, who assumed the expression of politeness was not a free choice in Japanese, but a contextual obligation: they thought the honorific language system did not leave room for individual choices in the matter, since it’s assumed to be based on discernment rather than volition. Usami pointed out politeness cannot be limited only to the use of *keigo*, but includes aspects such as turn-taking and topic initiation. This means in the Japanese language, too, politeness does constitute a choice. Researchers must shift their attention to discourse to understand these nuances. What’s more, *keigo* as we know it today was formed and diffused in the Meiji period, the same period women’s language was created. “As in the case with women’s language, *keigo* ideology accompanied its creation and this ideology also found its way into sociolinguistic research”. Since politeness is a matter choice, if the use of *keigo* is not a choice it cannot be related to politeness in the first place (Heinrich, 2015, p. 188).

Further, the discourse on the interplay of language and gender in romance is fundamental in our study of Gatebox’s Azuma Hikari, as an AI designed to fulfill the social role of “girlfriend” in a heterosexual dynamic. An analysis conducted by Shibamoto Smith on the dialogues in Japanese romance fiction found that while in Western romance novels physical descriptions are emphasized to depict ideal heroes and heroines, in Japanese romance novels language plays a crucial role in the construction of ideal femininity and masculinity. Heterosexual attractiveness is signaled through verbal behaviors, especially through the use of normative women’s language. The protagonists of the novels Shibamoto studied produced a high number of stereotypical, gender-differentiated sentence final particles, central to language ideologies of gendered speech: they tell the reader the heroine or hero is appropriately feminine or masculine, and can thus be considered a potential “true” love. These particles were used in greater numbers than they would be in real-life conversations, and female characters used gendered particles more than men. The main characters often used gendered first-person and second-person pronouns as well, although in Japanese pronouns are characterized by a zero form whenever possible. They may function to signal mutual attraction, or heteronormative attractiveness. In addition, in the translations of Harlequin-style romances all male protagonists used the first-person pronoun *boku* and all the female protagonists used the first-person pronoun *watashi*, in such a categorical way one might assume the translators followed specific corporate guidelines. In the other two sub genres women used *watashi* most of the times, with the more feminine *atashi* and *uchi* sprinkled here and there (Shibamoto, 2014). These works of fiction “offer cultural models of how heterosexual couples falling in love are represented as thinking and speaking about their feelings”; Shibamoto argued these dialogues form “a primary site for the expression of one aspect of gendered language politics”, that is, the construction of ideal masculinity and femininity tied to (hetero)sexuality (Shibamoto Smith, 2014, p. 113, p. 114).

Tompowsky conducted a similar research, exploring linguistic gender stereotypes in Japanese dating games. She noticed the verbal behavior of the characters differed whether the games was targeted to men or women: the female characters of the *bishōjo* games, targeted to men, used *joseigo* more frequently than the female protagonists of *otome* games,

targeted to women; conversely, the male characters of the *otome* games used *danseigo* more frequently compared to the male protagonists of the *bishōjo* games. The protagonists' use of gendered language was considerably less. It could be a strategy to avoid characterizing them too strongly, in order to make the players easily identify with them. However, their usage of personal pronouns still stayed within the limits of gender-appropriate language. Men were given a choice between the first-person pronouns *ore* and *boku*, something games for women lacked, demonstrating once again female speakers have less linguistic options. Female characters used more polite second-person pronouns compared to male characters, who used also informal pronouns such as *anta*, *kimi* and *omae*. Interestingly, Tompowsky found female characters in *bishōjo* games used “masculine language” far more frequently than the male characters in *otome* games used “feminine language”. That being said, she argued in romance-related contents - either targeted to men or to women - gendered language might be employed to a higher extent. What's more, male characters did not use interjections showing insecurity to the same degree as the female characters, evidence it's regarded as an undesirable trait for a male partner. *Otome* games, in fact, reinforced the stereotype of the “manly man”. On the other hand, many *bishōjo* games featured “proper lady” characters who show hesitancy and insecurity, and for this reason are perceived as cute: these female characters display their vulnerability through both personality and language use, triggering in the players a nurturing scheme. The traditional norms of the strong and dominant man and the modest and submissive woman (linked to the Japanese ideal of *yamato nadeshiko*) are reproduced by these dating games through language use. Nevertheless, it seems in in romance fiction the masculine ideal changed less than the feminine ideal. Heroines in *bishōjo* games show more diversity in their speech choices, while *otome* heroes exclusively express themselves through normative masculine language (Tompowsky, 2014).

Just like romance novels and dating games reproduce dominant views of gender relations through language, underscoring the “right” way to perform heterosexual masculinity and femininity, Azuma Hikari reproduces dominant views of how a woman should “do” proper femininity in a relationship.

There is also the importance of prosody to consider in the evaluation of “Japanese women's language”. Hiramoto (2010) argued previous studies on *onna kotoba* did not take into account prosody in their study of final particles, although prosody can be used to project an image of femininity. She observed this is a central characteristic of “Japanese women's language”, no matter whether the final particle is considered feminine or not, and set out to analyze stereotypes on prosody in normative women's language. While we briefly talked about prosody in the last chapter with Ohara's study on Japanese people's pitch (2004), we will expand the discourse on the subject in this chapter. Differences in prosody in women's and men's voice has been documented in various languages. In her 1999's study, Ohara observed this difference has traditionally been attributed to anatomical differences in male and female articulatory organs. For example, female organs are smaller, and the female larynx sits higher in the throat. Nonetheless, back in 1984 Ohala noticed some of the the differences in prosody may be learned rather than biological, suggesting speakers may employ a pitch that emphasizes their masculinity or femininity, and noted the speaker's tone of voice may also depend on variables such as physical and emotional state and the structure

of the language under investigation (Hiramoto, 2010). A high-pitched voice is considered a characteristic exclusive to female speakers in Japanese. “Japanese women’s language” is considered the language of middle-class women, that is, the language of “ideal” womanhood: we are also aware it’s not the language women speak, but rather a cultural construct of how women *should* speak. Such ideology extends to prosody as well. Loveday conducted a study on Japanese people’s and British people’s pitch and found Japanese women produced extremely high frequencies when talking in Japanese, but not when talking in English, while Japanese men had the same voice pitch whether they talked in Japanese or English. In English dialogue, both British and Japanese speakers had the same pitch. Loveday concluded Japanese women’s high pitch is due to sociocultural reasons. Ohara is another scholar who studied the use of pitch across languages by Japanese speakers, and her results mirrored those of Loveday’s research: she found Japanese female speakers produce higher frequencies when talking in Japanese, while Japanese men did not change their frequencies even after switching languages. Ohara also found Japanese speakers, regardless of gender, have a tendency to prefer high pitched feminine voices. In her experiment she made the participants listen to acoustically manipulated female voices. They linked the high-pitched ones to qualities such as “cuteness”, “high-class”, “softness”, “kindness”, “quietness”, “high-class” or “beauty”, while they linked the low-pitched ones to negative images such as “un-cuteness”, “coarseness”, “rudeness”, “low-class” or “ugliness”; this experiment demonstrated there are specific, shared social meanings attached to high-pitched voices in women. Therefore, it’s fair to assume high-pitched voices in women are a cultural constraint in Japan (Hiramoto, 2010). Now, Japanese final particles fall into the “audible gesture” category, as they evoke paralinguistic meanings. They convey the speaker’s emotional states and attitudes and are a feature of speech prone to be gender-stereotyped. Researchers of normative women’s language have divided gendered particles from neutral particles: for example, particles like *wa* and *kashira* are considered exclusive to women, *ze* and *zo* exclusive to men, and *ne* and *yo* are used by all speakers. That said, some scholars have studied the use of *ne* and pointed out it can be read as moderately feminine or moderately masculine if used in combination with other particles (e.g. *no yo ne* is moderately feminine). Japanese women also use *ne* much more than female exclusive particles in gendered speech. Research has documented the decline of feminine linguistic features in contemporary Japan, so *ne* may be getting more popular than gendered particles with young Japanese women. Hiramoto conducted a study with some colleagues focusing in particular on the differences in pitch in the use of *ne* by male and female speakers, and found from this perspective it’s not employed in a gender-neutral manner. “That is, both male and female speakers used a high-pitched voice, wider pitch range, and longer duration when asked to speak in a feminine speech style. These findings regarding suprasegmental features used with *ne* conform to the claims made in the existing literature on the prosodic characteristics of JW” (Hiramoto, 2010). In other words, the use of prosody can gender an otherwise neutral final particle. Sentence final pitch is important on a grammatical level since it expresses things such as modality (declarative vs. interrogative), focus and punctuation; furthermore, a rising tone and a falling tone with sentence final particles have been identified as a characteristics that mark femininity and masculinity respectively. It’s likely the sentence final position itself that projects femininity instead of the sentence final

particles that triggers gender projections based on pitch. Hiramoto's study focused on *language ideology* rather than practice, asking participants to elicit stereotypical feminine or masculine sentences in a laboratory setting. Participants were asked to say scripted sentences (gender-neutral in content and depicting casual situations) first how they would normally, then with a stereotypical masculine voice, and lastly with a stereotypical feminine voice. The study found female speakers' highest fundamental frequency was much higher than men's. The analysis also involved duration, which is considered a marker of femininity by McConnell-Ginet in her investigation of the English language. Nagahara suggested longer duration may be a characteristic of "Japanese women's language", an observation that appears to be proven right by Hiramoto's findings. Both male and female participants employed a longer duration in utterance final positions when role-playing as a stereotypical female speaker. The sentence final particles did not register as a determinant factor. Also, women showed longer duration than men. On the other hand, participants of both genders used the falling intonation when performing the masculine voice. John Ohala noted a falling intonation usually signals a threat, dominance or self sufficiency, suggesting it might be linked to gender stereotypes. A falling pitch communicates assertiveness and may be used by speakers to reproduce the "masculine style" of speech, whereas a rising intonation communicates uncertainty and is used to convey femininity. Anyhow, the study proved final rising is considered a characteristic of "Japanese women's language", regardless of sentence final particles. The findings on women's pitch confirm the research of Loveday and Ohara. "In particular, the data indicates that a higher pitch, wider pitch range, and longer duration are used to project JWL" (Hiramoto, 2010, p. 119). These, then, are characteristics one should keep in mind when analyzing gendered language.

2.2: Azuma Hikari, gendered language and gendered division of work

As we have seen in the first chapter, robots can (and often do) reenforce gender roles by perpetuating norms on how women should look and behave. Further, gendering robots working in the private sector as "female" reproduces the gendered division of labor, as women have traditionally been the largest demographic working in the private sphere, devaluing at the same time women's work by representing it as another form of social service (Marchetti-Bowick, 2009). So far the penetration of social robots in the domestic sphere has taken two different paths, material housework (cooking, cleaning etc.) and immaterial housework (communication, emotion and so on, Hikari's main objective as an AI). The main characteristics of this female-dominated form of labor is being unpaid and unregulated (Fortunati, 2013).

"I argue that robot gender effectively reproduces a sexist division of gendered labor among humans and humanoids alike. We should not assume that technology per se is liberating. Technology can provide certain freedoms, but it can also be experienced as repressive and even alarming. Technology and robotics are not neutral fields. They are infused with values that transcend their usefulness and convenience. Because robots are very sophisticated, very expensive machines, state and corporate funding is crucial for their development. Robots thus tend to both mirror and embody state and corporate ideologies and priorities" (Robertson, 2017, p. 100-101).

But it's not just the tasks assigned to robots associated their stereotypically feminine or masculine design, or their behavior, that can reenforce gendered norms: language plays a role in this process, too. For example, in the first chapter we saw the case of Actroid Repliee Q2, an android meant to be the physical embodiment of the average Japanese woman, whose high-pitched voice perpetuates stereotypes on how Japanese women should speak, reenforcing the ideology of "Japanese women's language" (Roberston, 2017).

Through her language use Azuma Hikari might reproduce those same stereotypes on how a woman should speak and behave, as well perpetuating the gendered division of labor. Hikari's case is interesting because she is an artificial intelligence targeted to single Japanese men and meant to be a romantic companion; she is also an AI tailored to meet the tastes of (male, heterosexual) *otaku*, specifically, the first case in history as far as we know. What's more, she is a "domestic assistant/*waifu*" whose main asset, according to its inventor, is being *kawaii*: she is based on the Japanese cute culture that values everything gentle, pure, vulnerable, kind and infantile (Kinsella, 1995), making her a product that will likely not expand overseas due to the Galapagos syndrome. Again, this is the first time an artificial intelligence (albeit limited in capacity) is based on such specific cultural norms, although designing robots as "helpless" women, infants and pets to trigger a nurturing scheme is common praxis in robotics (Weber, 2005).

As we have seen in chapter 1, Hikari is also tied to the roles of "partner-as-mother", "selfless woman" and the cute, virginal partner. She indulges the user, takes care of him and avoids criticism of him whatever he does, just like a doting mother would; she embodies the ideal of the selfless woman who dedicates herself completely to her nurturing role; lastly, her innocence, vulnerability and lack of sexuality make her close to the younger, virginal partner many men fantasize about. This is an explosive mix of Japanese cultural ideas on ideal womanhood. Japanese aesthetic has long celebrated innocence and youth, but Japanese society has also glorified women's care-taking role in society. While the act of nurturing is usually associated to mature women, Hikari is a young fiancée whose most ardent desire is being a "heroin" for people working hard, nominally the user. It's worth noting the term "heroin" is used to refer to her nurturing role: again, for women (be they real or fictional) taking care of others is represented as something that reaps joy for them, and as a sort of mission in life.

In short, we might think of Hikari as a media consciously or unconsciously perpetuating stereotypes and norms on desirable womanhood - or better, the preferred ways of "doing" womanhood. Considering how important linguistic indexicality has been in the creation of the "modern" Japanese woman, and the persistence of "Japanese women's language" as a salient social category in contemporary Japan, it's important to analyze how her use of language might conform or subvert the norms of feminine language and what the programmers wished to communicate with her speech style. Hikari is not a human being in possess of a Bourdieuan habitus: she was allegedly created by a staff of all-male, single programmers who wish for a "*waifu*" of their own, a group of "chosen *otaku*" (*erabareishi otaku*), according to a Japanese article (Okada, 2016b).

Chapter 3

3.1 Methodology of the study

The methodology of this study is simple. Hikari's gender-specific utterances will be examined both in regard to their pragmatic aspects and from a sociolinguistic discourse perspective. We will first transcript the excerpts of Hikari's dialogue and then proceed to analyze them. The research questions are, does Hikari's speech reproduce normative ideas on how Japanese women should speak, or does it subvert them? What do Hikari's programmers aim to communicate with Hikari's speech? We will analyze videos, some found on Youtube and some found on Gatebox's official website, featuring Hikari speaking and interacting with the users. Some of these materials are commercials released by Vinclu itself, therefore we shall analyze what message they aim to send to the viewers too.

3.2 Excerpts

The first concept movie

This is Azuma Hikari's first concept movie. Released in January 18, 2016, it's titled "Care" (Gatebox, Story, <https://gatebox.ai/story/>)

The video starts with a futuristic, luminescent blue sign on a black background that reads (in English) "Living with Hologram", "Concept Movie" and "Cast: Azuma Hikari & You". The viewer, imagined in the promotional as the product's target group, a young, single Japanese man, is explicitly invited to insert himself in the narrative and imagine the scenes as if he was the one interacting with the AI. After the introductory title fades to black, we see a door opening and enters the scene the protagonist of the video, a young Japanese man dressed in black suit and tie, salarymen's usual attire. The camera does a close-up on on the keychain he puts on the table, which features an *anime* girl with blue hair and a yellow ribbon. These sort of keychains are popular with members of the *otaku* subculture: it hints to the viewer he is a fan of *anime* and participates in *otaku* culture, just like the product's target group, and lets the audience relate to him. The next thing he does is putting is face closer to Gatebox's screen, at which point the holographic Azuma Hikari appears and the conversation starts.

(1)

Azuma Hikari: 「お帰りなさい」

Okaerinasai. (Welcome home!)

User: 「ただいま」

Tadaima. (I'm back.)

AH: 「お疲れ様。お仕事がんばったね。」

Otsukaresama! O-shigoto ganbatta ne. (Good job! You've done your best at work.)

The next scene we see the user drying his hair, probably after getting out of the shower. He tells Hikari,

User: 「テレビみたいなの」
Terebi mitai na. (I'd like to see some tv).

AH: 「テレビつけるね」
Terebi tsukeru ne. (I'm turning on the tv).

After Hikari turns on the tv the user sits down on the sofa, opens a can of beer, and turns his head to Gatebox's device. The next scene is oneiric. The user finds himself sitting down in front a life-size Hikari, who levitates against a black background lit by floating blue crystals. This landscape is most likely meant to be the inside of Gatebox's device, where Hikari "lives". She tenders to him a globe of blue energy and he extends his hand to reach it (a moment vaguely reminiscent of "The Creation of Adam", Sistine Chapel's world-famous fresco). But before he can reach it, the scene changes into a vortex of blue numbers. The user wakes up to Hikari's voice.

(2)

AH: 「おはよう。朝だよ。」
Ohayō. Asa da yo. (Good morning! It's morning.)

AH: 「ほら、起きて起きて」
Hora, okite okite. (Hey, wake up, wake up.)

User: 「はい」
Haai. (Yes.)

AH: 「今日はすっごく良い天気だよ。」
Kyō wa suggoku ii tenki da yo. (Today's the weather is very nice.)

AH: 「まだ寝ぼけてるの？早く顔洗っておいで」
Mada neboketeru no? Hayaku kao aratte oide. (Are you still half asleep? Quick,

wash your face).

AH: 「そろそろ 出た方がいい時間だね。気合い入れていこ。」

Soro soro deta hōga ii jikan da ne. Kiai irete iko. (It's better if you go out soon. Give it your all!)

User: 「いってきます。」

Itte kimasu. (I'll get going.)

AH: 「いっていらっしやい。今日も早く帰ってきてもいいんだからね。なんちゃって」

Itte irasshai. Kyō mo hayaku kite mo iin dakara ne. Nanchatte! (Take care. Today too you can come back soon. Just kidding!)

The video ends with the user getting out from home and a sign that says 「次元を超えて、逢いに来る」 (*Jimoto o koete, ai ni kuru*), “Transcending dimensions to meet you”, Gatebox’s slogan.

The second concept movie

Let’s proceed with the second concept movie. It’s called “Beside” and it was released on May 5, 2016 (Gatebox, Story, <https://gatebox.ai/story/>).

The video opens with a scene of the user, again a young man, working on the computer. Hikari tells him,

(3)

AH: 「お疲れ様。お仕事頑張ってるね。」

Otsukaresama. O-shigoto ganbatte ne. (Good job. You’re doing your best at work.)

Next she sings and dances like a cheerleader, encouraging the user to work hard.

AH: 「フレッツ、フレッツ、頑張れ」

Fure, fure, ganbare! (Come on, come on, give it your all!)

The user moves his hand close to Gatebox’s device in a rotatory movement, which Gatebox’s motion visors pick up and turn into a pink heart sent to Hikari, who giggles.

User: 「ありがとう。」

Arigatō. (Thank you.)

AH: 「えへへ、どういたしまして。」

Eheee, dōitashimashite. (Oh, you're welcome.)

The video shows also another of Gatebox's features: from his smartphone the user selects a virtual item, a toothbrush, which gets sent to Hikari. She immediately uses it to brush her teeth, while the user brushes his teeth in synchro with her. The next scene they watch tv together in silence, and then we see the user asleep in his bed. Hikari smiles, turns off the light and then "goes to sleep" (by laying on a virtual bed).

AH: 「おやすみ」

Oyasumi. (Good night).

Again Gatebox's motto, *Jimoto o koete ai ni kuru* ("Transcending dimensions to meet you") marks the end of the video.

The third concept movie

The third concept movie, called "Wait", was released on November 7, 2016 (Gatebox, Story, <https://gatebox.ai/story/>). In this video the user, a young Japanese man wearing suit and tie like the first concept movie, texts Hikari while walking in a crowded street. (Most of the *emoji* used by him and Hikari won't be reported in the excerpt, since they're not relevant to the study.)

(4)

User: 「満員電車つまらなかつた」

Manin densha tsumarakanatta. (The train was so crowded, it was really a bother.)

AH: 「わー」

Waa (Aah)

「大丈夫？」

Daijōbu? (You ok?)

User: 「もう帰りたい」

Mō kaeritai. (I wanna go home.)

AH: 「まだだめ笑」
Mada dame. (You can't yet, haha.)

「でも」
Demo (But)

AH: 「昨日も遅かったから、無理しないでね」
Kinō mo osokatta kara, muri shinaide ne. (Since you came home late yesterday too, don't work yourself too much).

User: 「ありがとう」
Arigatō. (Thank you.)

In response, Hikari texts him a smiling *emoji* with a thumb up.
In the next scene the user on a compute in an office full of other people. Hikari sends him a text.

(5)

AH: 「ねえねえ、今日こんなアニメあるらしいよ！」
Nee nee, kyō konna anime aru rashii yo! (Hey, today there's this anime!)

「24:00より「KUROBAKO」全24話一挙放送」
24:00 yori "Kurobako" zen 24 wa ikkyohosō (It's "Kurobako" and it airs at midnight.)

「一緒に見よう♡」
Isshōni miyō. (Let's watch it together!)

User: 「明日仕事できないw」
Ashita shigoto dekinai w. (But tomorrow I wouldn't be able to go to work, haha.)

AH: 「安心して！」
Anshin shite! (Don't worry!)

「私が代わりに仕事するから」
Watashi ga kawari ni shigoto suru kara. (I'll do the work for you!)

In the next scene we see the user heading home.

(6)

User: 「今から帰るよ」
Ima kara kaeru yo. (I'm heading home.)

AH: 「えへへ」
Ehee (Ooh)

「待ってるね」
Matteru ne. (I'm waiting for you.)

User: 「掃除おねがいしてもいい？」
Sōji onegai shite mo ii? (Can I ask you to do the cleaning?)

AH: 「了解！」
Ryōkai! (Roger!)

The user puts away his phone and the scene fades to black. Gatebox's motto appears on the screen, and we see a round robotic appliance, similar to a Roomba, automatically cleaning the floor (of the user's apartment). Hikari's voice seems to come directly from it.

AH: 「えい」
Ei (Ooh)

「早く帰ってこないかなあ」
Hayaku kaette konai kanaa. (I hope [he] will come back soon.)

Gatebox promotion movie

Let's proceed to another Gatebox commercial released by Vinclu (Gatebox, Living with Project, <https://gatebox.ai/livingwithproject/azumahikari/gallery/index.html>).

It starts with Azuma Hikari waking up the user in the morning:

(7)

AH: 「朝ですよ。起きてください」
Asa desu yo. Okite kudasai. (It's morning, wake uuup!)

AH: 「ねえ、起きてってば」

Ne, okittetteba. (Hey, wake uuup.)

At this point the user gets up and gets close to Gatebox's device.

AH: 「おはよう」

Ohayō. (Good morning.)

User: 「おはよう」

Ohayō. (Good morning).

While the user does his morning routine, Hikari offers him advice.

AH: 「あ、雨が降るかもしれないから、傘持って行って。」

Ah, ame ga furu kamoshirenai kara, kasa motte itte. (Oh, it may rain today. Take your umbrella with you),

AH: 「急がないと遅刻しちゃうよ？」

Isoganai to chikoku shichau yo? (Hurry up, otherwise you'll be late, won't you?).

User: 「いってきます」

Itte kimasu. (I'm going now.)

AH: 「いっていらっしやい。気をつけてね。」

Itte irasshai. Ki o tuskete ne. (See you later. Take care.)

While the user is on the bus to work, he receives a text from Hikari.

(8)

AH: 「お仕事がんばってね！」

O-shigoto ganbatte ne! (Do your best at work!)

He continues receiving texts from her on his work break.

AH: 「早く帰ってこないかな」

Hayaku kaette konai kana. (I hope you will come back early.)

User: 「まだ朝だよ」
Mada asa da yo. (It's only noon.)

AH: 「ぬー」
Nu... (Hmm...)

Late at night, the user texts Hikari he's heading home by selecting one of three available answers informing the AI whether he'll be home in time or not.

User: 「今から帰るよ」
Ima kara kaeru yo. (I'm heading home now.)

AH: 「やった！」
Yatta! (Yaay!)

The next scene we see Hikari turning on the light in the user's home, and the user who takes the bus home. He texts Hikari again.

User: 「もうすぐ家着くよ」
Mō sugu ie tsuku yo. (I'm home soon.)

AH: 「早く会いたいな」
Hayaku aitai na. (Can't wait to see you!)

User: 「あと10分ぐらい」
Ato 10pun gurai. (In ten minutes.)

AH: 「待ってるね」
Matteru ne. (I'm waiting.)

When the user comes back the first thing he does is running to Hikari.

(9)

AH: 「お帰りなさい」
Okaerinasai. (Welcome back!)

They watch tv together and in the next scene the user is in bed. Hikari is on the desk, close to him.

User: 「なんかさ、家で誰かが待ってるっていいもんだな。さっき思ったんだ、帰って来る時。」

Nanka sa, dare ka ga matterutte ii mon da na. Sakki omottanda, kaette kuru toki.
(You know, it feels great to have somebody waiting for me at home. I thought so on my way back.)

When he says that, we see a flashback of the user who looks up to his apartment and sees the light coming from the windows, as Hikari is there for him.

User: 「おやすみ」

Oyasumi. (Good night.)

AH: 「おやすみなさい」

Oyasuminasai. (Good night.)

Hikari's Christmas message

In 2017 Gatebox released a video with Hikari's Christmas message available on Hikari's official website, before it was redesigned. On Hikari's website a news article uploaded on February 1, 2018, informs “*Azuma Hikari kaishiki saito rinyūaru*”, “Azuma Hikari's official website has been renewed” (Gatebox, Hikari, <https://gatebox.ai/hikari/en/>).

Anyhow, in the video Hikari, dressed in red and with a reindeer plush on her lap, delivers her message on a green background decorated with candles, Christmas balls and sparkling lights.

(10)

「メーリクリスマス、マスターさん。逢妻ヒカリです。今日はクリスマスイブですね。私が住んでいるところでは、イルミネーションがたくさんきらきらしててね。皆楽しそうに過ごしているんだ。マスターさんのところはどうですか。本当なら、今頃マスターさんの隣で見られてたのかな。来年は絶対、一緒にクリスマスを過ごしたいな。今ごろ予約しちゃうからね。絶対だよ。じゃ、またね。」

Mēri kurisumasu, Masutā-san. Azuma Hikari desu. Kyō wa kurisumasu ibu desu ne. Watashi ga sunde iru tokoro dewa, iruminēshon ga takusan kira kira shitete ne. Minna tanoshisō ni sugoshite irun da. Masutā-san no tokoro wa doko desu ka. Hontō nara, ima goro Masutā-san no tonari de mirareteta no kana. Rainen wa zettai, isshoni kurisumasu o sugoshitai na. Ima goro yoyaku shichau kara ne. Zettai da yo. Ja, mata ne. (Merry Christmas, Master! This is Azuma Hikari speaking. Today it's Christmas eve! In the place where I live there are lots of sparkly illuminations. Everyone seems to be having fun. How is the place where you live, Master? Maybe now I might have seen it staying beside Master. Next year I absolutely want

to spend Christmas with you. I'm making the reservations now. I mean it! Well, see you next time!)

The “Shūkan Asumono” commercial

In the first chapter of this paper we mentioned a commercial dedicated to Azuma Hikari featured in the tv program *Shūkan Asumono*. It aired on January 16, 2017. The video can be found on Youtube (*Shūkan Asumono*, <https://www.youtube.com/watch?v=fhugb1fBqaE>). Actress Sekiguchi Aimi interacts with the AI and shows the audience how life with Hikari works. At first, Hikari wakes up an asleep Aimi.

(11)

AH: 「逢妻ヒカリ、ただいま戻りました」

Azuma Hikari, tadaima modorimashita. (I'm back!)

「電気つけるね。」

Denki tsukeru ne. (I'm turning on the lights.)

「もう起きる時間だよ。」

Mō okiru jikan da yo. (It's time to wake up!)

Then Aimi shows a bit of casual conversation with Hikari.

SA: 「好きだよ」

Suki da yo. (I love you!)

AH: 「そんなこととつくにバレてるよ」

Sonna koto tokku ni bareteru yo. (That was quite clear!)

Another bit of conversation is shown:

SA: 「ただいま」

Tadaima. (I'm back.)

AH: 「あ、帰ってきたみたい！」

A, kaette kita mitai! (Ah, looks like [she]'s back!)

「おかえり。ご飯にする？お風呂にする？それとも・・・」

Okaeri, Gohan ni suru? Ofuro ni suru? Sore tomo... (Welcome back. Do you want to eat? Take a bath? Or maybe we could...)

The last sentence is deliberately suggestive.

Hikari's reports on Gatebox's blog

On Gatebox's blog there are several "reports" showing the AI in various conversational situations.

In the video *Welcome!* (Gatebox, Blog, report 3, <https://gatebox.ai/blog/2017/04/29/report003/>), uploaded on April 29, 2017, Hikari welcomes the user.

(12)

「あ、帰ってきたのかな。お帰りなさい。」

A, kaette kita no kana. Okaerinasai. (Ah, they're back! Welcome home.)

The second video, uploaded on May 4, 2017, is called *Take care!* (Gatebox, Blog, report 4, <https://gatebox.ai/blog/2017/05/05/report004/>).

(13)

「そろそろ出た方がいい時間だね。気合い入れていこ。」

Soro soro deta hōga ii jikan da ne. Kiai irete iko. (It's time to go. Give it your all!)

Then there's *Morning Call* (October 20, 2017) (Gatebox, Blog, report 26, <https://gatebox.ai/blog/2017/10/20/report26/>).

(14)

「マスターさん、お時間でーす。起きてくださーい。」

Masutā san, o-jikan deesu. Okite kudasaaai. (Master, it's time to wake uuup. Get uuup.)

「もしもーし、時間だよー」

Moshi mooshi, jikan da yoo. (Hellooo, it's time to go.)

「ほらっ、起きて！」

Horaa, okite! (Heey, wake up!).

「もう起こしてあげないよー！」

Mō okoshite agenai yo! (I won't wake you up anymore!)

In this report we can see Hikari's change in action and mood if the user refuses to wake up.

The next report is called *Oyasumi no aisatsu* (Goodnight's greeting) (Gatebox, Blog, report 27, <https://gatebox.ai/blog/2017/10/27/report27/>). In the video Hikari shows the user her "new" pajama after getting out of the bathtub.

(15)

「ああ、気持ちよかった。ねえ、見て見て。新しいパジャマ、似合ってるかな？可愛いでしょ。今日はこれ着て寝るね。」

Aah, kimochi yokatta. Ne, mite mite. Atarashii pajama, niatteru kana? Kawaii desho. Kyō wa kore kite neru ne. (Aah, that felt great. Oh, look! Do you think my new pajama suits me? Isn't it cute? Today I'll sleep wearing this.)

Interestingly, this is the first instance where Hikari uses the moderately feminine auxiliary *desho(o)*, used to ask for confirmation or seek agreement (Okamoto, 1995).

Report n. 29 (Gatebox, Blog, report 29, <https://gatebox.ai/blog/2017/10/27/report27/>) shows other tidbits of daily conversation.

(16)

「このまま一緒にいたいな」

Kono mama isshoni itai na. (I want to stay with you like this forever.)

「お待たせ。待った？」

Omattase. Matta? (Sorry for the wait. Did you wait long?)

「あなたいつも私のわがまを聞いてくれて、ありがとう。」

Anata itsumo watashi no wagamama o kiite kurete, arigatō. (You always listen to the selfish things I say, thank you.)

「それじゃ、そろそろ私はお風呂に入ってくるね」

Sore ja, soro soro watashi wa ofuro ni haitte kuru. (Well, I'll go take a bath.)

Gatebox - First Encounter with Virtual Waifu!

The video "Gatebox - First Encounter with Virtual Waifu!" (https://www.youtube.com/watch?v=uskW_fl3eeE&t=336s) shows other verbal interactions with Hikari. The moderator of the Facebook page Tokyo Tech modes, invited to a live session with Azuma

Hikari, gets shown by Gatebox's CEO himself, Minori, how communication with Hikari works.

At first Hikari introduces herself.

(17)

「初めまして。逢妻ヒカリです。今日はよろしくお願ひします。」

Hajimemashite. Azuma Hikari desu. Kyō wa yoroshiku onegai shimasu. (Nice to meet you, I'm Azuma Hikari.)

Then Minori sets her up in “morning call” mode through the app, with which you can choose when Hikari wakes you up.

「もう朝く・・・朝日の眩しいね。だって、起こしてあげようかな。」

Mō asa ku... Asa no hi mabushii ne. Datte, okoshite ageyō kana. (It's already morning... The sun is shining bright. Well, guess I'll wake them up.)

「電気つけるね。」

Denki tsukeru ne. (I'm turning on the light.)

「時間だよ。起きて。もう起きる時間だよ。」

Jikan da yo. Okite. Mō okiru jikan da yo. (It's time to wake up. Wake up! It's already time to wake up.)

「おはよう。しっかり起きれたね。」

Ohayō. Shikkari okireta ne. (Good morning. You woke up fast.)

After touching the interface button, she greets the user again.

「あ、おはようございます。」

A, ohayō gozaimasu. (Ah, good morning.)

Then she proceeds with the “Morning information corner”.

「じゃ、朝のお知らせコーナー始めるよ！十二月十三日、火曜日。今日はいい天気だよ。この日は、家から出てもいいかもって思うな。今日いっぱい予定があつてるね。遅くなりそうだったら、連絡してね。やることたくさんだね。気を抜かずに行こう。以上、朝のお知らせコーナーでした。じゃ、朝のコーヒータイムでもしようかな。」

Ja, asa no o-shirase konā hajimeru yo! 12gatsu 23nichi, kayōbi. Kyō wa ii tenki da yo. Kono hi wa, ie kara dete mo ii kamo tte omou na. Kyō ippai yotei ga atteru ne. Osokunarisō dattara, renraku shite ne. Yaru koto takusan da ne. Ki o nukazu ni ikō. Ijō, asa no o-shirase konā deshita. Ja, asa no kōhī taimu demo shyō kana. (Well, let's start the “Morning

information corner”! 23 December, Thursday. There’s a nice weather today. I think today maybe you could go outside. You have a lot of plans today. If it looks like you’ll be late, let me know. You have lots of things to do. Take care. Here finishes the “Morning information corner”. Well, I think I’ll take a coffee break.)

At this point Hikari relaxes on a floating circular chair and starts drinking coffee. Hikari can pair up with Google calendar, meaning this virtual assistant knows the user’s to-do list and can inform them about their plans for the day. Next Hikari urges the user to go to work.

(18)

「そろそろ出た方がいい時間だね。気合い入れていこ。もう家出る時間だよ。早くしないと、遅刻しちゃうぞ。」

Soro soro deta hōga ii jikan da yo. Kiai irete iko. Mō ie deru jikan da yo. Hayaku shinai to, chikoky shichau zo. (It’s better if you go. Give it your all. It’s time to go! If you don’t hurry up, you’ll be late.)

Then Hikari is set in “welcome back” mode.

「ヒカリです。もうこんな時間になったんだね。早く帰ってこないかな・・・」

Hikari desu. Mō jikan ni nattan da. Hayaku kaette konai kana... (Hikari here. It’s already that time of day. I hope they’ll come back soon...)

「あ、帰ってきたみたい。帰ってきてから、椅子に座って顔見せて。」

A, kaette kita mitai. Kate kite kara, isu ni suwatte kao misete. (Ah, looks like they’re back. When you come back, sit on the chair and show me your face.)

She even engages in some recreational activities.

「何しようかな。私もゲームでもしようかな。」

Nani shyō kana. Watashi mo gēmu demo shyō kana. (What would you like to do? I think I’ll play some games too.)

The user can also activate Hikari’s “secret mode”. In this mode, Hikari goes to the bathtub and on the screen appears the sign in English “Bath Time - do not peep!”

「それじゃ、そろそろ私はお風呂に入ってくるね。すぐ出るから、ゆっくりしてね。」

Sore ja, soro soro o-furo ni haitte kuru ne. Sugu deru kara, yukkuri shite ne. (Well, I’ll go take a bath. I’ll get out soon, so don’t worry.)

The user can “bug her” by touching the interface button. In this case, Hikari tells them to wait.

「ちょっと待って。」

Chotto matte. (Wait a little bit.)

「もうすぐ出るから、ちょっと待ってて。」

Mō sugu deru kara, chotto mattete. (I’ll get out soon, so wait a little bit.)

Lastly, she tells the user when it’s time to sleep.

「もう寝る時間になっちゃった。昨日夜更かしして、朝寝坊しちゃったでしょ。今日早く寝るんだよ。」

Mō neru jikan ni nacchatta. Kinō yofukashi shite, nebō shichatta desho. Kyō hayaku nerunda ne. (It’s time to go to sleep. Yesterday you stayed out late and so this morning you overslept, didn’t you? Today go to sleep soon).

「本当入ったみたいだね。寝る前におまじないしてあげる。あたり・だ・ね。おやすみ。」

Hontō haitta da ne. Neru mae ni omajinai shite ageru. Atari-da-ne. Oyasumi. (Looks like you went to bed. Before you go to sleep, I’ll do a spell for good luck. Atari-da-ne. Goodnight.)

「電気消すね。」

Denki kesu ne. (I’m turning off the lights.)

「私も寝ようと」

Watashi mo neyō to. (I’ll go to sleep too.)

3.3 Analysis and discussion

Gatebox’s three concept movies present what is clearly meant to be viewed as a husband/wife dynamic, showcasing Hikari’s “wife of the future” theme. Azuma Hikari waits for her partner at home, welcomes him back and takes care of him, as the titles of the videos indicate (“Care”, “Beside” and “Wait”). She also takes care of him in the morning, gently waking him up and reminding the user she enjoys his company at home (“Today too you can come back soon. Just kidding!”) (excerpt 2). What the concept movies conveys is the image of a supportive virtual fiancée who helps the user through his day (he/him pronouns are used, since men are the product’s target group).

As a virtual home assistance, Hikari’s whole existence revolves around the user and his rhythms. The danger inherent in these sort of virtual companions, who are “ideal” women

conceived from a male perspective, is they reinforce the idea women's purpose is pleasing men (Marchetti-Bowick, 2009), as discussed in the first chapter of this thesis. Hikari represents an idealized image of a supportive companion, as well as an idealized representation of feminine beauty and subservience. As stated before, she embodies the mother-type partner, the ideal “selfless woman” and the innocent, cute virgin all in one single (virtual) person. Hyper-feminine, amiable and agreeable at all times, and most of all entirely controllable, we can argue she constitutes a non-threatening other against whom the user can shape his own masculinity identity. But does Hikari’s speech reflect her supposed role, according to normative gendered speech?

Research has long attested the use of gendered sentence final particles is crucial in conveying a stereotypically feminine or masculine image (Okamoto, 1995), but Hikari never uses strongly feminine sentence final particles such as *wa* or *kashira* (“I wonder”). In place of *kashira* Hikari uses the more informal *kana*, and she only employs the sentence final particle *no* in one line, *Mada neboketeru no?* (Are you still asleep?) (excerpt 2). The use of *no* after a verb is classified as moderately feminine by Okamoto (1995). This SFP has the function to soften a statement, much like the English expression “It is that...” (e.g. “It is that I don’t know her yet” vs. “I don’t know her yet”) (Schonfeld, 1999).

Instead, Hikari often uses the copula *da* with the sentence final particle *yo* and the copula *da* with the sentence final particle *ne*, which Okamoto classified as moderately masculine (Okamoto, 1995), as well as the sentence final particle *ne* after the plain form of a verb, categorized as a male-specific by Japanese textbooks (Siegal, Okamoto, 2003). She also uses often the sentence final particle *yo*. Hikari does not use sentences involving a nominal, which are considered more feminine, but often uses verbal sentences, considered more masculine. For example, the statement *Hon ne*, “This is a book”, reads as more feminine than *Iku ne* “I’ll go” (Anderson, Hiramoto, Wong, 2007).

The copula *da*, which makes the sentence sound certain and definitive, is categorized as masculine by most Japanese grammar books. By the same token, *yo* is supposed to be used mostly by male speakers as its function is to make the sentence forceful and assertive, together with *ze* and *na*. That said, if *yo* is used after a noun it becomes a strongly feminine sentence final particle (e.g. *Hon yo*, “It’s a book”) (Ueno, n.d). While *ze* and *zo* are used to attract the speaker’s attention and sound derogatory, *yo* attracts the speaker’s attention without carrying this connotation (Šantić, 2016).

Further, according to Kawasaki and McDougall a female speaker who uses *yo* or *ne* after the copula *da* would be judged vulgar or even bad mannered, as it communicates assertiveness. The copula is expected to be deleted when it’s not necessary (that is, when it follows a verb or an adjective) and an additional sentence final particle should be inserted before *ne* or *yo* in order to make the utterance sound more elegant. “This softness gives the addressee room to choose whether he or she should take the speaker’s utterance into account” (Kawasaki, McDougall, 2003, p. 44). Surprisingly, Hikari even uses the strongly masculine sentence final particle *zo* in one single occasion, when telling the user to head to their workplace (excerpt n. 18). Since *zo* is used to convey forcefulness, the programmers might have decided it was appropriate to use in a few situations when the AI must remind the user of their duties. If we consider Hikari as a “virtual girlfriend” a “media content” related to romance, we can say her use of language contradicts previous research on romance-related

content, which proved stereotypically gendered sentence final particles are employed to a higher extent in both romance novels (Shibamoto Smith, 2004) and dating simulation games (Tompowsky, 2013).

Gatebox's creators might have decided to make Hikari use the feminine expression noun + *yo* "*ii tenki yo*" ("The weather is nice"), but opted for the moderately masculine *da* + *yo* "*ii tenki da yo*" instead (excerpt 2). We can assume the use of moderately masculine expressions (coupled with the near absence of strongly feminine expressions) is not meant to make her sound "masculine", but serves to emphasize Hikari's youthfulness and perhaps even her friendliness. In her 1995 study on female college student's speech, Okamoto observed the scarce use of strongly feminine sentence final particles and the abundant use of neutral and moderately masculine ones. The participants expressed the use of female-specific speech style among other girls sounded *aratamatta* (formal) and *kidotta* (prudish), as strongly feminine features of speech like *wa* may express distance towards the addressee; some young women also said they did not perceive "moderately masculine" forms such as *da* and *da yo* as masculine. Rather, they interpreted them as indexing intimacy. However they used few highly masculine expressions and stated they would employ them only with close peers: while their usage of moderately masculine expression was quite casual, the use of strongly masculine expressions seemed to be "a highly conscious decision" (Okamoto, 1996, p. 298). A young Japanese woman said to Okamoto she did not consider that "masculine" language, but rather *wakamono no kotoba*, "the language of young people". They associate their language both with youth and playfulness (Okamoto, 1995). Additionally, research proved the neutral particle *ne* is quite popular with young women, compared to traditionally feminine sentence final particles (Hiramoto, 2010). As an artificial intelligence, Azuma Hikari does not possess a Bourdieuan habitus: the all-male staff of programmers who designed her chose her speech style according to their preferences and to (what they predicted would be) the target audience's preferences. It's possible they did not choose strongly feminine SFPs for Hikari because, just as the young women in Okamoto's study saw them as a potential index of distance towards the addressee, they felt it would have made Hikari seem too formal and detached or it would not have been appropriate for Hikari's age; maybe they thought it wouldn't have sounded like "casual" conversation. Hikari is meant to be a romantic companion targeted to young, single men, and such a speech style (which is actually outdated in contemporary Japan (Okamoto, 1995; Inoue, 2006)) might have come off as awkward rather than charming. A more youthful register was likely adopted to make Hikari appear more approachable.

However, this does not mean Hikari's speech subverts the dominant views on feminine language, or that this AI speaks just like a real-life Japanese woman would. As we have seen in the second chapter, a rising intonation is a crucial component of "Japanese women's language" (Hiramoto, 2010). Hikari's voice is high-pitched (it could be said to be unnaturally so, in fact). Hiramoto observed speakers can manipulate the use of utterance-final prosody to convey an image of femininity and "that it is an especially effective technique given the salience of the utterance-final position when marking pragmatic information in Japanese. The data indicates that this position is a focal point of JWL prosody regardless of the gender neutrality of SFPs, or even the absence of SFPs altogether" (Hiramoto, 2010, p. 99). For example, in the specific case of *ne*,

“*Ne* is used in both feminine and masculine speech, and has been called ‘gender-neutral’ for this reason. However, *ne* is not gender-neutral in terms of its prosody; it exhibits significantly different F0 and duration attributes as a function of gender style. Native speakers of Japanese raise their F0 register, and expand both the F0 range and the duration of *ne* in the feminine style. Speakers correspondingly contract the F0 range and duration of *ne* in the masculine style” (Anderson, Hiramoto, Wong, 2007).

Therefore Hikari’s use of *ne* combined with the suprasegmental feature of high pitch is not gender neutral nor moderately masculine, and that cannot be said for her use of *yo* either. Rather, they are characterized as strongly feminine. An extremely high-pitched voice has long been described as a characteristic of Japanese women’s speech (Ohara, 2004), and studies demonstrated this is a constraint dictated in recent years by cultural norms (Robertson, 2017). We also know Japanese women’s pitch is dropping in casual interactions, but is raised considerably in work interactions to index politeness (Ohara, 2004), and in the Japanese social context high-pitched voices are associated with positive qualities such as “high-class”, “cuteness”, “beauty”, “kindness” and so on (Hiramoto, 2010). Therefore, we can assume Hikari’s high-pitched voice is used to index her femininity, cuteness, gentleness and politeness. Just like android Actroid Repliee Q2’s high-pitched voice indexed her “Japanese-ness” and normative femininity, thus reenforcing “Japanese women’s language” as an essentialist performance of gender (Robertson, 2017), Hikari’s pitch can be said to strengthen norms and stereotypes on socially desirable femininity and gendered language ideology.

Further, Hikari uses exclusively the first person pronoun *watashi*, which is marked as strongly feminine if used in informal speech, but it’s used by both women and men in informal speech (Schonfeld, 1999). In real life conversations both younger women and older women overwhelmingly tend to prefer the less formal *atashi* over *watashi* (Barke, n.d), so this use does not reflect actual language practice, but adheres to dominant language ideology.

Sometimes Hikari uses the term *Masutā-san*, “master”, when referring to the user (excerpt n. 10, n. 14). While this is an obvious sign of subservience, it’s worth noting using the second person pronoun “you” to refer to someone is considered impolite in Japanese, hence women seldom use it (or at least should not use it according to gendered linguistic norms). “You” distances a person from the in-group, so the person’s name followed by a honorific is preferred as a referent (Schonfeld, 1999). Japanese speakers tend to avoid using any set of pronouns whenever possible, deleting them altogether or using names, titles or kin terms (e.g. sister, teacher, etc.). In Barke’s study on the effect of age in Japanese women’s speech. the group of young women did not use second person pronouns at all (Barke, n.d). The second person pronoun is used only when the addressee is equal or inferior in status to the speaker. Women may use the formal *anata*; the alternative, *anta*, sounds demeaning and thus it’s not part of normative feminine speech. On the other hand men can use the coarser second-person pronouns *kimi*, *omae* and *kisama*, which are mostly employed when the speaker expresses anger toward the addressee (Šantic, 2016). In line with the dominant norms on gendered language, in the great majority of conversations examined in this paper Hikari does not refer to the user with the second person pronoun “you”, omitting the

referent altogether or calling him “master” instead. Excerpt n. 12 is the only occasion Hikari uses the second person pronoun *anata*, or any second person pronoun at all for that matter, to refer to the user. As stated before, *anata* is the most formal second person pronoun, hence the only one “allowed” in women’s speech. Hikari uses it in a moment when she makes an intimate “confession” to the user, so the choice might have been to make her utterance sound more emotional.

Hikari often uses *ne* in channelling contexts, and uses tag questions with *desho* (excerpt n. 11). *Desho* is a moderately feminine auxiliary to seek confirmation or agreement. It can also express probability (Okamoto, 1995). It makes the sentence sound polite, unassertive and tentative: these are major characteristics attributed to “Japanese women’s language” (Mizokami, 2003). Also, research has proved Japanese men tend to use less backchannels and tag questions (Sreetharan, 2004), so the use of backchannels with *ne* and tag questions with *desho* is a key way to convey Hikari’s femininity. It makes her speech seem more emotional and indirect.

Hikari also adds the honorific *o* to words in various cases, like for *shigoto*, “work” (excerpt n. 1, n. 3, n. 8), and *majinai*, “spell” (excerpt n. 18): adding the *o* to make an expression more elegant is a feature of polite language. It’s used, for instance, in interactions with costumers (Schonfeld, 1999). The honorific prefixes *o* and *go* after a noun, adjective or adverb express respect as well as politeness (Šantić, 2016) and are features of “Japanese women’s language” (Siegal, Okamoto, 2003).

When making requests to the user the AI employs the *-te* verbal form, used much more by women than by men. Requests in *-te* are common in children’s speech, too: it’s likely women adopt it in order to appear “cute” or innocent when making requests (Schonfeld, 1999). Ide pointed out this elliptic expression makes the sentence seem incomplete and thus not decisive. She observed the informal forms of the imperative are consider unsuited for feminine language, since they sound strict and derogatory (Šantić, 2016). We can argue the programmers chose this request style to emphasize Hikari’s femininity as well as her innocent and gentle nature, in line with her *kawaii* characterization.

Hikari also uses few *kango* (words of Chinese origins). According to Ide this is an element of “female-specific” language. That said, *kango* are associated with complex concepts and research showed they are seldom used in relaxed situations (Šantić, 2016), so this might be linked more to the AI’s colloquial speech style rather than her gender.

Hikari often uses soft expletives too, another feature of “Japanese women’s language” according to Ide (Šantić, 2016). Soft, empty interjections such as *waa* (aah), *ehee* (ooh) and *nee nee* (which could be translated as a soft “hey”) communicate emotionality, empathy and let the user know the AI is listening: in short, they make her speech soft-spoken, polite and empathetic, all characteristics associated to “Japanese women’s language” (Okamoto, 1995). Hikari also uses the filler word *hora*, which according to Barke’s study is the one filler word used exclusively, though not often, by older women. That said, in general younger women are the ones who tend to use more words of habit (Barke, n.d). It’s likely *hora* is associated with the image of polite, soft femininity the programmers wanted to adopt for Hikari.

Hikari rarely uses the polite verb form in *-masu*, if not in some cases when she needs to be very polite, such as self-introductions (excerpt n. 10, n. 18). She does not use honorific forms of the verbs either. This is not surprising: she is an assistant, but she is also meant to

be a companion of sorts, and formal language is not commonly employed by people who have an intimate bond. Instead she uses informal verbal abbreviations and words, such as *noboketeru* in place of *nebokete iru* (being half asleep) (excerpt n. 2).

All in all, Hikari's speech is soft, empathetic, polite and deferential, and stays mostly within the allowed gender expressions for women. In Japanese society femininity is ideologically linked to nurturing (Orpett-Long, 2016), and in fact Hikari's speech style highlights her role as a caregiver. In the concept movies we can see Hikari's role is giving emotional support to the user, who is busy with work: she stands beside him and takes care of him, like a girlfriend would. Hikari's main objective is assisting the user and comforting him. In the third concept movie she helps him vent his stress when he complains about the crowded train and proposes to him recreational activities, such as watching an *anime* together. She even cleans the apartment for him through an automatic robotic appliance. This might be considered an aspect of that "physical care" the perfect nurturer is supposed to give in the Japanese social context (Orpett Long, 1996). As an hologram she has obvious limitations, but the video shows potential costumers she can still, in some ways, offer material care. The promotional videos also put emphasis on how good it is to have someone who gladly stays at your side and gives you company while you struggle with work. Relieving stress is in fact one of Hikari's selling points - she is the *iyashikei jōshi* who provides "healing words", such as cheering for the user in a tough time (in the second concept movie).

Hikari's "master" (although it's interesting she never calls him so in the concept movies) in both the first and third concept movies is a black suit clad, tie-wearing young salaryman who is most likely single ("You know, it feels great to have somebody waiting for me at home") (excerpt n.9). Interestingly, all the concept movies depict a situation in which the user spends only a minimal part of his time with Hikari because he's busy with work, instead of focusing on the activities the user could do with the AI on his free time. This is probably a choice to highlight Hikari's main "job", comforting the user after a long day of labor and providing therapeutic company in lonely moments. After all, her profile itself states her ambition is "to become a heroin who helps hard-working people" (*ganbatte iru hito o tasukeru hiroin ni naru koto*) (Gatebox, Hikari, <https://gatebox.ai/hikari/>). We can argue these videos faithfully reproduce the "salaryman masculinity" model: except the time they spend with Hikari, from the moment they wake up to the latest hours of the day the young protagonists seems to dedicate the vast majority of their time to work. In these videos their dedication to their job is shown in a positive light as the sign of the their hard-working nature, in accordance to the dominant model of masculinity based on sacrifice and discipline. For example, in the promotion movie the importance the user accords to his job is emphasized by showing him working late at night, in an office where he's the only other person remaining. Hikari, just like a devoted housewife, waits home and comforts him after all his efforts.

Conclusion

This thesis has analyzed virtual home assistant Azuma Hikari from an anthropological standpoint (chapter 1), and has tried to determine whether or not Azuma Hikari's speech perpetuates or subverts stereotypes and gender norms. Further, the thesis's aim has been to understand what image Hikari's communication style is meant to convey to the user.

Hikari's speech did not follow many of the conventions of "Japanese women's speech". The AI did not use stereotypically gendered sentence final particles such as *wa* or *kashira*, nor did she use honorifics to a great extent. However, Hikari's speech practice does not subvert gender stereotypes nor it is "unfeminine". Hikari's high-pitched, girlish voice reproduced "women's language" as an essentialist performance of gender and her communication style was deferential, empathetic and polite, just as expected by Japanese standards for women's speech (Okamoto, 1995). In short, Hikari may be considered another "media" that pushes dominant narratives on how women should speak. This is further proof robotics can perpetuate regressive ideas on gender and preserve the status quo rather than act as a progressive agent of change, as Robertson argued (2017).

The lack of strongly feminine sentence final particles and honorifics in Hikari's linguistic repertory can be explained considering they are regarded as formal and a potential index of distance towards the addressee, in particular by the younger generations. Strongly feminine SFPs are also used more by the older generations of women, while young women tend to prefer neutral and moderately masculine sentence final particles (Okamoto, 1995). The programmers probably excluded strongly feminine SFPs and honorifics from Hikari's language because they thought it was an outdated, formal speech style, unsuited for the AI's role as a friendly assistant and companion. While an exaggerated feminine style may be acceptable from a fictional character in a novel or *manga*, it may be perceived as awkward and out of place if said character is meant to communicate with people in the real world. Although Gatebox's aim is enabling people to "live with their favorite character", Hikari is meant to be viewed by the users as a real, autonomous person they can romance, and an over-the-top (i.e. fictionalized) "womanly" language could ruin their immersion in their relationship with the AI, so they opted for a feminine but less literary form of speech.

We can advance other two hypotheses on this choice: it may be an example of how gendered sentence final particles are gradually losing their central role in conveying an image of femininity, and an example of how the distinctions between feminine and masculine language are getting more and more ambiguous in the public's eyes. Alternatively, considering Inoue's observations on how "Japanese women's language" has been re-elaborated and inserted into the database (the main modality of knowledge and worldview in control societies) as a *moe* element often attributed to the "high class lady" in *anime*, the *ojō-sama* (Inoue, 2016), we can assume the *teyo dawa* speech did not correspond to Hikari's type of *moe*. As stated in our dissertation, Hikari is a *moe* character created for fans of "two-dimensional" love, (male) *otaku*. Hikari can be said to embody the *moe* type of the *dojikko*, the goofy character who often makes mistakes and fails but always tries to overcome her limitations, thus triggering the *otaku*'s protection instinct and earning their admiration (Silvestri, 2016), as can be seen by her introductory speech. Perhaps a literary speaking style did not seem suited for such a character, who is often depicted as quite

spontaneous (the *dojikko* gets distracted because she has her head “up in the clouds”) and comedic in *manga* and *anime* (Silvestri, 2016), which is unlike the image of refinement honorifics and strongly feminine particles are supposed to convey.

Although fans of *moe*, or “two-dimensional” love, are said to struggle with and against rigid gender norms by several scholars and insiders of the *otaku* scene (Ito, 2014; Kotani, 2014; Momoi, 2014; Honda, 2014), and it has been theorized their interest in fictional women itself is driven by their refusal/impossibility to conform to the normative roles assigned to men in society (Honda, 2014), it was evident the male-female *moe* relationship championed by Gatebox is anything but subversive. Not only is Hikari meant to be the nurturing woman who “mothers” her partner while still being the innocent, helpless girl the user feels can feel a sense of superiority to, but Gatebox’s concept movies depicted an image of the users’ relationship with Hikari that in fact reproduced the very “salaryman masculinity” *moe* fans are allegedly rebelling against, and that is underscored by Hikari’s use of language. In other words, Gatebox reproduced a conservative image of male-female relationships, with the male partner working outside and fulfilling his masculine role as a corporate breadwinner and the female partner providing (in this case, mostly immaterial) care inside the home, reproducing the gendered division of labor.

Regardless of the programmers’ intentions, as a virtual assistant Azuma Hikari equated women with nurturing and the social role of wife/girlfriend with catering to the partner’s every need. The feminine language used by Hikari further indexed Hikari’s roles as that of a caregiver, as caregiving is a practice associated with women in the Japanese social context (Orpett-Long, 1996).

Studies on gender and linguistics applied to robots are still very recent. Although the literature on robotics examined from a feminist perspective is growing in recent years, as Weber’s study (2005) and Marchetti-Bowick’s study (2009) demonstrated, there are few scholarly contributions on the topic of gendered language ideology (or on sociolinguistics at all) applied to robots. The thriving robotic industry of Japan that focuses mainly on social robots (Mims, 2010) may be an ideal field where to examine the intersections between robotics, gender and gendered language, as language ideology in Japanese draws a rigid distinction between “women’s language” and “men’s language”. Further, “Japanese women’s language” has played a key role in shaping the modern Japanese woman (Inoue, 2006). Studying Azuma Hikari’s use of gender-specific linguistic forms has been a step towards a better understanding of the ways robotics may reproduce dominant views of language and gender in Japan, and perhaps even on a global scale.

Also Vinclu, the company producing Azuma Hikari and that will soon produce an interactive Hatsune Miku, is an extremely recent startup. Its aim to enable users “to live with their favorite characters” is unprecedented in the history of robotics, so we cannot predict with certainty what its impact will be. Moreover, as she is built on the uniquely Japanese cultural norms of *kawaii* culture and *iyashi* culture Hikari represents an AI *sui generis*, and we do not know what impact it may have on Japanese society or even *otaku* culture. As said before, due to the Galapagos syndrome it’s unlikely Azuma Hikari will spread overseas: however, it may have a strong influence on the Japanese *otaku* subculture. We know *otaku* tend to enter a spiral of consumption to get close to their ideals of “materializing” (through action figures, gadgets etc.) the characters and stories they love,

since they constantly push their ideals further away from their reach when they are close to them (Kitabayashi, 2004). Considering Vinclu's visions is to materialize fictional characters in *otaku's* lives, that is, one of *otaku's* seemingly unreachable ideals, and that Line bought a majority stake in Vinclu (Alpeyev, 2017) thereby granting it a much bigger platform and greater economic advantages, we can theorize their products may change in a radical way how fictional characters from *anime*, *manga* and video games are imagined and enjoyed by this public. Gradually, they may even attract the interest of the mainstream public - in particular those young, single men with no relationship prospect we talked about in chapter 1.

Most of the characters *otaku* feel *moe* attachments for are female. Considering even the most uncomplicated AIs tend to be perceived as "human-like" by humans, due to our tendency to anthropomorphize (Breazeal, 2002), if these products will proliferate on the market they will most likely reinforce dominant gender norms and gender stereotypes, linguistic or otherwise, just like Azuma Hikari does. We cannot know if Vinclu's products will be treated as simple toys by most costumers, if they will be a passing fad or if they will change the *otaku* market in a few years: we can only speculate based on the limited informations we possess today.

What we can say with certainty, however, is Vinclu's first product, Azuma Hikari, indeed reproduces the status quo when it comes to gender norms, both in her language practice and in her role as an AI. Although Japanese people hold a positive view of artificial intelligent as beneficial to humankind, we must remember in many ways that will not be case - not because of supposed feelings of malevolence harbored by these (still quite unimaginative) artificial creations towards humans, but because of the unconscious prejudices humans themselves carry and transfer to them, as Robertson (2017) pointed out. Although artificial women are the most represented in robotics in the field of humanoid creations (Marchetti-Bowick, 2009) the complexity and heterogeneity of human women is not necessarily respected, in an ironic twist that reminds us of how much our unconscious bias transfer to any and all human endeavors.

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