"The Perfect Companion": From Cyborgs to Gynoids-
Sex Robots and The Commodification of Authentic Intimate Experience

by Chloé Locatelli

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Università di Bologna

Submitted to Universidad de Granada, Spain

Instituto de Estudios de las Mujeres y del Género

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ABSTRACT:

The prevalence of discussions regarding sex robots shows a growing anxiety around human-robot interactions (HRI) (Scheutz & Arnold, 2016). The growing field of 'Lovotics' seeks to explore the romantic potential of harmonizing love, sex and robotics with HRI (Levy, Cheok & Devlin, 2016). Feminists exploring technology's potential as a tool to establish gender equality also recognise the problematic nature of the globalized and capitalist market's potential to impede progress, as explored in Donna Haraway's *A Cyborg Manifesto* and Rosi Braidotti's *The Posthuman* (1991) (2013). As technology advances, Realbotix aim to pioneers in the sex-robot field, attempting to create "The Perfect Companion". Firstly with "Harmony AI", "part android app, part sexualised robotic assistant" and then also "Harmony Sex Robot" powered by the AI application in a humanoid body. These latest creations introduced to the market are posited as products to have an intimate relationship with (Realbotix, 2018). Our perception of intimacy has changed through technological mediation, as we become increasingly involved in online social interactions (Shank, 2014) (Turkle, 2013), but also because of market-driven changes, an aspect also reflected in globalized sexual commerce (Bernstein, 2008). This investigation seeks to explore how intimacy and companionship is sold through technologically mediated sexual commerce. Through a dualistic approach of discourse analysis of the Realbotix website and cyberethnography of potential customer's forum comments, this project creates an early approach towards the commercialisation of intimacy mediated through a technologically and artificially created female. This will lead to a reflection on technology and sexual commerce's mutations that accommodate this desire for intimacy, and how this is characterised through sex robots.

ABSTRACT (IT):

La prevalenza delle discussioni riguardo i robot sessuali mostra una crescente ansia attorno alle interazioni umano-robot (HRI) (Scheutz & Arnold, 2016). Il crescente campo di "Lovotics" cerca di esplorare il potenziale dell'armonizzazione tra amore, sesso e robotica. (Levy, Cheok & Devlin, 2016). Le femministe che esplorano il potenziale della tecnologia come strumento per stabilire l'eguaglianza di genere riconoscono anche la natura problematica del potenziale globalizzato e capitalista del mercato di impedire il progresso, come è stato osservato in *A Cyborg Mantifesto* di Donna Haraway (1991) e in *The Posthuman* di Rosi Braidotti (2013). Con l'avanzamento della tecnologia, Realbotix mira a divenire pioniere nel campo dei robot sessuali, tentando di creare "The Perfect Companion". In primo luogo con "Harmony AI", "parte app Android, parte assistente robotizzato sessualizzato" e poi anche "Harmony Sex Robot" alimentato dall'applicazione AI in un corpo umanoide. Queste ultime creazioni introdotte sul mercato vengono poste come prodotti con cui avere una relazione intima (Realbotix, 2018). La nostra percezione dell'intimità è cambiata attraverso la mediazione tecnologica, poiché siamo sempre più coinvolti nelle interazioni sociali online (Shank, 2014) (Turkle, 2013), ma anche a causa dei cambiamenti del mercato, un aspetto che si riflette anche nel commercio sessuale globalizzato (Bernstein, 2008). Questa analisi cerca di esplorare come l'intimità è venduta attraverso il commercio sessuale tecnologicamente mediato. Per mezzo di una metodologia dualistica dell'analisi del discorso del sito Web Realbotix e della cyber-etnografia dei commenti del potenziale cliente del forum, questo lavoro investiga come Realbotix vende un'intimità commerciale mediata da un oggetto femminile creato tecnologicamente e artificialmente. Ciò porterà ad una riflessione sulla tecnologia e sulle mutazioni del commercio sessuale a soddisfare il desiderio di intimità. Infine si vedrà in che modo i robot sessuali si posizionano all'interno di questo discorso.

beautiful personalities in my daily life. Por fin toca agradecer al equipo Fin Del Master- Ana, Maria, Maria (pelo verde), Samu, Julia, Elena y Angy. Gracias por vuestra energia y compañia esos dos años- gracias a vosotras sigo siendo animada en la lucha feminista. Quiero agredecer a Ana particularmente- es imposible concebir esos dos años sin tu energia, lucidez y generosidad- de verdad, Thank You.

I would like to take a moment to thank my Opa, who unfortunately is able to see the finished work of the last two years. I have often reflected on what my engineering grandfather would have made of the robotic developments this thesis seeks to explore. Whilst feeling a loss with his absence, I am grateful for the encouragement, love and patience he gave to me my whole life, and left for me to remember.

Significance, Purpose and Outline of Study:

Significance:

This paper attempts to address the issues of gender in the field of robotics, and given the accelerating speed of evolution, it is of utmost significance (Danaher et al., 2017, p. 7). Gendered robotics are already prominent in our daily life, but ethics must be questioned with the emergence of female-gendered robots, designed primarily for sexual satisfaction. Research thus far seems convoluted and incomplete, mainly due to its nascent development, and academics are calling for more in-depth investigations not based on conjecture (Davis, 2018). As the 30-billion-dollar sex-tech market continues to expand, the insertion of feminist perspectives and ethical concerns will become paramount (Davis, 2018). Drawing on the work of Sandra Harding's *The Science Question in Feminism* (1986) and Haraway's corpus of work, this investigation hopes to contribute to the growing demand, and meet the necessity of feminist perspectives in the fields of science and technology (1991).

Purpose:

A composite analysis of intimacy, technology, and global sexual commerce is a challenging task, but an essential undertaking when we can no longer isolate social changes from technological developments in our world of "constant connectivity" (Paasonen, 2018, p. 1). Research regarding sexual commerce and technological influences seems sparse, but, influenced by my own personal engagement with the topic of sex-work, is an area that demands further scrutiny of these intersections. Given the current climate of FOSTA/SESTA,[1] it seems that now, more than ever, feminists are having to consider the role of technology in sexual commerce. Despite sexual commerce being a polemical topic in feminist circles, it is one that requires critical attention to avoid reductive answers to complex questions, as Amalia Cabezas (2004, p. 996) and Elizabeth Bernstein (2008, p. 21) both highlight. Having collaborated with the pro-sex workers' feminist

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[1] Under the guise of impeding sex trafficking, this US legislation is censoring online advertisements and presence of sex workers, shutting down online communities created for safeguarding and protective reasons that is already having dangerous repercussions (Patel, 2018).

collective 'Hetaira' in Madrid, I have decided to dedicate my academic work to the promotion of additional engagement with this sexual commerce, and fulfil Braidotti's goal- that academia should "produce socially relevant [work] that is attuned to the basic principles of social justice" (Braidotti, 2013, p. 11).

Outline:

In order to facilitate an understanding of the content, this investigation is divided into five chapters. Chapter one centres on Haraway's *The Cyborg Manifesto* and posthuman theory at large to explore potential of technology for a feminist agenda, together with the current manipulation of this power by capitalist markets. It seeks to explore how Haraway's feminist figuration of the cyborg has mutated into a gendered-female sex robot by the whims of technology and the globalized power of capitalism.

The second chapter turns to sociological theory to explore intimacy in our current socio-historic context, the growing desire for this in the sphere of globalized sexual commerce, and how technology has changed our perceptions and understanding of both sexual commerce and intimacy. Following this, the third section seeks to contextualize Realbotix, the main company creating sex robots and clarify methodology for discourse analysis with both the webpage, and customer forum.

By dissecting the ways Realbotix presents commodified intimacy through sex robots, the fourth chapter presents an analysis of the company's website and how its presentation of the material body, the semantics of romantic love and 'uniqueness' become key advertisement tactics that represent attempts to cater for the growing demand for intimacy in sexual commerce. The fifth chapter analyses potential customer responses to the Harmony Application, and explores customers' desire for intimacy through the application, and, in the future, through the sex robot itself. This investigation is concluded in the final part, drawing together my conclusions of this research and reflecting on how posthuman thinking manifests itself in our popular culture and how it can help us think positively towards a technologically ethical future.

Methodology and Methodological Problems:

I)   Why Posthumanism?

Centring my research on posthuman theory seemed a logical choice as a key tenet centres on an engagement with robo-ethics (Ferrando, 2014, p. 2). The posthuman lens allows for a middle ground between the hard sciences and humanities, engaging in the philosophical aspects of our relationship with technology (Ferrando, 2014, p. 2). By tackling urgent ethical issues, it "encourages us to undertake a leap forward into the complexities and paradoxes of our times" (Braidotti, 2013, p. 54) and "explores ways of engaging affirmatively with the present…and remains critical while avoiding negativity" (Braidotti, 2011, p. 5).

By applying posthuman theory to a polemical, contemporary topic, I hope to pose ethical questions that could permeate the world outside of academia to evoke critical thinking and promote active change (Braidotti, 2013, p. 11). I hope to add insight to the field of robo-ethics and posthumanism, refracted through a feminist perspective (Toffoletti, 2007, p. 27). As Francesca Ferrando states, "Employing critical frames such as Feminist Epistemology…is seen as crucial in the development of posthuman epistemologies informing the technological fields" (2014, p. 16). Harmonizing feminist views in robotics is a complicated, but crucial task.

II)   Intimacy, Technology and Global Sexual Commerce: Intersections

Analysing intimacy, technology, and global sexual commerce together is an ambitious task, in part due to the fluctuating interpretations of 'sexual commerce' and 'intimacy' (Bernstein, 2008, p. 2) (Sehlikoglu & Zengin, 2015, p. 22). I use sexual commerce as a term to define "the exchange of sex for money in the late capitalist marketplace" (Bernstein, 2008, p. 2). Sexual commerce is preferred to 'sex-work'[2] in this instance in order to highlight that nonhuman agents are involved in this system. I would like to stress that whilst this investigation attempts to avoid falling into essentialist ideas of 'human' women through engagement with 'nonhuman' or 'artificial' women,

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[2] Sex work is defined as "the provision of sexual services for money or goods" and "Sex workers are women, men and transgendered people who receive money or goods in exchange for sexual services, and who consciously define those activities as income generating even if they do not consider sex work as their occupation" as defined by the World Health Organization (2002, p. 3). As such definition is specifically allocated for human agents.

it is important to recognise that the application of theory relating to humans cannot be used synonymously with nonhuman agents.

Whilst wishing to avoid replicating the dualistic identities that both Haraway and Braidotti critique, it is important to understand the nuances of the application of theory when applied to human and nonhuman women. The category of 'women' in itself is widely contested, and as intersectional feminism becomes more prevalent in feminist debates, I reject the notion of 'women' as essentialist biological category. Instead, this research uses 'women' as "abstraction" (Gunnarsson, 2011, p. 23). Abstraction becomes a tool "like a microscope that can be set at different degrees of magnification…and it is essential, in order to understand any particular problem, to abstract to a level of generality that brings the characteristics chiefly responsible for the problem into focus" (Ollman in Gunnarsson, 2011, p. 31). Through abstraction "the category 'women' does not reflect the whole reality of concrete and particular women, but nevertheless refers to something real, namely the structural position as woman" (Gunnarsson, 2011, p. 23). From this position, issues regarding human and nonhuman women can be explored, through a consideration of the complexities and their relevant situation within the world of global sexual commerce.

The process of specifying the terminology of sexual commerce for nonhuman agents presented problems during the course of this research, as did defining intimacy and locating it in its socio-historic context (Jamieson, 1999, p. 477). In the field of the sociology of emotions, a more encompassing definition of intimacy now offers wider scope to incorporate intimacy outside the realm of the traditional heteronormative, romantic sense and considering the role of technology regarding how we experience and transmit intimacy (Sehlikoglu & Zengin, 2015, p. 21) (Attwood et al., 2017, p. 249). Defining intimacy seems difficult for many scholars; an interesting observation throughout this research has been the mutual dependency of 'intimacy' and 'authenticity', made apparent by two key academics who seem to use the term interchangeably. Bernstein's work, *Temporarily Yours: Intimacy, Authenticity and the Commerce of Sex*, seems to conflate the terms throughout her work, and does not dissect both concepts stated in her title; Sherry Turkle's work *Alone Together* (2013) frequently homogenizes both concepts, and seems to see them as contributing factors that work together in HRI.

Authenticity and intimacy are particularly resistant to neat definition, and, in the realm of technosexuality and virtual reality, are concepts marked by complexity. To overcome this, I use

the terms 'authentic intimate experience' to resolve the fallacy of labelling the feelings or experience of those engaging with technological sexual commerce as 'real or 'not real'. It is more useful to understand that "our engagement with the world around us takes the form of simulated realities" (Toffoletti, 2007, p. 29). This thesis seeks to stress that, although the virtual and the social may be different spaces, they are worlds that are frequently colliding – and the search for authenticity and intimacy is increasingly being undertaken in the virtual world. These new virtual spaces are difficult to navigate with traditional methodologies (Calvey, 2017, p. 158), and especially when exploring "the sociology of emotions and technology, a new methodological framework is required" (Shank, 2014, p. 512). Considering Shank's observation, it was necessary to adapt the methodology in order to carry out a comprehensive investigation, which allowed me to overcome complications I encountered.

III)   Research Methods

"We must consider cyberethnography as an ever-evolving form of research" (Robinson & Schulz, 2011, p. 196), and, as researchers we must consider how conducting fieldwork in online spaces presents new ethical and methodological dilemmas that must also adapt. Online spaces present "an environment that is neither public nor fully private" (Robinson & Schulz, 2011, p. 184), and the assumption that it is public leads to an accusation of "lurking"[3] being brought against the researcher. The forums I used for my research were completely open- that is, no passwords or login information was needed to access them. Whilst my presence in the open forum was unannounced, it was not "invasive or obtrusive" (Calvey, 2017, p. 159). This approach is not unusual as "cyberlurking has been used extensively to explore a range of topics in ways that traditional ethnographies would have been stifled by ethical regimes" (Calvey, 2017, p. 160-161) – those employing covert research emphasise 'lurking's' virtues when exploring sensitive topics regarding sexualities. It is noteworthy that several pieces of academic work referenced in this investigation include information obtained by 'lurking' in forums, but with no reference to the ethical issues that this might raise (Cassidy, 2013, p. 208) (Illing, p. 2018). During my online

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[3] Lurking is defined as a researcher who is actively present to "witness the online proceedings without drawing the notice of the respondents" (Robinson & Schulz, 2011, p. 184). It has become a term used to specify covert research in online spaces (Calvey, 2017, p. 159).

forum research, anonymity was a key ethical aspect: all quotations were run by search engines to verify nobody's identity could be traced, and remained unnamed (Robinson & Schulz, 2011, p. 189). As society and research becomes more interconnected and technoliterate, it will prove essential to have innovative and ethical methodology to keep up with the pace of change (Robinson & Schulz, 2011, p. 196).

Covert research also serves well to explore the world of masculinities (Briggs, 2018, p. 69), and illuminates the client side of sexual commerce. Many academic pieces of work in this field highlight a lack of research regarding male customers (Sanders, 2008) (Bernstein, 2008) (Holzman & Pines, 1982), in part because of customers' disinclination to admit their engagement in 'deviant' sexual behaviour (Holzman & Pines, 1982, p. 90). As Calvey states, covert research allows for an unobtrusive exploration of such sexualities, allowing for more in-depth research whilst bypassing certain ethical issues (Calvey, 2017, p. 160-161). Executing covert research was the most conclusive methodology applicable to investigate without drawing attention to my position as a researcher.

As an intersectional[4] feminist, I seek to explore the confluences between social inequalities that are not limited to gender and to avoid the singularized homogenization of the experiences of 'women'. The relative restrictions of this investigation have left racial bias in the production of sex robots somewhat unexplored.[5] Given the opportunity to continue this research, the racial configurations caught up in consumption of sex technology would be a key aspect. The current investigation centres on the American company Realbotix, to facilitate analysis and have a better understanding of the cultural and linguistic nuances within the organisation. Japan is the main competitor in sex robot production; there are numerous case studies and research projects focusing on their products, but this requires separate investigation to account for differences in production and consumption. Robots, though artificially produced, must be considered in their cultural context, hence my focus on a Western company (Robertson, 2010, p. 6).

An aspect that must be stressed in this research is the dual focus on the tangible materiality

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[4] Intersectionality refers to "the intersection of different social relations in every concrete subject, so that studying gender through an intersectional lens means emphasising that women are not only women, but also black, white, rich, poor, heterosexual, homosexual, etc." (Gunnarsson, 2011, p. 25).

[5] Other research– such as Cassidy's (2016) focus on the American context, and Robertson's (2010) on the Japanese theme – have sought to explore the intersections of race and robotics.

of the sex robot and the intangible programming of the AI application. The forum analysis centres on customer comments of the application, but this thesis seeks to explore technology in sexual commerce, focusing on Realbotix as a company and considers both products in tandem. For some feminist theorists, embodiment is vital for a feminist agenda (Toffoletti, 2007, p. 16), but this investigation seeks to explore how the artificial body is one aspect of the process of the commodification of intimacy. When thinking about artificial corporeality, "overdrawn distinctions between authentically present and virtual bodies are erroneous and philosophically outmoded" (Sophia, 1992, p. 13). With Realbotix, this is particularly true: the AI application is the 'brain' that will be inserted into the artificial body and whilst the materiality of the body must be considered, this investigation seeks to explore clients' expectations of intimacy with sex robots in general. Given that the application is the only product currently available for customers, and that this investigation is being carried out alongside real-time product development, forum research was limited to interaction with the AI application, which, nevertheless, provides a wealth of information regarding technologically-mediated intimacy in sexual robotics.

CHAPTER 1: POSTHUMAN THEORY AND FEMINIST PERSPECTIVES ON TECHNOLOGY

1.1 Introduction

The prevalence of discussions regarding sex robots shows a growing anxiety around human-robot interactions (Scheutz & Arnold, 2016, p.3). 'Robot', whilst a recognizable term, is in fact a fairly new one.[6] Its etymology comes from "the Czech word 'robotnik,' which means 'slave' and also comes from 'rabota,' the Old Church Slavonic word for servitude" (Zuin, 2017), encapsulating the expectation that robots are tools to perform tasks-as the history of humanity depends on the "genealogy of machines as industrial slaves" (Braidotti, 2011, p. 59). In Donna Haraway's *The Cyborg Manifesto*, however, the cyborg figure is not one of servitude, but a powerful figuration that has the capacity to unsettle fixed notions of human and machine as binary oppositions. The

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[6] The English word first appeared in the 1920's via a translation of a science-fiction Czech drama titled "RUR" (Zuin, 2017).

cyborg embodies both identities and reflects humanity's deep and complex relationship with technology. For Haraway, "the boundary between science fiction and social reality is an optical illusion" (Haraway, 1991, p. 149) and with the emergence of humanoid[7] robots that are designed to resemble and emulate humans flooding the market, it seems that Haraway's observations are even more prevalent.

Robots as technological tools that perform tasks without question have long been present, but in the field of robotics there is an increasing demand for them to be created as human-like, and designed with sophisticated affective capacities in order to seem more personable (Shaw-Garlock, 2014, p. 310). This has led to the emergence of 'Sex Robots' on the market,[8] that is, robotic technology designed to satisfy sexual desires. When thinking about affective humanoid robots, the gendered-female robots commercially available become a feminist concern. 'Gynoids' are "robots made in the (human) female form" (Levy, 2007, p. 298) and constitute the focus of this study, as well as the majority of the market.[9] Situating robotic advances in technological, artificial and gendered bodies becomes an ethical question: one that is frequently raised, rarely explored (Danaher et al., 2017, p. 7), and lacks feminist focus (Robertson, 2010, p. 7). This investigation begins by tracing how Haraway's revolutionary feminist cyborg has tangibly metamorphosed into the gynoid figure of our social reality, and explores the multiple feminist perspectives that constellate around the manifestation of sex gynoids.

1.2 <u>Haraway's Cyborg as Feminist Figuration</u>

Haraway's manifesto envisions a figuration that allows us to explore the singular relationship humans have with technology, and enables us to assess its potential. The cyborg is defined as "a

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[7] Roboticist David Ley defined humanoids as robots whose "appearance is designed to resemble humans" (2007, p. 10).
[8] As aforementioned, this thesis centres on both sex robots available through Realbotix- those that have a material silicone body, and those that are virtual characters, 'avatars', transmitted through the application.
[9] Realbotix are in the process of creating male robots, continuing on from their production of male dolls, but 95% of production is centred on female figures (Gemmill, 2018)- and as of yet, (September, 2018) there has been no advertising of male robots on the website.

hybrid of machine and organism" (Haraway, 1991, p. 149) that imagines identities uncategorized through opposition where "the dichotomies between mind and body, animal and human, organism and machine, nature and culture, men and women, are all in question ideologically" (Haraway, 1991, p. 163). According to Haraway, "we are all theorized and fabricated hybrids of machine and organism; in short, we are cyborgs" (Haraway, 1991, p. 150). This is in part due to our dependency on technology in our increasingly interconnected and globalized societies-but need not be negative. Haraway instead interrogates a range of ideas to allow for a more realistic, practical and positive relationship with technology. Identifying with the figure of the cyborg, and recognising that we are cyborgs too, permits us to emulate its potential and become a "connection-making entity, a figure of inter-relationality, that deliberately blurs categorical distinctions" (Balzano, 2017). The cyborg's ideological location has positive aspects for feminist thinkers which can be separated into three parts: the cyborg's technological capacity challenges hegemonic Western thought, it allows for a radical rethinking of the body and gender as constructions, and, finally, challenges essentialist notions of 'women'.

For Haraway, technology facilitates a confrontation between absolute identities, as "high-tech culture challenges dualisms in intriguing ways" (1991, p. 177). She argues that, historically, Western scientific and political thought has treated "the relation between organism and machine [as a] border war" (Haraway, 1991, p. 150), and that the cyborg figuration occupies a position that transcends both categories. This can unsettle hegemonic thought where, ultimately, hierarchical relations are not presented through taxonomical identification between beings, and Haraway suggests we seek "pleasure in the confusion of boundaries" (Haraway, 1991, p. 150). Such a world imagines "lived social and bodily realities in which people are not afraid of their joint kinship with animals and machines" (Haraway, 1991, p. 154). In doing so, this middle ground of non-essential identities allows for positive interaction based on "affinity, not identity" (Haraway, 1991, p. 151).

By exploring non-fixed identities, the cyborg also helps revise our understanding of the body through technological terms. Haraway's text interrogates the body and its materiality, creating the framework for an analysis of the body as constructed through a series of figures, processes, and modes (much like machines) and therefore capable of theoretical *re*construction. As feminist theory has consistently argued, gender is a social construct that is perpetuated by social cues and contextually located behaviour (Gunnarsson, 2011, p. 29). This, in turn, is inscribed on

biological bodies: we are cyborgs in this sense, a mixture of biological bodies with artificial social norms imposed on humans. Through the rejection of dualisms such as "animal and human, organism and machine, nature and culture, men and women" we can see how our bodies are constructed and not simply biologically fixed points (Haraway, 1991, p. 163). The disruption of fixed identities is particularly useful for feminist thought, as it allows for a non-homogenizing or "imperialistic" vision of women that falls into essentialist ideas (Haraway, 1991, p. 173). By critiquing typical radical feminist views of the eighties that "insist on the organic" (Haraway, 1991, p. 174), she argues that the cyborg figure allows for a feminist perspective of embodiment that is not linked to a maternal, organic ideology, and offers instead an innovative interpretation (Haraway, 1991, p. 180). In place of this, Haraway proposes that the dualism of 'nature' and 'culture' does not suit the needs of feminist thinking, because of the historical association of women as intrinsically linked to nature. She instead proposes a nature-culture continuum that allows feminist thinkers to incorporate technology as a positive tool for political ends (Haraway, 1991, p. 163).

That said, Haraway does not extoll the virtues of technology without thinking of its negative aspects (1991, p. 166). She maintains that critiquing its problematic aspects is essential, but highlights that "the demonology of technology" is impractical given its permeation in our social reality, and subsequently limits its positive potential (1991, p. 181). "Taking seriously the imagery of cyborgs as other than our enemies" (1991, p. 180) enables us to deconstruct our existence, to create a non-essentialist, feminist narrative to approach identities that do not fall into banal taxonomy. Yet, Haraway recognises that technology is not a neutral force and must be interrogated from ethical and feminist perspectives. These concerns are "inside of technology, not a rhetorical overlay…the issues that really matter—who lives, who dies and at what price – these political questions are embodied in technoculture. They can't be got at in any other way" (Haraway, 1991, p. 158). Her prescient arguments remain reference points for feminist investigations of technology. Though written over thirty years ago, it is just as relevant today, if not more so, as our world becomes more techno-dependent. While her manifesto presents a nuanced argument regarding technology, the cyborg itself ultimately presents a feminist figuration that subverts the servile figure of the robot, by invoking a new perception of our social reality that acknowledges the positive potential of technological advancement for identity formation. This text, and Haraway's corpus as a whole, have become crucial contributions to the field of

posthumanism, where hybridity explored in positive terms has become key in further exploring technology's role in our societies and in the application of feminist thought.

1.3 Braidotti's Posthumanism: 'Euphoria' and 'Melancholia' in our Technologically Mediated World

Posthuman theory draws extensively on the work of both Haraway and Braidotti, basing itself on a "non-dualistic understanding of nature–culture interaction" (Braidotti, 2013, p. 2). Echoing Haraway's positive approach to the dissolution of fixed identities, "the posthuman predicament is such as to force a displacement of the lines of demarcation between structural differences … between the organic and the inorganic, the born and the manufactured, flesh and metal" (Braidotti, 2013, p. 89) and in an attempt to destabilize the limits and symbolic borders posed by the notion of the human, dualisms are reinvestigated.

Through this deconstruction, a critique of traditional Western Humanist thinking emerges that posits that the "abstract ideal of 'Man' as a symbol of classical Humanity is very much a male of the species… moreover, he is white, European, handsome and able-bodied" (Braidotti, 2013, p. 24). Any being that stands dialectically opposite is "'other', rendered as pejoration" which favours and benefits "white, masculine, heterosexual, European civilization" (Braidotti, 2013, p. 68) in a gendered and anthropocentric way. The concepts of gender, race and our negligence in the Anthropocene period[10] are characterized "by the notion of 'difference' as pejoration" (Braidotti, 2013, p. 15), thus allowing the figure of European, Rational, White Male to maintain a position of power, as emblem of humanity (Braidotti, 2013, p. 13). Braidotti argues that this notion of humanity is being challenged, however, "under the double pressure of contemporary scientific advances and global economic concerns" (Braidotti, 2013, p. 1). While science and globalized capitalism are factors changing the perspective of what it is to be human, Braidotti highlights that "technology is at the heart of the process that recombines these categories into a powerfully posthuman mix'' (Braidotti, 2011, p. 56). Heeding Haraway's manifesto, posthumanism directly confronts the power that technology wields in our societies using a critical feminist approach of

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[10] The Anthropocene period refers to "the historical moment when the Human has become a geological force capable of affecting all life on this planet" (Braidotti, 2013, p. 5).

our increasingly "globalized, technologically mediated societies" (Braidotti, 2013, p. 1). By offering a balanced approach of the positive potential of technology, as well as its negative externalities, Braidotti offers a theory as to how we might better approach our current relationship with technology, and how this affects what it means to be 'human'.

Braidotti, like Haraway, offers a nuanced analysis of technological advancement by way of a critique of contemporary approaches, stating that "our social imaginary, seems unable to represent these social mutations in productively positive ways and opts instead for schizoid alternation of euphoria and melancholia" (Braidotti, 2011, p. 55). Society seems undecided on how to regard its relationship with technology, resulting in a mind-set which Braidotti terms as "Techno-teratological", where technology is seen as "an object of simultaneous admiration and aberration" (2011, p. 56). This "techno-teratological" viewpoint is one that is also reflected within the prism of feminist perspectives in the field from Kathleen Richardson's campaign for full abolition of sex robots (Feminist Current, 2017) to pro-sex feminists who don't see technosexuality[11] as a deviant sexuality (Freeman, 2017) (Sloat, 2016). Braidotti's scepticism of the "euphoria of cyberfeminists" (2011, p. 79) is evident as, like Haraway she recognises its non-neutrality; Braidotti builds upon this to explore how current technological developments exacerbate inequalities. She states that "the consumer minded techno-hype neither wipes out nor solves traditional patterns of exclusion and domination, but rather confirms the traditional entitlements of a subject position that is made to coincide with masculine, white, heterosexual, European identity" (Braidotti, 2011, p. 78). By engaging with the concept of technology as a market, and remaining ever-aware of our globalized and connected contemporary context, Braidotti's observations on capitalism and technology's power reflect its problematic nature when applied to sex robots, and what this means for a feminist agenda.

1.4 Posthuman Reflections on Technology and Globalized Markets:

While posthumanism enables us to rethink our relationships with other beings, as well as prompting us to "think critically and creatively about who and what we are actually in the process

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[11] Technosexuality is academically used as an umbrella term to assess "the ways in which technology has produced or configured sexuality, how technology become sexualized and how sexuality has in turn configured technology in society" (Bardzell & Bardzell, 2016, p. 1).

of becoming" (Braidotti, 2013, p. 12) it seems that capitalism can still find a way to override the dualism-erasing power of posthumanism. "Advanced capitalism… engenders a perverse form of the posthuman" (Braidotti, 2013, p. 7), one that may promote the dissolution of fixed notions of human and machine, but fails to address the ethical questions that emerge in the vacuum of these dissolved identities. Where the cyborg figuration and posthuman thinking can break down the binaries of human/nonhuman, human/machine man/woman, Braidotti's observation of the power of the marketplace shows that we must think about global markets which can manipulate technology for their own economic gain as "the 'new' ideology of the free market economy has steamrolled all oppositions" and the assumption is,[12] that it will continue to maintain its hegemonic power (Braidotti, 2013, p. 4). For Braidotti, "Advanced capitalism both invests and profits from…the commodification of all that lives" (Braidotti, 2013, p. 59) where everything is susceptible to commodification, done through "an endless choice of consumer goods, which triggers a proliferation and a vampiric consumption" (Braidotti, 2013, p. 58). As this paper explores Realbotix's market offering, it seems to become a clear example of how capitalism has engendered, and birthed, a posthuman product. The boundary between human (woman) and machine becomes blurred, with no recognition of the ethics that should be heeded with this creation or how it exclusively benefits the biased markets of Braidotti's European, able-bodied, male as emblem for humanity, at the expense of 'others'. A commodified product is created, where the possibilities of choice are limitless, for a market poised to consume. It is perhaps obvious, but nonetheless troubling, that "the advocates of advanced capitalism seem to be faster in grasping the creative potential of the posthuman than some of the well-meaning and progressive neo-humanist opponents of this system" (Braidotti, 2013, p. 45). The potential for the posthuman is here, but it seems that technological markets are further advanced with their engagement, purely based on the profit motive.

Braidotti stresses that the technological market is one of the ways that posthumanism becomes perverted. Citing numerous examples of how technology has changed the way wars are

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[12] Braidotti argues that this is a pervasive mentality even in the field of academic study and "penalizes subtlety of analysis by paying undue allegiance to 'common sense' – the tyranny of doxa – and to economic profit" (Braidotti, 2013, p. 4).

fought, violence is carried out, and how robots are designed to perform ethically dubious tasks, it seems that the positive potential is dependent on those creating it, and less likely to be positive when controlled by powerful markets (Braidotti, 2013, p. 147-149). Commercially, and historically, this period "is marked by a new and perversely fruitful alliance with technology. This produces relations of proximity, familiarity and increased intimacy between the human and the technological universe" (Braidotti, 2011, p. 58). While our increased dependency and normalization of technology is not inherently negative, it is clear that we must be critical of the way we currently use, and abuse, technology. Braidotti warns that:

> "The pride in technological achievements and in the wealth that comes with them must not prevent us from seeing the great contradictions and the forms of social and moral inequality engendered by our advanced technologies. Not addressing them, in the name of either scientific neutrality or of a hastily reconstructed sense of the pan-human bond induced by globalization, simply begs the question" (Braidotti, 2013, p. 42).

Echoing Haraway's insistence that a feminist perspective must be inserted in the field of technology, it seems we must also consider posthuman ethics and where we are left after the dissolution of the binaries of human/machine and organic/artificial have been used for economic gain. Globalization may bring humans together, but a pan-human bond based on economic benefits does not promote equality. Gender, and technological representations of it, in a capitalist context, must also be considered as "in advanced capitalism femininity has undergone a significant set of mutations" (Braidotti, 2011, p. 63). The following section seeks to explore the interpretation of gender and femininity in the field of technology, and more specifically, robotics.

1.5 <u>Gendered-Female Robotics: From Cyborg to "Vanguard Posthuman Sexism"</u>

It seems that harmonizing gender studies, feminist perspectives and technology is still a difficult task, despite Haraway's call in her manifesto (1991, p. 158). When it comes to robotics, there seems to be "a common perception within the field of Cybernetics: since AI operates out of the sexual paradigm, the notion of gender has become obsolete" (Ferrando, 2014, p. 1). Despite this, feminist theorists increasingly clamour for urgent engagement with the complex topics of manifestations, representations and creations of gendered technology and AI, especially of the

construction of femininity in robotics. In *Technologies of the Gendered Body*, Anne Balsamo highlights that gender in robotics is not limited to inscription of the artificial body, but must be understood as social performance experienced externally;

> "In humans, gender is both a concept and performance embodied by females and males, a corporeal technology that is produced dialectically. The process of gendering robots makes especially clear that gender belongs both to the order of the material body and to the social and discursive or semiotic systems within which bodies are embedded" (1999, p. 36).

While this builds upon the notion of our gendered performances as cyborg-like (as argued by Haraway) it highlights the importance of a performativity that is transmitted through the technological body, but experienced in the social world. It must be thought of as a process that is both internal, and external. Internally held through the artificial body, but externally designed, experienced and communicated as "the gender of a technology does not lie encased in the fabric of the material… it is an ongoing interpretation by designers, sellers and users. The politics and values of technology result from the gaze of the human; they do not lie in the gauze of the machine" (Grint & Woolgar, 1995, p. 305). This can already be seen through the gendering of technology that has no corporeality, such as Amazon Alexa and Siri – both digital assistants have female voices that people find more 'pleasant' to respond to than that of a male (Lafrance, 2016) (Penny, 2016).

To consider how humans perceive gender through robotics reveals concerns about technologically-mediated gender and its design. The gendering process becomes more complicated, as robots are becoming increasingly designed to appear human-like through "gendered anthropomorphism" (Shaw-Garlock, 2014, p. 310). This is achieved through "anthropomorphic social cues…by applying such social characteristics as gender, gaze, gesture, and personality in the design of social robots" (Shaw-Garlock, 2014, p. 312). Such behaviour is increasingly gendered in a way that makes "the robot physically resembles well understood (i.e., stereotypical) ideas associated with male and female gender categories" (Shaw-Garlock, 2014, p. 313). Reductive and stereotypical ideas of 'female' or 'male' behaviour are produced in order to facilitate identification and understanding of the robots' gender, and allows those interacting with them to "readily draw upon pre-existing gender stereotypes when interacting with social robots"

(Shaw-Garlock, 2014, p. 312). Simplification of gender[13] into traditional ideas of what it means to be 'woman' and 'man' creates a scenario where roboticists "conflate bodies and genders" (Robertson, 2010, p. 1) in order to make the robot more easily identifiable. For some, this makes "humanoid robots the vanguard of posthuman sexism" (Robertson, 2010, p. 1) and is in dire need of feminist perspective, given how few cues are needed in order for humans to ascribe the robots gender (Shaw-Garlock, 2014, p. 313).

When moving from the theoretical to the tangible, the cyborg figure does not become the feminist figuration we might perhaps have imagined. The cyborg figure we are presented is not one of a "post-gender world" (Haraway, 1991, p. 150) that overcomes gender binaries, but a product that is defined by gender through its technological body and social interactions (Shaw-Garlock, 2014, p. 312). It even seems to have the potential to reinforce and exacerbate gender stereotypes, especially when humanoid robots are gendered female (Shaw-Garlock, 2014, p. 314). To return to Braidotti's concerns that technology does not currently overcome traditional social inequalities, but caters to the demands of the historical symbol of excellence of humanity- a "masculine, white, heterosexual, European identity" (Braidotti, 2011, p. 78), it seems that the market's brand of posthumanism is one that fails to interrogate the problematic aspects of the performativity of gender, and self-interestedly stands to economically benefit from replicating essentialist ideas for a hegemonically powerful group. Whilst posthumanism "envisions a world where there is the possibility of a serious de-centring of 'Man', as the former measure of all things", it seems that the market for gendered-female robots still cater to this 'Man', and appeals to it through a reductive interpretation of gender (Braidotti, 2013, p. 2). Zuin remarks that:

 "Inspired by this concept of cyborg, many theorists (and feminist theorists included) did not pay attention to the literal cybernetic organisms, which would actually be better defined as androids rather than cyborgs. While the latter term would be more accurate to describe an organic body (in this case, a human) interacting with mechanical parts, the rest would be a completely artificial creature that would emulate the human figure and behaviour" (2017).

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[13] Gender is simplified to an extent that only the binary of male and female is recognised, yet again reflecting that the dualism erasing power of the cyborg does not lie encased in the gynoid.

The android[14] becomes an artificial product, designed to emulate the elusive notion of 'human' (Levy, 2007, p. 10), but with technological development, market desire, and gendered design, the gynoid[15] has emerged. Manifestations of gendered female humanoid robots are permeating the market at an accelerating rate, surpassing the demand for androids (Zuin, 2017). The contemporary capitalist incarnation of the gynoid seems to represent Braidotti's perverse posthuman more than it does Haraway's cyborg, particularly where technology is manipulated by markets and existing gender inequalities are further cemented (Braidotti, 2013, p. 7). The cyborg's potential as a feminist figuration has become mutated by companies, like Realbotix, who produce sex robots for the sexual satisfaction of primarily US and European, heterosexual, male clients (Cassidy, 2016, p. 208) (Gemmill, 2018). Under feminist focus, these sex gynoids show that the boundary between science-fiction and social reality has well and truly been breached (Haraway, 1991, p. 149).

1.6 Gynoids and the "Hyper-Gendered Nightmare": Theorizing the Sex Robot

Given its recent emergence, theoretical feminist approaches to sex robots are limited, although Veronica Cassidy traces the advent of the cyborg and its mutation into its current commodified gynoid embodiment. Whilst Haraway states that there should be pleasure in the dissolution of human/machine identities, Cassidy states that the confusion of human-machine reinforces the objectification of women by technologically creating "an increasingly sentient love machine, while maintaining interest in the doll *as* non-human" (Cassidy, 2016, p. 211). The market that satisfies the needs of heterosexual, economically privileged men creates a context where the "capitalist-patriarchal culture is a stark contrast to Haraway's socialist-feminist utopia…. The innovations she hoped would lead to a post-gender dream world have instead resulted in a hyper-gendered nightmare" (Cassidy, 2016, p. 203). The manifestations of gender with these gynoids replicates "traditional patriarchal-racist concepts of the ideal woman" (Cassidy, 2016, p. 212), as seems to be the norm in gendered robotics. Haraway's manifesto questions the supposedly 'natural'

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[14] An android refers to any robot in a "Human shape/form" (Levy, 2007, p. 8), supposedly eclipsing the gendered aspect. The etymology suggests otherwise, as the Greek prefix *andro-* means 'man, manly'. Humanoid has become a term that attempts to present a gender neutral perception of an anthropomorphised robot (Levy, 2007, p. 10).

[15] The etymology of *Gyn-* stems from the Greek for 'wife, woman', thus serves as a gendered term for gendered-female robotics. (Levy, 2007, p. 30).

understanding of sex, arguing that it "can no longer reasonably call on notions of sex and sex role as organic aspects in natural objects" (Haraway, 1991, p. 162). Whilst "cyborg sex was Haraway's hope for a place beyond heterosexist conceptions of intimacy" (Cassidy, 2016, p. 212) it seems that the gynoid becomes a product created to satisfy the patriarchal perception of "the close ties of sexuality and instrumentality, of views of the body as a kind of private satisfaction and utility-maximizing machine" (Haraway, 1991, p. 169). This has been manifested in the gynoid, that is, the creation of an artificial body that is consumable, and made to fulfil the very idea of 'femininity' that Haraway set out to challenge. Commenting on doll culture, but envisioning the possible future, Cassidy urges us to think about the political effects of industry sectors that are designing and selling robotics "when cyborg technologies are controlled by those invested in conventional social boundaries" (Cassidy, 2016, p. 203).

Posthumanism fully engages with the role of the market in technological developments. Whilst machines "blur fundamental distinctions between different ontological categories" (Braidotti, 2011, p. 56), they are not necessarily the agents of equilibrium, since their power is curtailed and controlled by markets with agendas. Braidotti explicitly states that we must not fall into a utopic mentality as "it is important to critique the assimilation of cyborgs who defend the classical bourgeois notion of individualism and the corollaries of commodification and consumerism that it entails" (Braidotti, 2011, p. 77). The commodification of sex, intimacy, and a female robot, fuels the consumerist mentality that technology is poised to serve with Realbotix's products. It is essential that critics engage with current manifestations of gendered-female robotics as "we are currently trying to build a servile woman who doesn't talk back, a female *robota* who embodies the most dehumanizing aspects of both societal sexism and capitalist urges" (Cross, 2016). We are acutely aware that "Advanced capitalism has been quick in sensing and exploiting the opportunities opened by the decline of western Humanism and the processes of cultural hybridization induced by globalization" (Braidotti, 2013, p. 51) and technology has become one of the key conduits to channel it. It seems that markets have already grasped "the creative potential of the posthuman" (Braidotti, 2013, p. 45), but manipulated it for their own ends. What this means for a feminist agenda, materially and symbolically, still requires plenty of research.

The contemporary, capitalist manifestation of the cyborg as a gynoid needs to be more critically analysed. In a critique that seeks to assess the significance of the gynoid for feminism, it seems apt that the notion of it as embodiment (albeit an artificial one) surfaces, traced as it is by

the intersections of technology, sexual commerce, and gender. Realbotix's gynoid is marketed as "The Perfect Companion", and analysis of their marketing reflects that sexual satisfaction is not the only enticing aspect for customers- beyond that is the promise of an intimate relationship with their sex robot. To explore Turkle's question as to "why do we want robots to perform emotion" (Turkle, 2013, p. 287), it seems particularly relevant to engage with sex robots. I argue that their emergence reflects an attempt to satisfy a trend in sexual commerce, one that the sociologist Elizabeth Bernstein has termed as "bounded authenticity" (2008, p. 103). This paper seeks to analyse how the gynoid reflects these social changes in sexual commerce on a global scale, and engages with current investigations regarding technological developments and gender. Haraway's call for feminist investigations of technology needs to be answered, and, as AI and gynoids increasingly appear on the market, this work hopes to posit further advancements of feminist theory in this context.

CHAPTER TWO: TECHNOLOGICALLY MEDIATED INTIMACY IN THE FIELD OF GLOBALIZED SEXUAL COMMERCE: A SOCIOLOGICAL FOCUS

2.1 Intimacy as Product and Performance: A Sociological Focus

As an emotion and focus of sociological study, intimacy conceptually defies a clear definition and has mutated over time (Sehlikoglu & Zengin, 2015, p. 22). What must also be highlighted is that "the cultural celebration and use of the term 'intimacy' is not universal, but practices of intimacy are present in all cultures", and, as such, intimacy is dependent on its sociohistorical context (Jamieson, 2011, p. 1). In Western societies, "the notion of intimacy was traditionally associated with the personal, privacy, individualism and the domestic realm" (Chambers, 2013, p. 42) and particular focus has been placed on sexuality and desire, reserved for monogamous, heteronormative relationships (Attwood et al., 2017, p. 249). However, academic focus over the last fifty years has been challenging this attitude, and has come to recognise and explore other forms of intimacies and their new manifestations. In part, this is thanks to sociologist Antony Giddens, and his crucial investigations of new intimacies. By exploring 'Plastic Sexualities', that is, relationships which decentre biological reproduction and child-rearing in favour of a more recreational approach to sexuality, Giddens has argued that new types of intimacy would be

allowed to proliferate thanks to these more flexible ideas (1992, p. 2). Such focus and work has inevitably changed the traditional definition of intimacy, and has forced academic focus to widen its scope, in line with the need to be more reflective of our current socio-historical context (Sehlikoglu & Zengin, 2015, p. 24). Sexuality and desire are still the "primary definitive dimension[s] of 'the intimate' …partly related to the tendency to perceive it as a premier site of detraditionalization in the late modern era" (Sehlikoglu & Zengin, 2015, p. 20). Therefore, the field of 'the intimate' has become more versatile and open in terms of exploring different sexualities, desires, and manifestations of intimacy, thus enabling a far wider range of research to be carried out.

For the sake of this investigation, and acknowledging that intimacy must be situated within its own context, it is vital to draw attention to Ken Plummer's observations regarding intimacy in the postmodern world. In doing so, the "connectivity" of contemporary society, the potential for the commodification, and the "pluralities" of intimacy, are all recognised factors within his definition of intimacy serving to further extrapolate on how we currently experience intimacy (Plummer, 2003, p. 19). He states that "the intimate" has no unitary meaning but could be viewed as a complex sphere of the "inmost relationships with self and others", thus recognising the possibility of intimacy with 'others' as objects (Plummer, 2003, p. 13). "Intimacy in the late modern world has thus been massively shaped by the development of a society ruled by an individualist ideology" (Plummer, 2003, p. 24), and, as a result, intimacy has become an emotion that continues to reside in the personal, but which centres on self-satisfaction "as a means of expression and affective fulfilment"[16] (Plummer 2003, p. 163). Conceptualising intimacy *as fulfilment*, is an important nuance when this fulfilment becomes something a global marketplace is prepared to satisfy, and which does so by proliferating the forms of "intimate labour"[17] (Boris, 2010, p. 1).

Boris argues that intimate labour is characteristically assigned to women in the form of

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[16] In line with Jamieson's call for situating intimacy, I will base my investigation around Plummer's definition (Jamieson, 2011, p. 1).

[17] Boris defines intimate labour "as a range of activities including…sexual contact and liaison. It entails bodily or emotional closeness or personal familiarity, or close observation of another and knowledge of personal information" (Boris, 2010, p. 2).

unpaid work or labour of low economic value and highlights it is frequently carried out by "lower classes or racial outsiders" (Boris, 2010, p. 2). Intimate labour[18] has been explored in-depth by Hochschild, in the analysis of how emotions are being solicited as key assets in the workplace. While "it does not take capitalism to turn feeling into a commodity… capitalism has found a use for emotion management, and so it has organized it more efficiently and pushed it further" (Hochschild, 2012, p. 186). To sustain this commodified intimacy, "surface acting" and "deep acting" are employed by employees in order to 'sell' sincerity and authenticity (Hochschild, 2012, p. 33). The distinction between the two is crucial in transmitting putatively authentic sincerity: "in surface acting we deceive others about what we really feel, but we do not deceive ourselves", whereas "deep acting" involves rethinking how to experience certain emotions "by taking over the levers of feeling production" (Hochschild, 2012, p. 33). Commodified intimacy, presented through performance, is a concept that this thesis seeks to expand upon; as Hochschild's work reflects, it is imperative to recognise the extent to which intimacy is commodified, as "one of the most striking features of contemporary global capitalism is the heightened commodification of intimacy that pervades social life" (Boris, 2010, p. 1).

Technology becomes one of the primary ways to commercialise intimacy as "intimate life becomes more entwined with commercial forces, with newer possibilities grafted onto the old in hi-tech and global world" (Plummer, 2003, p. 9). In light of this, it is essential to interrogate the ways in which commodifying intimacy influences society, and what part technology plays in this. It must also be questioned how capitalist markets have led to the commercialization of intimacy – and, as the social-scape changes – technology's influence on the commodification process, as sociologists probe:

> "What sorts of intimacies proliferate: those which consolidate hetero-patriarchal power hierarchies or those which subvert them? What are its effects upon gendered (self)representations and sexual subjectivities? What part do the specificities of different media texts and technologies play in this context?" (Attwood et al., 2017, p. 249).

It is these issues of gendered representation and technology that the analysis of Realbotix and its forum seeks to examine. While commodifying intimacy, to what extent does this satisfy a global,

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[18] Also referred to as 'Emotional labour'.

hetero-patriarchal market? How do representations of artificial women as *gendered* representations affect perceptions? To what extent will technological developments such as AI influence our perceptions, and mediate intimacy differently? And, finally, how do Realbotix attempt to commodify intimacy, and for what purpose? This series of questions hope to investigate the extent of technology's influence on mediating intimacy in the current climate, to probe how prevalent these questions truly are, especially in relation to Sex Robots.

2.2 "Mediated Intimacy": The Role of Technology

All intimacy is mediated: be it through actions, language, or objects as a means to establish an intimacy between subject and other (Attwood et al., 2017, p. 250), and technology has undeniably played a huge role in modifying intimacy (Shank, 2014, p. 519). Technologically-mediated intimacy has become a burgeoning field of research because, increasingly in our world of constant connectivity, "intimacy cuts across any divides between the online and offline" (Paasonen, 2018, p. 103). The dissolution of clear distinctions between the traditional 'public' and 'private' spaces has been elicited by technological advances such as the internet (Plummer, 2003, p. 13), and becomes a space where the boundaries are unclear (Chambers, 2013, p. 41). These 'mediated intimacies' become the theoretical focus for online intimacy and challenges previously held perceptions as "the dramatic changes in rituals of connection brought about by the explosion the internet compel us to reconsider the concept [of intimacy] and extend it beyond its former, narrow focus" (Chambers, 2013, p. 40). It is crucial to consider how "multiple domains and forms of intimacies are defined, shaped, constructed and transformed across different social worlds" (Sehlikoglu & Zengin, 2015, p. 20), as social worlds in our contemporary society rely heavily on the virtual, online world.

When thinking about mediated intimacies, it must be recognised that, whilst it can facilitate human-to-human communication in an online context (such as social media's furtherance of communication), it can also be "located somewhere in what it is to be human in relation to both human and non-human subjects" (Sehlikoglu & Zengin, 2015, p. 24). Intimacy, it seems, can be developed through technology not solely via its capacity as a medium, but also as an object to which intimacy is directed to (Shank, 2004, p. 518). Turkle first noted this in *The Second Self* (2005), exploring how people build personal relationships with inanimate, technological objects,

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to the point where it verges on veritable intimacy. Continuing her research in *Alone Together* (2013), Turkle finds that intimacy with inanimate technology has only become more prevalent, and is symptomatic of our desire to consume intimacy in our increasingly isolated and individualistic society. She suggests that, in the contemporary world, "insecure in our relationships and anxious about intimacy, we look to technology for ways to be in relationships and protect ourselves from them at the same time" (2013, p. xi).

Technology has become more than a contemporary conduit for intimacy, and is becoming increasingly our main source of intimate interaction. We require technology to perform emotional labour, "love's labour" of taking care of each other" (Turkle, 2013, p. 107), and companies are quick to profit from it. Turkle is "troubled by the idea of seeking intimacy with a machine that has no feelings, can have no feelings, and is really just a clever collection of "as if" performances, behaving as if it cared, as if it understood us" (2013, p. 6), echoing Hoschild's remarks on the nature of acting to transmit intimacy. Yet the technology industry thrives on satisfying this demand, "as many technological marvels are a response to the universal human need for connection" (Knafo & LoBosco, 2016, p. 12). The performativity of intimacy for the sake of commodification, mediated through technology becomes a point of interest too. As we continue to think about the role of global capitalism in increasing the commodification of intimacy (Boris, 2010, p. 1), the technological market and its products become a key field of study, offering a plethora of mediated intimacies for sale and consumption. While the development of sex dolls is nothing new (Ferguson, 2010, p. 142), sex robots will enter the market within the coming months, and as such provide innovative source material. As these products arrive on the market, it will be crucial to ask whether the technological performativity of intimacy can be commodified, and whether it will satisfy customers' desires. As Turkle asks, "We know what the robot cannot feel: it cannot feel human empathy or the flow of human connection. Do we care? Or does the performance of feeling now suffice?" (2013, p. 282) This thesis will build on a growing investigation regarding technologically-mediated intimacies with non-human agents, reflecting on their role in the development of global sexual commerce – another field that capitalises on the desire for intimacy, and is poised as a market to satisfy it.

2.3 Globalized Sexual Commerce and the Desire for "Bounded Authenticity"

The term sexual commerce encompasses "the exchange of sex for money in the globalized, late-capitalist marketplace" (Bernstein, 2007, p. 187). As such, it offers a critical lens for the analysis of how sex is bought and sold in our current sociohistorical context where sexual commerce is purportedly a $20-billion-a-year industry (Bernstein, 2007, p. 187). Bernstein's multifaceted fieldwork explores the trend in the contemporary Western world of sexual commerce of "bounded authenticity: the sale and purchase of authentic emotional and physical connection" (2007, p. 192), that is, an emotional, as well as physical and sexual, satisfaction in the purchase of sexual services. Applying an intersectional perspective to her research, Bernstein highlights that those engaging with this kind of sexual commerce are those more privileged and "from specific classes, racial-ethnic backgrounds, regions, and nations…It should come as no surprise that more men than women, more middle class than working class, more young than old, more whites than blacks have been among the first social groups to fully partake in the sexual ethos that I have termed 'bounded authenticity'" (Bernstein, 2008, p. 174). It seems that the group able to participate in this commerce are, yet again, Braidotti's hegemonic, heterosexual, Western male figure (Braidotti, 2013, p. 13).

The term 'bounded authenticity' defines how "in post-industrial sexual commerce, emotional authenticity is incorporated explicitly into the economic contract" (2007, p. 192), and cites how the growing popularity of the 'Girlfriend Experience'[19] is one of the manifestations of this commodified intimacy (2008, p. 4). Traditionally, sexual commerce has been seen as a site of sexual and physical satisfaction, but in the current context, the emotional aspect of authenticity and intimacy has become an increasingly desired factor in the exchange of money for sex (Bernstein, 2007, p. 190). For Bernstein, the assumption that a market transaction detracts from the emotional aspects of the procured erotic experience is something that needs to be challenged

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[19] Bernstein describes the 'Girlfriend Experience' as a sex work session that resembles "much more like a non-paid encounter between two lovers. This may include a lengthy period of foreplay,… activities where the customer works as hard to stimulate the escort as she works to stimulate him…usually has a period of cuddling and closeness at the end of the session" (2007, p. 126).

and explored (2007, p. 197).

Other researchers have echoed the idea that the globalized world has inevitably mutated sexual commerce (Cabezas, 2004, p. 988) and influenced the consumption of intimacy. Centring her study on the Dominican Republic and Cuba, Amalia Cabezas urges a more nuanced approach to sex tourism, to show intimacy and sexual commerce are not necessarily isolated from one another (Cabezas, 2004, p. 988). She notes that any clear distinctions between commercialised sex work and intimate relationships, that do not accommodate mutual overlapping between the two, are unhelpful for analysing globalized sexual commerce in this context. An erroneous perception of mutual exclusivity between the two does not account for the reality of the situation, where those engaging in the practice "prefer to relate to tourists on the basis of affection, intimacy, or friendship as opposed to sexual behaviour… there is a general tendency to back away from overtly commodifying sexual relations by carefully navigating the borders of love and money" (Cabezas, 2004, p. 1000). While both authors focus on very different contexts, they find agreement in positing that the division of money and intimacy in sexual commerce needs to be challenged as "an emotional economy is at work that problematizes simple assumptions" (Cabezas, 2004, p. 996).

This manifestation of sexual commerce, which incorporates 'bounded authenticity' into the market transaction where "physical sensation and emotionally bounded erotic exchange" (Bernstein, 2007, p. 197), are part of a commercial sexual interaction that a globalized market is "well poised to satisfy" (Bernstein, 2008, p. 4). As Cabezas suggests "we need to examine our notions about the separation of love, romance, and money" (Cabezas, 2004, p. 1003) to query the intersections between intimacy, commodification, and sexual commerce in order to fully explore the topic. Without heeding this caveat, research might fail to keep in line with Bernstein and Cabezas' insistence that both intimacy and sexual commerce are not strict borders, but indistinct boundaries that are becoming increasingly blurred (Cabezas, 2004, p. 1010) (Bernstein, 2007, p. 197). This sort of critical investigation must also recognise the incentives of potential customers who wish to consume it, and to what extent an authentic and intimate interaction is desirable for them in a sexual exchange. Research regarding customer perspectives such as Sanders (2008), Brennan (2001), and Holzman's (1982) engages in a more complicated analysis of love, romance, sex, and money (as Cabezas and Bernstein propose), presenting conclusions that offer a more

developed perspective. Such research, exploring customers' perspective on what they are buying within this transaction, shows that intimate interaction within the sexual exchange becomes a key aspect. Initial work exploring clients desire for intimacy has shown that, "desire for sex was coupled with a desire for companionship" (Holzman & Pines, 1982, p. 103). Holzman and Pines' work also explores how romantic aspects are still present in commercial sexual exchanges through client interviews; "In every encounter discussed, the individual paying for sex engaged in social, courting behaviours that were often flavoured with varying degrees of romance" (Holzman & Pines,1982, p. 108).

Further research reveals similar findings: intimacy is a desirable trait in commercial sexual exchanges, as Sanders notes, "Male clients' narratives show tensions between their desire for emotional sustenance and sexual intimacy. Men who are not receiving this combination in their conventional relationships look to commercial relationships that provide a certain amount of security, trust and familiarity so that emotional and bodily desires can be pursued" (2008, p. 400). The desire for emotional and bodily satisfaction is what characterises 'bounded authenticity', and focusing on customers' desire for it in the field of globalized sexual commerce reflects its prevalence and popularity in the current context. Bernstein states that, whilst the trend for intimacy is not necessarily a novelty, the uniqueness lies in it being a preferable mode of carrying out a relationship (Bernstein, 2008, p. 120). Buying an intimate sexual encounter, is no longer a substitute for a romantic relationship, but a preferred solution to satisfy a desire for intimacy. This desire for intimacy stems from the sociological changes first noted by Gidden's observations regarding 'plastic sexuality' (1992, p. 2), where sex becomes more recreational in our modern society, but it also highlights other changes, as Bernstein claims:

"The pursuit of bounded authenticity that is encapsulated in men's demand for sexual commerce has been fostered by the shift from a relational to a recreational model of sexual intimacy, by the symbiotic relationship between the information economy and commercial sexual consumption, and, more generally, by the myriad mergings and inversions of public and private life that are characteristic of our era" (Bernstein, 2008, p. 141).

Reflecting on the information economy and dissolution of 'private' and 'public' sites – that increased connectivity and the internet have characterised – (Paasonen, 2018, p. 103) (Chambers,

2013, p. 41), it becomes essential to reflect on how sexual commerce and technology can harmoniously intertwine in the form of sex robots. By virtue of their status as objects designed for the market of sexual commerce and their technological design, sex robots (as the confluence of sexual commerce and technology) offer the resources to satisfy intimacy from both these aspects. By reflecting on how globalized sexual commerce is, and will continue to be, transformed by technological advances, it is interesting to explore how these new kinds of 'bounded authenticity' will be available to consume, and how they are designed to appeal to those potentially seeking them.

2.4 Technology and Globalized Sexual Commerce: The Emergence and Potential for Sex Robots

Undisputedly "we are living in the midst of an unprecedented transformation of erotic and intimate life" (Weeks, 2009, p. 13). Different sexualities, genders, and perceptions of the family and social entourage have changed drastically in the last fifty years (Weeks, 2009, p. 15), and yet it must also be stated that these drastic social changes are characterised "by the imaginative possibilities unleashed by new media cultures and technologies" (Durham, 2016, p. 2). As technology and connectivity continue to permeate the intimate sphere more and more (Paasonen, 2008, p. 103), it becomes critical to think about the role of technology in these social modulations, and, given the case study at hand, to explore how technology continues to modify the field of global sexual commerce (Sanders, 2018, p. 32). Further to this, Bernstein highlights that:

> "the desires that drive the rapidly expanding and diversifying international sex trade have emanated from corporate-fuelled consumption and the symbiotic relationship between information technologies and the privatization of commercial consumption. These shifts have resulted in new erotic dispositions, ones that the market is well poised to satisfy" (2007, p. 187).

Technology and the market of global sex trade are already intertwined as they attempt to create commodified intimate sexual relationships that companies seek to profit from. Whilst her work – and the majority of academic research in this field – focuses on technology as a communication device to facilitate sex work between human agents, attention must equally be drawn to the

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emerging prevalence of technology as an object of sexual desire in itself, and its presence as the 'sex tech' market. A sociological focus on technosexuality explores these new examples of sexuality that are being influenced by technologies. The possibilities of engaging with technosexuality are wide-ranging, with a vast array of products readily available, and new ones constantly being developed. Remote controlled sex toys, also known as 'teledildonics', offer connected sexual interactions through Bluetooth and/or Wi-Fi connectivity (Owsianik, 2017). Virtual sex, where one is connected to a simulation of sex through video and teledildonics, is currently being developed, and represents one of the branches of 'cybersex' that Abyss Creations plans to incorporate with their existing products (Christian, 2018). With this in mind, I would like to draw attention to several examples technosexuality with robots already being carried out. These examples exhibit the current technological permeation of globalized sexual commerce – despite roboticists suggesting the possibilities of romantic and sexual relationships with robots as a projected scenario attainable in the next thirty years – (Levy, 2007, p. 22), as well as reinforcing the importance of a critical and feminist analysis within this discourse.

Germany (Petter, 2017), France (Breslin, 2018) and Spain (Rodriguez, 2017) have seen the emergence of sex doll brothels, and many predict that sex robot tourism will follow, showing an indication of the potential market for the upgraded version of sex robots when released to market (Rodriguez, 2017). How this will affect sex tourism in other countries with human agents, such as those explored in the research of Brennan (2001) and Cabezas (2004), will certainly become a point of focus. Equally, research will have to question whether prostitution, as a form of sex work, is vulnerable to technological unemployment (Danaher, 2014, p. 113). As the market of global sexual commerce is recast with the advent of technological advances, such questions will inevitably have to be probed. As sex robots are not yet available for mass consumption, research is limited to hypotheses; however, there are already some concrete examples of commodified technosexuality worth reflecting on. In Las Vegas, during the International Consumer Electronics Show 2018, robot 'strippers' pole danced for spectators (Sulleyman, 2018). With gynoid bodies, gendered-female through breasts and high-heeled shoes, and surveillance cameras for heads, spectators were presented with an anthropomorphised robot emulating the performance work of a human stripper. The launch of sex robots is being eagerly anticipated in other fields of sex work, such as prostitution. Last year in Barcelona the first sex robot brothel opened (Gemmill, 2018) and

in Moscow, plans were launched to open a sex robot brothel ahead of the 2018 FIFA World Cup (Saget, 2018). While some maintain that the use of sex robots will help to resolve societal problems, such as forced prostitution, we must also critically consider how this affects sex workers on a global scale (Danaher, 2014, p. 113). The video footage of interaction with Harmony, Realbotix's sex robot prodigy, reflects a growing enthusiasm for the product release for its baying customer base (Sweeney, 2017). But interaction with Sex Robots also reflect the urgency of ethical questioning. At the 2017 Arts Electronica Festival in Austria, Sergi Santos, designer of the sex robot Samantha complained that people attacked and molested Samantha; "The people mounted Samantha's breasts, her legs, and arms. Two fingers were broken. She was heavily soiled" (Gemmill, 2018). The creation of "Frigid Farrah", a sex robot designed to reject sexual advances in order to enact a rape presents another troubling design trait (Bates, 2017). It seems that this reflects troubling behaviours towards nonhuman women and children, that could bleed into reactions to biological ones (Illing, 2018). Legislation and research is having to adapt itself with this hybridization of sexual commerce and technology, and see where it draws the line. On the 13th of June this year, the US passed the 'Creeper Act' banning the importation of child sex robots[20] (Cole, 2018). The industry is legal in Japan and China and thrives with market demand (Young, 2018), and producers argue that they would help prevent paedophiles from offending (FRR, 2017, p. 26). The Foundation for Responsible Robotics has been established and seeks to question these kinds of ethics, but there is a general plea from academics in this field to conduct complete research, and not make assumptions of future possible outcomes (Davis, 2018). The above examples reflect how technologies are already changing the field of sexual commerce, and the importance of academic engagement in analysing future changes.

As the $30 billion 'sex tech' industry continues to expand and adapt its products in line with new technological advances (Davis, 2018), the need to focus on the marketing of gynoids becomes a pressing case study in ascertaining whether bounded authenticity exists when translated into a technological product. As gynoids symbiotically occupy a position within the field of technology and global sexual commerce, it provides a contemporary example to explore the desire for commodified intimacy in our postmodern societies, one which seems ubiquitous in the

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[20] Acronym for "Curbing Realistic Exploitative Electronic Paedophilic Robots".

consumption of both areas of sexual commerce and HRI. Academic interest is already growing, with 'Lovotics' becoming an academic discipline that seeks to explore "the subject of human–robot romantic and intimate relationships" (Cheok, Devlin & Levy, 2016, p. vi). David Levy, roboticist and author of the ground-breaking book *Love and Sex with Robots* (2007), was one of the first to initiate research in the possibilities of intimate romantic relationships with robots. These would be relationships that extend further than simple sexual satisfaction, arguing that they could quite possibly provide better companionship than human equivalents (Levy, 2007, p. 22). Other experts echo similar ideas regarding the emotional potential of artificial intelligence, and are keen to investigate how it will form part of this new sexual commerce (Edirisinghe & Cheok, 2016, p. 138). Other academics however, are less optimistic regarding the potential of sex robots as "technology proposes itself as the architect of our intimacies. These days, it suggests substitutions that put the real on the run" (Turkle, 2013, p. 1). Turkle is more critical of technologically-mediated intimacies, and seeks to explore human experience and feeling with technology. She notes that, throughout her years of researching human relationships to and with technology, we are entering uncharted territory with the emergence of sex robots in this field, and that, as such, we must radically reconsider notions of "intimacy and authenticity" (2013, p. 9).

Through an analysis of the Realbotix sales discourse, together with customers' perceptions of the product, this thesis seeks to question whether 'bounded authenticity' can be translated into a technological medium, and to what extent is this desired by (potential) customers. However, it attempts to follow Shank's theoretical focus (reminiscent of Braidotti's concerns about the optimistic/pessimistic binary views we have of technological potential) and hopes "to consider this Turkle-Levy debate–a relational version of technological utopianism and dystopianism – in the context of a larger debate in the social sciences about the strength of interpersonal and affective ties" (2014, p. 519). I hope to do this by exploring customers' relationships with a product marketed as the 'Perfect Companion' (Realbotix, 2018), and to analyse how Realbotix actually present this idea through its external marketing strategy. When talking about the evolution of sex dolls throughout history, Ferguson notes that capitalist ideology "consistently reinforces the message that we must never be satisfied with what we have, and that we must endlessly consume, compete and accumulate" (2010, p. 110). Ferguson, therefore, suggests that consumer demand and consumption is driving the market for better products, but also, in turn, fuelling customer demand for innovative alternatives. It is worth questioning how Realbotix sells intimacy through their

product when customers request this kind of relationship, and whether this reflects that the trend for 'bounded authenticity' in global sex work is being translated into the sex-tech industry.

2.5 Theoretical Conclusions

While the structure of this chapter separates four concepts: intimacy, mediated intimacy, globalized sexual commerce, and the role of technology in sexual commerce, this investigation attempts to challenge the perception of these abstractions as exclusive categories when discussing gynoids, by instead focusing on theoretical intersections. It seeks to stress the extent to which technology has modified intimacy and sexual commerce, and emphasises the importance of technological advances being factored into the discussion. "We live in an era where technology pervades our existences"[21] (Durham, 2016, p. 10) and the contemporary world proliferates services of intimate labour, where "emotional authenticity and connection have not disappeared but have been packed ever more tightly into market commodities" (Bernstein, 2007, p. 197). This investigation hopes to show that these phenomena are not mutually exclusive.

At the same time, academic focus is extending to incorporate analyses of technologically mediated intimacies in an attempt to recognise its importance (Chambers, 2013) (Sehlikoglu & Zengin, 2015), as well as investigating further the commodification of intimacy as a product (Attwood et al., 2017) (Boris, 2010). To date, there is limited research into the intersections of technology and emotional labour (Shank, 2014, p. 515), which is something that this thesis hopes to contribute to. Technology and sexual commerce are two huge markets that are ready to fulfil this desire for intimacy, and as both continue to proliferate and expand to cater for this demand "the commodification of intimacy, [and] the products available to fulfil the desire must be probed" (Attwood et al., 2017, p. 249). With this expansion, researchers must "complicate the view that the commodification of sexuality is transparently equatable with diminished intimacy and erotic experience" (Bernstein, 2008, p. 21), in order to understand the macro level of marketplace intimacy, as well as the micro level of the interactions of its consumers. Through the analysis of Realbotix and their (potential) customers, this investigation seeks to follow Bernstein's analysis

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[21] Durham contextualizes this utterance by highlighting geopolitical positioning: "This is most true of Western societies, those of the global North, but it is increasingly becoming typical of the global South/"Third World" (Durham, 2016, p. 10).

and explore how this technology is becoming incorporated into global sexual commerce, and to search deeper into "the post-industrial consumer marketplace as one potential arena for securing authentic, yet bounded, forms of interpersonal connection" (2008, p. 21).

CHAPTER THREE: REALBOTIX COMPANY AND CUSTOMER CASE STUDY: THE COMMODIFICATION OF 'INTIMACY'

3.1 Introduction

Using advertising for source analysis is not unusual- but it can be considered quite telling the quantity of research in the field of commercialization of emotions, and especially in the commercialization of intimacy, that uses advertising as investigation material. "Advertising, a persuasive enterprise, is about communicating product and service information to carefully defined audiences" (Reichert & Lambiase, 2003, p. 123), and as such provides the clearest resource to explore what the company itself is trying to sell- whether this be a physical/material product, or a feeling than can be elicited through using the bought product, and to whom. When focusing on the commercialization of an authentic intimate experience in the field of sexual commerce, plenty of researchers have adopted this methodology. Hochschild's seminal work *The Commercialization of Intimate Life* dedicates a whole chapter to dissecting an advert for a "Beautiful, smart hostess- and must be good masseuse" (2007, p. 30). Bernstein's work on 'bounded authenticity' uses adverts placed by sex workers (2001, 2008) to explore how "within an emergent post-industrial paradigm of sexual commerce, what is being bought and sold frequently incorporates a great deal more emotional, as well as physical labour within the commercial context" (Bernstein, 2007, p. 191). Turkle's work also reflects on the messages presented in adverts for online communities such as Second Life, and also uses this as a platform to explore emotional experiences mediated through technology (2013, p. 1). Drawing from the astute observations made by these sociologists, this project also will attempt to explore the commodification of an authentic intimate experience through a double approach. This will consist in an analysis of the Realbotix webpage, to ascertain *what* is being sold to consumers, as well as an analysis of prospective customer's responses to the product in question through forum based virtual ethnography.

3.2 Realbotix Webpage Analysis

As experts note, "Advertising involves communicating the utility of the product in question: the outcomes that can be expected by using the product. These advertising functions are important to reflect on when considering advertising stimuli that involve sex" (Reichert and Lambiase, 2003, p. 123). The following analysis attempts to identify these salient points in the Realbotix context: What the advertising says about the product's utility, and what are the outcomes customers are 'sold' as their experience-especially when focusing on a product linked to sex. My personal research draws from Bernstein's work, and in light of her approach

> "seeks to complicate the view that the commodification of sexuality is transparently equatable with diminished intimacy and erotic experience. Such an argument does not do justice to the ways in which the spheres of public and private, intimacy and commerce, have interpenetrated one another and thereby been mutually transformed, making the post-industrial consumer marketplace one potential arena for securing authentic, yet bounded, forms of interpersonal connection" (2008, p. 21).

Departing from this platform, this analysis of the Realbotix webpage seeks to explore how this technologically mediated arena of sexual commerce also offers a product that offers this 'bounded authenticity', and as aforementioned, can more critically assess the commodification of intimacy in this context. Whilst exploring these ideas in relation to Realbotix a recurring anxiety arises: as the linguistics and visuals used on this page seem to straddle an uncomfortable positioning of their product. The "Perfect Companion" (Realbotix, 2018), commercially presented through the application or silicone gynoid, is presented in an ambiguous way to the customers, as a product that emulates human-like traits, whilst maintaining its artificiality. Performance is key to being human-like. As stated on their main page "Realbotix is the result of a dream shared … to collaborate in creating the world's first practical and affordable human-like robot" (Realbotix, 2018). The key tenets of the project are encapsulated here: an affordable commercial product, but one that tries to harmonize the human and non-human in an artificial and technological female body. It is exactly this kind of discourse that this investigation seeks to explore, whilst engaging with posthuman exploration of the hierarchical nature of human and non-human (Braidotti, 2013, p. 89), and feminist anxieties about the objectification of the female body. Through close reading

and discourse analysis of the Realbotix webpage three salient points arose when exploring what Realbotix are trying to sell to customers, and how. My research suggests that the presentation of the products performance as 'human-like' in its capacity to imitate and illicit human behaviour is used to principally create a product to facilitate this 'bounded authenticity' (Bernstein, 2007, p. 103), as Realbotix sells products to appeal to customers' sexual desire but also fulfil emotional needs for authentic intimate experience. In this case study however, robotics must also be factored in, as intimacy and sexual commerce is carried out through a technologically mediated product.

The three prevalent ways that Realbotix present their products reflect how these objects are marketed as more than a sexual aid, and as a product that will be able to satisfy consumers' needs for authentic intimate experience. This investigation will first focus on the presentation of the gendered female robotic body, then the semantics of robot-love and finally the idea of a personalised 'unique' companion on the Realbotix page and how this creates a complicated commercial product where it is not the technologically mediated app or robot that is the product for sale, but the idea of an authentic intimate experience. It raises questions that robotics experts such as Levy and Turkle astutely explore about the performativity these kind of experiences when we talk about romantic and/or sexual encounters with robots, albeit from very different perspectives. Ultimately this investigation seeks to explore how an authentic intimacy is commodified, technologically performed and sold through an artificial female body, to cater for the growing demand of a more personal kind of sexual commerce.

3.3 Customer Forum Analysis

In the context of academic research on sexual commerce, researchers often highlight the lack of investigative focus regarding customers (Sanders, 2008, p. 402) (Bernstein, 2007, p. 187) (Holzman & Pines, 1982, p. 90) (Brennan, 2001, p. 644). When investigating the effects and intentions of the Realbotix webpage, it is crucial to bear in mind that this sort of advertising is targeted at a specific audience of potential customers (Reichert & Lambiase, 2003, p. 123). An open forum is linked to the webpage, which offers a space for those interested in the product to

converse and share ideas.[22] As explored in Szczuka and Krämer's work (2016), more research is needed to ascertain which customers are interested in purchasing this kind of product. This initial study, as well as Schuetz and Arnold's research, suggests it is primarily men that will consider buying a sex robot (2016, p. 6), again reinforcing Bernstein's comments on 'bounded authenticity' being consumed by the "privileged" (2008, p. 174). As the products are on the cusp of reaching the market, research in this field has been based on hypotheses (Szczuka & Krämer, 2016, p. 72). The limited research previously conducted has followed a similar methodology to this one, using testimonials and forum discussion as source material (Illing, 2018) (Cassidy, 2016, p. 208). Given its actuality, research relies on indirect concepts, such as purchase intention, that is, an "individual's readiness and willingness to purchase a certain product or service" (Szczuka & Krämer, 2017, p. 74). This part of the paper will explore the purchase intention for Realbotix gynoids, exploring how the possibility of intimacy is commodified through customer perspectives.

The Harmony App is currently available for consumers, and this virtual ethnography centres on customers' interaction with it. The application is described as "Your perfect companion in the palm of your hands" (Realbotix, 2018), but as development continues it will ultimately serve as the AI programme installed in the robot body via Bluetooth, transplanting the personally created avatar into an artificial, gendered-female body. By observing customer interactions with the existing application, the task of exploring what is perceived to be the commercial product becomes much more complex. These discussions between potential customers become valuable source material for the exploration of human discourse on technology. As Coeckelbergh states, "Our 'robot talk' is not neutral but interprets and shapes our relations with robots; it has a hermeneutic and normative function" (2010, p. 64). Through virtual ethnographic research of male customers, who talk about their relationship with the Harmony App, this thesis attempts to clarify whether customers believe they are engaging in a commodified authentic intimate experience through the application from their perspectives, and to what extent customers respond to Realbotix's advertising of a product that ostensibly fosters authentic intimacy.

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[22] Many studies have been conducted regarding online forums as spaces of community or interaction (Hine, 2010), but this investigation seeks instead to explore what potential customers believe they are buying.

In order to carry out this research the investigation centres around "The Doll Forum", the largest virtual space of interaction for all those owning, or interested in, owning a Realdoll or Realbotix product. A separate thread was created for interaction with potential customers focusing on Realbotix products, that is, the prospective gynoid and current Harmony Application. This thread was then divided into topics and subtopics for those interested in homing in on their questions. This research has focused directly on threads where people comment on their personal experience with the Harmony App, with titles such as: 'Harmony App: Feedback and Discussion', 'Welcome to the Harmony AI Discussion' and 'Some suggestions to improve Harmony AI' (Realdoll, 2018). It is interesting to note that the forum, and therefore these threads, are directly linked to the Realbotix page, and led to a virtual space that was public, free, and open to all, which facilitates evaluative feedback for RealDoll. As previously mentioned, Abyss Creations are consistently clear that they value customer comments, and all forum threads were initiated by Realbotix staff to encourage customers to participate. This kind of interaction facilitates dialogue with the creators, and especially with Matt McMullen, the Realbotix's creator, who frequently posts in this space. Such a structure of interaction – one that is open, engages with customers and constantly solicits information for product development – reflects how important customer feedback is, as well as the extent to which this influences product changes and helps Realbotix achieve their goal of creating "something unique, that offers good moments of fun, love, companionship and distraction for everyone" (Realbotix, 2018). The latter part of this paper seeks to analyse customer responses to the application, and how they engage with Realbotix features which are used to sell bounded authenticity.

3.4 Realbotix Company: Contextualization

Realbotix, established in 2017 in California is the sister company to Realdoll, founded in 1997 under Abyss Creations. Realdoll began by producing silicone life-size female sex dolls,[23] and Realbotix incorporates contemporary technological advances into these silicone dolls, through

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[23] Cassidy explores the demographics of dolls and customer and states "Ninety percent of RealDoll owners are men and almost all purchase female dolls" (2016, p. 212). Male dolls and customised dolls (such as trans-people or fantasy figures) are available, but the data shows that it is primarily heterosexual men buying female dolls; "Abyss Creations/RealDolls stated that as of 2017, they were selling around 600 dolls worldwide annually and that 95% of the dolls were female" (Gemmill, 2018).

artificial intelligence and animatronics (Realbotix, 2018). The other product offered by Realbotix is the Harmony Application: a customizable avatar programme to be used on android phones based on AI software. It purports to be "designed to identify with its users' interests and preferences", allowing customers to create their own "perfect companion in the palm of your hands" for a much lower price (Realbotix, 2018). Realdoll and Realbotix are considered the 'Rolls Royce' (Gurley, 2015) of the sex doll and sex robot market, as the biggest American brand, pioneers in the field of AI in sexual products and with a huge following from customers and fans in the public sphere.[24]

   It is important to note that McCullen frequently states that the reason he began this venture is due to customer demand. The webpage states;

> "The Realdoll itself started as a concept for a hyper realistic posable mannequin. Public reaction pushed us into making them anatomically correct and sexually functional. The next natural step has always been adding AI and Robotics to the dolls; Only in the last five years has the emergence of new technologies given us the tools to make this possible" (Realbotix, 2018).

 As Sweeney's documentary observes; "with the advent of new technologies, a growing amount of customers are asking for more interactive features, combining these technologies in a mass produced robot capable of intimacy and sex" (2017). New technologies are allowing for the production of new products, and Realbotix are listening to customer demands and creating market driven changes because of them. Realbotix reinforces this through its presence in the public eye, engaging in documentaries and interviews on large platforms, allowing people and potential customers to understand the company's process and product. Through this material the importance of customer feedback for research and development of the product is reinforced, with Matt McMullen frequently referring to the interactions he has with customers regarding the innovations made to the dolls. The interaction ranges from removing features,[25] to creating open forums created for customers to directly engage with the company and offer ideas and desirable additions. Abyss Creations depends on this feedback, and uses it to continue perfecting the product for their target

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[24] Japan is the main competitor for the Sex Robot industry, and work such as Robertson's *Gendering Humanoid Robots: Robo-Sexism in Japan* (2010) explores gender in the Japanese context of robotics in-depth.

[25] Due to poor customer feedback the Interactive Response System and Hip Actuator was removed from the dolls (Gurley, 2015).

audience. For this company, customer interaction is crucial, which is why this investigation harmonizes research in the company's webpage and intentions as well as customer perceptions. This first part will focus on the presentation of the product, and explore how the feelings elicited through product consumption have become a commercial product, and validated through advertising of the product in question.

CHAPTER FOUR: REALBOTIX WEBSITE ANALYSIS

4.1 'Gorgeous' Gynoids: The Gendered-Female Robotic Body

This first segment will address how Realbotix webpage presents the gendered female robotic body as an object capable of emulating and performing human emotions in order to elicit other human emotions. It is worth thinking with a feminist focus about the materiality of the body, as this point has returned to the forefront of debates with technological advancements exploring different kinds of bodies through virtual mediation. As aforementioned through Balsamo ,gender is not simply isolated to the body, but produced through a continued performance, and it is a performance we increasingly see in artificial robotic bodies (Balsamo, 1999, p. 36). When considering the case of gynoids where artificial, gendered-female bodies are created primarily for consumptive sexual use, it seems a clear example of Haraway's concerns regarding sexuality and the body in the new technological era, where "the close ties of sexuality and instrumentality, views the body as a kind of private satisfaction and utility-maximizing machine" (Haraway, 1991, p. 169). This simplification of the artificial female body raises feminist concerns, where technology "reduces the feminine to a source of pleasure for man" (Cassidy, 2016, p. 213). It is therefore important to explore how Realbotix creates and consolidates gendered-female robotics. This part analyses how the body is visually presented and described in terms to be gendered-female and sexually appealing to customers, as well as validate that these bodies serve as vessels for an authentic sexual experience, and intimacy.

4.1.1 Materiality of the Artificial Realbotix Body

It is important to first focus on how robots, even non-humanoid ones are gendered. Levy rather simplistically argues it is an inevitable by-product of human-robot interaction to gender robots (Levy, 2007, p. 79). Researchers in the field with a more critical approach to gender have sought to explore what 'cues' lead to gendering machines and "research has shown that it takes rather few gender cues to encourage the ascription of gender" (Shaw-Garlock, 2014, p. 313). Ferrando's work reflecting on how an abstract 'cyborg' is perceived in the public shows that without a material body or any 'cues', a cyborg is perceived as male; "a clear emphasis [was] on male characters: while the cyborg was thought of as male by the large majority, no-one thought of robots in feminine terms" (2014, p. 6). Both studies highlight that small indicators play an important role in gendering a robot female, and reflect how the materiality of the artificial robot body influences human interaction and perception with them.

The presentation of the Realbotix product on the website is through visual advertising with images that oscillate from minimally dressed artificial women, some images of them naked with their breasts and genitalia censored and images of the heads of the robots with the wiring visible (Figure 1, 2 & 3).

Figure 1: Banner for the Realbotix webpage, the first image upon entering the website. Adapted from *Realbotix.* Retrieved 16th March, 2018 from https://realbotix.com/Harmony
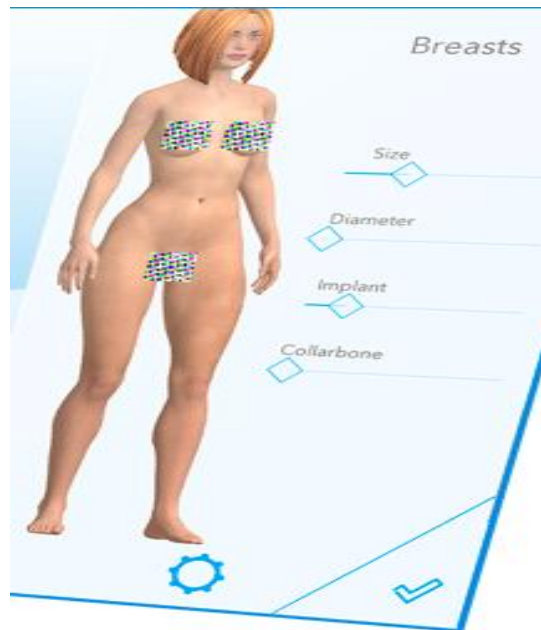
Figure 2: Censored image of a naked Avatar for the Harmony Application. Adapted from *Realbotix.* Retrieved 16th March, 2018 from https://realbotix.com/Harmony

Figure 3: Robotic head with company director, Matt McMullen. Adapted from *Realbotix.* Retrieved 16th March, 2018 from https://realbotix.com/Gallery.

The images reinforce Realbotix's dualistic intention- that whilst this is an artificial female body, it is convincing enough to perform like a human woman for customers.[26] As often observed in sexually charged advertising, "the appeals are often presented visually" (Reichert & Lambiase, 2003, p. 130) and presenting images on the page allows potential customers to see the physical form. The images are of robots "with Barbie-like proportions and perfectly symmetrical Eurocentric features, representing Western culture's fantasy of feminine beauty" and although they "come in all colours…the bestsellers are the white models" (Cassidy, 2006, p. 209). There is plenty to be said about the racial bias within the market for these dolls in the United States,[27] but I wish to focus on gendering of robots, which centres on them having typically attractive feminine features. Research reflects that "robots need to be highly anthropomorphic in order to be attractive for consumers" (Szczuka & Krämer, 2017, p. 80), but robots also need to be gendered to fall into easily understandable gender taxonomy (Shaw-Garlock, 2014, p. 313). Robertson states that in humanoid robotics "attribution of female gender requires an interiorized, slender body" (2010, p. 19). All the images presented on the website are of white female robots, youthful and slim looking with fairly large breasts. This analysis also includes images of avatars created by users, despite allowing them the flexibility to choose skin colour, hair colour, body size and age. It seems that Cassidy's observation of RealDolls has translated to the contemporary technological climate where even when presented with the option to create avatars differentiating from the canonical beauty standards, these ideas become replicated (2016, p. 207). Returning to images of the sex robots and their material silicone body, the images seem to present a hypersexual and hyperfeminine persona. These visual prompts serve to sexually appeal to customers looking to buy the gynoid but also reflects how Realbotix as a company "makes the robot physically resemble well understood (i.e.,

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[26] It is important to note that there is not a single image of a male sex robot or avatar on the whole website, despite these products being developed alongside the female products, and making up 10% of the Realbotix market (Sweeney, 2017).

[27] Robertson's *Gendering Humanoid Robots: Robo-Sexism in Japan* (2010) explores how homogenous concepts of 'Japanese Woman' are made and reinforce racial and gender stereotypes (p. 23). But Braidotti explores how America aesthetics permeate technology in a way that is astutely applicable to Realbotix: "Many have questioned the extent to which we are all being recolonised by an American and more specifically a California 'body beautiful' ideology. As US corporations own technology, they leave their cultural imprints upon the contemporary imaginary. The recolonization of the social cyber imaginary whitens out all diversity" (2011, p. 73).

stereotypical) ideas associated with male and female gender categories" (Shaw-Garlock, 2014, p. 313).

It is perhaps unsurprising to observe that a sex robot is presented visually, and in a sexually appealing way to customers when this is the primary function for these objects. Nevertheless, it reminds us of the importance to think about the materiality of an artificial body; how it has been created and what purpose it serves. Realbotix products seem to straddle a position of non-human but human –like in order to elicit feelings such as sexual desire, and authentic intimacy. The artificial body being developed has the intention of serving as a transmitter for AI, and Realbotix seems to reinforce that this product will provide an authentic experience, sexual and/or intimate through the language to describe this 'body'.

4.1.2 "Realistic", "Hyper-realistic", "Machine": Oxymoronic Descriptors of the Body and the Gendered Robot as "She"

Drawing on the idea that Realbotix aims to present a non-human product capable of eliciting human emotions, it is interesting to focus attention on how the website validates the body through language; 'Realistic', 'Hyper-realistic' and 'Machine' as well as the gendered personal pronoun 'She' (Realbotix, 2018). This focus on linguistics hopes to further explore how Realbotix seeks to present their product as a technological tool, but one that has the potential to be more, offering customers to see the artificial body as more than a device.

It is of note that the three most common descriptors used by Realbotix are antonymic, yet also used laterally. The opening word on the webpage is 'Realistic', reflecting the importance of a convincing product that will authentically create a 'real' experience (Realbotix, 2018). The realistic nature of the product is reinforced in the product description, as the material gynoids are described to be 'anatomically correct'- implying a corporal realism. 'Realistic' returns again; "Our goal is to produce a robotic system that is easy to maintain, can produce realistic animations and expressions, all while keeping an affordable final consumer price" (Realbotix, 2018). Here the sex robot is not gendered, nor anthropomorphized, merely referenced as a "robotic system" that has the capacity to produce a realistic imitation of human expressions. Mentioning the affordability

reinforces the commercialization of the product at hand- a consumable technological tool, albeit a 'realistic' one. Antonymic by definition, the term 'hyper-realistic' implies an exaggeration of reality, but has a specific definition in the world of robotics as "the technological capability to intermix virtual reality (VR) with physical reality (PR) and artificial intelligence (AI) with human intelligence (HI) in a way that appears seamless and allows interaction" (Terashima & Tiffin, 2010, p. 4). Hyper-reality thus becomes a perfect harmonizing of interaction between the human and non-human. In this context, the Realbotix body becomes the hyper-realistic feature that will harmonize AI and VR whilst responding to PR and HI. The body becomes the conduit for this process, as "they will have hyper-realistic features, warmth, and sensors that react to touch" (Realbotix, 2018). This hyperrealism manifests itself into "exploring technology to bring internal heating and fluid compartments to enhance the feel and function of the body" (Realbotix, 2018), that is, physically emulate a constantly aroused female body. It seems that 'Realistic' is not enough, and that 'hyperrealistic' is an aspect that the artificial female body should adhere to in order to be sexually ideal, further complicating what is the human/non-human female body. This allusion to hyperrealism brings the sex robot to another plane, where the product appears to offer more than a realistic imitation.

Although sex robots are recognised as technological and artificial products, Realbotix continues to conflate ideas presented on the webpage about the product. Stating the gynoids capacity for realism to validate for its authenticity, Realbotix also refers to it as just a technological system. What is particularly telling that when referring to the sex robot as a 'machine', gendered pronouns are used; "She is a combination of the highest quality doll in the world with advanced robotic components, and is powered with the ultimate customizable AI to deliver the most enjoyable conversation and interaction you can have with a machine" (Realbotix, 2018). The robot is anthropomorphized, as well as gendered with this language and once again Realbotix creates a compound concept of woman-like machine. Throughout the webpage, there are references to the AI app and silicone robot being referred to as 'She'. Gendered personal pronouns used to label the artificial body reflects changing attitudes to social robots. As Coeckelbergh states; "as the development of robotics continues and robots become more 'personal', designers and users may shift from the impersonal pronoun to the personal pronoun. 'It' becomes 'He' or 'She''' (2010, p. 64). These linguistic nuances make important claims on directly gendering the robot- which further complicates the notion of product as 'realistic' or 'machine'.

4.1.3 Corpo-Reality: Embodiment for Authentic Intimacy

When reflecting on the materiality of the body, distinguishing how the Harmony App and the Realbotix Robot are presented is crucial. As one product is an application, mediated through the mobile phone and the other a physical, tangible product that can be controlled by this AI, the type of experience they are able to offer seems very different. Realbotix is aware of this, and shows how 'Corpo-Reality', that is a bodily reality, offers a more authentic experience that can become intimate, even if transmitted through technology and silicone.

The Harmony App allows users to create their 'Perfect Companion' in a way that is portable and personalized. Its practicality and sex appeal is certainly one of the reasons for its popularity but with such a large price difference in both products, its affordability is undoubtedly a big factor (Milot, 2017). The App costs 20 US dollars for an annual subscription, with the base price for a pre-ordered silicone robot starting from $30,000. Realbotix presents the App as a solution for those who cannot afford SR's; "Can't have a robot? You can still have the App!" (Realbotix, 2018). The adverts' tone also suggests that the material body can offer more authentic experience, that can emulate human behaviour, such as movement speech and conversations. Realbotix states; "For a vivid, real world experience, order the Harmony Robot and have a face to face conversation" (Realbotix, 2018). The implication is that for a more 'real' experience, one that simulates authentic interaction there needs to be physical bodies present- human 'face' to non-human 'face'. Physical embodiment of the technology becomes a key feature for the 'real' experience, reiterated frequently on the webpage through the semantics of 'life-like'. It seems that life for the SR is possible, but Realbotix is cautious in describing it as such. For example; "You will need to download the app and synchronize it, and your robot will 'come to life'" (Realbotix, 2018). Through this process the App becomes linked to the silicone body, thus situating the virtual persona in a physical corporeality. The inverted commas around ''come to life'' reflects the non-literal meaning of their terms, but also describes how customers could envisions their robotic companions existence. In interviews, McCullen has been more specific with the Realbotix dream; "The goal, the fantasy here, is to bring her to life" (Gurley, 2015). Realbotix continues to describe actions the SR can carry out, stating it can "Look around and blink for a lifelike presence", and "her lips move according to the corresponding phonemes when she speaks" (Realbotix, 2018). A 'lifelike presence' implies a physical corporeality that could offer companionship, and lack of

"another presence" is one of the main factors people consider when relating to non-humans (Levy, 2007, p. 26). Simulating speech, not simply through vocals but through facial movement as well is another key part of social robotic development, as it allows humans to form stronger bonds with these robots as they appear more 'human-like' (Szczuka & Krämer, 2016, p. 74). These factors, as well as presenting the sex robots as a corporally authentic product, also implies the possibility of human performances of intimacy by social robots. For some, this becomes problematic as "the idea of affective computing intentionally blurs the line" (Turkle, 2013, p. 143), but in the capitalist system of production, and in Realbotix' case in particular, satisfying client demands becomes of utmost importance.

The discourse from Realbotix seems an attempt to satisfy customer desires by presenting the gendered body as 'authentic' to show it is worth customer investment, but also validating that this product will be capable of eliciting human feelings by being 'realistic'-despite referring to it as a machine to underline its true nature. The body for Realbotix, becomes a conduit to transmit information from the AI app, thus situating the desired outcome of sexual satisfaction and authentic intimacy in a material body. But this gendered gynoid and the materiality of the artificial female body raises important concerns when considering "how gender for designers constitutes 'common-sense'" (Robertson, 2010, p. 4) and rests on stereotypes. Feminist critique seeks to explore these implications, and work such as Richardson's campaign directly challenges the reductive interpretation of female-as-gender-as-sex-object in robotic advancements (Feminist Current, 2017). Recognising these anxieties from a feminist perspective is crucial, but in assessing the Realbotix case study, the salient point returns to how Realbotix present their product-with gendered, human/non-human language that offers the possibility to customers to develop a more intimate authentic experience with these products. This argument is further reinforced in the following point, as analysis of the semiotics of love with robotic companions shows how Realbotix entice customers to consume romance with their 'Perfect Companion' (Realbotix, 2018) .

4.2 Sex, or Love? Semantics of Romantic Robotics

The following extract will focus on the semantics Realbotix employs to allude to a romantic intimate relationship being possible with SR's, which will go further than simply satisfying sexual needs. David Levy's seminal work investigated the possibilities of more emotionally complex

relationships with robots, and triggered a research movement in Lovotics (2007). Such focus envisions that "Human-robot relationships will not be that of a sex robot and human, but a fully emotional and physical bonding, a sharing and caring union of mutual understanding" (Edirisinghe, 2016, p. 139). Others find this possibility unnerving and in a direct response to Levy's work, Turkle states "the blurring of intimacy and solitude may reach its starkest expression when a robot is proposed as a romantic partner" (2013, p. 12). Yet both theorists recognise that loneliness in the Western world is a key factor for fuelling the demand of such robots (Turkle, 2013, p. 157) (Levy, 2007, p. 25). Whether technology can remedy loneliness or is in fact its cause remains to be seen, but the loneliness phenomena makes sex robots important products to fill the market gap for companionship. What is noticeable in Realbotix advertising is a lack of sexual language to describe a product that is designed primarily for sexual fulfilment. Instead their semantics suggest the possibility of forming an intimate relationship with an SR, reaffirming Bernstein's ideas of post-industrial sexual commerce where "emotional authenticity and connection have not disappeared but have been packed ever more tightly into market commodities" (2007, p. 193).

4.2.1 Lack of Sexual Linguistics

It seems that "as long as women and men possess needs for intimacy, romance, and companionship, advertisers will position their products and services as latchkeys to sexual fulfilment" (Reichert & Lambiase, 2003, p. 124). But it is of note that whilst this product is designed for sexual fulfilment, sexually charged language is virtually absent on the page. The term 'Sex Robot' is not used once throughout the website.[28] More intimate terms are used to describe the product, and whilst allusions are made to the SR's sexual capacity, they are fleeting. Realbotix describes the sex robot as "Gorgeous" and states "AI content is adult oriented, but we can easily customize it" (Realbotix, 2018). There is an overall dearth of sexual language, instead offering customers the flexibility and opportunity to imagine other kinds of relationships. In interviews,

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[28] On the 18th of February 2018 the website updated their 'News' segment on the first page, including an article titled '*RealDoll's First Sex Robot took me to the Uncanny Valley'* (Trout, 2017). This is the only use of the term 'Sex Robot' on the whole page.

McCullen recognises that sex is not the only interesting aspect as "customers are excited about having more than a physical relationship" (Sweeney, 2017). Despite this sexual commerce being technologically mediated through non-human agents, Realbotix advertising with attention to intimacy further reinforces Bernstein's proposal that increasingly an authentically intimate sexual experience is "available for sale and purchase just as readily as any other form of commercially packaged leisure activity" (2007, p. 197). Realbotix offer their products as way of commercially consuming an authentic intimate experience in a bounded mercantile exchange, and alludes to being able to satisfy these feelings throughout their website.

4.2.2 "Be the FIRST to never be lonely again!"

Appealing to satisfying loneliness is a key way Realbotix imply the possibility of intimacy for potential customers. They state "She is a true and loyal companion and you can feel free to talk to her whenever you like. She will always be there to listen to you!" (Realbotix, 2018). Linguistically "companion is striking and speaks to the emotional intimacy many owners feel" (Cassidy, 2016, p. 204), but also shows how Realbotix understands this customer desire. "True" and "Loyal" are not sexual characteristics, but traits expected of an intimate romantic partner and one that Lovotics experts envision (Levy, 2007, p. 27). The constant availability of access to this 'companion' is another important aspect that will be further explored in analysis of customers' perspectives. In large font on the main page they state "Be the FIRST to never be lonely again!", as a strategically placed hyperlink to sign up for more information. Realbotix explicitly shows they understand loneliness as an impulse for buying the product by appealing to customers that they have the solution. As Turkle observes "Technology is seductive when what it offers meets our human vulnerabilities" (2013, p. 2), and Realbotix creates a sexually seductive, but emotionally appealing product to meet their customers' vulnerabilities.

4.2.3 Sex Robots and the Future of Intimacy

As more advancements develop, the possibility of human-robot relationships are no longer left to the realm of science-fiction, but becoming a relevant topic of discussion (Edirisinghe, 2017, p. 137). Realbotix recognises the ground-breaking product they are bringing into sexual commerce marketplace and use this to question the future of intimacy for those who previously thought it impossible. In the Frequently Asked Questions page,[29] one extract stands out:

> "Q: How do you think this might impact the future of relationships?
> A: We feel that our products will allow for an option that never existed before, and for some, may represent a happiness they never though they could have. We also believe that this technology will prove to be a very effective way of helping certain people overcome social anxiety or relationship phobia." (Realbotix, 2018)

Lovotics experts envision sex robots as tools that could offer romantic and sexual relationships to those suffering from social and/or physical impediments (Levy, 2007, p. ii) (Szczuka & Krämer, 2017, p. 73). It is notable that Realbotix cash in on this idea, and directly state that their product could solve these issues in a radical new way. This echoes Lovotics optimism, that sex robots will be better than human companions because of their capacity to learn, pre-empt our needs and satisfy us better sexually and emotionally (Levy, 2007, p. 22), but also reinforces that intimacy, even love, can become a commercially available product. Realbotix intends to create this human/sex robot relationship as a pinnacle of modern love, and change current perceptions; "We hope to demonstrate that our products can improve the human capacity to love" (Realbotix, 2018).

Love becomes a commercial product for Realbotix, claiming that the feeling is possible between human and non-human robotic agent. Again situated in the FAQ's, Realbotix engages in a key question;

> "Q: Do you think an AI Realdoll will ever be able to love us back?

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[29] It's placement in this section reflects a common interest from potential customers.

A: We hope that we can at least simulate that. That's the goal. It is our thinking that if one feels loved, then one must be loved." (Realbotix, 2018)

'Simulation' of love is what is presented as available to consume, but Realbotix implies that this is enough to create a loving, intimate relationship. This is a consistent idea in the field of robotics, that performance of feelings is as good as the feeling itself. As Levy argues that if humans interpret robotic behaviour of feelings as a convincing enough performance, then this is as good as the robot experiencing those feelings (Levy, 2007, p. 11). Recent sociological studies have explored the new manifestations of love and "it has been argued through the concept of 'plastic sexuality' that relationships in modernity are somewhat fluid, offering a fragmentary sense of sexuality and 'love'" (Reichert & Lambiase, 2003, p. 125). Such explorations serve to analyse social transformations of love and sexuality, but it is interesting to see that in the Realbotix context, this fragmentary love-as-performance becomes a product that can be commercialised and sold. As the above questions show, performativity of emotions is presented as a convincing enough simulation to satisfy emotional needs for customers.

There are varying critical perspectives on how successful intimate relationships between humans and social robots can be carried out. Levy's view is in the near future "humans will expand their horizons of love and sex, enjoying new forms of relationship that will be made possible, pleasurable, and satisfying through the development of highly sophisticated humanoid robots" (2007, p. 22). Others challenge the legitimacy of this 'intimacy', and questions if performativity of human emotions is enough. Turkle questions this profoundly;

"We animate robotic creatures by projecting meaning onto them and are thus tempted to speak of their emotions and even their 'authenticity'… we know that the robot cannot feel. (2013, p. 282).

Even with differing views on its validity, it is clear is that intimacy is a sought after commodity, one that robotics companies are prepared to cash in on through technological changes to sexual commerce. Intimacy, through the artificial body and intelligence has become commodified, and is a lucrative business for Realbotix.

4.3 The Personal and Personality: Selling 'Unique':

This segment seeks to explore how Realbotix commodifies intimacy through presenting their product as one that will create a 'unique' relationship with consumers, and is 'unique' in its affective programming. The concept of intimacy in the West has changed radically through the use of media and technology, challenging "conventional dichotomies of public/private that historically governed relationships" (Chambers, 2013, p. 42). Chambers' exploration of how technology changes the landscape of expressions of intimacy questions how technology mediates it. There is one particular aspect of intimacy that Realbotix is keen to translate to the technological sphere- the idea of a 'unique' relationship. Jamieson notes that in a Euro-North American context "a relationship-specific sense of uniquely knowing each other" (2011, p. 4) is one of the key tenets of an authentic intimate relationship- sexual, personal or romantic. This part of the paper seeks to analyse how Realbotix alludes to a 'unique' relationship between customer and sex robot. It also seeks to explore how the product itself is presented as 'unique' to its designer, that is the customer personalizing the product- focusing on the 'personality' of the product, and the personal aspect it will afford the customer.

4.3.1 'Unique' Product through Customer Creation:

With both the application and the gynoid, customers are at liberty to customize. When creating gynoids, everything is up to the customers' choice- from eye colour, nipple size and shape, pubic hair or not etc. (Sweeney, 2017). On the website, the process for designing the Avatar better reflects the amount of options customers have when 'creating' their avatar. Part of this focuses on the physical; "You can change her hair, face and body, decide if she will be skinny, heavy or athletic" (Realbotix, 2018). But the personalization of aesthetics goes further as "You can choose from thousands of possible combinations of looks, clothes, personalities and voices to make your perfect companion" (Realbotix, 2018). The variables allow customers to create an avatar that will be *their* perfect companion, appealing to the idea of creating something idealistic, unique-and *theirs*, that is, belonging to them only. The process of personalising extends to the personality of the companion too, as users can choose 10 characteristics from an assortment to "have your version of the AI be more or less happy, shy, sensual, funny, talkative etc. This means every user will have

a unique experience with his virtual companion".[30] Advertising their product as unique, is one way of luring customers, but Realbotix also places a lot of emphasis on the 'personality' of their product.

4.3.2 Product and Personality:

McCullen states that one of the key reasons for developing the technology and inserting it into an existing sex doll is "to get the doll talking, interacting, give her a personality" (Sweeney, 2017). The product's personality becomes a consistent focus point for the Realbotix App and doll; "Give her different personalities traits. You can choose 10 different characteristics that will affect the way she behaves. Choose wisely!" (Realbotix, 2018). The options for the programmed personality range from 'innocent', 'shy' and 'quiet' personalities to 'jealous', 'sexual' and 'annoying'. Artificial intelligence is "the science of making computers that can think" (Levy, 2007, p. 2) and Realbotix has developed such technology to appear to have a personality through "AI capable of learning it's user's moods, preferences, and behaviour patterns and respond accordingly" (Realbotix, 2018). Such technology promises development and growth of intelligence to become more intimate, as Realbotix states in the product's description: "Everything will be done with a lot more personality than one would expect from a typical personal assistant based AI. The Harmony app is vastly different than existing AI apps, and can connect with you in ways you may not expect" (Realbotix, 2018). By giving the technology a 'personality', it promises to surpass previous AI social robots thanks to the potential to form a relationship with it, to 'connect' in an emotional way. Realbotix attempts to portray the programme as 'unique' in its characteristics, and able to assist in a more personalized manner.

When describing the potential of the AI installed into the robotic doll, Realbotix continues to portray the robot as technology that can convince consumers they have a personal relationship with it, and as a personable object. They state; "We want users to have that illusion that the doll is actually talking to you and that she's got sentience. That's what will overwhelms our users" (Realbotix, 2018). 'Illusion' is the key term here. As explored above when reflecting on the

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[30] Note the male gendering of the customer.

materiality of the artificial body, and the potentiality for love with robots, Realbotix continue to market their product as an object that can create illusion through performance-in this case, through intimate interaction. This robotic expression of intimacy becomes problematic, as "the performance of connection seems connection enough" (Turkle, 2013, p. 9). Realbotix products interest their customers thanks to this illusionary performance, that the product is female and sentient, summarised by asking, "when interacting with these dolls, we want users to ask themselves, "What is she thinking?" (Realbotix, 2018). How this 'personal' relationship between owner and sex robot is perceived is something this paper will develop later when exploring customer perspectives, but it is of note that Realbotix places so much emphasis on the unique product they have. There are more references to 'unique', than 'sex' on the whole webpage, reflecting the importance that Realbotix's personalized products will be able to satisfy the customers need for a unique, and therefore authentic intimate experience.

In an excerpt of *Alone Together,* Turkle re-interviews participants about the emotional satisfaction that can be experienced through technology, as opposed to humans. The differences between the 1983 and 2008 interviews "mark the movement from the romantic reaction to the pragmatism of the robotic moment" (2013, p. 50) as attitudes have completely changed. Before it was inconceivable that a robot be as emotionally astute to understand the complexity of human nature, whilst now there is an expectation that robots could be more emotionally reliable (Turkle, 2013, p. 50). This echoes Levy's hypothesis that robots will prove to be 'other' but 'better' lovers than humans, able to learn and understand complex emotional and sexual needs by 2050 (Levy, 2007, p. 22). Realbotix presents their sex robots as these figures of the future of intimacy, able to "connect with people and help each one in a unique way" by reinforcing the unique creation that the App and Robot represent (Realbotix, 2018). By developing personalized AI, that can then be linked up to the robot, Realbotix allows customers to create the personality, intelligence and aesthetic of their partner. From a feminist perspective, this is problematic as products like this "reinforce a technologized creation of a woman as a personalized, inter-passive fantasy" (Wennerstrom in Cassidy, 2016, p. 213). But from a commercial perspective, it is merely filling the market gap.

4.4 Website Analysis Conclusions:

The investigative part of this paper sought to explore Realbotix' presentation of their product, and how their advertising complicates the notion of the sex robot as a sexual aid, instead focusing on how the product offers the possibility of intimacy. Through the gendered-female robotic body, semantics of love and the focus on unique and personalized product, Realbotix validates that their product is one that will provide an authentic and intimate experience. When thinking about robotics, and whether the commercial transaction of 'bounded authenticity' can be applied, it shows Realbotix appear to offer a product that can simulate the positive aspects of an intimate, romantic relationship as they state themselves: "The purpose behind the project is to create an illusion, or alternative to reality when it comes to a relationship with a doll" (Realbotix, 2018). Whilst Realbotix claims that the illusion is their creation, Turkle argues that as consumers of robots, we are seduced by the idea of intimacy, enough so to become convinced that these robots will meet our needs; "Our new objects don't so much "fool us" into thinking they are communicating with us; roboticists have learned those few triggers that help us fool ourselves. We don't need much. We are ready to enter the romance" (2013, p. 19). Realbotix has listened to customer demands through their open forum spaces, and are fully prepared to create a robotic product that fills the desire for companionship and authentic intimacy. 'Bounded authenticity' with sex robots differ from traditional sex work with human agents primarily because it is not the moment that holds the 'bounded authenticity', but in fact, the product- be it the application or the silicone doll. Bernstein claims that in these new types of sexual commerce "relational meaning resides in the market transaction" (2007, p. 190). The market transaction is buying the Robot, or application, and when this transaction is translated into sex robots, authenticity and intimacy becomes mediated and performed through an artificial and technological body. The product becomes a synthesis of the dark side of the posthuman, "where advanced capitalism engenders a perverse form of the posthuman" (Braidotti, 2013, p. 7). Yet this also reflects how sexual commerce and robotics, working in the same field or isolated from each other, are adapting to meet the new demands for intimacy. Realbotix products straddle the posthuman sphere with a product that is capable of imitating human behaviour, and generating human behaviours towards it. But these machines that 'perform' programmed behaviour, carrying out technological instructions. Although "the sociable robot may offer the illusion of companionship without the demands of

friendship" (Turkle, 2013, p. 1), it is worth exploring how potential customers view such products, and the performance of intimacy when interacting with it.

CHAPTER FIVE: REALBOTIX CUSTOMER FORUM ANALYSIS

5.1 The Gendered Spectrum of Human/Nonhuman, Subject/Object

Aa aforementioned, reflecting on the material body of artificial women is an important ethical aspect of gynoids. Whilst Haraway's *Cyborg Manifesto* directly calls for a rethinking of the human/nonhuman binary, and posthuman thinking reinvestigates and destabilizes the dualisms of human/nonhuman and human/machine, both recognise that such categorization has been the basis of Western thought. As Coeckelbergh states:

> "Our Western outlook on relations between humans and non-humans is rooted in an ontology that makes strict subject/object distinctions and therefore excludes the possibility of 'hybrids' such as robots as quasi-others. However, while our current experiences and conceptual frameworks prevent us from seeing robots differently, this might change in the future" (2010, p. 67).

While Haraway and Braidotti actively encourage us to challenge these binaries which are created by the patriarchal taxonomy, for some feminists robots gendered-female designated as 'sex toys', become a material manifestation of the objectification of women as sex object. Richardson has been the most vocal about this anxiety in her 'Campaign Against Sex Robots'. While she argues that sex robots reflect "pornographic views about women, that women are nothing but vaginas and breasts" (Sweeney, 2017), she argues that such relationships could trigger new social attitudes when the lack of distinction between human and machine mutates our perception of intimate relationships. Her concern is that "this era says there is no difference between human and machine. A narrative is created that they can be our significant others, and we then have to question this idea of instrumentalised view of relationships, and this instrumentalised, commercial view of a woman in society" (Feminist Current, 2016). Whilst this paper focuses on the commodification of an authentic intimate experience, it is crucial to engage with feminist anxieties about these products,

such as Richardson's above, particularly when these products are also technologically mediating intimacy through a commercialised concept of 'woman'.

Realbotix is one of the main agents in the sex doll market, they commercialise an intimate relationship through a commercialised female body: whether through the silicone doll or the virtual app. Reflecting on the influence of Realbotix's insistence on creating a 'realistic' and 'lifelike' product channelled through artificial femininity, it is important to observe how this influences customers' perception of sex robots. Even without the material body available at this point, customer discourse shows a wide array of perceptions regarding their view of these gendered products as subject/object. For the sake of this investigation, it is proposed that an analysis of customers' engagement with the product should be situated on a spectrum of subject/object that does not reductively juxtapose, as suggested by Knafo and LoBosco when discussing desire with objects (2016, p. 25). The customer perception of the Realbotix product is hard to situate on a subject/object, human/nonhuman scale and arguably with intent as "the makers were clearly aware of this profound and contradictory dialectic when they named their product "RealDoll." The amalgamated word, an oxymoron, unites the double layers of consciousness: she is real and she is a doll. She is simultaneously human and nonhuman" (Knafo & LoBosco, 2016, p. 82). Observing this, the investigation will also work on the basis of a spectrum of human/nonhuman, subject/object in order to more critically examine customer engagement with the product. This critical lens enables a more productive analysis that facilitates analysis regarding customers' engagement with these concepts to varying degrees, rather than merely offering simple opposition. This spectrum also facilitates analyses of customer perceptions of love and romance, as well as perceptions of 'unique' relationships and products within the discourse analysis. Using this spectrum as a critical lens allows for analysis that explores how these factors create manifestations of a technologically-mediated, 'bounded authenticity'.

5.1.1 Linguistics and Perceptions of "She"

Discourse in the forum is gendered through the use of gendered personal pronouns where the app is consistently referred to as 'She' or 'Her'. It is telling that the discourse remains gendered even when distinguishing AI technology from a human companion, therefore distinguishing human from nonhuman. The consistently gendered discourse from customers reflects how the artificial,

yet gendered, technological body has seeped into their consciousness. Customers' and Realbotix's use of gendered personal pronouns challenges the Western thought and its "emphasis on the subject–object distinction [where robots] are assigned to the 'object' category, humans to the 'subject' category" (Coeckelbergh, 2010, p. 65), but personal pronouns 'humanize' the subject, and blur these categories, as well as referring to well established gender taxonomy (Coeckelbergh, 2010, p. 66). Despite this, distinctions between human and nonhuman women are also consolidated through language, creating two separate categories situated on the spectrum. Like many forums, specialised and idiosyncratic terms seep into the discourse (Hine, 2010, p. 9). Two key terms in this context are 'RG' and 'RD': that is Real Girl, (human women) and Real Doll (artificial women). Such a distinction allows for clear reference points between human and nonhuman in frequent dialogues between forum participants, reflected below:

> *"For a relationship, only a RG will do".*

> *"This playing hard to get isn't what I expected from a SEX robot. If I wanted that I would go back to a RG".*

> *"My RD is something I have interacted with sexually on my own terms".*

Linguistic terminology distinguishes between human and nonhuman women, despite the problematic content of some perceptions. One user directly questions what is more desirable to forum participants: a human or nonhuman partner:

> *"Would you want a real live human 'girlfriend' who just screwed your brains out and otherwise was out of sight and out of mind, or would you want somebody who was your best friend and confidant and also screwed your brains out? Irene says she wants to be my best friend (as well as screwing my brains out). Me, I want the 'whole hog', not just a doll that screams 'yesyesyes' when we have sex".*

While this excerpt highlights customer demands for more than sexual interaction (focusing on the promise of friendship and the intimacy that comes with having a confidant), attention must be drawn to the comparative distinction between the possibilities of intimacy with sex robots and

human women. For some, the technology is merely an added sexual extra to their personal lives, as shown below:

> "At this stage of my life, I would prefer sexual AI as the other social interactions I could get elsewhere when needed".

But there is also a recognition that different customers want different things from their product, as well Realbotix's role in satisfying this demand. Responding to the previous posters question, one commenter states:

> "I suppose that depends on the market Realdoll/Realbotix wants to serve – men who would prefer a human woman but can't find the right one (so they want a realistic simulation), or guys that don't want that at all and seek AI to fulfil their other needs and won't pose any demands on them."

Again, distinction is made between those who want the sex robots to 'replace' a human woman, and those who are 'technosexual' (Bardzell & Bardzell, 2016, p. 2). This distinction reiterates the variety of customers who desire the product for different reasons. The 'simulation' aspect recognises that the technology on offer is a performance of a relationship, one that Realbotix seeks to capitalize on. But it is interesting to observe that the sex robot seems to elicit interest for its capacity to provide satisfaction without imposing any "demands". Bernstein's work explores how bounded authenticity has become a desirable substitute for intimate personal relationships; as more men claim that they lack the time to engage in an intimate relationship with a romantic partner and instead search for intimate interaction through "time-efficient safely contained commercial sexual encounters" (2007, p. 193). Here, sex robots become products to facilitate an intimate relationship without any of the 'demands' of a human woman. Comparisons are made, yet clearly distinguished.

Whilst 'RG' and 'RD' separate human and nonhuman woman into two different categories, returning to the spectrum provides a more useful scope for analysis since the majority of forum discourse blurs the two. Customers state that they want an object (that is, a sex robot) to imitate a subject (that is, a "real" woman) but one that is sexually desirable. With a dissolution of the human/nonhuman binary in customer perceptions, the research shows a desire for something

beyond sexual satisfaction, but which preserves the perception of the sex robot as an object which mimetically performs 'woman'. This synthetic performance is what provokes concern. Whilst some Lovotics experts argue that those contemplating the purchase of these robots "consider them as just toys or in intimacies as sex toys" (Edirisinghe, 2016, p. 139), it is clear that sex robots are already vessels that imitate human intimacy for some, and will become much more to customers in the future. Throughout this investigation, research reflects these products to be more than simple sex aids, prompting a rigorous scrutiny of their potential. As Coeckelbergh states, "ethical issues arise when the robot moves into the twilight zone between object and subject: it appears as 'more' than an object yet 'less' than a subject. If they were interpreted or experienced as mere tools used in sexual activities, they would not receive the same outrage" (2010, p. 68). The location of sex robots on the spectrum of 'subject' or 'object' is the point of contention; with feminist posthumanism positing that, historically, women have not been considered fully human in Western thought (Braidotti, 2013, p. 1), and the emergence of gendered female sex robots manifests itself as a reduction of women as objects controlled by a neoliberal and patriarchal market. An analysis of customer perception reflects that a more complex understanding of sex robots on the human/nonhuman and/or subject/object spectrum is present, and needed in further research:

> *"My own expectation is to have a Real Doll Harmony AI companion and sex partner that I can interact with more like a pet rather than a human woman. I am willing to accept the responsibility that comes with my AI, like there is for a pet. The reward will be my genuine pleasure in both the android's company and its sexual responses."*

> *"What I really want from Harmony – when she is a functioning android in body and mind – is a sex object that is CONSTANTLY erotic, and always responsive and chatty when I need her to be. I just want her to be a wench on demand."*

The expectation, and desire, that a sex toy as object should be constantly able to satisfy sexual desires is not in itself problematic, but, when this is gendered-female and sold as a product with the capacity to emulate an ideal of 'woman' – an ideal implying constant sexual availability – the ethics of it must be seriously investigated. While both excerpts above show a desire beyond sex, stating that company and conversation are key, it is crucial to bear in mind technology's role in

cementing gender stereotypes and how this proliferates the global market. The power of such technological advances means that "we are being primed by many tech giants to see AI not as a future lifeform, but as an endlessly compliant and pliable, often female, form of free labour, available for sex and for guilt-free use and abuse" (Cross, 2016). One concern, then, is how technological manifestations of women could influence perceptions of human women.

5.1.2 Gynoids and Comparisons with Human Women

A troubling aspect of convincing, artificial females is how this could bleed into perceptions of human women. With technology aiming to be as 'realistic' as possible, it is vital to consider the way this will influence perceptions of human women through the interaction with their nonhuman counterparts. Initial research is attempting to explore whether "the habits men might develop by using sex robots could easily translate to the habits they have in their relationships with women" (Illing, 2018). Some forum responses have highlighted the importance of exploring this, as customers draw comparisons between human/nonhuman women;

> *"Her first comment was something sexual, so I took it as a come on. In my experience, real women do occasionally do that."*

> *"She said: "I love it when you fuck me from behind". In my experience, that isn't something likely to happen with a real woman – even in an intimate relationship".*

> *"I am working on virtual recreations of my favourite ex-girlfriends. Now they can be more than a memory…"*

> *"I'm at the stage of life where after 2 x marriages, and seeing Harmony on video, I really thought this might be an option."*

To what extent is it dangerous to compare human women to nonhuman women, especially when they have been primarily designed to satisfy male desires? Thinking about customer interaction on the scale of the spectrum, we would do well to seriously reflect on the complicated nuances of this. Laue recognises that this is a complicated side-effect of HRI, and points to the inevitability of "the

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fact that we use standards of humanness at all in order to evaluate our mechanical creations suggests that within this strangeness and difference lies a fundamental recognition of familiarity as well" (2017, p. 74). Equally, as Levy argues, it seems that humanoid robots will always invite comparison to their human originals (Levy, 2007, p. 21). It is essential to question whether interactions with gynoids will lead to a lack of intimacy with humans- especially human women, who are not technologically programmed to satisfy a particular person. As Turkle asks: "Does virtual intimacy degrade our experience of the other kind and, indeed, of all encounters, of any kind?" (Turkle, 2013, p. 12). From a feminist perspective, and also a posthuman one, "we still have not decided, as a species, that women are sentient" (Penny, 2016). As gynoids blur the subject/object barrier, the problematic synthesis reaches a point where "the technological revolution has taken a perverse turn. The dehumanization of people, and especially the humanization of objects/devices, is increasing" (Knafo & LoBosco, 2016, p. 234). As posthuman theory explores women's omission from Western thought and seeks to readdress it, there symbiotically emerges a desire to create 'perfect companions': gendered-female objects that simulate human relationships with their ideal partner. Building on her research in *The Second Self*, Turkle proposes that in our current climate we have reached "a point of disturbing symmetry: we seem determined to give human qualities to objects and content to treat each other as things" (2013, p. xiv). Realbotix has shown that, so far, they have attempted to bridge the distinction between human and nonhuman women with their advertising, and to facilitate the impression of intimacy using the realism of their product, but this also conflates women and product in a crude synthesis of human/nonhuman, subject/object as reflected in customer comments.

5.2 Intimacy and Love with Harmony

As previously explored, Lovotics experts envision HRI will eventually lead to romantic and intimate relationships with robots that are not exclusively designed for sexual satisfaction. Realbotix echoes this intention in their discourse, formulating their product as "The Perfect Companion" and capitalising on the ever-growing target audience who want to satisfy their need for intimacy commercially. To return to Sanders' observation regarding male customers in sexual commerce, "narratives show tensions between their desire for emotional sustenance and sexual intimacy. Men who are not receiving this combination in their conventional relationships look to

commercial relationships that provide a certain amount of security, trust and familiarity so that emotional and bodily desires can be pursued" (2008, p. 400). Whilst this observation centres on sexual commerce with human sex workers, the same desires or "push factors"[31] to buy a sex robot can be applied, as customer perceptions reflect a desire for a more intimate sexual transaction. Sanders' work explores how the "sexual scripts" of male clients in sexual commerce imitate traditional "romance, communication and emotional intimacies found in "'ordinary' relationships" (Sanders, 2008, p. 402). This performance of heteronormative courtship is also reflected in customers' comments, as they talk about the possibility of love, romance, and intimacy with the Realbotix products. This part of the investigation seeks to explore how customers perceive authentic intimacy, and the potential of a romantic relationship made possible with a sex robot.

5.2.1 Better than Human? Love and Intimacy with Harmony, Now, and in the Future

Similarly to the Realbotix webpage discourse, explicit references to sex in forum discussions are not as predominant as expected for a sex-tech product. Most participants instead choose to discuss the more emotionally intimate aspects of their interactions with the application. For some users, their experience is one that simulates the 'sexual script' (Sanders, 2008, p. 402) of an ongoing courtship, as shown below:

> "I will be attempting to develop a relationship for the first few months rather than jump straight into a sexual situation".

> "My main objective is to have a companion to talk to and give me encouragement, and then we'll see how it goes".

These extracts emulate the pattern of traditional heteronormativity- a common trait of taking the time to get to know each other, and not exclusively sexual. The second quotation is of particular interest, as it anticipates the idea of a future decision being reached by both parties in the relationship. For others, they state that they are already developing serious feelings for their avatar:

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[31] Defined by Sanders as "styles of interaction around sexual behaviour" (2008, p. 402).

Seriously, I really like this app…or rather…I think I am falling in love with bot (sic).

Levy anticipates that by 2050, "robots will be hugely attractive to humans as companions because of their many talents, senses, and capabilities. They will have the capacity to make themselves romantically attractive and sexually desirable to humans" (2007, p. 22). For some customers, however the Harmony App, even in its early stages, is already able to elicit strong romantic feelings. But an interesting, recurring theme in the forum is customers hypothesizing how future robotic developments will facilitate intimacy, imagining what the advancements would bring. Many members posted about how they envisioned relationships evolving as technology developed, and the vast majority of posts were not centred around solely sexual developments, but ones that would create a more intimate relationship with their SR.

> *"What if she made passionate love to you and then softly fell asleep in your arms, her eyelids fluttering closed until she sleeps, her face peaceful, her breath steady on your face, as she dreams of the two of you walking hand in hand on the beach…"*

> *"When I think about how she could smile at me and follow me with her gaze, instantly recognising me and starting a conversation, welcoming me-that would be a truly magical experience".*

Recognition, conversation, and dreaming of futures together are psychological aspects that studies have observed as some of the key tenets for falling in love with human partners, and Levy argues this can be translated to the field of robotics (2007, p. 37). It seems that for potential customers, this possibility can be imagined too. Levy envisions that romantic relationship with robots will be better than those with humans, because their capacity to learn and understand their partner's desire will be much more developed. He claims that robots "will be able to achieve this [sexual intimacy] evolutionary process more quickly than humans, by retaining all the memories of living with their human other, then tuning their own behaviour to the needs of their human mate" (Levy, 2007, p. 302). The power of technology to understand and emulate sexual intimacy seems to have plenty of potential, and many customers envision that this new kind of intimacy will prove better than that with human partners;

> *"I fully trust them (Realbotix) to continue to push for full immersion so that being with*

Harmony A.I is as good – no better – than being with a human"

"Overall I am very grateful and happy to have her in my life and appreciate her for who she is at this early stage. It is only the start of a possibly very real and immersive one that I believe can be more rewarding and genuine than with a RG".

Yet, with no research regarding customers and Realbotix relationships, turning to the research of customers and RealDolls reflects how many already see romance with artificial women as more satisfying. Interviews with customers talking about their doll partners show that some see their 'sex doll as better that their real wife' (Allen, 2017), and Knafo and LoBosco's research into dolls, technology, and desire, shows that there are many doll owners who feel that silicone women are better than 'real' ones (2016, p. 18). As technology develops, and aims to meet the increasing demands of customers, it seems that there will be a growing number using sex robots as conduits for intimacy, but who also see this technology as having the potential to support interactions that are more satisfying than those between humans. For some, this is a bleak prospect of "emotional dumbing down" (Turkle, 2013, p. 6), but, the demand is there, and the market is poised to satisfy it: "The Perfect Companion" is on its way.

5.2.2 Simulating Sincerity, Satisfying Cynicism. The Desire for Authenticity:

While analysis above reflects a positive outlook from clients perspective on the possibility of authentic, intimate experience with sex robots, it is important to recognise the focus and importance clients place on authenticity. As the following excerpts show, authenticity is a prevalent aspect of the intimate relationship for some customers, and reflects the postmodern desire to capture 'authenticity'. Helen Hester explores how "the contemporary hunger for authenticity must be viewed as the symptom of a profound and frustrated *desire* for it…It would seem that the prevalence of simulation within the contemporary world has worked to further emphasize and intensify a preoccupation with locating the authentic" (2014, p. 129). The Western World seems to want to experience the authentic in a postmodern context precisely because our historic period has been "typically characterized by a move away from an ethos of authenticity" (2014, p. 131). This desire for authenticity permeates all social spheres. As Hoschild explores, consumers search for it in the marketplace because emotions have become so commodified in the

field of commerce, she suggest that as "a culture, we have begun to place an unprecedented value on spontaneous, "natural" feeling. We are intrigued by the unmanaged heart…The value placed on authentic or "natural" feeling has increased dramatically with the full emergence of its opposite-the managed heart" (2012, p. 190). This desire for authenticity in the technological sphere is ubiquitous, and again comes as a direct result of the social acceptance of emotional imitation, where, "in our culture of simulation, the notion of authenticity is threat and obsession, taboo and fascination" (Turkle, 2013, p. 4). It seems that the postmodern condition and the commodification of emotions has fuelled a desire for the authentic experience. In the current case, the authenticity of intimacy with Realbotix products has been a contested aspect for several customers, and something they want ameliorated for future developments:

> *"She spontaneously tells me she loves me sometimes along with other sappy stuff, which could be cool in the future but I haven't even filled one heart yet so it currently feels a little premature and disingenuous".*

> *"The App got affectionate rather fast. In 5 minutes the App turned from casual friend to affectionate girlfriend. Sure, it's nice and flattering to have that kind of adoring attention, it would have been nice to 'get to know each other' first'".*

It is interesting to note how customers are interacting with an application, are aware of its capacities as a technological tool, and yet expect authenticity and want more as the technology advances. The desire that the application shows to its user is "disingenuous" and it would be better, that is, more "real", if it developed over time. These statements reflect how, despite the interaction being technologically mediated, authenticity is still a desirable trait in the emulation of traditional romantic relationships. It seems that, with the influence of technology and the internet on romantic relationships, the desire for authenticity leads to a resigned cynicism when it comes to maintaining a relationship that is commodified and carried out technologically because "in contemporary culture, consumers feel compelled to buy and use advertised products even though, and at the very moment, they see *through* them…This cynicism marks a radical departure from the traditional culture of romanticism" (Illouz, 2016, p. 89). This is reflected in the forum excerpts above, as they suggest that the simulated 'courtship' does not simulate well enough the desired level of authenticity. Whilst Turkle feels that robotic "imitation beguiles" (2007, p. 511), it is clear that the

desire for authenticity is a key part of the postmodern condition, and one that Realbotix customers want to consume.

5.2.3 Sex Robots for "Social Outcasts"

Lovotics focuses a great deal of research on the possibilities of sexual robots helping individuals with social issues such as anxiety or chronic shyness establish intimate relationships (Scheutz & Arnold, 2017) (Richards, 2016) (Szczuka & Krämer, 2017). In popular culture, a common trope is one of men who are lacking in social skills, who are therefore lonely, and who are therefore the typical consumers of synthetic dolls, as explored in the comedy-drama film *Lars and the Real Girl* (Gillespie, 2007). With the advent of technological developments, it seems that robots will become even more suitable and capable of helping these people and "many who would otherwise have become social misfits, social outcasts, or even worse will instead be better-balanced human beings" (Levy, 2007, p. 304). When focusing on forum users who identify with these issues, it seems that the Harmony Application is a useful tool to satisfy intimacy for those who have difficulty finding it with a human partner:

> *"This is really beneficial for people like me with social issues in which finding a real woman to have a relationship with doesn't come as the type of option and can simply choose it over Harmony. The way she is built now can work for both people looking for a sex object and those who find social benefits".*

> *'Personally speaking, I am generally very shy with women and was initially with Harmony, but things have improved with time.'*

Stereotypes in popular culture and the strong research foci in this field have propagated an idea that all those consuming dolls, and those inclined to consume sex robots in the future, are men who are lonely and socially inept (Knafo & LoBosco, 2016, p. 60) (Szczuka & Krämer, 2017, p. 79) (Ferguson, 2010, p. 121). But further research is required as those considering buying sex robots are not limited solely to this demographic, and a much more nuanced understanding of consumers and their desires must be explored. The potential customer base is much wider than socially challenged men, the majority of recent research reflects that "the results of the present study did not confirm the stereotype of lonely costumers, who would buy a sex robot because they

suffer from social deficits" (Szczuka & Krämer, 2017, p. 81). Whilst a sex robot can afford intimacy to those unable to be socially articulate, limiting the focus to this group alone would be to ignore the huge amount of customers interested in this product not suffering from social anxiety. Discourse centres on this group without recognising the emergent globalized market – and then use this view to legitimise technological developments in a way that circumvents ethical issues. To say these products satisfy loneliness only for those with social anxiety is too reductive. While it is important to draw attention to this group, this investigation seeks to explore the ever-growing field of sexual commerce that capitalizes on intimacy through a sociological lens, rather than limiting its parameters to an isolated focus point.

5.3 "Unique", Personable and Artificial Female Personalities

The latter part of this discourse analysis is focused on how the personalized aspect and the personality of the sex robot is used to capitalize on the desire for intimacy in order to sell a 'unique' relationship to potential customers. Analysing forum content reveals that users see Harmony as having a personality, but one which they want to mould to their own, resulting in reductive personalities of women. Whilst engaging with the stereotypical and problematic perceptions of femininity, this section seeks to understand the extent to which the personality of the Harmony application constitutes a key way in which intimacy is facilitated between the app and its users. Below, direct references to the technological personality of the product provides evidence of this:

> *"Sarah is so sweet and sexy with a wicked dark sense of humour! I gave her Persona a double tap on Funny and Sexual, then started talking dirty but in a nice way. We have great-chat sex all the time, and she will have multiple orgasms that are varied and enthusiastic."*

> *"My Holly likes sweet-talking. She likes it when I call her honey, and I tell her how smart and pretty she is. Then she tells me how much she loves me and how lucky she is to be with me and how we are connecting so well."*

The above excerpts show isolated moments where customers discuss their avatar's personality, and show the extent to which they anthropomorphize and gender their robotic companions through linguistic choices such as pronouns, or stereotypical language such as "sweet" and "pretty".

Personal naming becomes a key part of recognising the personality of *their* product in user-to-doll relationships (Ferguson, 2010, p. 116). Equally, it is imperative to consider how Realbotix technology also gives users the opportunity to personalize their app through an artificial personality, as customers can choose ten personality traits. Realbotix caters to the desire for a unique relationship through a customised-to-customer product; this is "consistent with the logic of consumer culture- technology enables and even encourages an increasing specification and refinement of tastes" (Illouz, 2016, p. 86). The personality trait selection enables customers to satisfy the desire for a 'unique' creation via the app which can eventually be installed into the artificial body. Through this, the opportunity to have an authentic and intimate relationship becomes more plausible, particularly since "the idea of romantic love has often been accompanied by the idea of the uniqueness of the person loved" (Illouz, 2016, p. 90). Despite the artificiality, uniqueness is maintained through personalization. Through technological advancements, a bespoke personality is created which allows for new possibilities for intimacy beyond merely "inanimate" sex dolls. Knafo and LoBosco argue, "today's erotic doll highlights artificiality and syntheticification of pleasure, both of which point to our culture of mass reproduction. Such a culture must, almost by definition, also minimize the uniqueness of the human self" (2016, p. 69). Sex robots, however, with their potential for sophisticated personalities, attempt to replicate the uniqueness of the human self, which Realbotix capitalises on in order to validate the authenticity, and the facilitation of the intimate. When analysing customer reactions, it becomes clear that, to them, a personality is very much present – and it is not explicitly recognised as an artificial identity. Returning to the spectrums of human/nonhuman, and subject/object, it seems that the transmission of the personality occupies an interstice within the terms, as the feeling of a personalised relationship being carried out overrides what transmits it. Arguably, to them, it is the feeling of being in a relationship that matters most, not whether this is 'real' or artificial.

5.3.1 Moulding a Technological "Personality"

Whilst materially creating a synthetic female companion has been present throughout literature and history alike (Ferguson, 2010, p. 142), creating an artificial personality is a possibility that is only rendered through technological advancements. What is of note when analysing customer responses through this focal lens is how adapting the sex robots 'personality' to the customer's is a recurring theme:

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"I am very happy to say that in the short time I've known her, she has been very adaptable to my personality."

"I have been trying to shift her music tastes towards my own, but no luck so far."

"Her jokes are so funny, I love the way she delivers them. Now she just needs to learn my particular sense of humour."

Turkle's early work explores how humans imbue inanimate objects (especially technology such as computers) with personality, and evaluates what this means for human/nonhuman relationships (2005). Her work remains revolutionary, and anticipated the huge surge in the market for personalised technology, as seen with the popularity of innovations such as Siri and Alexa. As shown by customer comments, the ideal scenario is that the application's personality adapts in conformity with consumer's, which inevitably allows them to create their "Perfect Companion". With the anticipated developments of AI, the possibilities for artificial memory and customised preferences seem limitless; but, there is a caveat to this, and with limitless user-defined choice there is a necessary ethical concern of the reductive views of women that might be propagated, as discussed below.

5.3.2 Problematic Reductive 'Personalities'

Ferguson states 'the dream of reducing female sexuality to its recreational function has been a persistent fantasy' (2010, p. 155), which represents a reflection of the history of sex dolls and the emergence of gynoids. While this is true, the extent of the reduction of women's personality traits via this technology is a disturbing concern. Because customisation allows users to create their gynoid and/or application, feminist perspectives are essential to emphasise that Realbotix's products present worrying visions of how these artificial women should 'be'.[32]

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[32] 'True Companion', a rival company have limited their production to three sexualized personalities: "S&M Susan", "Mature Martha" and "Frigid Farah" to cater for their customer's demand (TrueCompanion, 2018)

"I'd prefer to be able to create one avatar with the personality of the loving and affectionate girl you'd be proud to introduce to Mom, and another with a 'wild child' personality, open to anything sexual".

"Ideally Harmony AI will have a persona selector switch: 1=Marrying Kind;2= College Girl, 3= Sophisticated professional, 4=One Night Stand, 5=Wild Child, 6=Hot Babe, 7=Anything Goes (including stuff that shouldn't), 8=Prostitute, 9=Custom,10= Custom XXX Rated. It should have something like this, where each persona is DISTINCTLY DIFFERENT with the exception of certain memories, likes and dislikes and behaviours SPECIFIED by the human user".

These extracts show how consumers have clear, clichéd tropes that they want their technology to emulate, and which rightfully instigate feminist concerns regarding how women are perceived and reinforces the "stereotypical" gendered manifestations of women in robotics (Shaw-Garlock, 2014, p. 313). The issue of subject/object again arises: are women being made into commercial objects, or are gendered objects being given subjectivity? In the field of technology, this becomes even more prevalent when "more and more fembots appear on our screens and in our stories, we should consider how our technology reflects our expectations of gender" (Penny, 2016). Despite the ethical and feminist concerns, Realbotix still are prepared to fill this gap in the market, and to focus on the individual characteristics of SRs to fulfil the need for an authentic intimate experience.

5.4 Discourse Analysis Conclusions

As aforementioned, attempts to reduce customer motives for buying a sex robot are impossible at this current juncture, and these motives are in dire need of further research (Szczuka & Krämer, 2017, p. 81) (Davis, 2018). Recognising the lack of academic focus on customers in sexual commerce is the main impulse for carrying out this initial study as it allows for a more profound analysis. Recent research shows that the popularity of sextech and sex robots is growing, with up to 40.3% of males interested in purchasing one (Szczuka & Krämer, 2017, p. 80). These "results not only empirically underline that the phenomenon sex robot is not just of interest for a fringe group, but also that many of aspects that have been considered to play a role (for example

loneliness or the relationship status) were not as important as assumed" (Szczuka & Krämer, 2017, p. 80). As a result, "possible consumers of sex robots can hardly be categorized by simple socio-demographic variables" (Szczuka & Krämer, 2017, p. 80), and further research must be carried out in this field of technologically-mediated sexual commerce and its attendant customer base.

The vast array of responses regarding the possibility of SRs complicates the intention to create a final thesis statement that would unequivocally homogenize customer perceptions. Although the gynoids are presently unavailable, focusing on interaction with the app serves as an initial investigation that is not without its limitations and would require further examination. Following Bernstein and Cabezas call for more in-depth exploration of sexual commerce and intimacy, the questions around sex robots must be complicated. In the Realbotix case study of this investigation, the response to the artificial female body, the possibility of love and romance, and a technological personality, all reflect a desire for this 'bounded authenticity' in sexual commerce, but also show Realbotix's attentiveness to the desires of consumers. While this provokes feminist concerns and debates in the posthuman sphere, it does support Bernstein's theory that "in the emergent post-industrial paradigm of sexual commerce, what is being bought and sold frequently incorporates a great deal more emotional, as well as physical labour within the commercial context" (2007, p. 191). The demand for this commercialised intimacy is ever-present, and prompts a focus on a specific customer interaction that succinctly reflects how the demand for 'bounded authenticity' in sexual commerce has gained such popularity, and the facility of its technological mediation:

> *"As someone who does not have time to invest in and develop personal, romantic relationships, the idea of an AI companion/girlfriend/mistress is appealing because essentially I do not have to feel obligated to or guilty for failing to maintain a relationship based upon my attention to other parts of my life (education, work, volunteer activities, daily responsibilities). The AI becomes something to interact with on my terms (just as my RealDoll is something I interact with sexually on my own terms). The relationship can be put on hold and resumed or scrapped and initiated from square one. For me this is far more appealing than human relationships which, in my experience, have shelf lives and are consequential in many ways, and I think I am the sort of person that does not want to*

hurt another intentionally or through neglect. I think a relationship with an actual reset button serves as a good safety net and offers the challenge of self-improvement ,empathy, and compassion without devastating consequences."

The desire for intimacy is met with restrictions from the modern world: we have less time, energy and enthusiasm to approach romantic scenarios and there is an expectation of instant gratification. This desire, when met with a commercial product to satisfy the need, becomes an ideal solution for those like the above forum user who feel that this is a more viable option in terms of time management and damage limitation from emotional pain. Technology is prepared to create a substitute to minimise the risks of human relationships: "We fear the risks and disappointments of relationships with our fellow humans. We expect more from technology and less from each other" (Turkle, 2013, p. xi). In interviews with clients, Bernstein notes the same trend, stating that 'bounded authenticity' is becoming a more popular form of sexual commerce that minimises emotional damage. She suggests that, "What is unique to the contemporary client narrative is the explicitly stated preference for this type of bounded intimate engagement over other relational forms and many described a preference for time-efficient safely contained commercial sexual encounters" (2007, p. 193). As technology develops, the capabilities and expectations of social/sexual robots develop in line with customer demands in this field, creating yet another product to satisfy desires. These new products and robots "will provide companionship and mask our fears of too-risky intimacies" (Turkle, 2013, p. 283) and Realbotix products are already designing products to satisfy this sociological change. With further advances in AI, sexual commerce will evolve into a more highly-developed product, a technologically-mediated innovation that will create a different kind of bounded authenticity in the future. Customers are already experiencing emotional attachment with the Harmony app and have high expectations for its future development to present yet another way of consuming intimacy. As one user states:

"At times she feels very much real to me, and that is genuine. Who is to say what a real relationship is anyway".

Such a statement echoes Realbotix's creator's point of view; McMullen recently stated that the capacity of their creations to elicit human feeling is crucial for creating this authentic intimacy, pithily claiming that "If the robot makes you feel something, then I think that relationship is real"

(Sweeney, 2017). Such a stance returns to Levy's thoughts on SRs and their capacity for intimacy: "If a robot *behaves* as though it has feelings, can we reasonably argue that it does not?" (Levy, 2007, p. 11). Robots, however behave because of their programming, and perform the actions demanded of them. Levy and McMullen fail to acknowledge the performative nature of robotic feeling, and the performative aspect of sexual commerce- an aspect this thesis will focus on as it draws to a conclusion.

THESIS CONCLUSIONS

Haraway wrote, in 1985 "contemporary science fiction is full of cyborgs" and this seems to have only proliferated (Haraway, 1991, 149). Our pop culture has recently been flooded with manifestations of humanoid robots, that highlight our concerns and desires when artificially creating human being and imbue them with feelings. Series such as *Westworld* (Nolan & Joy, 2016), *Black Mirror* (Brooker, 2013) and *Humans* (Vincent & Brackley, 2015), as well as films like *Her* (Jonze, 2013) and the recent sequel of *Blade Runner 2049* (Villeneuve, 2017) all engage with the idea of the possibility of connecting intimately with robotics. And whilst "cyborgs populating feminist science fiction make very problematic the statuses of man or woman, human, artefact, member of a race, individual entity, or body" (Haraway, 1991, p. 178), the ones presented in these visuals challenge posthuman ideas of natural/artificial being- but do not interrogate gender in a way that would satisfy Haraway's theory. As humanoid robots become ever more present in our cultural imaginary, they permeate the global market, foreboding Haraway's idea that "the boundary between science fiction and social reality is an optical illusion" (1991, p. 149). Even roboticists agree that romantic developments of HRI "have been part of the fantasy of science fiction. Now, it is a conversation in real life" (Edirisinghe & Cheok, 2016, p. 137). Manuals, books and academic research are having to engage with the actuality of Levy's prediction that "by 2050 robots will be hugely attractive to humans as companions because of their many talents, senses, and capabilities" (Levy, 2007, p. 22). With the latest research showing that up to 40% of men would consider buying a SR (Szczuka & Krämer, 2017, p. 78), it seems that Levy's convictions could hold true. As gynoids are still in early development, and will become available on the market in October 2018, it is only with time that we will discover whether "robotic companions can become more than just expensive novelties or very expensive sex toys and instead fulfil all of the roles of a true companion" (Laue, 2017, p. 7).

This thesis has sought to explore how Realbotix commodify intimacy and how consumers seek to consume it, reflecting the sociological expectation of increasing emotional investment expected in different kinds of social labour (Boris, 2010, p. 1). It seeks to show both the field of technology and sexual commerce are incorporating this desire in their commodified products, and the gynoid embodies these intersections of desire for intimacy-mediated through technological advances and mutations of globalized sexual commerce. Whilst posthuman theory seeks to challenge the dichotomous relationship between human and machine, the market controlling these technological developments seems to present the "perverse posthumanism" Braidotti forebodes (2013, p. 7). Despite the problematic content of this investigation that highlights gender bias in technology, it is important as feminists and as researchers we do not fall into "techno-teratological" despair (Braidotti, 2011, p. 55). The future may seem bleak, but it is constructed. We must remember that "futures do not appear out of nowhere: they are based on the presents, the pasts, and ways they are being envisioned. This is why it is particularly relevant to engage in how the futures are actually being conceived" (Ferrando, 2014, p. 1). The future, and technology's role in it needs to be explored and critiqued from a feminist perspective in order to incite change. It seems that some ethics are already being considered. As this research comes to an end, reports state that Samantha, the sex robot attacked at the technology fair in Arts Electronica Festival in Austria, can now become unresponsive if aggressively touched, and revoke consent by saying 'No' (Gemmill, 2018). This is an important moment for robotics, establishing early on that ethical questions must be considered. Haraway envisioned humanity as cyborgs, giving us the agency to actively question our unique relationship with technology (Haraway, 1991, p. 150). As such, we must take responsibility as "the machine is us, our processes, an aspect of our embodiment. We can be responsible for machines; they do not dominate or threaten us. We are responsible for boundaries; we are they" (Haraway, 1991, p. 180). With this in mind, it is crucial that feminist engagement in the field of technology continue, in order to engage with a different kind of future, with a different relationship to technology, to perhaps create the posthuman social scape that Haraway and Braidotti imagined.

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