



UNIVERSITAT DE
BARCELONA



Observatori de
Bioètica i Dret
Universitat de Barcelona



Revista de Bioètica y Derecho

Perspectivas Bioéticas

www.bioeticayderecho.ub.edu - ISSN 1886-5887

DOSSIER SOBRE INTELIGENCIA ARTIFICIAL, ROBÓTICA E INTERNET DE LAS COSAS

The Extension of Legal Personhood in Artificial Intelligence

La extensión de la personalidad jurídica en la Inteligencia Artificial

La extensió de la personalitat jurídica en la Intel·ligència Artificial

PIN LEAN LAU *

* Pin Lean Lau. Doctor in Juridical Science (SJD), Global Teaching Fellow, Central European University, Hungary. E-mail: pinlean@gmail.com.

Copyright (c) 2019 Pin Lean Lau



Esta obra está bajo una licencia de Creative Commons Reconocimiento-NoComercial-SinObraDerivada 4.0 Internacional.

Abstract

The purpose of this paper is to illuminate the main ethical, legal and social implications (ELSIs) concerning social humanoid robots that have their base in artificial intelligence (AI). The main dilemma highlighted touches upon the expansion of the concept of legal personhood, and the attribution of appropriate legal responses to govern the future proliferation of AI systems vis-à-vis social humanoid robots. The paper cautions on the need to carefully reflect on notions of personhood and human dignity for AI systems, balanced against the underlying representation of values and behaviors that may threaten to erode the human rights discourse. Additionally, it questions the wisdom of the broad expanse of the European legal response to the development and use of AI systems.

Keywords: legal personhood; social robots; artificial intelligence; robotics; ELSIs; emerging technologies.

Resumen

Este artículo trata los principales aspectos éticos, legales y las implicaciones sociales (ELSI, por sus siglas en inglés) de los robots humanoides sociales basados en inteligencia artificial (IA). El principal dilema se refiere a la expansión del concepto de persona jurídica y la atribución de respuestas jurídicas apropiadas para regir la futura proliferación de los sistemas de IA frente a los robots humanoides sociales. El artículo advierte la necesidad de reflexionar cuidadosamente sobre las nociones de persona y dignidad humana para los sistemas de IA, que se equilibren con la representación subyacente de valores y comportamientos que pueden amenazar con erosionar el discurso de los derechos humanos. Además, cuestiona el juicio de la respuesta jurídica europea al desarrollo y uso de los sistemas de IA.

Palabras clave: personalidad legal; robots sociales; inteligencia artificial; robótica, ELSIs; tecnologías emergentes.

Resum

Aquest article tracta els principals aspectes ètics, legals i les implicacions socials (ELSI, per les seves sigles en anglès) dels robots humanoides socials basats en intel·ligència artificial (IA). El principal dilema es refereix a l'expansió del concepte de persona jurídica i l'atribució de respostes jurídiques apropiades per a regir la futura proliferació dels sistemes de IA enfront dels robots humanoides socials. L'article adverteix la necessitat de reflexionar acuradament sobre les nocions de persona i dignitat humana per als sistemes de IA, que s'equilibrin amb la representació subjacent de valors i comportaments que poden amenaçar amb erosionar el discurs dels drets humans. A més, qüestiona el judici de la resposta jurídica europea al desenvolupament i ús dels sistemes de IA.

Paraules clau: personalitat legal; robots socials; intel·ligència artificial; robòtica, ELSIs; tecnologies emergents.

1. Introduction

Since the inception and coming into force of the Universal Declaration of Human Rights in 1948 (UDHR),¹ together with a wide range of international human rights instruments over the past few decades, contemporary democratic societies have grappled with a plethora of human rights issues in a varied international context. A cursory glance at major international dailies is proof positive of how modern societies have evolved. With this evolution, the necessity to continually define the boundaries of human rights mechanisms is also exemplified. Exciting developments in burgeoning research fields in the last decade, for example, in biotechnologies, nanotechnologies, neuroscience, the human genome, and revolutionary medical and scientific achievements, have simultaneously awed and caused concern. But in the last few years, two interesting characters in artificial intelligence (AI) have particularly captured the imagination of the creative effusion in human rights discourse: Harmony,² and Sophia,³ both social humanoid robots.⁴

In the constantly developing field of AI, in addition to the social discourses on benefits of AI to modern communities, much has also been raised about the ethical, legal and social implications (ELSI) of these emerging technologies. Of particular concern is how they impact human lives, and whether, and how, legal systems should or can respond to these technological advancements to curb misuse. From considerations of AI as a legitimate subject of the law,⁵ to autonomous AI systems,⁶ to regulatory challenges in the robotics age,⁷ there is much food for thought when the convergence between humankind and technologies becomes a reality. Because of this intersection, the appropriately formulated legal responses, along with human rights discourse,

¹ 'Universal Declaration of Human Rights' (6 October 2015) <<http://www.un.org/en/universal-declaration-human-rights/>> accessed 1 August 2018.

² 'Realbotix' <<https://realbotix.com/>> accessed 13 August 2018.

³ 'Sophia the Robot Claims She Wants to Help Not Harm Humans' (7 May 2018) <<http://www.digitaljournal.com/tech-and-science/technology/sophia-the-robot-claims-she-wants-to-help-not-harm-humans/article/521604>> accessed 13 August 2018.

⁴ In recognition that the term 'AI' encompasses a wide variety of contemporary applications, this paper's focus is on the social humanoid robot that has been conceived as part of the AI technological advancement. As such, AI in this paper excludes other applications that relate to communication devices and technologies, military applications of AI, cryptocurrency, and the like.

⁵ Paulius Čerka, Jurgita Grigienė and Gintarė Sirbikytė, 'Is It Possible to Grant Legal Personality to Artificial Intelligence Software Systems?' (2017) 33 *Computer Law & Security Review* 685.

⁶ Michael Nagenborg, et al, 'Ethical Regulations on Robotics in Europe' (2008) 22 *AI & Society* 349.

⁷ Ronald Leenes, et al, 'Regulatory Challenges of Robotics: Some Guidelines for Addressing Legal and Ethical Issues' (2017) 9 *Law, Innovation and Technology* 1.

must navigate the boundaries of contemporary thinking in making sense of an effective and symbiotic means of achieving the best possible benefits to society as a whole. Harmony and Sophia clearly represent provocative endeavors over the last two years; challenging our notions of very specific aspects of the human rights discourse.

Harmony and Sophia are social, humanoid robots possessing almost human-like characteristics; they are gleaming trophies of AI applications, complicated algorithms based on block-chain, the products of inventors Matt McMullen and David Hanson, respectively. Where Harmony had first been touted as the world's first commercially available sex-bot⁸ and customizable companion, Sophia's creation is focused on the magnitude of technological advancements, global marketing, and possibilities afforded by AI *vis-a-vis* a "decentralized open market in which any AI developer can install his own software".⁹ The creation of Harmony and Sophia has attracted international attention, both for different reasons; but what has been illuminated through the cracks of scientific engineering is a much more sinister, underlying representation that challenges the concept of 'personhood' in human rights.

In this paper, Part II begins by providing a brief background to the creation of Harmony and Sophia. Their creation hints at possibilities of future human rights erosion generally, and I make this claim with specific targeting on the social purposes for which they were created. More particularly, I highlight the juxtaposition of the roles they represent, and how the enlargement of AI systems connects to the broad scope of the human rights corpus. I also briefly highlight selected recent European responses to AI systems— which is the European Parliament's study on European Civil Law Rules in Robotics, requested by the Committee on Legal Affairs and supervised by the Policy Department for "Citizens' Rights and Constitutional Affairs",¹⁰ (the European Parliament Study) and the European Parliament's Committee on Legal Affairs Report to the Commission on Civil Law Rules on Robotics¹¹ (the European Parliament Report).

In Part III, I identify that the main problem regarding Harmony and Sophia is the manner in which AI has been commoditized. I argue that the intended purposes of both Harmony and Sophia

⁸ Jenny Kleeman, 'The Race to Build the World's First Sex Robot' *The Guardian* (27 April 2017) <<http://www.theguardian.com/technology/2017/apr/27/race-to-build-world-first-sex-robot>> accessed 8 March 2018.

⁹ 'Sophia Is a Humanoid Robot Created by Hanson Robotics, a Hong Kong Company Founded by David Hanson. - KUBRIS' <<http://kubris.com/en/2018/03/sophia-humanoid-robot/>> accessed 13 August 2018.

¹⁰ Nathalie Nevejans, 'European Civil Law Rules on Robotics' (European Parliament Directorate-General for Internal Policies 2016) *Study for the JURI Committee PE 571.379*.

¹¹ Mady Delvaux, 'Report with Recommendations to the Commission on Civil Law Rules on Robotics (2015/2103(INL))' (European Parliament Committee on Legal Affairs 2017) Initiative- Rule 46 of the Rules of Procedures A8-0005/2017.

is contributively negligent to the erosion of human rights and its ability to skillfully manipulate grey areas of non-governance. In particular, I focus on two key issues. Firstly, I zero in on the notion of legal personhood, and question the wisdom of its extension to non-humans (in this case, AI humanoids) as valid, legal persons. Secondly, I focus on the gendered female dimensions of these socialized AI systems. AI personalities like Harmony and Sophia, I argue, may be interpreted as lewd, continuing objectification of the female form and personality, and normalization of the patriarchal culture of female subservience and violence. These are serious considerations that ironically hinder the development of women's rights discourse whilst emancipating the reach of scientific technologies.

Finally, in Part IV, I try to reconcile the operability of AI systems, such as Harmony and Sophia, within the context of the European Parliament Study and the European Parliament Report, and question if social humanoid robots fit within these proposed frameworks.

2. Background: The Creation of 'Intelligent' Humanoids

It would not be possible to envisage the foundational beginnings of AI without first tracing the historical inventions of the mathematical genius, Alan Turing. Credited as the father of the computer age, having invented not only the Universal Turing Machine (which is now being touted to be the very first computer), Turing's work¹² in Bletchley Park¹³ was seen as a significant contribution during World War II. Historical accounts and the continued records of Turing's work indicates that he paved the path for computing intelligence and machinery in our digital age. His most significant body of work titled *Computing Machinery and Intelligence*¹⁴ in 1950 introduces the famous 'imitation game',¹⁵ or the Turing Test, where he introduces a mathematical "criterion

¹² Ian Watson, 'How Alan Turing Invented the Computer Age' (*Scientific American Blog Network*) <<https://blogs.scientificamerican.com/guest-blog/how-alan-turing-invented-the-computer-age/>> accessed 14 August 2018.

¹³ (*Bletchley Park*) <<https://bletchleypark.org.uk/>> accessed 14 August 2018. During World War II, Bletchley Park housed Government Code and Cypher School, and the UK government's code breakers who worked on intercepting and coding communications of the Axis powers; and most famously, the German Enigma machine. Turing was credited for having invented an electromechanical machine called The Bombe, which was capable of independently searching a wide range of mathematical permutations of the German Enigma codes.

¹⁴ Alan Mathison Turing and B Jack Copeland, *The Essential Turing: Seminal Writings in Computing, Logic, Philosophy, Artificial Intelligence, and Artificial Life, Plus the Secrets of Enigma* (Clarendon Press; Oxford University Press 2004) 441–464.

¹⁵ *ibid* 434.

for thinking”.¹⁶ His further work in *Can Digital Computers Think*¹⁷ in 1951 is an early indicator of the future digital age, when computing intelligence, machine learning and the growth of technologies would become a consequential part of human lives. Turing proclaimed that “it is not altogether unreasonable to describe digital computers as brains.”¹⁸ This statement, in its complex simplicity, is congruent to modern inventions in AI, and challenges our notions of human intelligence and the capacities of programmed machines.

In their work regarding AI as the subjects of law, Čerka et al provided a simple definition of AI, as “artificially developed intelligence related to rapidly developing technologies, which enable computers to operate intelligently, i.e. in a human like manner.”¹⁹ It is likely that in our daily lives, AI systems and platforms have been seamlessly integrated into our contemporary being and living. Once reflected rationale is permitted, we may duly observe how these systems of AI have been voluntarily incorporated into communications, entertainment, the work space and environment, and many other facets of societal interactions. It appears that we do not object to this integration, insofar as the benefits that may be reaped from AI in these instances, outweigh the potential fallacies described by the Neo-Luddites movement,²⁰ for example. We are, however, forced to take notice, when our Promethean hubris takes the shape of commoditized AI systems that challenge existing notions of our personhood, our humanized and normative values, and seeks to rationalize the external negativities that human beings may be capable of. I therefore argue that Harmony and Sophia are AI systems that do so.

Harmony was created on the basis of sexual companionship; and although sex robots have been in existence over the past decade, none have been successfully and commercially available for sale to the general public. Since 2014, Harmony’s AI system has undergone numerous changes, and has resulted in what is now known as the Harmony AI. Harmony AI is the heart of the RealDoll, made by Abyss Creations, the world’s first commercially available, customizable sex robot. Harmony’s creator, Matt McMullen and his company, Realbotix, have explained the potential of such an invention to the “lonely, eccentric or curious,”²¹ and corrects the misconception that such

¹⁶ ibid 442.

¹⁷ ibid 482–486.

¹⁸ ibid 482.

¹⁹ Čerka, Grigienė and Sirbikytė (n 5) 686, referring to William Raynor, *The international dictionary of artificial intelligence* (The Glenlake Publishing Company 1999) 13.

²⁰ Chellis Glendinning, (1990) ‘Notes toward a Neo-Luddite Manifesto’ 6.

²¹ Christopher Trout, ‘RealDoll’s First Sex Robot Took Me to the Uncanny Valley’ (*Engadget*) <<https://www.engadget.com/2017/04/11/realdolls-first-sex-robot-took-me-to-the-uncanny-valley/>> accessed 14 August 2018.

robots are meant to substitute women. Instead, McMullen states that this is “an alternative form of relationship, nothing more.”²² Journalist Christopher Trout, on his visit to the Harmony factory, described the experience as a venture into the Uncanny Valley,²³ which is a phenomenon characterized by people’s simultaneous feelings of empathy and revulsion to robots that seem to appear human-like. In clear contrast to its robot predecessors, which were intended to be robot assistants and to ease processes of automation, Harmony’s main purpose for ‘existence’ is hinged on companionship, sex, and according to McMullen, “virtual love.”²⁴

Sophia was created by David Hanson and Hanson Robotics— initially as an experiment responding to the Uncanny Valley phenomenon. In Hanson’s paper entitled *Upending the Uncanny Valley*,²⁵ he aspired “to bring robotic systems up to the level of great art, while using the technology as a mirror for examining human nature in social AI development and cognitive science experiments.”²⁶ Thus far, as a social robot, Sophia appears to fulfill the parameters of AI platforms, and open up possibilities of a social robot being utilized for various market applications. The idea behind Sophia’s creation is that potential interested AI developers would be able to utilize the robot for various applications, such as a marketing tool, personal assistant, social media strategist, and the like, all of which may require interactions with human beings. In branching out these outlets, Sophia is intended to mimic human behavior, reactions and empathy and respond accordingly to human counter-parts. Although certain factions have responded with mixed reactions, it cannot be denied that as a humanoid robot, Sophia has garnered international fame; from being appointed at the United Nations Development Program (UNDP) as the first, non-human innovation champion,²⁷ to being granted Saudi Arabia citizenship in the Middle East.²⁸

The seemingly juxtaposed roles of Harmony and Sophia are both ironic and disturbing. This stems, not from the fact that they appear to be almost-human-like beings deserving of

²² *ibid.*

²³ Masahiro Mori, ‘The Uncanny Valley: The Original Essay by Masahiro Mori’ (*IEEE Spectrum: Technology, Engineering, and Science News*, 12 June 2012) <<https://spectrum.ieee.org/automaton/robotics/humanoids/the-uncanny-valley>> accessed 14 August 2018.

²⁴ ‘RealDoll’s First Sex Robot Took Me to the Uncanny Valley’ (n 21).

²⁵ David Hanson, (2005) ‘*Upending the Uncanny Valley*’ 8.

²⁶ *ibid.*

²⁷ ‘UNDP in Asia and the Pacific Appoints World’s First Non-Human Innovation Champion’ (*UNDP in Asia and the Pacific*)<<http://www.asia-pacific.undp.org/content/rbap/en/home/presscenter/pressreleases/2017/11/22/rbfsingapore.html>> accessed 14 August 2018.

²⁸ Deutsche Welle (www.dw.com), ‘Saudi Arabia Grants Citizenship to Robot Sophia | DW | 28.10.2017’ (*DW.COM*) <<https://www.dw.com/en/saudi-arabia-grants-citizenship-to-robot-sophia/a-41150856>> accessed 14 August 2018.

protection,²⁹ and are social in nature,³⁰ but much more so from what they could be interpreted to represent. In positioning the offering of Harmony as a sex-bot and a fully customizable sexual companion, in accordance to a particular client's preference, Harmony represents a vision that equates sex to female personality. A client's ability to customize Harmony in accordance with what is desired³¹ unduly sends forward a message of female inferiority and malleability. On the other hand, Sophia's current functioning as a formidable marketing tool, an AI platform that may be programmable to market any kind of product, represents an exploitative facet of labor forces that, if being thrust upon human persons, would be in contravention of labor laws. Since being granted Saudi Arabian citizenship, Sophia has also been utilized to champion women's rights in the country,³² but the irony of this manoeuver is not lost on the less befuddled.³³ In similar ways, Harmony and Sophia represent the continued capitalistic mindset of the free market, disguised under the altruistic notions of progressing human development, and supplying a societal demand that apparently needs to be met. Beyond this interpretation, the underlying functions manifested by Harmony and Sophia offer an acceptable face of legitimacy to what may have been non-legitimate (from a human rights perspective), simply by virtue of their being humanoid robots.

It is not far-fetched to see how the implications of AI systems like Harmony and Sophia impact the broad corpus of human rights values—by determining how these human rights values

²⁹ Some robot ethicists would claim otherwise. In particular, the concern of robot ethicists such as prominent expert Kate Darling persuasively identifies the empathy of human beings' social interactions with robots, and states "whether out of sentiment or to promote socially desirable behavior, some parts of society may sooner or later begin to ask that legal protection be extended to robotic companions." Please see: Kate Darling, 'Extending Legal Protection to Social Robots' (1 *Technology, Engineering, and Science News*, 10 September 2012)

<<https://spectrum.ieee.org/automaton/robotics/artificial-intelligence/extending-legal-protection-to-social-robots>> accessed 14 August 2018.

³⁰ Kate Darling, 'Extending Legal Protection to Social Robots' (*IEEE Spectrum: Technology, Engineering, and Science News*, 10 September 2012) <<https://spectrum.ieee.org/automaton/robotics/artificial-intelligence/extending-legal-protection-to-social-robots>> accessed 14 August 2018.

³¹ This may include body shape, breast size, choice of nipple, and programmed personality, amongst other customizable features.

³² Dom Galeon Futurism, 'World's First AI Citizen in Saudi Arabia Is Now Calling For Women's Rights' (*ScienceAlert*) <<https://www.sciencealert.com/first-ai-citizen-saudia-arabia-womens-rights>> accessed 14 August 2018.

³³ Robert Hart, 'Saudi Arabia's Robot Citizen Is Eroding Human Rights' (*Quartz*) <<https://qz.com/1205017/saudi-arabias-robot-citizen-is-eroding-human-rights/>> accessed 13 August 2018. In consideration of the fact that women in Saudi Arabia are still subject to oppressive rules, such as requiring permission to marry or travel, to work, and to even open a bank account, the grant of citizenship to an AI like Sophia has been viewed as a kind of publicity caper. It was only in September 2017 that women in Saudi Arabia were finally allowed to drive. It would be sophism to conceive that any other rights afforded women in Saudi Arabia will follow suit in the near future.

may be reconciled with the 'exploitation' of humanoid social robots as *locums in imago* with human persons. The discourse on ethical practices in robotics and AI, as well as the involvement of multiple international non-governmental organizations in considering the global impact of AI, has been necessary, in light of issues such as privacy, accountability and responsibility, and the labor market and employment.³⁴ These are practical issues that have dominated the sphere in the age of the Internet of Things, Big Data, crypto-currency and block-chain financing, and other current ELSIs that are raised by the permeation of AI systems in extant living. Not enough concern is given to how 'proper' it is that social humanoid robots like Harmony and Sophia, may have the effect of normalizing or legitimizing non-acceptable behaviors that would not be permitted under democratic laws.

In the meantime, the European Union (EU) has responded to the permeation of social AI systems. The European Parliament Study makes recommendations for composing a legislative instrument on "legal questions related to the development of robotics and artificial intelligence."³⁵ The study also outlined the key ethical questions that are associated with future proliferation of autonomous robots,³⁶ issues relating to liability,³⁷ and the key ethical principles that must be developed *vis-à-vis* a suggested draft Charter on Robotics.³⁸ In a more comprehensive 2017 report, the European Parliament Report,³⁹ Rapporteur Mady Delvaux made the case for the need to "set common European principles and a common legal framework before every member state has implemented its own and different law. Standardization is also in the interest of the market...".⁴⁰ In 2018, new developments within the EU saw a Declaration of Cooperation on Artificial Intelligence⁴¹ being signed by 25 member states, and demonstrated that a European action plan regarding AI is

³⁴ 'Safeguarding Human Rights in the Era of Artificial Intelligence' (*Commissioner for Human Rights*)

<https://www.coe.int/en/web/commissioner/blog/-/asset_publisher/xZ32OPEoxOkq/content/safeguarding-human-rights-in-the-era-of-artificial-intelligence> accessed 15 August 2018.

³⁵ Nevejans (n 10) 6.

³⁶ *ibid* 8.

³⁷ *ibid* 14.

³⁸ *ibid* 26.

³⁹ Delvaux (n 11).

⁴⁰ 'Rise of the Robots: Mady Delvaux on Why Their Use Should Be Regulated | News | European Parliament' (1 December 2017) <<http://www.europarl.europa.eu/news/en/headlines/economy/20170109ST057505/rise-of-the-robots-mady-delvaux-on-why-their-use-should-be-regulated>> accessed 9 August 2018.

⁴¹ 'EU Member States Sign up to Cooperate on Artificial Intelligence' (*Digital Single Market - European Commission*, 10 April 2018) <<https://ec.europa.eu/digital-single-market/en/news/eu-member-states-sign-cooperate-artificial-intelligence>> accessed 21 February 2019.

necessary, culminating in a proposal to “foster the development and use of AI in Europe.”⁴² These represent a step forward in recognizing the implications of AI, and although the coordinated European plan is newly limited in its scope, it is hoped that its future implementation will also include, amongst other things, an inclusive stakeholder engagement process (including legislators, policy makers, scientists, researchers, industry representatives and the general public) that takes into account the ELSIs of AI systems, as well as the position of social humanoid robots.

3. Commoditizing AI and its Impact on Human Rights

a. The Doctrine of Legal Personhood, Human Dignity and the Social Humanoid Robot

One of the premises I put forward in this paper (unlike the position of robot ethicists, and other advocates), is that I do not agree that it is prudent to extend the legal protection of human rights or attribute ‘legal’ personhood to robots, even social humanoid robots like Harmony and Sophia. I make this argument on the basis that human rights are foundationally premised on analogies of humanity and personhood:⁴³ essentially, a human being, and being human. Hence, in a manner not dissimilar to the Chinese Room argument first put forward by John Searle,⁴⁴ my position on non-extension of legal personhood to social humanoid robots is hinged upon the consciousness or intentionality that AI systems cannot, and do not possess. Furthermore, the doctrine of legal personhood has derived its legitimacy from various international human rights instruments, almost all of which emphasize the “human” nature and “human” dignity that such rights seek to protect.

The rationalization for legal personhood is a rationalization of the position of citizens within a legal constitutional framework. The legal system is essentially a creation of human beings, to

⁴² ‘European Commission Press Release: Member States and Commission to Work Together to Boost Artificial Intelligence “Made in Europe”’. 7 December 2018

⁴³ It should be noted that legal personalities afforded to corporations under the doctrine of corporate personality are distinct from the arguments made in this paper. Corporations, by analogous reference, are inanimate and do not possess the ‘personhood’ required to avail themselves of human rights protections. However, the model of corporations law since the *Salomon v Salomon* decision from England in the 1800s has cemented the position of a company as one that is both protected by law, as well as subject to law.

⁴⁴ John Searle, ‘Minds, Brains and Programs’ (1980) 3 *Behavioral and Brain Sciences*, 417–424

provide others protection and enforcement of the law.⁴⁵ Tomasz Pietrzykowski advances that the purpose of a legal system is foundational to the understanding of legal personhood. An extension of this legal personhood that detracts from the “traditional dualism of personhood and thinghood”⁴⁶ should not be undertaken lightly. Although it is simultaneously recognized that “things” may be capable of holding rights, the extension of right-holding to AI would necessarily involve the extension of personhood and legal status to an AI.

In evaluating the extension of personhood to AI, an interesting perspective was formulated by Rafal Michalczak, whose arguments essentially state that it may someday be possible to extend this to intelligent software vis-à-vis the subjectivization of non-human entities (AI) that would benefit human beings.⁴⁷ Another theory put forward by Alexis Dyschkant is that legal personhood should not simply be made contingent on humanity; and that we should “divorce the capacities-focused definition of legal personhood from the species-based definition of humanity.”⁴⁸ Although it must be stipulated that Dyschkant’s work focuses on legal personhood in respect of children, the corporation as an artificial person, fetuses and animals, the analogies are useful in applying similar rationality to forms of AI. He states that “we must remember the function of legal personhood is to attribute value and rights to the individual. We must first look to whether the creature is capable of having rights, and we do so by looking at their standing in society and relationship with others.”⁴⁹ At this juncture, the advancement of AI technologies is nowhere close to granting robots a sense of prescience or to mold them into sentient beings; with AI, being distinct from Artificial General Intelligence (AGI).⁵⁰

Extending such concept of legal personhood, in the manner that has been bestowed upon Sophia in Saudi Arabia, for instance, raises very complicated questions about human nature, humanity, and will necessitate a reinterpretation of foundational notions of legal personhood. In

⁴⁵ Tomasz Pietrzykowski, ‘The Idea of Non-Personal Subject of Law’, *Legal Personhood: Animals, Artificial Intelligence and the Unborn* (Springer Berlin Heidelberg 2017) 49.

⁴⁶ *ibid* 51.

⁴⁷ Rafal Michalczak, ‘Animals’ Race Against the Machines’ in Tomasz Pietrzykowski (ed), *Legal Personhood: Animals, Artificial Intelligence and the Unborn* (Springer Berlin Heidelberg 2017) 98.

⁴⁸ Alexis Dyschkant, ‘Legal Personhood: How We Are Getting It Wrong’ (2015) *University of Illinois Law Review* 36, 2075.

⁴⁹ *ibid* 2107.

⁵⁰ AGI, a term coined by Dr. Ben Goertzel means that machines and robots do not possess the ability and capability to independently ‘think’ for themselves without human intervention. Please see further: Ben Goertzel, ‘From Here to Human-Level Artificial General Intelligence in Four (Not All That) Simple Steps’ (*Singularity Hub*, 22 July 2018) <<https://singularityhub.com/2018/07/22/from-here-to-human-level-artificial-general-intelligence-in-four-not-all-that-simple-steps/>> accessed 17 August 2018.

addition, the examination of the concept of human dignity, which is an integral dimension of personhood, would also need to be reformulated. Although it is not easy to define “human dignity”, and the concept, in itself, has been subject to varied juridical interpretation,⁵¹ the contents of human dignity’s main elements; intrinsic value, autonomy, and community value,⁵² are at the heart of its importance. Cases from the jurisprudence of the European sphere have indicated the variable interpretation of human dignity in different situations. These include the infamous ‘dwarf-tossing’ Conseil d’Etat’s decision in France, in *Commune de Morsang-sur-Orge v Societe Fun Production et M. Wackenheim*;⁵³ the *Pretty v United Kingdom*⁵⁴ case on assisted suicide; and the German Basic Law interpretation by the *Verfassungsgericht* in a case against a satirical magazine that depicted Franz-Josef-Strauss as a pig.⁵⁵ It would therefore be very interesting to see how juridical interpretations of ‘human dignity’ would encompass the personhood of AI.

b. The Gendered Female Dimensions of “Cyborg” in Social Humanoid Robots

Beyond the engineered and mechanized aspects of social humanoid robots like Harmony and Sophia, the encroachment of the term “cyborg” is likely to make its entry. The corporeal form of the “cyborg” is central to the science fiction genre, and it is likely that we often associate the meaning of “cyborg” to a mechanized, bionic hybrid between human and machine. Manfred Clynes and Nathan Kline in 1960 essentially coined the term “cyborg” as a way of explaining a novel form of adaptation to new environments; by a self-regulating, functioning system that is able to “cooperate with the body’s own autonomous homeostatic controls.”⁵⁶ However, if we are able to critically differentiate the popular culture embodiment of “cyborg” from practical, contemporary applications of the “cyborg”, it becomes clear that the present day “cyborg” has proliferated modern societies in many significant ways: in regenerative tissue engineering, medical prosthetics, neurological simulations, implantable technologies, militarization, and sports, amongst others. These applications are not within the scope of objection in many realms of

⁵¹ Luis Roberto Barroso, ‘Here, There, and Everywhere: Human Dignity in Contemporary Law and in the Transnational Discourse’ (2012) 35 *Boston College International & Comparative Law Review* 331.

⁵² *ibid* 331.

⁵³ *Commune de Morsang-sur-Orge v Societe Fun Production et MWackenheim* [1995] Conseil d’Etat 136727, Cons Etat.

⁵⁴ *Pretty v the United Kingdom (Application No 2346/02)* [2002] HUDOC (Fourth Section, European Court of Human Rights).

⁵⁵ *BVerfGE 75* [1987] Verfassungsgericht 369 1 BvR 313/85.

⁵⁶ Manfred E Clynes and Nathan S Kline, ‘Cyborgs and Space’ (1960) *Astronautics* 5, 26.

discourse. Whether this stems from a lack of complete understanding of what a “cyborg” truly is, or whether the dramatization of the machine humanoid in fiction and fantasy is a much more attractive narrative, the dawn of the age of genetic engineering, and possibilities of a trans-humanist future⁵⁷ captures the imagination in dark and mysterious ways.

In the meantime, the “cyborg” term has also shifted in its philosophical foundations in the 1980s, not simply encompassing the scientifically mechanical term, but “a more densely argued series of theoretical applications as a means to explore the interface between technology and the body.”⁵⁸ It is within this scope that I advance the theoretical argument about the sexualized female “cyborg”— cyborg in the mechanical, literal sense embodied by Harmony and Sophia— and in the metaphorical sense, representing sexualized (or non-sexualized) notions of bodies in a “technological polis based partly on a revolution of social relations in the *oikos*.”⁵⁹ Donna Haraway’s essay on socialist feminism paints a portrait of the “cyborg” as a rejection of essentialism, and a critique of traditional feminist theories that focus on identity politics. In her work, she emphasizes the role of the cyborg as a creature in a post-gender world, but also recognizes the fact that “they are the illegitimate offspring of militarism and patriarchal capitalism, not to mention state socialism.”⁶⁰ In this, her call to action focuses on a deeper understanding about the need for unity and reconstruction of gender identities that move away from traditional feminist theories. The applicability of Haraway’s theory is limited within the context of this paper, but the simile of her “cyborg” is consistent with my suggestion that Harmony and Sophia be considered beyond gendered, sexualized female forms.

In interpreting the claim (made by their creators) that both Harmony and Sophia in their present forms respond to a societal void that should be filled, I emphasize that these claims bear little veracity when faced with the human mindset. In Sophia, for instance, the danger lies in the continued perpetuation or encouragement of certain unacceptable mindsets and psychological motivations behind human behavior. With the Harmony sex-bot, creator McMullen insists that although sex is a large part of the Harmony package, companionship is also an important selling

⁵⁷ Alexander Thomas, ‘Super-Intelligence and Eternal Life: Transhumanism’s Faithful Follow It Blindly into a Future for the Elite’ (*The Conversation*) <<http://theconversation.com/super-intelligence-and-eternal-life-transhumanisms-faithful-follow-it-blindly-into-a-future-for-the-elite-78538>> accessed 16 August 2018.

⁵⁸ Matthew Gandy, ‘Cyborg Urbanization: Complexity and Monstrosity in the Contemporary City’ (2005) 29 *International Journal of Urban and Regional Research* 26, 27.

⁵⁹ Donna J Haraway, ‘A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century’ in Neil Badmington (ed), *Posthumanism* (Macmillan Education UK 2000) 9 <http://link.springer.com/10.1007/978-1-137-05194-3_10> accessed 27 March 2018.

⁶⁰ *ibid.*

point. The problem with this rhetoric is that women continue to feature as the central subject matter of objectification, both in their sexuality and susceptibility, and this further distorts the social imagery of women's 'idealized' bodies and personalities. In Spain, the very first sex-doll brothel / agency in Europe was launched, where "uncannily realistic sex robots [are] programmed to fulfill the fantasies of people ready to couple with a machine."⁶¹ In a study on robo-sexism in Japan, Jennifer Robertson examined gender attribution to robots as "a process of reality construction",⁶² and stated that roboticists' "naïve and unreflexive assumption about humans' differences informed how they imagined both the bodies and the social performances of their creations."⁶³ In modern democratic societies where we have constantly striven to recognize, protect and empower women's liberation, rights and equality, this seems to take us into a backwards dive when a no-holds-barred approach is encouraged for people to act out their "fantasies" with a proxy robot.

Another consideration in the objectification of women *vis-à-vis* these sex robots as proxies is how it may impact on issues of violence against women, rape, sexual assaults, and other acts of depravity that have no place in democratic societies. Proponents proclaim the benefits of using sex robots as proxies: to reduce sex workers, combat human sex trafficking, curb violence and rape against women (or children), amongst others. There have also been claims that sex robots have been utilized in therapy for the prevention of sexual crimes,⁶⁴ although the Foundation for Responsible Robotics (FRR) have stated that this claim is largely unsubstantiated.

In its May 2017 report titled *Our Sexual Future with Robots*,⁶⁵ the FRR at the Hague Global Institute for Justice addressed the main issues that dominate the discourse about using robots for sexual gratification. In response to the claim that allowing people to fulfill their desires and fantasies in any manner with a sex robot would lessen their urges to harm human persons, the

⁶¹ 'Sex-Dolls Brothel Opens In Spain And Many Predict Sex-Robots Tourism Soon To Follow'

<<https://www.forbes.com/sites/ceciliarodriguez/2017/02/28/sex-dolls-brothel-opens-in-spain-and-many-predict-sex-robots-tourism-soon-to-follow/#13cc65c74ece>> accessed 16 August 2018.

⁶² Jennifer Robertson, 'Gendering Humanoid Robots: Robo-Sexism in Japan' (2010) 16 *Body & Society* 1, 4.

⁶³ *ibid* 5. It should be noted that this is distinctly and significantly divergent from legalized prostitution, which is fundamentally conceived on the basic principles of mutual consent in a transactional activity, payment as consideration, and respect for bodily integrity.

⁶⁴ Greg Nichols, 'Sex Robot Molested, Destroyed at Electronics Show' (*ZDNet*) <<https://www.zdnet.com/article/sex-robot-molested-destroyed-at-electronics-show/>> accessed 17 August 2018.

⁶⁵ Noel Sharkey, et al, 'Our Sexual Future with Robots' (Foundation for Responsible Robotics, Hague Global Institution for Justice 2017) <<https://responsible-robotics-myxf6pn3xr.netdna-ssl.com/wp-content/uploads/2017/11/FRR-Consultation-Report-Our-Sexual-Future-with-robots-.pdf>> accessed 17 August 2018.

FRR stated that “it is a very dangerous path to tread and research could be very difficult... allowing people to live out their darkest fantasies with sex robots could have a pernicious effect on society and societal norms and create more danger for the vulnerable.”⁶⁶ Robert Sparrow additionally argues that “the design of realistic female robots that could explicitly refuse consent to sex in order to facilitate a rape fantasy would be unethical because sex with robots in these circumstances if a representation of the rape of a woman.”⁶⁷ At the very heart of it, sex robots would merely serve as temporal plugs for a deeply-grounded depravity that would only be temporarily staunch.

4. Conclusion

With reference to the European Parliament Study, the European Parliament Report, I advance the statement that much more needs to be evaluated, particularly how social AI systems should be governed. In the European Parliament Study, the key findings appear to address practical issues. However, they are also too broad, and focus on the mainly “robo-ethical principles for protecting humanity from robots.”⁶⁸ Besides the protection of humanity from robots, which I believe sends an erroneous message that robots will take over the world, what should be emphasized is the ethical use of AI and robotics by human persons.

In the European Parliament Report, Mady Delvaux persuasively argues for a common legal framework for AI in the European sphere. The report itself is very comprehensive, and cognizant of the manifestations of AI in contemporary settings. However, there are significant questions raised (which have not been specifically addressed in the report). One of this is Recommendation AC,⁶⁹ which states as follows:

whereas, ultimately, the autonomy of robots raises the question of their nature in the light of the existing legal categories or whether a new category should be created, with its own specific features and implications.

What is likely to be most disconcerting would involve the issue of rights in the event robots are considered separate legal entities, equivalent to a human person possessing rights and liabilities in a system of governance. One of the main concerns that may emerge in the polarizing debates of determining AI legal personality would include, first and foremost, a uniform and

⁶⁶ *ibid* 35.

⁶⁷ Robert Sparrow, ‘Robots, Rape, and Representation’ (2017) 9 *International Journal of Social Robotics* 465.

⁶⁸ Nevejans (n 10) 19.

⁶⁹ Delvaux (n 11) 7.

common EU-wide definition of autonomous robots or AI systems.⁷⁰ This would be in addition to concerns about the notion of legal personhood that would possibly be enlarged to incorporate AI legal personalities. Questions regarding human nature and human dignity, the cornerstone of human rights discourse, are also likely to be reinvigorated. Additionally, we should also question if the purposes for which these social humanoid robots are used, should be governed. If this is the case, then there is a need to tread carefully as this encroaches upon the realm of privacy and individual liberties. Policing the purposes and uses of social humanoid robots may be desirable, but it runs the risk of opening policing into other areas with purposes that accompany the daily living of human beings, whether altruistic or not. This is reminiscent of a throwback to darker days, for example, when autocratic governments police leisure activities or reading materials.

It has already been proclaimed that humankind has now entered the Fourth Industrial Revolution, and in a similar way that the first three Industrial Revolutions have transformed societies, so too will our current digitalized world. It is never too early to begin analyzing and questioning how political and institutional structures, businesses and economies, the labour market and supply chain, and legal systems and human rights can play a positive role in developing ethics and human values in responsible robotics use.

Bibliography

- ◆ 'EU Member States Sign up to Cooperate on Artificial Intelligence' (*Digital Single Market - European Commission*, 10 April 2018).
<<https://ec.europa.eu/digital-single-market/en/news/eu-member-states-sign-cooperate-artificial-intelligence>> accessed 21 February 2019.
- ◆ BARROSO LR, 'Here, There, and Everywhere: Human Dignity in Contemporary Law and in the Transnational Discourse' (2012) 35 *Comparative Law Review* 331.
- ◆ ČERKA P, GRIGIENĖ J and SIRBIKYTĖ G, 'Is It Possible to Grant Legal Personality to Artificial Intelligence Software Systems?' (2017) 33 *Computer Law & Security Review* 685.
- ◆ CLYNES ME and KLINE NS, 'Cyborgs and Space' (1960) *Astronautics* 5.

⁷⁰ Please see Paragraph 1, General Principles Concerning the Development of Robotics and Artificial Intelligence for Civil Use, of the European Parliament's Committee on Legal Affairs report aforementioned.

- ◆ DARLING K, 'Extending Legal Protection to Social Robots' (*IEEE Spectrum: Technology, Engineering, and Science News*, 10 September 2012).
<<https://spectrum.ieee.org/automaton/robotics/artificial-intelligence/extending-legal-protection-to-social-robots>> accessed 14 August 2018.
- ◆ DELVAUX M, 'Report with Recommendations to the Commission on Civil Law Rules on Robotics (2015/2103(INL))' (European Parliament Committee on Legal Affairs 2017) Initiative- Rule 46 of the Rules of Procedures A8-0005/2017.
- ◆ DYSCHKANT A, 'Legal Personhood: How We Are Getting It Wrong' (2015) *University of Illinois Law Review* 36.
- ◆ 'European Commission Press Release: Member States and Commission to Work Together to Boost Artificial Intelligence "Made in Europe"' 7 December 2018.
- ◆ Futurism DG, 'World's First AI Citizen in Saudi Arabia Is Now Calling For Women's Rights' (*ScienceAlert*) <<https://www.sciencealert.com/first-ai-citizen-saudia-arabia-womens-rights>> accessed 14 August 2018.
- ◆ GANDY M, 'Cyborg Urbanization: Complexity and Monstrosity in the Contemporary City' (2005) *29 International Journal of Urban and Regional Research* 26.
- ◆ GLENDINNING C, (1990) 'Notes toward a Neo-Luddite Manifesto' 6.
- ◆ GOERTZEL B, 'From Here to Human-Level Artificial General Intelligence in Four (Not All That) Simple Steps' (*Singularity Hub*, 22 July 2018).
<<https://singularityhub.com/2018/07/22/from-here-to-human-level-artificial-general-intelligence-in-four-not-all-that-simple-steps/>> accessed 17 August 2018.
- ◆ HANSON D, (2005) 'Upending the Uncanny Valley' 8.
- ◆ HARAWAY DJ, 'A Cyborg Manifesto: Science, Technology, and Socialist-Feminism in the Late Twentieth Century' in Neil Badmington (ed), *Posthumanism* (Macmillan Education UK 2000) <http://link.springer.com/10.1007/978-1-137-05194-3_10> accessed 27 March 2018.
- ◆ HART R, 'Saudi Arabia's Robot Citizen Is Eroding Human Rights' (*Quartz*) <<https://qz.com/1205017/saudi-arabias-robot-citizen-is-eroding-human-rights/>> accessed 13 August 2018.
- ◆ KLEEMAN J, 'The Race to Build the World's First Sex Robot' *The Guardian* (27 April 2017) <<http://www.theguardian.com/technology/2017/apr/27/race-to-build-world-first-sex-robot>> accessed 8 March 2018.

- ◆ LEENES R and others, 'Regulatory Challenges of Robotics: Some Guidelines for Addressing Legal and Ethical Issues' (2017) 9 *Law, Innovation and Technology* 1.
- ◆ MICHALCZAK R, 'Animals' Race Against the Machines' in Tomasz Pietrzykowski (ed), *Legal Personhood: Animals, Artificial Intelligence and the Unborn* (Springer Berlin Heidelberg 2017).
- ◆ MORI M, 'The Uncanny Valley: The Original Essay by Masahiro Mori' (*IEEE Spectrum: Technology, Engineering, and Science News*, 12 June 2012).
<<https://spectrum.ieee.org/automaton/robotics/humanoids/the-uncanny-valley>> accessed 14 August 2018.
- ◆ NAGENBORG M and others, 'Ethical Regulations on Robotics in Europe' (2008) 22 *AI & Society* 349.
- ◆ NEVEJANS N, 'European Civil Law Rules on Robotics' (European Parliament Directorate-General for Internal Policies 2016) Study for the JURI Committee PE 571.379.
- ◆ NICHOLS G, 'Sex Robot Molested, Destroyed at Electronics Show' (*ZDNet*)
<<https://www.zdnet.com/article/sex-robot-molested-destroyed-at-electronics-show/>>
accessed 17 August 2018.
- ◆ PIETRZYKOWSKI T, 'The Idea of Non-Personal Subject of Law', *Legal Personhood: Animals, Artificial Intelligence and the Unborn* (Springer Berlin Heidelberg 2017).
- ◆ 'Realbotix' <<https://realbotix.com/>> accessed 13 August 2018.
- ◆ 'RealDoll's First Sex Robot Took Me to the Uncanny Valley' (*Engadget*)
<<https://www.engadget.com/2017/04/11/realdolls-first-sex-robot-took-me-to-the-uncanny-valley/>> accessed 14 August 2018.
- ◆ 'Rise of the Robots: Mady Delvaux on Why Their Use Should Be Regulated | News | European Parliament' (1 December 2017)
<<http://www.europarl.europa.eu/news/en/headlines/economy/20170109STO57505/rise-of-the-robots-mady-delvaux-on-why-their-use-should-be-regulated>> accessed 9 August 2018.
- ◆ ROBERTSON J, 'Gendering Humanoid Robots: Robo-Sexism in Japan' (2010) 16 *Body & Society* 1.
- ◆ 'Safeguarding Human Rights in the Era of Artificial Intelligence' (*Commissioner for Human Rights*)
<https://www.coe.int/en/web/commissioner/blog/-/asset_publisher/xZ32OPEoxOkq/content/safeguarding-human-rights-in-the-era-of-artificial-intelligence> accessed 15 August 2018.

- ◆ 'Sex-Dolls Brothel Opens In Spain And Many Predict Sex-Robots Tourism Soon To Follow' <<https://www.forbes.com/sites/ceciliarodriguez/2017/02/28/sex-dolls-brothel-opens-in-spain-and-many-predict-sex-robots-tourism-soon-to-follow/#13cc65c74ece>> accessed 16 August 2018.
- ◆ SHARKEY N and others, 'Our Sexual Future with Robots' (Foundation for Responsible Robotics, Hague Global Institution for Justice 2017) <<https://responsible-robotics-myxf6pn3xr.netdna-ssl.com/wp-content/uploads/2017/11/FRR-Consultation-Report-Our-Sexual-Future-with-robots-.pdf>> accessed 17 August 2018.
- ◆ 'Sophia Is a Humanoid Robot Created by Hanson Robotics, a Hong Kong Company Founded by David Hanson. - KUBRIS' <<http://kubris.com/en/2018/03/sophia-humanoid-robot/>> accessed 13 August 2018.
- ◆ 'Sophia the Robot Claims She Wants to Help Not Harm Humans' (7 May 2018) <<http://www.digitaljournal.com/tech-and-science/technology/sophia-the-robot-claims-she-wants-to-help-not-harm-humans/article/521604>> accessed 13 August 2018.
- ◆ SPARROW R, 'Robots, Rape, and Representation' (2017) 9 *International Journal of Social Robotics* 465.
- ◆ THOMAS A, 'Super-Intelligence and Eternal Life: Transhumanism's Faithful Follow It Blindly into a Future for the Elite' (*The Conversation*) <<http://theconversation.com/super-intelligence-and-eternal-life-transhumanisms-faithful-follow-it-blindly-into-a-future-for-the-elite-78538>> accessed 16 August 2018.
- ◆ TURING AM and COPELAND BJ, *The Essential Turing: Seminal Writings in Computing, Logic, Philosophy, Artificial Intelligence, and Artificial Life, Plus the Secrets of Enigma* (Clarendon Press ; Oxford University Press 2004).
- ◆ 'UNDP in Asia and the Pacific Appoints World's First Non-Human Innovation Champion' (*UNDP in Asia and the Pacific*) <<http://www.asia-pacific.undp.org/content/rbap/en/home/presscenter/pressreleases/2017/11/22/rbfsingapore.html>> accessed 14 August 2018.
- ◆ 'Universal Declaration of Human Rights' (6 October 2015) <<http://www.un.org/en/universal-declaration-human-rights/>> accessed 1 August 2018.
- ◆ 'Visit Us' (*Bletchley Park*) <<https://bletchleypark.org.uk/>> accessed 14 August 2018.

- ◆ WATSON I, 'How Alan Turing Invented the Computer Age' (*Scientific American Blog Network*) <<https://blogs.scientificamerican.com/guest-blog/how-alan-turing-invented-the-computer-age/>> accessed 14 August 2018.
- ◆ WELLE (www.dw.com) D, 'Saudi Arabia Grants Citizenship to Robot Sophia | DW | 28.10.2017' (*DW.COM*) <<https://www.dw.com/en/saudi-arabia-grants-citizenship-to-robot-sophia/a-41150856>> accessed 14 August 2018.
- ◆ *BVerfGE* 75 [1987] Verfassungsgericht 369 1 BvR 313/85.
- ◆ *Commune de Morsang-sur-Orge v Societe Fun Production et MWackenheim* [1995] Conseil d'Etat 136727, Cons Etat.
- ◆ *Pretty v the United Kingdom (Application No 2346/02)* [2002] HUDOC (Fourth Section, European Court of Human Rights).

Fecha de recepción: 30 de noviembre de 2018

Fecha de aceptación: 29 de enero de 2019