How to Apply Asimov's First Law to Sex Robots

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Research Article

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Abstract: Sex robots may be surfacing in recent controversy, but they are certainly not a novelty in the academic debate. However, given the lack of legal reasoning in this field of research, this article aims at examining the balancing of the fundamental rights involved in the sex robots' manufacture and usage, taking Asimov's first law as the main starting point and with an eye to a future lawmaking process. Specifically, Section 1 gives a brief overview on how to define sex robots, while distinguishing them from sex toys and pornography. Section 2 interprets Asimov's first law in order to apply it to sex robots. Section 3 develops a pertaining legal reasoning based on competing fundamental rights, i.e. the user's sexual freedom and the manufacturer's freedom of enterprise versus the gender dignity and right to equality. Finally, the conclusions review the main findings and address considerations to policymakers.

Keywords: Asimov's first law, fundamental rights, sex robot's regulation

1 Introduction

Isaac Asimov's first law of robotics states "[*a*] *robot must not injure a human being or, through inaction, allow a human being to come to harm*". Such a claim was included in his short story *Runaround* from 1942, and it has soon become a key part of robotic culture. Despite his work being published more than 80 years ago, the current robot technology is closer to Asimov's notion of them now more than ever before. This article tries to understand how Asimov's first law can be applied to sex robots (also known as gynoids).

The last decade has seen a growing trend towards the manufacture and trade of these gynoids, which have also begun to be the object of enquiry in academic research. In particular, in 2007 David Levy envisaged a generally positive perspective on the sex robots' usage in both the private and commercial spheres; and, in 2015, Prof. Kathleen Richardson launched a campaign for their precautionary prohibition in order to support her stand as expert in ethics and culture of robots and artificial intelligence (AI). Their respective lines of argumentation are focused on the effects of gynoids on society. While David Levy believes in emotional closeness and sexual encounters between human beings and robots and, *inter alia*, supports an increased awareness of sexual techniques and psychosexual disorders as well as a possible revolution in prostitution, Prof. Kathleen Richardson stresses how the robotic dummies merely reflect a common stereotype of female appeal, availability and sexuality, while perpetuating the unbalanced power dichotomy between johns and prostitutes.

However, these contradictory stands are unsatisfactory because, while being grounded on matters of principle, they disregard any legal reasoning based on fundamental rights.[1] Indeed, this branch of law, which is enshrined in the main constitutional, regional and international instruments, embodies the society's essence and foundation because it allows every human being to freely develop his/her personality as an individual and in the existing social groups. Consequently, fundamental rights need to be regarded as the cornerstone of every inquiry: as provided by the Preamble to the EU Charter of Fundamental Rights (hereafter the Charter) "*it is necessary to strengthen the protection of fundamental rights in the light of changes in society, social progress and scientific and technological developments*" and the law should not automatically accept all the possibilities that technology offers nowadays in an all-encompassing way.

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1 Defining what fundamental rights are and whether they have an absolute nature go beyond the purpose of this article; however, it should be taken into account that there is a broadly similar common core of them both internationally and domestically, so that when similar issues arise, the answers are expected to be equivalent, given the existence of several human rights catalogues as well as of an open dialogue among foreign courts [1]. In any case, in order to be more consistent, this article merely refers to the European legal framework and its following state of the art in this field.

Yet, to date, there is a legislative lacuna in the regulation of gynoids and, even in the general field of robotic law, parliaments have only resorted to soft law.[2] Nonetheless, given the sensitive concerns involved in this market, it is not unlikely that there will be some future intervention, which will also require complete preparatory studies and research.

In the light of the above, this article examines the balancing of the fundamental rights involved (i.e. the user's sexual freedom and the manufacturer's freedom of enterprise versus the female human dignity and right to equality), taking Asimov's first law as the main starting point. The first section gives a brief overview on how to define sex robots, while the two remaining ones aim at applying Asimov's first law to this field and develop related legal reasoning grounded on competing fundamental rights. Finally, the conclusions review the main findings and address considerations to policymakers.

2 Defining and distinguishing sex robots

In simple words, sex robots are machines shaped as humans and specifically programmed to provide sexual performances.

It might be argued that every robot could also be used for these purposes; however, such a possible misuse – driven by unusual desires – goes beyond the scope of this article, considering its sole link to the right to privacy and the lack of an interference with possible third-parties' rights. Instead, sex robots have the specific history and features described below.

2.1 Who are sex robots?

In the late 1990s, life-like sex dolls were launched in the market, spreading all over the world – especially in the United States and in Asia – and becoming an attractive hi-tech investment. To date, gynoid companies – such as Realbotix, Synthea Amatus and AI Tech – have started providing their robots with human muscle movements, synthetic voices and other AI capabilities, while selling them as a luxury item for both private and commercial uses.

Although the shape might be either male or female, the demand has been mainly for the latter, so that the market share on men's sex robots barely exists, being limited to a couple of models. Besides, the same gender disparity can be found in the companies' organisational structure, where the main roles are mostly played by men; for instance, of the five "dreamers" posted on the Realbotix website four are men.[3]

Another gender feature, which is distinctive of sex robots, is their stereotypical female shape to stimulate sexual arousal. Accentuated breast, prominent butts and slim waists are just a few of the most common characteristics a buyer can wish and obtain, without considering limitations due to human anatomy. In order to reproduce their sexual and aesthetic archetype, everyone is given the chance to freely put his dummy together, even choosing the colour of the pubic hair.

Finally, in terms of emotional bonds, David Levy argues that *attachment to a material possession can develop into a stronger relationship as a result of the possession's repeated use and the owner's interaction with it* [...] *As we use it, play with it, and so forth, we get to know it, and gradually it might become less and less a commodity, more and more a part of our life.* [2, p. 28] and, in support of this view, Ciambrone *et al.* [3] analysed life-like dolls' customers who used to refer to their dolls by name, talk about how they are beautiful, etc. Furthermore, it has been shown that human beings behave the same way in interactions with robots [4]; while, since 1970, the uncanny valley theory argued that there is a relationship between the degree of an object's likeness to a human being and the emotional response to this object [5].

Falling in love with an object, though, might risk establishing an unbalanced relationship by the human owner over the inanimate object. In such circumstances, the control over the liaison is all-encompassing: from attributing meanings to defining the other's behaviours, no effective interaction or response is involved, given the chance to switch the device off, or even to simply set it up again when something goes wrong. In addition, buyers can freely choose among countless personalities and sexual tendencies to satisfy their unilateral desires.

2 For instance, on 16 February 2017, the EU Parliament issued a resolution with recommendations to the Commission on Civil Law Rules on Robotics (2015/2013(INL)). Similarly, the Japanese Ministry of Economy, Trade and Industry has published countless policy guidelines since 2004; while both the Australian and US Government opted for roadmaps a couple of years ago.

3 For this reason, the male gender is used to refer to both the user and the manufacturer, while the female one to the gynoid.

2.2 Sex robots versus sex toys and pornography

Given such premises, there is still no universal definition of sex robot among scholars and, in view of a future lawmaking process, policymakers should refrain from identifying and comparing them to sex toys and pornography on the grounds of the following reasons.

Sex toys might be regarded as "*sexual enhancement products with the intent of improving the nature and quality of sexual experiences*" [6, p. 3]. In addition to erotic lingerie and BDSM equipment, many sex toys are shaped as genitalia and, to date, teledildonic technology even allows partners to control them remotely, while some models are provided with other hi-tech features, such as MP3 players or virtual reality pornography system. Although Ciambrone et al. [3] believe that the development of sex toys supported the desire for solitary sexual interaction and the replacement of human partners, there are two main differences between sex toys and robots in terms of shape and use.

Sex toys are a mere reproduction of a body part or a geometrical resemblance of it, while gynoids look like a human body as a whole and can reproduce a realistic sexual experience. Similarly, even if the negative impact on self-image due to the partner's sex toy use is regarded as a possible negative outcome, research outline greater sexual pleasure, sexual satisfaction and safer sex as positive effects in using sex toys; on the contrary, sex robots are not simply used for a mere sexual gratification but also as artificial cohabitation partners at the owner's absolute disposal, leading to objectification and abuse [6]. Besides, even though sexual performances with a robot deviate from ordinary sexual norms and could thus be considered negatively – leading to stigmatisation and a following relinquishment of the practice – such norms are still shaped on social, economic and cultural attitudes which, through time, have been shown to change.

Turning now to pornography and unlike it, sexual encounters with gynoids involve both a psychological and a physical dimension, so that the user will be even more likely to internalise its permanent availability and appeal [7]. Nonetheless, such erotisation of gender inequality and the existing studies on the consequences of women's constructions by porn users might be used as a fresh starting point in further research on sex robots during the legal developments pertaining to their regulation.[4]

4 To be noted that, starting from the seventies, women have developed a pornographic counter-narrative in terms of production, methods and content [8].

3 Constructing Asimov's first sex robots law

In the light of these defining premises, the following part of this article moves on to describe in greater detail how Asimov's first law can be applied to gynoids. While the first subsection addresses possible objections to its application, the following one focuses on how to interpret its phrasing to this end.

3.1 Possible objections to its application

To date, two main objections might be made to Asimov's first law: it is a mere science fiction and there is no available technology that can reproduce it inside a machine, considering its simple and ambiguous phrasing. Yet, there is an inconsistency with these arguments.

Indeed its literary nature cannot disregard the ethical dilemma it involves, especially at a time in the history when robotics is expanding every day more and more. Likewise, no one is obliged to transpose this law into a unique algorithm; instead, the robot *per se* should be programmed to respect its content.

In a different way, an obstacle to its applicability might be found in the meaning of the law: in order to make robots more ethical – so that they will not harm human beings – a definition of what ethics involves is needed. At first glance, it seems that a prohibition of injury is regarded as a commonly shared principle across the world. Murder, personal injury or even severe physical and psychological damages have always been included in national criminal codes; however, the situation would become more complicated and heterogeneous, if robots were specifically programmed to kill other individuals (e.g. during war or in the implementation of a death penalty). For our purposes, the issue is even thornier, considering the existing cultural nuances of gender – whose equality has not been recognised yet as an effective fundamental right all over the world – as well as its link to the underpinning principle of human dignity – whose universal definition lacks and whose entitlement could be read from a competing male and female perspectives.

3.2 A matter of interpretation

Turning to the *pars construens* of this section, the focus is on three aspects of Asimov's first law phrasing, i.e. the meaning of human being, the notion of harm and the

content of active and passive behaviours, and their applicability to sex robots.

First of all, the law refers to the "human being" in order to enshrine an abstract, absolute scope. At present, in compliance with the equality principle, nearly all provisions resort to neutral words – such as individuals or people – to identify the subject of rights; however, this terminology disregards the existence of groups who specifically require and benefit from some pieces of law, despite their apparent, general application.

In the instant case, the link between sex robots and Asimov's first law allows identification of "the human being" as "the woman", who is meant to represent the female gender as a whole. Contemporary legal frameworks already acknowledge the need to further respect and protect specific categories of individuals, such as the existence of minority rights, vulnerable groups and the possibility of resorting to a class action show; consequently, the risk resulting from the gynoids' usage to gender dignity and equality permits to narrow the scope of Asimov's first law in identifying the subject of the law.

Second, the term "harm" is commonly defined as any injury done to an individual by the acts or omissions of another and involving physical and psychological hurt as well as damage to the human dignity. To date, many domestic legal systems recognise what might be called either "moral harm", since it is linked to the subjective, personal sphere of the injured party in terms of *pretium doloris*, or "existential damage", which instead deals with the way the victim will self-determine and start interacting on the grounds of the suffered violations of his/her fundamental rights.[5] Both definitions include an anthropocentric vision that safeguards the human being from any breach against his/her self-determination as well as his/her right to equality.

Such notion of harm can also be found in the production, distribution and usage of sex robots, leading to female objectification and commodification. Based on power relationships, objectification involves "the process whereby bodies are seen as objects to be manipulated, as opposed to being seen as part of a person as a subject and contributing to a sense of agency" [10, p. 126]; on the other hand, commodification means the treatment or consideration for someone as a commodity, i.e. a product that can be bought and sold. Furthermore, these processes need to be associated with the identification of sex as a commodity whose market seems not critical of what is *per se* bought and sold, as long as it is profitable [10].

Sex robots are thereby reflective of this argument, without questioning the construction of an ideal sexual being that would end up bringing women into devices for male pleasure. Similar evidence has already been exemplified in some psychological research on pornography, where it was claimed that "*it* [*was*] *not mere speculation to anticipate more male constructions of women in general as objects, sexual vessels, whores, sexually insatiable, passive, and desiring pain if violent and degrading sexual images continue to be uploaded and viewed on the internet*" [10, p. 159]. On these grounds, and even though recent studies show that attractiveness towards women is still the highest [4], there might be a risk that the robotic idea of the female body will start being regarded as the archetype of women, degrading their condition as imperfect human beings and perhaps even breaching their personal liberty.[6]

At the same time, the objectification of women through gynoids involves the idea of availability and subjection as well as the female role in society. As already said and later developed from a legal perspective, sex robots are programmed according to the buyer's wishes, leading to behaviours that might challenge law and ethics and call into question the user's sexual freedom and right to privacy. In this context, Gutiu [7] outlines that, by design, the programming of sex robots ignores the element of consent in the user's sexual experience and so undermines the role of autonomy in sexual relationships; while Sparrow [12] goes even further, by defining and questioning the design of a gynoid meant to be raped. A full discussion of robotic consent and rape lies beyond the scope of this article. Yet, at present, sex robots look and feel like a real woman who is programmed into submission and plays the role of an ever-consenting partner. Additionally, because some pre-programmed personalities already imitate signs of non-consent, such acceptance is likely to convey a sort of social tolerance towards violence against women, which, instead, should not be admitted.

Furthermore, Balistreri [13] considers that gynoids reproduce an essential conception of sexuality, where the sexual act is usually programmed as a simulation of the reproductive one; in other words, rather than being

5 For instance, Italy, Germany, France and the United Kingdom recognise these legal concepts [9].

6 Similarly, the colonisation of women's body in order to reach an ideal feminine beauty has already been object of scrutiny from the perspective of plastic surgery. In particular, plastic surgery is considered meant to perpetuate the commodification of the human body, treating it as a commodity that requires a constant need for upgrading following the "male gaze" [11].

revolutionary, sex robots strengthen the idea of male coitus that is solely penetrative and are limited to the reproduction of availability of the female for the partner's traditional pleasure. To sum up, the existence of a harm towards women can be invoked on the grounds of the chance to attribute to them all those features that feminist waves have tried to destroy in the last centuries, e.g. artificiality, availability, passivity and submission. Indeed, as shown, for example, by Rooney [14], these characters not only perpetuate systematic sexism leading to discrimination, sexual harassment and violence against women but also contribute to mental disorders.

Finally – and without repeating the lines of argumentation developed in the previous subparagraph – there is evidence to suggest that some active and passive behaviours of gynoids could amount to female harm. Indeed, active injury may derive from the sex robots' programmed ways of behaving; namely, the everlasting availability as well as the possibility to perform any sexual activity violates gender dignity and equality, causing harm that is understood as objectification and commodification. Similarly, the passive behaviour is linked to the women's misrepresented construction based on how gynoids are manufactured. While creating their ideal partner and disregarding human anatomy and/or imperfections, buyers do not consider women as subjects, rather as objects of their wishes and means to obtain their desire.

It might be argued that the causal link is not direct because it is subject to the men's perceptions and behaviours towards women; however, the robotic trade and usage are still the *conditio sine qua non* to cause indirect harm, which is worthy of attention and applicability of Asimov's first law.

4 Respect for Asimov's first law as a fundamental rights discourse

Rather than attempting to implement a unique algorithm in order to respect Asimov's first law, the final section describes how sex robots should be programmed to respect it on the grounds of the competing fundamental legal stands, i.e. the user's sexual freedom and the manufacturer's freedom of enterprise versus the gender dignity and right to equality as well as their following balancing.

Such mechanism is grounded on the understanding of fundamental rights: while being regarded as the state's foundation and aim, fundamental rights are attributed to every human being as an identifying and irrevocable heritage enabling him/her to freely develop both as an individual and in social groups, while likewise fostering the existing pluralistic society. As a result, limits are inherent to fundamental rights in order to ensure a harmonic civil coexistence, even though their irreducible core will never be able to be overridden. Nonetheless, given the critical nature of universalism[7] and the recognition of cultural diversity as an essential value by the international community,[8] the following lines of argumentation will be developed according to the legal framework existing across the European Union on this field,[9] thereby claiming for a policy intervention grounded on the state's positive duty to ensure the enjoyment of fundamental rights in all areas of life.[10]

The first subsection deals with the user's fundamental sexual freedom, as derived from the rights to private life and health, on the grounds of its inherent relativeness;[11] such feature is similarly developed in Section 4.1 on the manufacturer's freedom of enterprise. Finally, Section 4.3 looks at the gender dignity and right to equality as competing with the above-mentioned fundamental rights.

4.1 The user's sexual freedom: a call for relativeness

Over time, law has regulated sexuality in different ways: criminalising and de-criminalising sexual behaviours,

7 As a reaction to colonialism, several academics have started to regard the creation of human rights law as mirroring Western ideals and morals and to deny the universal applicability of the same rights to all cultures [15].

8 For instance, both Article 27, Universal Declaration of Human Rights (1948), and Article 15, International Covenant on Economic, Social and Cultural Rights (1966), provide for free participation in the cultural life of the community. Moreover, Article 4 of the Treaty of the European Union recognises member states' national identities.

9 It should be reminded that there is no single EU Bill of Rights; on the contrary, as laid down in Article 6 TEU, the EU fundamental rights have been grounded on three sources, i.e. general principles of law as ensured by member states' constitutional traditions, the European Convention on Human Rights (ECHR) and the Charter.

10 To this end, see ECtHR, 4 December 2003, no. 39272/98, (M.C v. Bulgaria); ECtHR, 9 June 2009, no. 33401/02 (Opuz v. Turkey).

11 The term "relativeness" refers to a characteristic inherent to all those competing fundamental rights that are subject to the balancing mechanism and lack of absolute inviolability.

granting or restricting personal autonomy, ensuring equity and non-discrimination, protecting from violence and harassment, etc. At present, in democratic constitutional states, the state cannot take a stand on how consenting adults should behave sexually and must simply create their conditions to self-determination in terms of liberty and autonomy [16]. Such sexual freedom is not explicitly included in any human rights instrument; rather, it can be derived from other essential rights and freedoms included either in the ECHR or in the Charter and member states' constitutional traditions. In other words, this free and autonomous development is reflected in the user's right to private life and health on the grounds of the following three arguments.[12]

First, sex with robots is generally done in the private sphere, without causing any direct and tangible damage [19], given that gynoids cannot suffer, nor feel any pain. Additionally, as outlined by Balistreri [13], even though the user enjoyed the gynoid's harassment, such pleasure would derive from a violent fiction still distinguishable from the reality,[13] so that any arising concerns over his following conducts might be disregarded and the harm principle can be regarded as satisfied. At the same time, such consensual acts cannot be interfered with because the attempt to create a "sexual citizenship" would risk defining discriminatory, domestic *boni mores* contrary to the existing pluralistic morality and in breach of the universal right to equality.

Second, the use of a robot for sexual purposes would allow for the user's personal empowerment in terms of physical, psychological, intellectual and spiritual well-being, given the international recognition of sexual health and the consideration of sex as a basic human good, rather than a mere commodity.[14] To this end, several studies have shown the link between a regular sexual life and a lower level of stress, a better blood pressure, less chances to contract prostate cancer, etc. [13], and gynoids would be an alternative prevention measure.

Finally, the right to both privacy and health must be read together with the equality principle, so that sex robots might address some forms of sexual inequality linked to mental and physical disabilities, working environments [19] or blurred gender preferences [20]. Focusing on the former possibility, sex robots can actually be used as sexual assistant or, in other words, as a mediator between the disabled individual and the chance to freely and happily enjoy his/her sexual life through the development of a specific therapeutic process. At present, some member states of the European Union, such as Germany and the Netherlands, already provide specific assistance and programs to fulfil disabled people's sexual well-being; the gynoids' involvement would thereby simply mirror another technical development in the field of medicine, where AI and robots have been used more and more in the last few years.

All these lines of arguments have briefly shown fundamental rights and freedoms able to support the sex robots' usage; nonetheless, it is likewise necessary to understand their ambiguous and/or relative nature in the light of the following balancing with the competing gender dignity and right to equality.

As regards the socio-economic right to health and its well-known difficulty in defining it, it is not clear how sex robots should be conceived to this end. Specifically, taking as a starting point the general definitions provided by Fredman [1] in this field, it might be wondered whether either sex robots represent the highest attainable standard for the user's sexual well-being or they may actually be replaced with other available devices that lack strong ethical and human rights concerns, given the domestic existence of a particular standard of health. Likewise, the right to health can be read as the right to access it, so that either gynoids should be publicly available or resorted to as treatment of some diseases. To this end, there have been both proposals and ongoing clinical trials that try to use sex robots as treatment of sex offenders [22], so that therapeutic gynoids should be distinguished from the recreational ones.

When it comes to the right to private life, both Article 8 ECHR and Article 7 (read together with Article 72) of the Charter provide a general clause aimed at restricting it. Without developing a complete proportionality test and the possible existence of a margin of appreciation across Europe, as well as in contrast to the said stand taken by Balistreri [13], the harm principle's

12 While the right to private life is laid down in Article 8 of ECHR, as well as in Article 7 of the Charter, the right to health is not explicitly provided by any of the two catalogues, being limited to the European Social Charter (1961). Indeed, given the involved expenditure of public resources and the possible, conflicting ethical perspectives in this field, there is a diversity of approaches to fundamental rights that pertain to health, so that, in its case law, the European court of human rights (ECtHR) is even used to attributing a wide margin of appreciation to contracting parties [17,18].

13 In support of this view, it is likely to be used by analogy the lack of a direct link between violent video games and following behaviours, as reported by Young [20].

14 See, for instance, WHO, Declaration of Sexual Rights, 1997; WHO, Sexual Health, Human Rights and the Law, 2015.

lack of respect still needs to be highlighted. As already explained, the sex robots' sale and usage are detrimental to women due to the stereotypes they convey and their following sexist attitudes among society. Furthermore, even though some above-mentioned research deny any connection between violent video games or pornography and the user's attitude, such analogical application appears weak to support; indeed, gynoids' interaction is not only immediate but also involves a different level of intimacy as well as a distinctive value assignment. While Darling [23] shows how individuals are able to establish strong relationships with social robots because of their physicality and programmed behaviours, Ciambrone et al. [3], like other researchers, report user's witnesses on their sex robots' representation; in particular, they are used to attributing to them a human nature that undermines the boundary between illusoriness and reality.

In conclusion, the relative nature inherent to the user's sexual freedom, as derived from the right to health and private life, already seems to give way to the underpinning principles of female human dignity and equality. Nonetheless, before moving to the opposing claims, the manufacturer's freedom of exterprise is examined, as linked to the envisaged market regulation.

4.2 The manufacturer's blurred freedom of enterprise

While the ECHR does not explicitly include the freedom of enterprise, Article 16 of the Charter enshrines it, in order to "*enable individual aspirations and expression to flourish, and to promote entrepreneurship and innovation, which in turn is indispensable for sustainable social and economic development*" [24]; accordingly, the potential benefits coming from sex robots in terms of, *inter alia*, health treatments could mirror the latter purpose. Nonetheless, restrictions arising from its relative nature come from public interest considerations as well as from other competing fundamental rights, freedoms and principles; both grounds are therefore able to ban a business or, at least, to lay down conditions to run it.

The rejection of some forms of manufacture, trade and services – such as heavy drugs, sex work and Nazi symbols – already exists and a similar approach could be applied to sex robots. Specifically, manufacturer's freedom of enterprise might be limited following the harm this economic activity brings about to women in relation to human dignity and right to equality. Similarly, in the Omega case, the European Court of Justice already upheld a national prohibition measure on an economic activity which consisted of the commercial exploitation of games simulating acts of homicide in order to protect human dignity, which is a general principle of law at both the Union and national levels. Therefore, even though such case law came before the entry into force of the Charter and dealt with the restriction on the freedom to provide services, its legal reasoning appears updated and applicable to the gynoids' manufacture.

Thus far, freedom of enterprise likewise seems to be flawed by its relativeness; as a result, while analysing the gender human dignity and right to equality, Section 4.3 will seek to understand to what extend the user's sexual freedom and the manufacturer's freedom of enterprise might be limited.

4.3 Gender dignity and right to equality: the result of balancing

Compared to equality and despite having historically crossed many cultures, human dignity is a recent legal notion, which became the cornerstone of human rights law after World War II, being enshrined in nearly all the constitutions as well as regional and international instruments. Yet its shared provision has never been followed by a universal definition and, even though identifying its meaning would go beyond the purpose of this article, it is useful to make clear some features that are applicable to the gynoids' discourse across Europe.

While the ECHR does not explicitly provide for human dignity, Article 1 of the Charter qualifies it as inviolable and claims for its respect and protection. Rather than being a descriptive provision that includes everything and risks losing all meaning, the explanatory works to this article deem the underpinning nature of human dignity,[15] attributing to phrasing a dynamic dimension that goes beyond a mere memory of World War II atrocities; put differently, such principle must be read together with the enhancement, protection and application of all the other fundamental rights included in the Charter from a founding perspective. Furthermore, given its inviolability and following absolute nature of

15 The explanation relating to the Charter is available on the EU Fundamental Rights Agency's website at: https://fra.europa.eu/en/charterpedia/article/1-human-dignity [last accessed: 31.01.2020].

fundamental rights, any right that competes with human dignity must yield to it; otherwise, the conflict must be framed as an internal one within the general bound of dignity as not to breach this essential principle [25]. As a result, given that every conflict cannot be taken out of its context and interpreted by itself, the risk at violating the gender human dignity due to a sex robots' manufacture and use grounded on the user's sexual freedom and the manufacturer's freedom of enterprise must be developed as follows.

At first sight, the women's reification and commodification derived from gynoids and outlined in the previous sections violate the principle of human dignity *per se*. Historically, the codification of human dignity has mainly been a reaction to the experience of injustices, where members of social groups were denied the status of a person in law and, therefore, objectified [26]. Consequently, any misrepresentation that can undermine the equal respect and value attributed to each individual on account of his/her humanity amounts to one of those violations that are so reprehensible to be universally unacceptable [27] and able to seriously restrict competing rights and freedoms. To sum up, sex robots' manufacture and usage, as well as of their underpinning legal grounds, can be restricted due to the conveyed, undignified idea of women as artificial and available sexual objects.

On the other hand, human dignity can be read together with the right to equality, which must be interpreted as a legal notion instrumental in pursuing the existing pluralistic society, based on the enjoyment of fundamental rights and freedoms as well as in challenging societal dichotomy of powers in order to freely coexist, regardless of gender or other specified grounds. Indeed, since all human beings are equal and deserve the same respect because of their intrinsic nature, everyone's freedom cannot undermine others and is, therefore, subject to restrictions, such as the case of the user's sexual freedom and the manufacturer's freedom of enterprise.

Moreover, although the right to equality might amount to a formal prohibition on discrimination, its substantial feature also requires affirmative actions that can level out the existing disparities. In the light of such effectiveness, the state has thereby a duty to protect women in order to let them develop their personalities freely, autonomously and equally. Legally defining the current sex robots' manufacture and usage as a practice of gender discrimination mirrors the way it works as a social practice and calls for a restrictive regulation apt to avoid all the above-mentioned consequences that women's objectification and commodification would bring about.

Before concluding, it cannot be disregarded that gender dignity, read together with or without the right to equality, could also conflict with the one the user is entitled to, as he must have the chance to freely develop his personality. As rightly shown by O'Mahony [27], though, such a claim for self-determination cannot be interpreted as an aspect of human dignity and is therefore subject to limitations, whose possible paternalism depends on whether "*the notion of the perceived dignity of an individual or of society is accepted as grounds for interfering with autonomy, or whether these grounds are restricted to measures necessary to protect the dignity of other individuals*" [27, p. 574].

In conclusion, it goes without saying that the prominent role played by gender dignity (read together with the right to equality) can affect the user and manufacturer's entitlements to fundamental rights and freedom; yet in order to respect their core, the following restriction cannot amount to a denial.

To be satisfied, Asimov's first law does not require a ban, like the precautionary one supported by Prof. Kathleen Richardson's Campaign against Sex Robots. At present, there is no enough evidence to decide the destiny of gynoids and the possible advantages in their regulated manufacture, and as such their use should be an object of a future scientific scrutiny. Sexual inequalities related to either mental and physical disabilities or working environments and medical treatments are, by way of example, some advantages to be considered. Additionally, in order to respect the user's core of sexual freedom, there is still some margin of appreciation in terms of sex robots' replacement by advanced sex toys, which do not involve all the above-mentioned legal and ethical implications. Similarly, in compliance with freedom of enterprise, gynoids might be launched again on the market as a potential remedy to the existing inequalities, following a regulation based on human rights. To date, there is already a growing body of literature on codes of conduct, standards and certification processes that are likely to guarantee the integrity of developers in the field of robotics and AI. Moreover, existing research also envisage a lawmaking process that, without starting from scratch, seeks to put robotics and AI at the service of citizens and the economy [28].

5 Conclusions

This article has argued that a better understanding of gynoids cannot disregard the competing fundamental

rights at stake, while taking the ethical requirement included in Asimov's first law as a starting point.

To this end, Section 1 described sex robots as machines mainly shaped as women and specially programmed to provide sexual performances according to the user's wishes as well as distinguished them from sex toys and pornography.

Later, Section 2 examined how Asimov's first law could be applied to gynoids. While its scope might be narrowed to identify women as the subject of law, due to their belonging to a special category of individuals in need of further protection, the notion of harm as well as of active and passive conducts is enshrined in the sex robots' ways of behaving and being shaped and mirrors the dangerous chance to attribute to women all those characteristics, such as artificiality, availability, passivity and submission, that perpetuate systematic sexism, leading to discrimination, sexual harassment and violence against women.

Therefore, in order to respect Asimov's first law, the third section developed the competing fundamental rights at stake, i.e. the user's sexual freedom, as derived from his right to privacy and to health, and the manufacturer's freedom to run a business versus the women's human dignity and right to equality. Briefly, the former's relative nature had to give way to the latter, so as to foster the existing pluralistic society based on the equal enjoyment of fundamental rights and freedoms as well as to challenge the historical societal dichotomy of powers and freely coexist regardless of gender or other specified grounds.

However, neither Asimov's first law nor the balancing mechanism call for a ban on sex robots; by contrast, to respect the essential core of the user and manufacturer's freedoms, policymakers should regulate this phenomenon according to what might be defined as soft paternalism. In particular, female agency must be respected, letting women decide whether they want to be considered as commodified victims against a precautionary ban; similarly, female sexuality and its following representation must be placed in their hands to alter the existing social context. Indeed, the design and functioning of gynoids mirror values in society and shape new dynamics among individuals [7]. To this end, designers, engineers and programmers play a pivotal role; nevertheless, technology *per se* is a passive tool subject to powers and control and, for this reason, the state should ensure protection and fulfilment of fundamental rights as well as to influence social norms about gender, sex, sexuality, disability and race. In any event, further studies in fields such as law, psychology, medicine and engineering need to be carried out in order to decide the future of sex robots and protect women's rights, so that policymakers will stop lagging behind technological innovation.

References

[1] S. Fredman, *Comparative Human Rights Law*, Oxford: Oxford University Press, 2018.

[2] D. Levy, *Love and Sex with Robots: The Evolution of Human-Robot Relationships*, New York: Harper, 2007.

[3] D. Ciambrone, V. C. Phua, and E. Avery, "Gendered synthetic love: real dolls and the construction of intimacy," *Int. Rev. Mod. Sociol.*, vol. 43, no. 1, pp. 59–78, 2017.

[4] J. M. Szczuka and N. C. Krämer, "Not only the lonely – how men explicitly and implicitly evaluate the attractiveness of sex robots in comparison to the attractiveness of women, and personal characteristics influencing this evaluation," *Multimodal Technol. Interact.*, vol. 1, no. 3, pp. 1–18, 2017, https://www.mdpi.com/2414-4088/1/1/3/htm [last access: 31.01.2020].

[5] M. Mori (translated by K. F. MacDorman and N. Kageki), "The uncanny valley," *IEEE Robotics and Automation Magazine*, June 2012, pp. 98–100.

[6] N. Döring and S. Pöschl, "Sex toys, sex dolls, sex robots: our under-researched bed-fellows," *Sexologies*, vol. 27, no. 3, pp. e51–e55, 2018.

[7] S. Gutiu, "The roboticization of consent," in *Robot Law*, R. Calo, A. M. Froomkin and I. Kerr, Eds., Cheltenham: Edward Elgar Publishing, 2016, pp. 186–212.

[8] A. Davies, "A liberal anti-porn feminism?," *Soc. Theory Pract.*, vol. 44, no. 1, pp. 21–48, 2018.

[9] M. Bona, "Il Risarcimento del Danno alla Persona nella Prospettiva Europea," in *Persona e Danno*, P. Cendon, Ed., Giuffré, Milano, 2004, pp. 905–940.

[10] J. Holrley and J. Clarke, "Experience, meaning, and identity in sexuality," *A psychosocial theory of sexual stability and change*, London: Palgrave Macmillan, 2016.

[11] L. Negrin, "Appearance and identity," *Fashioning the body in postmodernity*, London: Palgrave Macmillan, 2008.

[12] R. Sparrow, "Robot, rape, and representation," *Int. J. Soc. Robot.*, vol. 9, no. 4, pp. 465–477, 2017.

[13] M. Balistreri, *Sex robot. L'Amore al Tempo delle Macchine*, Fandango Libri, Roma, 2018.

[14] E. Rooney, "The effects of sexual objectification on women's mental health," *Applied Psychology Opus*, pp. 33–36, Spring 2016. Available: https://wp.nyu.edu/steinhardt-appsych_opus/issues/ [last access: 31.01.2020].

[15] A. Algostino, "L'Ambigua Universalità dei Diritti," *Diritti Occidentali o Diritti della Persona Umana*, Jovene, Milano, 2005.

[16] G. Gonzáles Fuster and S. Gutwirth, "Ethics, law and privacy: disentangling law from ethics in privacy discourse," *2014 IEEE international symposium on ethics in science, Technology and Engineering*, Milano, 2014. Available: https://ieeexplore.ieee.org/document/6893376 [last access: 31.01.2020].

[17] J. McHale, "Fundamental rights and health care," in *Health Systems Governance in Europe. The Role of European Union*

Law and Policy, E. Mossialos, G. Permanand, R. Baeten and T. K. Hervey, Eds., Cambridge: Cambridge University Press, 2010, pp. 282–314.
[18] L. Steurs, R. Van de Pas, S. Delputte, and J. Orbie, "The global health policies of the European Union and its member states: a common vision?" *Int. J. Health Policy Manag.*, vol. 7, no. 5, pp. 433–442, 2018.
[19] N. McArthur, "The case for sexbots," in *Robot Sex: Social and Ethical Implications*, J. Danaher and N. McArthur, Eds., Cambridge MA: The MIT Press, 2017, pp. 79–117.
[20] G. Young, "Resolving the gamer's dilemma," *Examining the moral and psychological differences between virtual murder and virtual paedophilia*, London: Palgrave Macmillan, 2016.
[21] K. Devlin, *Turned On: Science, Sex and Robots*, London: Bloomsbury Press, 2018.
[22] G. Zara, "La Psicologia dei Sexbot nel Trattamento dei Sex Offender," in *Sex Robot. L'Amore al Tempo delle Macchine*, M. Balistreri, Fandango Libri, 2018.
[23] K. Darling, "Extending legal protection to social robots. The effects of anthropomorphism empathy, and violent behavior towards robotic objects," in *Robot Law*, R. Calo, A. M. Froomkin and I. Kerr, Eds., Cheltenham: Edward Elgar Publishing, 2016, pp. 213–231.
[24] European Union Agency for Fundamental Rights, *Freedom to conduct a business: exploring the dimensions of a fundamental right, Publications Office of the European Union*, 2015.
[25] D. Shulztiner and G. E. Carmi, "Human dignity in national constitutions: functions, promises and dangers," *Am. J. Comp. Law*, vol. 62, pp. 461–490, 2014.
[26] S. Kirste, "A legal concept of human dignity as a foundation of law," in *Human Dignity as a Foundation of Law*, W. Brugger and S. Kirste, Eds., Proceedings of the Special Workshop held at the 24th World Congress of the International Association for Philosophy of Law and Social Philosophy in Beijing, 2009, pp. 63–82.
[27] C. O'Mahony, "There is no such thing as a right to dignity," *Int. J. Constitutional Court.*, vol. 10, no. 2, pp. 551–574, 2012.
[28] J. Turner, "Robot rules," *Regulating Artificial Intelligence*, London: Palgrave Macmillan, 2019.