Why Not Marry a Robot?

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Abstract:

The trend of robotics research and development, from industrial robots to service robots to companion and carer robots, has as its logical continuation the design and construction of partner robots, sufficiently human-like and sufficiently appealing in various ways to take on the role of a partner in a relationship with a human being. This trend immediately raises many questions relating to humans loving and being loved by robots, treating robots as life partners and being similarly treated by them, marrying robots and having sex with robots. We discuss some aspects of human-robot marriage and reassess the author's 10-year-old prediction that the first human-robot marriage will take place in the state of Massachusetts around the year 2050.

Introduction

The trend of robotics research and development, from industrial robots to service robots to companion and carer robots for the elderly, has as its logical continuation the design and construction of partner robots, sufficiently human-like and sufficiently appealing in various ways to take on the role of a partner in a relationship with a human being. This logical continuation of the trend raises many questions relating to humans loving and being loved by robots, treating robots as life partners and being similarly treated by them, having sex with robots, and, ultimately, marrying robots.

Arthur Harkins, an anthropology professor at the University of Minnesota, caused astonishment in the mid-1970s when he predicted that, before the year 2000, the first test case of a human-robot marriage would be in the courts. At that time, the media bombarded Harkins with requests for interviews, many of which were on TV talk-shows with a phone-in audience, and *". . . as people called in, once they got over their initial shock, their next question was invariably consistent: 'Where do I get one?' "* Clearly Harkins' estimated timescale was wrong, but today his idea id very much on the robotics road map.

Ten years ago, at the EURON *Roboethics* Atelier in Genoa, Italy, I presented three papers [1], [2], [3], on some of the subject matter which the following year formed the backbone of my book *Love + Sex with Robots* [4]. To the best of my knowledge those talks were the first ever delivered to an academic conference on such a subject. They created only very tiny ripples in the ocean of academic research, but by the end of the following year *Love and Sex with Robots* had begun to be rather widely talked about. That was only partly due to the truth of the old adage "sex sells", more so to HarperCollins, the New York publisher of my book, who arranged some 120 media interviews for me, including a TV appearance on *the Colbert Report* in the USA which elevated the popularity of the topic to the mainstream. By then public interest in the topic had already spread to Europe, where my defence of my PhD thesis at the University of Maastricht [5] brought the university more publicity than any other in its history.

Consider what most people want from a life-partner, a spouse. All of the following qualities and many more are likely to be achievable in software within a few decades - your robot will be: patient, kind, protective, loving, trusting, truthful, persevering, respectful, uncomplaining, complimentary, pleasant to talk to, and sharing your sense of humour. And the robots of the future will not be jealous, boastful, arrogant, rude, self-seeking or easily angered, unless of course you want them to be.

So let us consider the possibility of marrying one.

Robot Personhood

Any discussion of marriage to a robot raises the question – what type of entity should we consider an intelligent robot to be? How should we categorize it? Robot personhood is steadily becoming a significant issue for lawmakers and those working in the field of social robotics. Before many years have passed, society will need to take some very important decisions as to whether intelligent robots should be regarded as persons or as some type of person, and if so, what should be their legal standing? What laws should apply to how we may treat them, and what laws will they need to obey? *"The legal rights of robots"* is a topic which has been debated now for more than 30 years, starting with a prescient 1985 paper by Robert Freitas Jnr with exactly that title [6]. The time is fast approaching when the theoretical debate must evolve into laws, and the consequences of those laws will be staggering.

One of the fundamental questions affecting whether or not marriages to robots should be legalized, is should robots be regarded, legally, as persons, or at least as some type of person? In recent years the subject of robot personhood has come to the fore in Social Robotics, with publication titles such as:

"The Electronic Agent: A Legal Personality Under German law" (2003) [7]

"A Legal Theory for Autonomous Artificial Agents" (2011) [8]

"Do Androids Dream? Personhood and Intelligent Artifacts" (2011) [9]

Can Machines be People? Reflections on the Turing Triage Test" (2012) [10]

> **[Rob Sparrow's paper describes a test, proposed by him in 2004, to determine whether or not a machine has achieved the moral standing of people.]**

"The Outline of Personhood Law Regarding Artificial Intelligences and Emulated Human Entities" (2014) [11]

"Machine Minds: Frontiers of Legal Personhood" (2015) [12]

It is already well established that entities such as corporations are treated as having a legal status, but it is as yet an open question whether the same will be true of intelligent robots. Clearly this is a question deserving serious consideration. Should we recognize robots and protect the will of a robot? In his essay *"Machine Minds"*, Evan Zimmerman supports the idea of granting such rights to robots, basing his argument on technical law and providing a justification for bestowing personhood. Zimmerman demonstrates that the development of personhood involves analyzing fully conscious entities and how such consciousnesses could be allowed to exercise their will. He argues that the basis for designing future intelligent machines is likely to be the workings of the human brain, and he makes a nod to the cyborg – a human-machine combination. A person with one artificial limb is still a person, as is someone with two, three or four artificial limbs. So a person does not lose their personhood for undergoing augmentation by a prosthetic, nor is a person with an artificial heart any less human as a result. So the question arises – would someone whose brain has undergone augmentation or partial replacement be any less human? And what about someone with a wholly artificial brain? Since a person does not lose their personhood just

because they have one or more artificial parts, I argue that a robot does not necessarily lack personhood just because it is built differently from a human, nor is that difference alone sufficient reason to deny a robot the same rights and protections ascribed to humans.

Christophe Leroux and colleagues were given the responsibility by the European Robotics Coordinated Action Group to develop arguments on ethical, legal and social issues in robotics. Their report, published in 2012, is entitled *"Suggestions for a Green Paper on Legal Issues in Robotics"* [13]. Leroux et al. recommend that, for the time being, robots should not have the legal status of humans, rather they should be assigned to a specially established legal category to which Leroux et al. refer as "electronic personhood". They base this suggestion on the notion of a "legal person" such as a corporation, a company. Such entities are treated by the law in many of the same ways as are people, with similar capacities and financial responsibilities for example, though they are not endowed with the same legal status as humans in certain other respects. Leroux *et al* explain:

> ***"A similar approach is plausible for at least some "autonomous" machines. Robots are neither humans nor animals but can develop a certain artificial personality, a certain scope of action, and a certain "tangible symbol" for the cooperation of all the people creating and using that specific robot. . . Jurisprudence could establish some autonomous machines as having the status of an "electronic person" with specific rights and obligations. This would apply only to particular contexts, and would include autonomous machines having a certain degree of legal autonomy. . . . If an electronic person causes an injury to a third person, . . . he can be sued directly. . . . Some further questions yet to be answered are: When does the legal personhood start and end? Which rights and obligations come with it? What restrictions are useful?"*** **[13]**

Since 1927 *Time* magazine has awarded an annual accolade to recognize remarkable worldwide achievements. In 1982 their title "Man-of-the-Year" went to the personal computer, and legend has it that Steve Jobs cried when he learned that the title was

not being awarded to him instead. More recently the title was renamed "Person-of-the-Year", and I speculate that before many more years have passed it will be awarded to the humanoid robot, such is their fast approaching encroachment and integration into society and their rapid acquisition of the characteristics and qualities usually associated with personhood.

It is by accepting the possibility of robots as being endowed with some sort of artificial personhood, that we can make it more palatable to consider how best to govern the intelligent robotic systems of the future. Regulations that allow robot companions to have a legal status similar to that of a corporation will pave the way for robot personhood, robot rights, and ultimately the possibility of human-robot marriage.

The Legal Evolution of Marriage

Restrictive laws affecting the institution of marriage have undergone a massive reinvention in the Western world since the middle of the 20th century. Until 1967 some American states still banned interracial marriage – the U.S. government's position on the matter was that each state had the right to decide for itself whether or not to permit marriage across the divide between Blacks and Whites. It was only following a Supreme Court decision in 1967 that interracial marriage in the USA was finally made fully legal in *all* U.S. states.

Even more controversial than the opposition to interracial marriage was and still is the issue of same sex marriage. With the late 20th century trend of wider acceptance for gay and lesbian relationships, it is hardly surprising that many same-sex couples strove for the right to marry their partners. The idea itself was hardly new – in Africa, for example, the Nuer and some other peoples have long favoured woman-woman marriages. [14]

The gay rights movement which started in 1970s America was primarily aimed at legalising homosexual and lesbian relationships − marriage was not a primary aim. But once same-sex relationships started to become legally recognized in the USA it was only a matter of time before the gay and lesbian communities demanded more, with the American movement gaining support from some of the free thinking European countries such as the Netherlands and Denmark – the latter becoming the first country to recognize what the Danes call "legally registered partnerships". On October 1st 1989 six homosexual couples were legally joined in such partnerships in a room in Copenhagen's City Hall, giving them, under Danish law, most of the rights of married heterosexuals, but not the right to adopt or obtain joint custody of a child. [15]

The transition from having one's same-sex relationship legally recognized, to being able to enter into marriage with one's same-sex partner, came relatively quickly after the Copenhagen event. It was in the Netherlands, a land with healthily liberal attitudes to lifestyle choices, that the first legalized same-sex marriage took place in a Western country. The Dutch parliament had set up a special commission in 1995 to investigate the issue, and following the commission's recommendations a same-sex marriage law was passed by the Dutch House of Representatives and the Senate in the year 2000, coming into effect on April 1st 2001. Since then the Dutch innovation has been followed by similar laws in a number of other European countries, as well as Canada, South Africa, Argentina, Brazil, Uruguay, New Zealand and Columbia, and in 2015 by the United States, where President Obama, three years earlier, had become the first sitting US President to publicly declare his support for same-sex marriage to be legalized.

But President Obama was not always in favour – he had wavered back and forth before coming down firmly on the side of this form of social progress. By the end of 2010 he was supporting civil unions which gave partners rights that are equivalent to those of a husband and wife in a regular marriage, and he freely admitted that his

attitude to same-sex marriage was evolving. In 2012 he said that he believed that same-sex couples should be allowed to marry but that it was up to each state to decide whether or not to support such marriages. By 2014 his opinion had evolved further − he decided that same-sex marriage should become legal in all fifty states.

At the other end of the political spectrum Newt Gingrich went through a similar evolution. In 2008 he had described same-sex marriage as showing *"an outrageous disrespect for our Constitution and for the majority of the people of the United States who believe marriage is the union of husband and wife"* [16]. But within 2 years Gingrich had come to accept civil same-sex marriages, though not religious ones, and he encouraged his party, the Republican Party, to accept that same-sex marriage was going to be legalized in more and more states as time went on.

During those years leading up to the American Supreme Court decision of 2015, which legalized same-sex marriage in every American state, public opinion moved in the same direction as Obama and Gingrich were moving. A poll taken by CNN in August 2010 revealed that 49% of those surveyed believed that gay and lesbian couples have a constitutional right to marry. By February 2015 that support had risen to 63%. Other polls conducted by Gallup and by the Washington Post show similar increases in support. The rapidity of this increase over a time span of just a few years demonstrates that nowadays public attitudes to such intimate matters can undergo rapid liberalizing change. This does not surprise me at all. During the past couple of years or so I have observed a steady increase in the frequency with which I am asked to give media interviews on the subject of robot sex and asked about robot marriage, and there has been a commensurate increase in the amount of media exposure for these subjects. This increase points to a near future in which robot sex will be a very hot topic, and with it will come an intensification of the debate on the subject of human-robot marriage.

For and Against Marriage to Robots

The controversy over same-sex marriage gives us a few clues as to some of the arguments likely to be adopted by those who debate the issue of marriage to a robot. In the USA the Defence of Marriage Act (DOMA) became a federal law in September 1996. Section 3 of the Act, which was often used to argue against same-sex marriage, espoused the following definition of marriage:

> ***"In determining the meaning of any Act of Congress, or of any ruling, regulation, or interpretation of the various administrative bureaus and agencies of the United States, the word 'marriage' means only a legal union between one man and one woman as husband and wife, and the word 'spouse' refers only to a person of the opposite sex who is a husband or a wife."*** **[17]**

This definition lasted in U.S. federal law for only 7 years, after which it was declared unconstitutional, and it was the abolishment of this definition which paved the way for the legalization, in all 50 American states, of same-sex marriage. But even though the DOMA definition is no longer law, the public sentiment behind it is still quite strong. I suspect that the majority of people who join the robot marriage debate will, for the next two or three decades, argue that a marriage can only be between two humans, and not between one human and a robot or some other non-human entity.

Religion is one reason for opposing same-sex marriage, but it is not at all clear that the same religious arguments will hold much water when applied to the concept of human-robot marriage. A typical opposition statement against same-sex marriage, founded on religious thinking, came from the Southern Baptist Convention, an American Christian denomination with more than 15 million members in the USA. In June 2003 the Convention adopted a statement confirming that:

> ***"Legalizing same-sex "marriage" would convey a societal approval of a homosexual lifestyle, which the Bible calls sinful and dangerous both to the individuals involved and to society at large."*** **[18]**

In support of this statement the Convention affirmed that:

> ***"legal and biblical marriage can only occur between one man and one woman"***

But so far as I am aware, nowhere in the Bible does it say anything against other types of marriage. Nowhere does it say that a marriage must be between two humans.

Parenting is another contentious issue employed by those who argue against same-sex marriage. A common argument is that, in order to have a well balanced upbringing, children need both a male father and a female mother, but evidence from paediatrics experts runs counter to that argument. The American Academy of Pediatrics, for example, published an analysis in the journal *"Pediatrics"* in 2006, in which they stated:

> ***"There is ample evidence to show that children raised by same-gender parents fare as well as those raised by heterosexual parents. More than 25 years of research have documented that there is no relationship between parents' sexual orientation and any measure of a child's emotional, psychosocial, and behavioral adjustment. These data have demonstrated no risk to children as a result of growing up in a family with one or more gay parents. Conscientious and nurturing adults, whether they are men or women, heterosexual or homosexual, can be excellent parents. The rights, benefits, and protections of civil marriage can further strengthen these families."*** **[19]**

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Surely what is important here, in the context of human-robot marriage, is that it is not the gay or straight nature of the relationship between the parents which is most important for good parenting, but that both parents are "*conscientious and nurturing*". And just as a gay or lesbian couple can be perfectly good parents for a child, there seems to me to be no valid reason why a sophisticated robot in decades to come cannot be a partner in the provision of good parenting.

Another factor that can affect the stability and happiness of a child brought up by a same-sex couple is whether or not the couple have a relationship free from the stresses and pressures of social adversity due to their sexual orientation. Many research psychologists have concluded that children benefit when their parents are in a legally-recognized form of relationship which is also accepted and supported by society. The Canadian Psychological Association, for example, has stated that *"the stresses encountered by gay and lesbian parents and their children are more likely the result of the way society treats them than because of any deficiencies in fitness to parent"*. [20] ["Marriage of Same-Sex Couples – 2006 Position Statement" Canadian Psychological Association.] On this basis it seems reasonable to argue that human-robot marriage should be made legal for the benefit of the adopted children of such marriages, since by making them legal the human partner (and arguably the robot) will be less likely to feel or appear to be stressed by society's rejection of their robot marriage.

Threshold Requirements for Marriage

In their paper *"Robot Marriage and the Law"*, Mark Goldfeder and Yosef Razin discuss three threshold requirements for marriage, requirements that robots will have to meet in order for human-robot marriages to qualify for legalized status [21]. These requirements are: consent, understanding, and the capacity to make decisions.

<u>Consent</u>

An interesting question relating to consent arose in a 2012 case in the Seattle area, in which Angela Marie Vogel became the first woman in American history to marry a corporation.

The bride had undertaken this attempt in order to draw attention to the decision, in 2010, by the U.S. Supreme Court, to recognize a corporation as a person. Vogel's marriage did not last long. King's County, where Seattle is located, changed its mind over its earlier decision to allow the marriage to go ahead, and rapidly declared the marriage licence, which it had issued, to be void. A King's County spokesperson explained: *"When either party to a marriage is incapable of consent then it's void, no longer valid, or not valid period"*. So the county's ultimate decision on the matter was that a corporation is not able consent to something. But is that true when extending the rule to a robot? If a robot had been granted personhood then it would seem to be legally eligible to marry, if it chose to do so. And if the robot appeared to wish to marry, by virtue of what it said and how it behaved, then following Turing's philosophy, why should we not assume that it consents?

Goldfeder and Razin [21] identify three fundamental requirements to demonstrate consent:

- **(a) The parties must have the legal capacity to contract a marriage;**
- **(b) The parties must voluntarily assent to contract a marriage;**
- **(c) There must be at least substantial compliance with statutory requrements as to the formalities of a ceremonial marriage.**

The authors argue that a person can indicate their understanding of what marriage means, simply by responding positively to a statement such as "Let's get married". How much understanding is that? Not very much. As the Supreme Court of the state of Arkansas ruled in a 2008 decision, consent does not have to be particularly informed or well-reasoned.

Goldfeder and Razin apply this concept to robots and conclude that *"Sophisticated robots are more than capable of instrumental reasoning, that is, performing cost-benefit analysis and deciding on the best way to proceed in the furtherance of their own best interests."* [21] In the context of robot marriage this means that robots are more than capable of deciding or consenting to marry.

Another important aspect of consent is that it should be genuine, given freely, without coercion. One could argue that if a robot was pre-programmed to consent then such consent would have been obtained through coercion, which in many jurisdictions would render a marriage contract invalid. *"Thus a robot would have to be free to learn and to choose whether it wished to marry, based on internally formed preferences. However, given such freedom, robots could then be unduly influenced by threats or coercion, just like a human."* [21]

Understanding

***"Can robots understand the concept of marriage?",* ask Goldfeder and Razin. I don't intend this talk to enter a philosophical debate on whether or not robots will be able to understand linguistic meanings. Instead I shall rely, as I often do, on the Turing Test. This leads us to the conclusion that if a robot appears, by its behaviour, both actions and words, to understand the meaning of marriage, then we should accept at face value that the robot does indeed have that level of understanding.**

Decisions

The capacity to make decisions is a third requirement for a "robot person" to be allowed to marry. A decision to consent to marriage must, of course, be voluntary and not obtained by coercion, but there is no requirement for the decision to be rational, and as Goldfeder and Razin point out, *"It can be impulsive"* [21]. For more than half a century now, artificial intelligence programs have been able to to perform well at tasks that require planning and decision making, and many such software systems have demonstrated their superiority over the decision-making skills of leading human experts. Given that software can decide which move to make in a chess game better than a human World Champion, it is difficult to deny the possibility that the robots of future decades will be able be able to decide who they "want" to marry.

How robots will evaluate and then decide upon various marriage options is not yet clear, but what will be required of robots making such decisions does not include having a

sophisticated value system. It will be sufficient, for the purposes of legality, for the robot to be able to evaluate the pros and cons of entering into an agreement to marry. Goldfeber and Razin point out that current A.I. systems appear to satisfy reasonable tests for competent decision-making. They further point out that:

> ***"Humans are presumed to have mental capacity over a certain age, and, at least from that point on, a right to a competency evaluation. If we adopt similar tests for A.I., it would not be unreasonable to presume a status quo that a given A.I. does not have mental capacity unless meeting the requirements of the test, and competency evaluation may be compulsory. However, once a robot's mental capacity and legal competence are established, it is presumed that they can freely consent, unless coerced or the robot's functionality is compromised."*** **[21]**

A robot person who is legally permitted to, and capable of, entering into a legal contract, *"could certainly understand, decide and express an intention to enter into a marriage contract"*, and appear to be happy as a result. If the robot appears to be happy in its marriage, where's the harm for the robot?

In questioning whether a robot should be *allowed* by law to marry a human, Goldfeder and Razin point out that case law has been moving towards equating the actions of human beings, when considering the mental state of a robot for legal purposes. If a robot's behaviour suggests that it is in a particular mental state, then we should presume that it is so. If a robot's behaviour suggests that it wishes to marry, then we should treat it as though it does so wish.

But it is the complimentary question which forms the title of this talk. *"Why not marry a robot?"* As professor Gary Marchant has opined: *"Robot-human marriage is not about robot rights. It is about the right of a <u>human</u> to choose to marry a robot".* [22]

Conclusion

The title of my book, the name of this conference, is now one of the most talked about topics in the field of social robotics. Love, sex and marriage have undergone enormous changes as discussion topics since the mid-20th century, not only changes in society's attitudes to them but also in terms of people's willingness to talk about them openly. Even a single generation ago it would have been almost unthinkable to organize a conference like this one. But with advances coming thick and fast in computing, in A.I. in general, and in robotics in particular, we are being forced to contemplate what human-robot relationships will be like a generation or two from now. As Sherry Turkle asks, in her book *"Alone Together"*, asking about how technology will change us, what will we be like? What type of people will we become? [23] Transposing Turkle's question to social robotics it could be paraphrased as "How will we come to regard robots? What will our relationships with them be like? And just how far will our relationships with them extend?

In my book and elsewhere there can be found ample explanations as to how and why many people will be falling in love with robots during the coming decades. And sex with robots is just around the corner, with the first sexbots coming from Abyss Creations in California some time next year. As love and sex with robots become more and more commonplace, not only as subjects for academic and public discussion but also in practice, so we shall come face to face with the very real possibility of marriage to robots. When robots are sufficiently humanlike and sufficiently appealing socially, to the point where they can act as our companions, why not extend that companionship to marriage, if neither party is against the idea?

Today I have addressed some issues of personhood in the Law - whether robots will come to be regarded as having personhood, as being some type of person, I have presented some examples from the literature, examples of ways in which society's ethical and legal views relating to personhood and the law are changing, and will, inevitably, change even faster with future developments in robot and software technologies.

As more and more people come to accept the concepts of sex and love with robots, so society as a whole will develop laws to govern human-robot relationships. And as those laws evolve, the type of legal restriction which prevented Angela Marie Vogel from obtaining a legally valid marriage licence in Seattle, to allow her to marry a corporation, such laws will begain to fall by the wayside, just as the laws preventing inter-racial marriage did in 1960s America, and those relating to same-sex marriage have done during the current decade.

By the time there are no laws to prevent human-robot marriages, robots will be patient, kind, protective, loving, trusting, truthful, persevering, respectful, uncomplaining, complimentary, pleasant to talk to, and sharing your sense of humour. And the robots of the future will not be jealous, boastful, arrogant, rude, self-seeking or easily angered, unless of course you want them to be.

So when the law allows it, why not marry a robot?

Thank you!

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