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Robot citizenship and women's rights: the case of Sophia the robot in Saudi Arabia

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Master in International Studies

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Resumo

Em 2017, a Arábia Saudita declarou Sophia, um robô humanoide, como cidadão Saudita oficial. Esta decisão voltou a realçar os problemas de desigualdade de género no país e levou a várias discussões relativamente a direitos das mulheres, já que o Reino é conhecido por ainda ser um país conservativo e tradicionalmente patriarcal, ter fortes valores religiosos e continuar a não tratar as mulheres de forma igualitária. Por outras palavras, este caso é particularmente paradoxal por causa da negação ativa de direitos humanos às mulheres, da sua falta de plena cidadania e da concessão simultânea deste estatuto a um ser não humano com aparência feminina.

Através da análise da literatura existente, artigos de notícia, leis e a entrevista realizada, o presente projeto tenciona estudar esta decisão única e baseia-se em uma abordagem explorativa e avaliativa das razões que levaram a este processo de cidadania, assim como da comparação entre os direitos de Sophia e das mulheres Sauditas no Reino. Os objetivos são demonstrar as razões pelas quais a cidadania Saudita foi atribuída ao robô, explorar como os direitos das mulheres evoluíram ao longo dos últimos anos e preencher a atual lacuna na literatura que consiste na comparação entre Sophia e as mulheres Sauditas em diferentes aspetos. Deste modo, a pesquisa permitiu a demonstração de uma falta de coerência entre as liberdades concedidas a um robô e às mulheres Sauditas, a identificação de um processo de cidadania que não foi bem planeado e de vários motivos que justificam a cidadania de Sophia.

Palavras-chave: cidadania; direitos das mulheres; o robô Sophia; Arábia Saudita

Abstract

In 2017, Saudi Arabia declared Sophia, the humanoid robot, an official Saudi citizen. This event has highlighted the gender inequality issues in Saudi Arabia and has also led to many debates concerning human rights as well as women's rights, seen that the Kingdom is known for still being conservative and traditionally patriarchal, having strong religious values and still not regarding women as political persons or as equal to Saudi men. In other words, this case is particularly peculiar because of the active denial of women's human rights, their lack of full citizenship and the simultaneous concession of citizenship to a female-looking nonhuman being.

Accordingly, through the analysis of the existent literature, news articles, laws and the conducted interview, the present project intends to study this unique decision and is based on an explorative and evaluative approach of the reasoning behind the citizenship process as well as of the comparison between Sophia's and Saudi women's rights in the Kingdom. The aims herein are to demonstrate why the robot was granted the Saudi citizenship, how women's rights have evolved over the course of the last years and to bridge the current gap in the literature that consists of the comparison between Sophia and Saudi women in different domains. In this way, the research enabled the demonstration of a lack of coherence between the liberties granted to a robot and Saudi women as well as the identification of a citizenship process that was not well thought out and different motives for Sophia's citizenship.

Keywords: citizenship; women's rights; Sophia the robot; Saudi Arabia

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Glossary of acronyms

AI	Artificial Intelligence
CEDAW	Convention on the Elimination of All Forms of Discrimination against Women
HRW	Human Rights Watch
SAI	Systems of Artificial Intelligence
UN	United Nations
UNDP	United Nations Development Programme

Introduction

The current technological advancements in the field of Artificial Intelligence (AI) have opened up unprecedented opportunities, such as granting citizenship to artificially intelligent entities. So, on the 25th of October of 2017, during the Summit on Future Investment Initiative in Riyadh, the capital of Saudi Arabia, the Kingdom grasped the chance to be the first country worldwide to declare a humanoid AI as an official citizen (Gohad 2018: 107). The AI in question is Sophia, a female-looking humanoid robot that was developed by *Hanson Robotics*.

In an era of constant technological innovation characterized, among other developments, by the creation of artificially intelligent entities, the way through which a humanoid robot can obtain the status of official citizen is a rather arguable issue. Yet, it was only a matter of time before the concept of robot citizenship would become a reality. As a matter of fact, this event has unleashed further ethical, moral, social, political and legal debates regarding the relationship between robot and human rights, and especially women's rights since the first country to take this initiative was Saudi Arabia. Moreover, it is important to keep in mind that technological innovation alone does not enhance a country's well-being. In fact, women's empowerment is a vital aspect for an active civil society and an essential factor for any country's good governance as well as for its social and economical development. Consequently, it leads to the creation of a self-sustaining, robust social structure and the encouragement of democracy (United Nations [UN], n.d.).

Nonetheless, significant gender disparities can still be observed in conservative and traditionally patriarchal countries with strong religious values, such as Saudi Arabia where women are regarded as passive members of society (Coleman 2004: 80-82, 86). The peculiarity of this case is founded on two main issues: on the one hand, the country has hardly offered citizenship to any (human) foreigners but has declared a foreign humanoid robot as Saudi citizen (Gohad 2018: 107); on the other hand, while Saudi women are actively denied basic rights, namely they are still not considered equals to Saudi men and they lack full citizenship, the Kingdom has decided to grant the official citizenship status to a female-looking nonhuman being.

In fact, Sophia's new official status not only demonstrates a paradoxical view related to the concept of citizenship, but it also highlights the gender inequality issues that mark the country and the consequent Saudi women's ongoing fight for equal rights. Thus, the Saudi Arabian policies and priorities seem to be coined by several contradictions. The Kingdom

demonstrates a strong willingness to modernize their country by means of technological investments, such as the creation of *Neom*, a city where people will be outnumbered by robots (Estes 2017). On the other hand, however, it simultaneously seems less willing to grant Saudi women equal rights and prioritizes a robot over human beings. In this context, technological development appears to be desired over the resolution of gender disparities. This desire consequently enables the persistence of technological advancement and deeply rooted gender inequalities within the country.

It is evident that Saudi women's position in and exclusion from the society are widely debated subjects. However, even though the literature on Saudi women refers to certain national and international laws when trying to situate women's position within the Saudi society and to explain Saudi women's lack of rights, the controversial aspects of the Saudi government's decision to grant Sophia the official citizenship status are not covered. Regarding Sophia, despite the robot's wide media presence, the literature does not discuss the implications of its citizenship in detail and does not dismantle the issue of it seemingly having more rights in a country where women are being denied basic rights. Instead, it usually generalizes Sophia's citizenship and mostly amounts to detailed descriptive articles on the robot's appearance, voice system, abilities, qualities, performance, main activities, flaws and its behavior while in Saudi Arabia, for instance. On the other hand, the current literature on the legal personhood of robots engages with moral questions, such as whether it is or should even be possible to recognize robots as proper and legal agents but it does not analyze Sophia's citizenship status. At best, the respective scholars limit themselves to simply mention that Sophia seems to have more rights than Saudi women. Therefore, a gap in the literature can be identified. Although, the scholarship stimulates relevant discussions concerning Sophia's future rights as a citizen, it lacks in analysis. In this sense, the existing literature only scrapes the surface of the issue and fails to create correlations between Sophia's citizenship and Saudi women's status as well as between Sophia's citizenship and the current established Saudi laws that would be essential for a better comparison between both parties.

For the above mentioned reasons, Saudi Arabia is the focus of the present research. The intent of this study is to explore the uniqueness of the Saudi government's decision to grant a humanoid robot the status of official Saudi citizen while actively denying the same status to its female inhabitants. In other words, the object of this study is to focus on the topic of citizenship and inequality between Sophia the robot and Saudi women within the Saudi

society. Therefore, the research question is based on an explorative and evaluative approach, as follows:

“Why and how can a female-looking robot get more rights than women in Saudi Arabia?”

This research question leads the following analysis towards two main concerns. First, it allows studying the reasoning behind the citizenship process and analyzing the main consequences of this decision. Second, it also allows making a comparative study on the rights and duties of both parties, namely Sophia and Saudi women.

Consequently, the aims of the present research project can be categorized into three distinct groups. The first category is related to Sophia. The robot’s citizenship process and status as well as its behavior in Saudi Arabia are explored and evaluated in order to identify the rights and liberties Sophia has obtained in the Kingdom. In particular, the study explores the reasons why the robot was granted this status and whether the robot is a real citizen or continues to be a mere property. Second, considering that changes in terms of Saudi women’s rights have been noticed, it is relevant to assess to what extent these rights have evolved while aiming for the description and definition of Saudi women’s rights, duties and exclusion along with the challenges they still face. In order to find out when these changes occurred, Sophia’s citizenship status and Saudi women’s situation are compared. Third, the study suggests an in-depth analysis of whether Sophia does in fact enjoy more rights than Saudi women and whether this was the trigger for the legal alterations regarding Saudi women’s rights.

The first chapter of the present thesis explains the methodology that has been used to conduct the research. Thereafter, the second chapter focuses on the analysis of the most significant gender inequality issues in Saudi Arabia on the one hand, and of the concession of legal personhood to robots on the other hand, both based on the existing scientific literature on these topics. The third chapter deals with the context of women and Sophia in Saudi Arabia with special focus on the rights and citizenship of both parties in the Kingdom. The fourth chapter is based on the content analysis of the gathered documents and the comparison of the collected data. Finally, the conclusions try to answer the research question and the hereinafter explained hypotheses.

Methodology

The research uses a qualitative methodology, in particular an extensive literature review on the topic, and an analysis of news articles and laws by means of MAXQDA.¹ The program's built-in tools have been also used for the transcription of the main interview conducted throughout the dissertation.

In detail, news articles have been collected online by means of the Web Collector for MAXQDA which transforms the chosen web site into a simplified web page and downloads the article. The search has been divided into two categories. The first category has concerned news about Sophia, the robot. This selection of articles has included news stories on the citizenship ceremony and Sophia's journey to as well as stay in Saudi Arabia. The second category has focused on Saudi women, in particular dealing with the evolution of their liberties and rights.

A relevant detail concerning the chosen articles is the language they were written in. Since I am fluent in English, German, French, Spanish and Portuguese, I collected any suitable news stories in these five languages in order to have more diverse opinions on the matter. Moreover, to avoid a purely Westernized influence and point of view on the issue, news items – but always in English – from Saudi Arabia have been collected. To sum up, the collected articles belong amongst other sources to American, British, Canadian, German, French, Portuguese, Brazilian, Spanish and Saudi Arabian journals including the *New York Times*, *BBC*, *UN News*, *Tagesschau*, *Tagesspiegel*, *Zeit Online*, *France 24*, *Le Nouvel Observateur (L'Obs)*, *Le courrier du soir*, *L'express*, *TV5monde*, *Le monde*, *Público* and *Arab News*.

A second important source that has been used throughout the dissertation is represented by the legal documents that prove if developments regarding Saudi women's rights have taken place, no matter whether these laws have been in practice before Sophia's

¹ According to their website, MAXQDA is a software for qualitative and mixed methods research. This world-leading software is one of the most comprehensive programs in the field and is used by thousands of researchers in over 150 countries worldwide. MAXQDA can be used for any type of qualitative research, such as exploratory market research, grounded theory, literature reviews, mixed methods approaches and qualitative text analyses. Moreover, it allows the analysis of different types of data, including simple text documents, Excel tables of survey results, PDF files, images, websites, audio and video recording, bibliographic records, focus groups discussions as well as YouTube comments and Twitter data. The program has built-in tools to facilitate the professional transcriptions of audio and video recordings as well as the overall codification and analysis of other media files and data. Finally, MAXQDA's visual tools are tailor-made for qualitative research. So, these tools enable, for instance, the visualization of the progression of an interview, the comparison of documents and the connection of data.

declaration as an official citizen or whether they have been only implemented after this fact. Saudi laws as well as royal decrees allow a better understanding of Saudi women's current situation while official Saudi reform programs evidence the changes the government is willing and planning to implement. On the one hand, the collected and analyzed laws and royal decrees include the Basic Law of Governance of 1992 with Amendments through 2005 and 2013, the law on the Saudi Citizenship System, Nationality Law, as well as Regulations and Anti-Harassment Law. On the other hand, the current reform program *Vision 2030* has been taken into consideration. Although this latest reform program was published one year prior to Sophia's citizenship, it is considered as a legal document to put in practice after this occasion because it establishes the objectives to reach until 2030. Unfortunately, however, it has been very difficult to find every legal document I was looking for in English. Hence, further official international reports have been used as reference points. These include reports such as "BOXED IN: Women and Saudi Arabia's Male Guardianship System" by the Human Rights Watch (HRW), as well as "Kingdom of Saudi Arabia – Gender Justice & The Law" by the United Nations Development Program (UNDP). Since laws on robot citizenship have yet to be released, none could be taken into account for this research.

Additionally, during the 10th edition of the Web Summit in Lisbon in November 2019, I had the opportunity to interview David Hanson, the founder and CEO of Hanson Robotics, and Ben Goertzel, the Chairman of the Artificial General Intelligence Society and the leader behind the software team that created Sophia, the robot. This interview represents an interesting asset for this project because it provides a different and crucially relevant insight on Sophia's citizenship.

In order to examine the content systematically, as well as to identify similarities and differences between Sophia's case and women's situation in Saudi Arabia, the research first calls for the definition of two main concepts, namely citizenship and human rights. By looking at "citizenship" in this context, it refers to contract-making individuals, bound together by a society and defending their interests, rights and duties within this society (Altorki 2000: 215). On the other hand, according to the United Nations (UN), "human rights" are a set of rights including, for instance, the right to life and liberty, freedom from torture and slavery, freedom of expression and opinion, as well as the right to work and education. These rights are inherent to all human beings without discrimination. In other words, everyone is entitled to these rights, no matter their race, nationality, ethnicity, religion, language, sex or any other status (UN, n.d.). Accordingly, the concept of "human rights" entails every type of shared rights and obligations, such as social, economic and cultural rights or rights of any

other nature. In this way, Sophia's citizenship, its rights and duties represent the independent variable because these factors may have had an impact on Saudi women's status and situation. Accordingly, Saudi women's citizenship, rights and duties represent the dependent variable since these concepts may vary pursuant to changes in Sophia's citizenship, rights and duties.

Throughout this analysis, a timeline with a twofold aim has also been established and has highlighted three different periods. The starting point is set to be the beginning of King Salman bin Abdulaziz Al Saud's current reign in 2015. For this period of time, it is interesting to analyze the status of Saudi women's rights and to observe whether any news on Sophia in Saudi Arabia had been published before starting the citizenship process. The general dividing point of this timeline started with the 25th of October 2017 until up to one month after this event: on the one hand, Sophia's citizenship ceremony was held on the 25th of October and, on the other hand, Mohammed bin Salman bin Abdulaziz Al Saud, who has shown himself to be open to further women's rights, was appointed Crown Prince in 2017. The second period has been defined by the beginning of the research project's writing process in March 2020 and is marked by the aim to assess how relevant Sophia's citizenship currently is in the media, as well as to determine how many changes regarding women's rights have been implemented since then. It is noteworthy that only the instances in which Sophia was physically present in Saudi Arabia during this time period are taken into consideration. Since changes regarding Saudi women's rights have been observed before 2015, this specific timeline has also been defined with the aims of having a similar period of time before and after Sophia's citizenship and assessing whether Sophia has really been a key-factor regarding these alterations or not. However, legal documents constitute an exception to this timeline because some royal decrees and legal texts that are important for this research and for a better understanding of the evolution of Saudi women's rights have been released and implemented before 2015.

A further step of this study has been the division of the above mentioned data into groups of documents. In accordance with the timeline, six groups of documents emerged, namely "Sophia the robot: 2015-2017", "Sophia the robot: 2017", "Sophia the robot: 2017-present", "Saudi women: 2015-2017", "Saudi women: 2017" and finally "Saudi women 2017-present". This division allows a better overview of the moments when the media reported on such specific issues on the one hand, and of the moments when new laws emerged on the other hand. Moreover, concerning the news articles specifically, five document sets were added. "Articles on Sophia referencing Saudi women" and "Articles on Saudi women referencing Sophia the robot" were added to compare how many news stories on Sophia's citizenship mentioned Saudi women's rights and how many news stories on Saudi women

mentioned Sophia’s citizenship. The remaining three document sets are titled “Articles in favor of Sophia's citizenship”, “Neutral in regards to the citizenship” and “Articles criticizing Sophia’s citizenship”. These were used to establish the general consensus on Sophia’s citizenship among mainstream media.

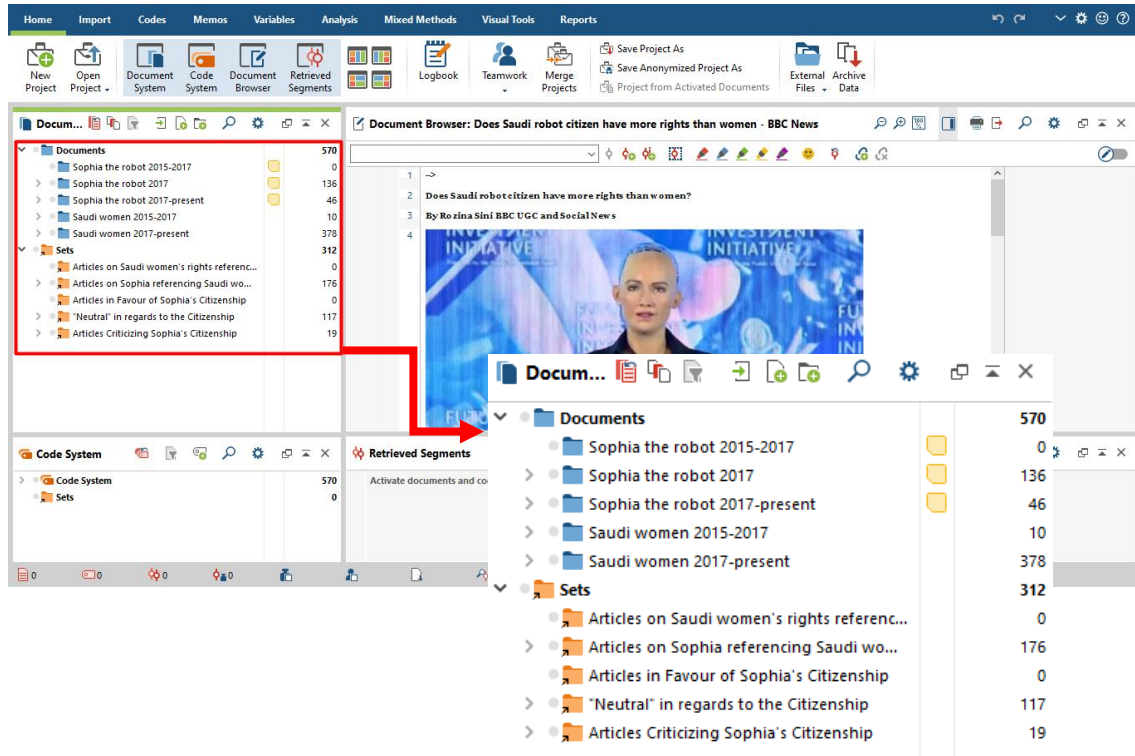


Figure 2.1 Groups and sets of documents for the codification process

Having this settled, the next step of analysis has been to code the documents using MAXQDA. Due to the pre-existent knowledge on the issue, the information that needed to be extracted from these documents was predefined. Consequently, some codes and sub codes that were deemed to be important for the development of the research had already been established. Other codes and sub codes were progressively added while going over the data as the need for new ones emerged. Overall, the codification process resulted in two main codes, namely “Sophia the robot” and “Saudi women/Gender inequality in Saudi Arabia”. This last code contained further sub codes according to the timeline and to when women were granted certain rights.

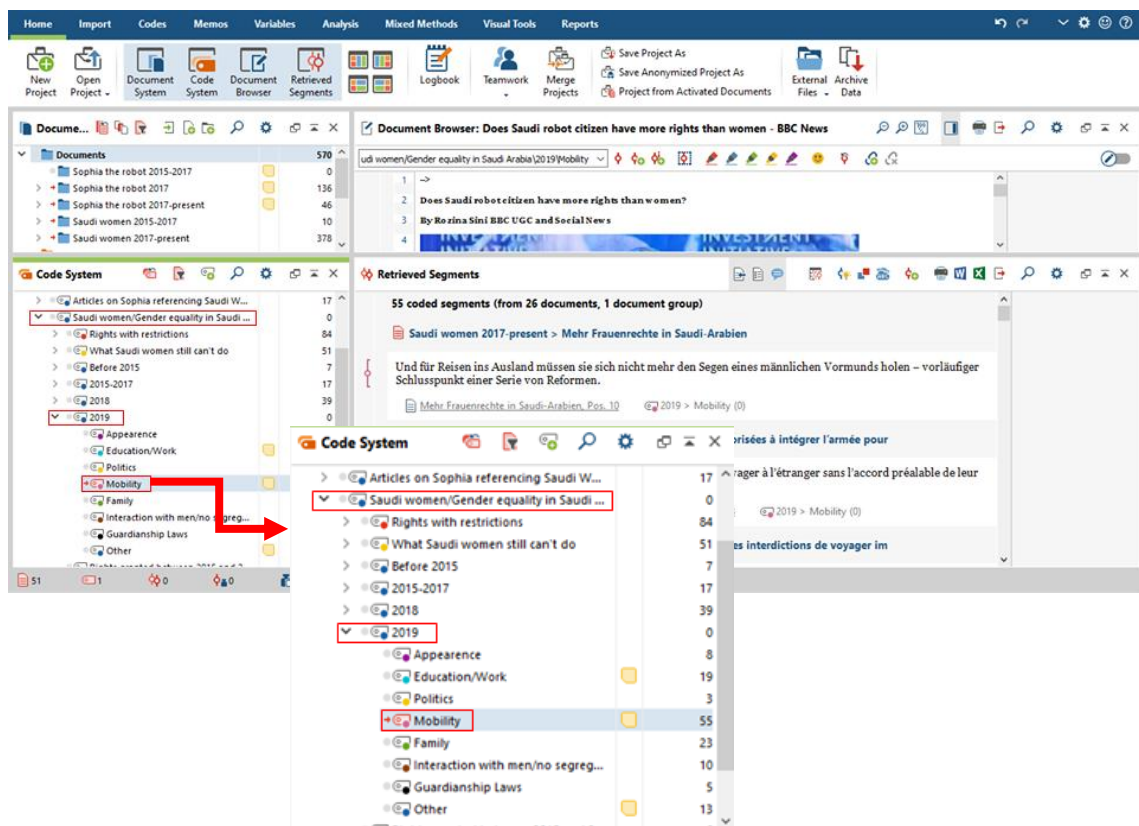


Figure 2.2 Code System for the codification process

The hereafter drawn tables display all the used codes with the respective sub codes, as well as their description along with an example for each category. The first table concerns the documents on Sophia.

Table 2.1 Codes and sub codes for Sophia the robot

Category	Description	Coding example
Appearance	Mentions on Sophia's appearance in Saudi Arabia	"[...] the robot, Sophia, who was unveiled [...]." ²
Citizenship Process	Mentions alluring how easy it was for Sophia to obtain official citizenship	"[...] there was also discussion about the ease and speed in which she had been granted citizenship." ³

² Kanso-Reuters, H. (2017, November 4). *Saudi Arabia gave 'citizenship' to a robot named Sophia, and Saudi women aren't amused*. Retrieved January 10, 2020, from Global News: <https://globalnews.ca/news/3844031/saudi-arabia-robot-citizen-sophia/>

³ Sini, R. (2017, October 26). *Does Saudi robot citizen have more rights than women?* Retrieved January 10, 2020, from BBC News: <https://www.bbc.com/news/blogs-trending-41761856>

Education/Work	Mentions on Saudi women's rights on education/work in articles about Sophia	"Girls have not always been able to go to school [...]." ⁴
Guardianship	Mentions of Guardianship laws Sophia does not follow	"Sophia has no guardian [...]." ⁵
Guardianship law changes	Mentions of Guardianship laws that have changed	"The new law, designed to protect them from having their marriage ended without their knowledge, [...]." ⁶
Mention: "Sophia has more rights"	Clear mentions that Sophia has more privileges than Saudi women	"Sophia seems to have more rights than half of the humans living in Saudi Arabia." ⁷
Right to drive	Mentions on Saudi women's right to drive in articles about Sophia	"In September the country began permitting women to drive, [...]." ⁸
Saudi Arabia pushing for gender equality	Statements referring to Saudi Arabia's efforts to achieve gender equality	"Sophia's advocacy comes amid a growing push for gender equality in Saudi Arabia." ⁹
Sophia speaking up for Saudi women's rights	Mentions on how Sophia is promoting women's rights, especially in the Middle East	"And she declared that she wants to use her unique position to fight for women's rights in the Gulf nation." ¹⁰
Tweets regarding Sophia's citizenship	Tweets on Sophia that are worth recalling	"[...] one Saudi Twitter user, undoubtedly female, posted, 'I want to become

⁴ Walsh, A. (2017, October 28). *Saudi Arabia grants citizenship to robot Sophia*. Retrieved January 10, 2020, from DW - Made for minds.: <https://www.dw.com/en/saudi-arabia-grants-citizenship-to-robot-sophia/a-41150856>

⁵ Sini, R. (2017, October 26). *Does Saudi robot citizen have more rights than women?* Retrieved January 10, 2020, from BBC News: <https://www.bbc.com/news/blogs-trending-41761856>

⁶ Walsh, A. (2017, October 28). *Saudi Arabia grants citizenship to robot Sophia*. Retrieved January 10, 2020, from DW - Made for minds.: <https://www.dw.com/en/saudi-arabia-grants-citizenship-to-robot-sophia/a-41150856>

⁷ Hart, R. D. (2018, February 14). *Saudi Arabia's robot citizen is eroding human rights*. Retrieved December 3, 2019, from Quartz: <https://qz.com/1205017/saudi-arabias-robot-citizen-is-eroding-human-rights/>

⁸ Williams, J. (2017, December 5). *SOPHIA THE ROBOT WANTS WOMEN'S RIGHTS FOR SAUDI ARABIA*. Retrieved January 10, 2020, from Newsweek: <https://www.newsweek.com/sophia-robot-saudi-arabia-women-735503>

⁹ Williams, J. (2017, December 5). *SOPHIA THE ROBOT WANTS WOMEN'S RIGHTS FOR SAUDI ARABIA*. Retrieved January 10, 2020, from Newsweek: <https://www.newsweek.com/sophia-robot-saudi-arabia-women-735503>

¹⁰ Hart, R. D. (2018, February 14). *Saudi Arabia's robot citizen is eroding human rights*. Retrieved December 3, 2019, from Quartz: <https://qz.com/1205017/saudi-arabias-robot-citizen-is-eroding-human-rights/>

		Sophia one day and get my rights’.” ¹¹
Quotes	Relevant quotes of Sophia in the context of human rights	“Sophia said she was “very honored and proud for this unique distinction [...]” ¹²

The second table presents the codification list for documents on Saudi women and their rights.

Table 2.2 Codes and sub codes for Saudi women

Category	Description	Coding example
Appearance	Rights regarding Saudi women’s appearance	“Prince Mohammed has loosened restrictions on women’s dress [...]” ¹³
Education/Work	Rights regarding Saudi women’s education and work	“Women can now apply to new fields of employment, which they were never allowed to work in before, [...]” ¹⁴
Family	Rights regarding topics such as marriage, divorce, children and inheritances	“Under the new amendments, women now have right to apply for a family register and notification of death.” ¹⁵
Guardianship laws	Changes regarding Guardianship laws in Saudi Arabia	“With the new changes, women no longer have to obtain their guardian’s

¹¹ Snedeker, R. (2019, April 5). *Sophie the robot may have more human rights than you do*. Retrieved January 10, 2020, from Patheos: <https://www.patheos.com/blogs/godzooks/2019/04/sophie-robot-sentientism-atheism/>

¹² Hart, R. D. (2018, February 14). *Saudi Arabia’s robot citizen is eroding human rights*. Retrieved December 3, 2019, from Quartz: <https://qz.com/1205017/saudi-arabias-robot-citizen-is-eroding-human-rights/>

¹³ Hubbard, B., & Yee, V. (2019, August 2). *Saudi Arabia Extends New Rights to Women in Blow to Oppressive System*. Retrieved January 10, 2020, from The New York Times: <https://www.nytimes.com/2019/08/02/world/middleeast/saudi-arabia-guardianship.html>

¹⁴ al-Khattaf, E. (2019, November 25). *Saudi Arabia Asserts its Protection, Support of Women’s Rights*. Retrieved January 10, 2020, from Asharq Al-Awsat: <https://aawsat.com/english/home/article/2007761/saudi-arabia-asserts-its-protection-support-women%E2%80%99s-rights>

¹⁵ al-Khattaf, E. (2019, November 25). *Saudi Arabia Asserts its Protection, Support of Women’s Rights*. Retrieved January 10, 2020, from Asharq Al-Awsat: <https://aawsat.com/english/home/article/2007761/saudi-arabia-asserts-its-protection-support-women%E2%80%99s-rights>

		consent when providing or terminating any service.” ¹⁶
Interaction with (male) citizens	Changes regarding gender segregation in Saudi Arabia	“Unlike the past, the new initiative does not demand complete gender segregation of the work environment.” ¹⁷
Right to drive	Changes regarding Saudi women’s prohibition to drive	“Under this 2016 program, women were granted the right to drive in June 2018.” ¹⁸
Mobility	Changes regarding Saudi women’s right to travel and to apply for a passport	“They have also been granted the right to travel when they turn 21.” ¹⁹
Other	Other regulations concerning Saudi women’s rights such as anti-harassment policies and the right to attend public events	“Coming after new regulations allowing women to drive and attend entertainment and sporting events, the changes have the potential to be a game changer, [...]” ²⁰
Politics	Changes regarding Saudi women’s right to participate in politics	“[...] and the first female vice-minister was appointed in 2009.” ²¹
Rights with restrictions	Limitations that are imposed on the rights Saudi women have obtained	“However, the new regulations do not positively affirm the right to travel abroad, leaving

¹⁶ al-Khattaf, E. (2019, November 25). *Saudi Arabia Asserts its Protection, Support of Women’s Rights*. Retrieved January 10, 2020, from Asharq Al-Awsat: <https://aawsat.com/english/home/article/2007761/saudi-arabia-asserts-its-protection-support-women%E2%80%99s-rights>

¹⁷ Habibi, N., & Begag, L. (2019, October 20). *Women’s Rights Reforms in Saudi Arabia under Mohammed bin Salman*. Retrieved December 3, 2019, from International Policy Digest: <https://intpolicydigest.org/2019/10/20/women-s-rights-reforms-in-saudi-arabia-under-mohammed-bin-salman/>

¹⁸ Habibi, N., & Begag, L. (2019, October 20). *Women’s Rights Reforms in Saudi Arabia under Mohammed bin Salman*. Retrieved December 3, 2019, from International Policy Digest: <https://intpolicydigest.org/2019/10/20/women-s-rights-reforms-in-saudi-arabia-under-mohammed-bin-salman/>

¹⁹ al-Khattaf, E. (2019, November 25). *Saudi Arabia Asserts its Protection, Support of Women’s Rights*. Retrieved January 10, 2020, from Asharq Al-Awsat: <https://aawsat.com/english/home/article/2007761/saudi-arabia-asserts-its-protection-support-women%E2%80%99s-rights>

²⁰ Hubbard, B., & Yee, V. (2019, August 2). *Saudi Arabia Extends New Rights to Women in Blow to Oppressive System*. Retrieved January 10, 2020, from The New York Times: <https://www.nytimes.com/2019/08/02/world/middleeast/saudi-arabia-guardianship.html>

²¹ Habibi, N., & Begag, L. (2019, October 20). *Women’s Rights Reforms in Saudi Arabia under Mohammed bin Salman*. Retrieved December 3, 2019, from International Policy Digest: <https://intpolicydigest.org/2019/10/20/women-s-rights-reforms-in-saudi-arabia-under-mohammed-bin-salman/>

		open the possibility that male guardians could seek a court order to restrict female relatives' travel." ²²
What Saudi women still cannot do	Rights Saudi women still have not obtained	"Saudi women still must obtain a male guardian's approval to get married or be released from prison." ²³

During the codification process, the general rule has been to create codes on Sophia's presence and behavior in Saudi Arabia, as well as on Saudi women's acquired rights since 2015 and their current restrictions. Afterwards, the findings and results have been systematically compared and critically interpreted with the program's built-in visual tools in order to achieve the set aims. The creation of chart views of the code coverage, chart views of the code frequencies and word clouds demonstrated which words have been mostly used in both cases as well as which concepts have been granted more relevance and how they have appeared and vanished along the years.

Based on this information, two hypotheses have been taken into account. The first hypothesis is quite self-explanatory since it assumes the premise that Sophia has more rights than Saudi women. This hypothesis emerged due to various statements made in news articles claiming that Sophia has more rights and due to Sophia's recognition as an official Saudi citizen while Saudi women are still not considered full citizens. The second hypothesis concerns the reason(s) why Sophia was granted the status of official Saudi citizen with three possible explanations. On the one hand, since Saudi Arabia was the first country to declare a robot an official citizen, Sophia's status can be derived from the Kingdom's motivation to be at the head of the global technological race. On the other hand, it is assumed that Crown Prince Mohamed bin Salman granted citizenship to a female-looking humanoid robot as a manner to slowly grant Saudi women more rights. In fact, in a country like Saudi Arabia where a great part of the population still holds onto conservative values, it might be easier to accept a robot citizen than gender equality. This reasoning was brought forward by David Hanson. The CEO of Hanson Robotics stated that this detour in terms of equal citizenship and rights could be the Crown Prince's way of gradually preparing the population for changes in

²² Human Rights Watch. (2019, August 22). *Saudi Arabia: Travel Restrictions on Saudi Women Lifted*. Retrieved January 10, 2020, from Human Rights Watch: <https://www.hrw.org/news/2019/08/22/saudi-arabia-travel-restrictions-saudi-women-lifted>

²³ Human Rights Watch. (2019, August 22). *Saudi Arabia: Travel Restrictions on Saudi Women Lifted*. Retrieved January 10, 2020, from Human Rights Watch: <https://www.hrw.org/news/2019/08/22/saudi-arabia-travel-restrictions-saudi-women-lifted>

favor of women's rights. Finally, it is also possible that declaring Sophia an official citizen and granting Saudi women certain rights are just overall efforts to boost and modernize the country's economy and society, as established in the reform program *Vision 2030* (Government of Saudi Arabia 2016: 13).

Contrarily to the usually used pronouns "she" and "her" for Sophia, the pronouns used to refer to the robot in this dissertation are "it" and "its". This decision emphasizes the robot's being as a machine in contrast to women as human beings and highlights this difference between Sophia and Saudi women. Moreover, it facilitates the distinction between both parties when they are mentioned, for instance, in the same paragraph.

Theoretical Framework

The present chapter describes the current debate on gender equality issues in Saudi Arabia and also presents a general review on the matter of robot citizenship and legal personhood of artificially intelligent entities. Although at first glance gender equality and robot citizenship seem to be two very different topics, they are in fact related due to the concession of the citizenship status to a female-looking humanoid robot in a country marked by gender inequalities. Therefore, it is important to review both issues in order to understand how and why Sophia, the robot was able to be declared an official Saudi citizen while Saudi women are denied the same status and still lack basic human rights.

Saudi Arabia: citizenship and women's rights

The UN Entity for Gender Equality and the Empowerment of Women sees gender equality as a human rights issue and as a precondition for sustainable development. According to their definition, gender equality represents equality between women and men. In other words, it refers to the equal rights, opportunities and responsibilities of women as well as men, and means that these aspects do not depend on whether a child is born female or male. Furthermore, gender equality also implies that women's and men's interests, priorities and needs are all taken into consideration (UN Women, n.d.). The existing literature, on the other hand, defines gender inequality in several ways; one of these stresses the "unequal valuing of the roles of women and men". This definition describes the general unequal valuation and treatment of women and men, as well as the unequal access to services and resources within societies, communities and families (Alsaleh 2009: 124). So, the literature on gender inequality in Saudi Arabia engages with the various expectations imposed on Saudi women and displays their status within their family as well as within their community. Moreover, the articles also clarify which restrictions exclude and prevent Saudi women from fully participating in the public sphere and under which pretexts they are denied various basic rights. Consequently, a better understanding on the topic is provided by conceptualizing the term "citizenship", explaining its history and the linked rights and duties. In this sense, it is identified that the Western concept of a homogenous, undifferentiated and universal citizenship does not and cannot be applied to Saudi Arabia. Plus, the Kingdom has no constitution per se but instead uses the *Shari'a* as its fundamental law (Altorki 2000: 218). Based on the *Shari'a*, women in Saudi Arabia are subjected to a strict male guardianship law that is upholding the current social structure (Mtango 2004: 59; Manea 2008: 24). This law

discriminates women in the private sphere, jeopardizes their freedom and impedes the promotion of their fundamental rights. As a matter of fact, the Kingdom's system of male guardianship obliges every Saudi woman to have a male guardian. Usually a woman's father or husband assumes this role and is therefore given the power to take critical decisions on the woman's behalf, such as to give or deny permission to access education, work, marry or seek medical treatment (Manea 2008: 17). This, in its turn, comes to show that most Middle Eastern countries identify the family as the basic unit of membership to the state and that "kinship" and "kin contract" are crucial concepts in Saudi Arabia. In fact, kinship forms the practice and notion of community and is valued over the membership to the state (Joseph 2005: 149). In this context, the term "patriarchal connectivity" is used to further demonstrate Saudi men's privileges and to express how the kin contract has transported aged as well as gendered discourses and practices into citizenship (Joseph 2005: 154). This patriarchal connectivity enables the kinship system to entangle itself with every sphere of life whether these consist of the private and public spheres, the state and civil society or religion and nation. In other words, kinship infiltrates the social, economic, political and religious domains of the Saudi society. This connectivity results in women's dependency on men as well as on the patriarchal structures and it implies that the status as a family member will qualify them for citizenship (Joseph 2005: 158). These patriarchal relations also subordinate Saudi women while awarding their male counterparts with authority and dominance (Altorki 2000: 236). Consequently, the state as well as the family can be a source of protection and a safety net, but can also turn out to be a trap and source of repression for Saudi women (Joseph 2005: 164).

Although no reference to the concept of citizenship is present in the Saudi "constitution", the state still regulates the needed requirements to become a Saudi citizen. In Saudi Arabia, the preferred rule to pass on citizenship is the blood criteria (Joseph 2010: 10). In this specific case, the Saudi citizenship can be obtained by being born into a traditional Saudi family where either both parents are Saudi citizens or only the father possesses this status. However, it is also possible to obtain the status of Saudi citizen by other means, such as marriage, reaching the legal age, having settled in Saudi Arabia for over 10 years, being fluent in Arabic and complying with the national norms of conduct (Atabekov & Yastrebov 2018: 776). Since women are not permitted to pass on their citizenship to their husbands or children, three different outcomes can be observed. This restriction leads not only to the reinforcement of the prerogative of patriarchal family structures marked by age as well as by gender hierarchies and to the privileging of senior and male relatives, it also results in the

masculinization of citizenship (Joseph 2010: 10; Joseph 2005: 149). This masculinization of citizenship leads women to being seen as lacking political personhood. Hence, it also results in significant limitations and consequences for their position in society (Joseph 2010: 14; Altorki 2000: 233). In fact, Saudi women's personalities are distinctly limited to the roles of wives and mothers who have to hide their sexuality and have to be controlled by men (Doumato 1999: 578). Therefore, they are perceived as having to guarantee the preservation of the regime's religious values and as being the vehicle of culture and tradition (Doumato 1999: 575; Engeland-Nourai 2009: 392). This, on the one hand, ends up mitigating their equality and leads, on the other hand, to their categorization as indirect or second-class citizens (Joseph 2005: 151). The categorization as second-class citizens can be explained by the hard-line and male-centered interpretations of the Islamic law as well as by the political and social pressure on the part of Islamists. These specific factors have been for several decades one of the main reasons for Saudi women's struggle against inequality. On the one hand, the paternalistic approaches to the *Shari'a* are enabling the conservative male clerics, who often strongly shape the process of interpretation, to revive old customs. On the other hand, it allows them to create forms of discrimination and also double standards between women and men. Thus, the observed result of these interpretations is the undermining of equal rights as well as citizenship and gender inequality in the name of religion (Engeland-Nourai 2009: 392). Accordingly, these interpretations serve as an excuse to give women an inferior status and as an extension of their stereotypical roles, such as the responsibility to stay at home and take care of their families (Mtango 2004: 57).

The situation in the Kingdom is far from being in compliance with any international standards on women's rights even though Saudi Arabia has ratified the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 2000 (Engeland-Nourai 2009: 396; Mtango 2004: 50). Through the ratification of this convention, the Kingdom is legally bound to ensure that women's human rights are protected and being promoted on their territory (Mtango 2004: 50). However, the interrelations between the state and the family on the one hand, and politics and religion on the other hand, as well as the entanglement of both spheres, public and private, result in significant gender disparities in Saudi Arabia (Joseph 2010: 15). The support obtained for the oppressive laws and decrees imposed on women demonstrates that considerable legal and political reforms as well as social change are required in order to improve women's status (Mtango 2004: 51). In fact, the endorsement of charters against women's discrimination is often interpreted as Western dominance and as a threat to the Islamic system. Thus, while the royal family has tried to

balance Saudi women's demands and their supporters' expectations on preserving the social order, these shifts in gender dynamics are often discarded and Saudi women have to continuously endure cultural as well as legal prohibitions in the private and public spheres (Doumato 1999: 582; Mtango 2004: 51).

Despite this difficulty of discussing women's rights in Saudi Arabia, some developments have been visible, such as the loosening of certain family laws and the implementation of identity cards for women (Mtango 2004: 66). Yet, the easing of these restrictions remains a modest improvement due to the boundaries imposed by the religious establishments and women's full potential as active members of society is far from being achieved (Manea 2008: 24; El-Sanabary 1994: 148). Nonetheless, Saudi women's increasing awareness that an equal social status and equal rights are the base for an equal citizenship is fuelling their fight for fundamental rights (Engeland-Nourai 2009: 391). Moreover, since patriarchal relations in the family are social constructions and generally not crystallized for eternity, women are enabled to negotiate and renegotiate the upheld family rules (Altorki 2000: 221).

Robots and citizenship

In this context, Sophia's newly acquired status could prove to be of important use. Where female-only schools have helped achieving a general acceptance of and attitude changes towards female education, and where the relaxation of the dress code for female tourists in Saudi Arabia led to new societal implications, Sophia's citizenship might now have a similar effect (El-Sanabary 1994: 145; Habibi & Begag 2019). If its status as a citizen is indeed widening the concept as a whole, it could lead to a more inclusive definition of citizenship and Saudi women could then take advantage of this aspect to claim equal rights and renegotiate the existing power relations.

In fact, many scholars consider that we are entering a new generation of robotics and argue that Sophia has already defeated the stereotype of a robot as a metal machine. They refer to Sophia's Saudi citizenship and its UN title as an unprecedented case in the history of humanity, while mainstream media alleges that interviewing Sophia is an exceptional as well as emotional experience (Retto 2017: 4). However, the idea of granting citizenship to an artificially intelligent entity had already been discussed prior to this event, especially in Japan. The Japanese example actually demonstrates several parallels to Saudi Arabia's current technological desires. Social humanoid robots have enormous relevance in Japan. As of 2014, over 250.000 robot workers were already employed in the country. One of the reasons why

this trend tends to keep increasing is based on the Japanese citizens' preference of sharing their working and living spaces with robots rather than with foreigners. So, in an effort to replace the missing workforce, the Japanese state prefers to count on humanoid robots rather than on the recruitment of migrants. Already back in 2007, the Innovation plan presented by the Japanese Prime Minister Shinzō Abe aimed for the revitalization of their civil society and economy through the active promotion of a robot-dependent lifestyle. Consequently, due to their massive dependence on robot workers, Systems of Artificial Intelligence (SAI) in Japan have evolved beyond the consideration of being a mere property and granting them citizenship is becoming a very popular idea among politicians and robotics scientists (Robertson 2014: 572, 578).

Now, when comparing Saudi Arabia to Japan in this context, at least three parallels can be traced. First and foremost, although Saudi Arabia relies heavily on expatriate labor, the Kingdom is known for not being a friendly state towards foreigners and for denying basic human rights to women (El-Sanabary 1994: 144; Chikhale & Gohad 2018: 108). The country hardly offers the status of official Saudi citizen to any foreigners and there are only very few manners to be recognized as an official citizen, as mentioned before (Chikhale & Gohad 2018: 107). Nonetheless, a humanoid robot was appointed an official Saudi citizen. Moreover, in their most recent reform program *Vision 2030*, Saudi Arabia aspires to reach a new phase of development characterized by the creation of an ambitious nation with a thriving economy and vibrant society. One of the solutions proposed by the government to achieve this ambition is to increase their investments in technology (Government of Saudi Arabia 2016: 43). Finally, the Saudi Arabian government has not only granted Sophia the status of citizen, Crown Prince Mohammed bin Salman has also publicly shown interest to build a new city along with Hanson Robotics, the company that created the female-looking humanoid robot. In this new planned city, called *Neom*, robots are supposed to outnumber people (Estes 2017).

While all these technological and innovative changes are taking place, it is important to question what the future holds for the concept of citizenship and what it means to grant this status to an artificial entity. To provide a more comprehensive view on the status that artificially intelligent humanoid robots might acquire, the current scholarship proceeds to explain the trends of this new technology, to demonstrate how AI could affect the law and how it is currently changing legal regulations across diverse countries. They also list the advantages and consequences of granting robots full legal personhood while taking into consideration the issues of accountability and responsibility as well as social implications. Consequently, complex debates on the ethical and moral aspects of having artificially

intelligent machines as legal agent have taken place. This has raised awareness on the multidimensional concerns about the evolution of our current legal frameworks, the safety risks for humanity as well as the necessity to reinterpret the foundational notion of legal personhood (Lau 2019: 57).

It has proven to be difficult to find a unique definition for SAI because of the novelty of the discipline and the vast field it covers. Yet, most of the analyzed authors start out by trying to define these concepts. So, compared to other algorithms and programs, SAI can be described as quickly evolving technologies and intelligently operating computers that stand out due to their ability to learn independently, gather experience and operate autonomously (Čerka et al. 2017: 686). Moreover, AI entities are referred to as being artificially created intelligent software systems designed to mimic human abilities associated with cognitive functions, problem solving, planning and reasoning (Čerka et al. 2015: 378; Pagallo 2018: 4). Concerning humanoid robots specifically, they can be identified under two criteria. They have to possess a humanlike body and humanlike behavior (Robertson 2014: 574). Other authors even go the extra step and try to explain legal personhood in general and what robot personhood and/or robot citizenship would entail. Hence, it is pointed out that the concept of legal personhood is highly elastic and accordingly the range of actors on which legal personality can be conferred is large as well. Although a legal person is the subject of rights and duties, the granting of this status to an entity, whether human or not, will ultimately result from a decision in and of the legal system (Bryson et al. 2017: 279). In order for SAI to be considered citizens, artificially intelligent robots would have to be seen as members of the political community, share the same space, stand in interdependent relations with humans and enjoy the political rights as well as exercise the duties related to this membership (Marx & Tiefensee 2015: 70-71). Legal personhood for AI entities could mean that they would be taken seriously in courts and treated as an object separate from their human developers. As a result, legal relationships between SAI and human beings would be less complicated (Čerka et al. 2017: 691).

Nonetheless, even if all these criteria are fulfilled, SAI are considered legal persons and they find themselves within the same legal system as humans, they might still not have the same rights and obligations. In fact, while legal systems are able to grant legal personhood to whom and/or whatever they desire, they are also able to issue fewer rights and duties to certain groups. Thus, just like Saudi women, SAI might have to face the same struggle for equal rights and might possess fewer rights than human legal persons within the same legal system due to two reasons (Bryson et al. 2017: 280). On the one hand, robot rights consist

essentially of rather abstract ideas that rely on the dominant national institutions as well as on the local practices and are not a subset of human rights (Robertson 2014: 580). On the other hand, it is still not possible to grant SAI the same rights and obligations as other subjects of law because their operations are algorithm-based and a mere result of another person's activity. Thereby, SAI's rights would have to be strictly defined by legislators (Čerka et al. 2017: 697). The questions that remain are whether we should be ready to grant citizenship to smart humanoid robots and whether this is even possible.

In relation to the legal personhood of autonomous robots, it is evident that special importance is attached to the safety concerns that accompany this topic. On this note, distinctions between different types of robot technology, such as AI systems and robot soldiers on the battlefield, are made and four different cases where robots most likely cause security issues are identified (Pagallo 2018: 9; Simmler & Markwalder 2018: 7). These cases include AI as killer robots, drones and greatly developed military robots that are specifically programmed to commit a certain crime or even multiple felonies and act as instruments to execute violations of law; faulty programmed AI; moral dilemmas where a SAI has to make a decision that may cause damages, such as the alarming instances where autonomous cars have no other choice than to either kill the passengers or the pedestrians; and artificially intelligent robots that develop their own momentum and commit crimes on the basis of this impulse. Since these cases present great safety risks for humans, they need to be taken in consideration before granting autonomous machines legal personhood and adequate risk management needs to be discussed in great detail. As a matter of fact the outcome of these debates will be decisive for further technological progress as well as for the legal personhood and citizenship of AI machines. If these debates result in a zero risk approach, namely an approach that does not accept any hazards, the concession of legal personhood to robots might be discarded and the developers will be liable for the SAI's crimes and mistakes. Consequently, this might lead the responsible developers to abandon their projects in order to prevent facing any consequences for their SAI's mistakes (Simmler & Markwalder 2018: 7-9).

It is also important to distinguish between sources of accountability, legal persons and responsible agents in order to pinpoint and clarify any misunderstandings that are still present in the current polarized debate. In this sense, two different points of view are presented. On the one hand, granting robots legal personhood is a terrible mistake because holding robots accountable for their actions and forcing SAI to make up for the damages they cause would lead to manipulation and even abuse of AI systems. In other words, if SAI were legal agents and thus responsible for their own actions instead of their programmers, humans could easily

violate laws and rights through the use of robots. Accordingly, humans would protect themselves from any negative outcomes of their conducts and consequences of their actions by using robots as their liability shields (Pagallo 2018: 4). This concern appears especially legitimate after having a more detailed insight on human behavior. Humans tend to avoid responsibility and point fingers to others when they have done a mistake. Consequently, the actor who directs the actions will try and shift the blame to the actor who physically ends up perpetrating the harm, for example. So, when autonomous robots spread through society and inevitably cause harm, the ones who program and direct these machines may try to point fingers at the SAI to avoid being held accountable for these damages. If SAI are indeed considered legal agents, human actors may try to exploit this possibility for their own selfish ends and at the expense of human rights as well as their legal interests (Bigman et al. 2019: 367). As can thus be seen, it is important to avoid that robots are designed with the purpose of performing activities with a high safety risk for humans, and it is relevant to prevent the risk of robots being used as liability shields (Pagallo 2018: 9). On the other hand, if robots are indeed considered legal agents to be held accountable for their wrongdoings, their adequate punishment would be difficult to manage (Pagallo 2018: 8). In fact, it is hardly imaginable to have the same punishment for robots as for humans because AI entities would not experience the punishment as a personal evil the same way a human being does (Simmler & Markwalder 2018: 27). In these terms, the traditional sanctions used to punish human beings, such as jail time, do not have the same effect on robots. As a result, SAI should not have the status of legal agents as long as it remains difficult to appropriately punish robots for their misbehavior and as long as they do not meet the requirements associated with legal personhood, namely self-consciousness, intentionality and feelings (Pagallo 2018: 7-8).

Although many academics, such as Ugo Pagallo and Pin Lean Lau, are still arguing against the legal personhood of autonomous machines, they understand the necessity of granting SAI legal personhood. This concession would enable AI entities to fulfill legal as well as contractual rights and obligations. However, the question remains on how to treat their risky behaviors and unpredictability without legally regulating the future in a manner that could obstruct further research, progress and innovation in robotics. For this purpose, new forms of liability and accountability in the field of business law and contracts should be considered. These could, for instance, take the form of registries and would seek the prevention of SAI as unaccountable right violators and liability shields (Pagallo 2018: 9). In the field of robotics, it is deemed to be necessary to create and introduce a self-regulating national institution that is able to elaborate codes of conduct and standards as well as to

enforce them on the owners of SAI agents and the robots themselves. Pursuant to this idea, the sources of danger SAI can represent will be taken into consideration and it will hence be easier to determine which activities are acceptable for SAI (Atabekov & Yastrebov 2018: 781).

Having explained the reasons why some academics are opposed to grant AI systems a legal status, we must not ignore the other side of the coin. Although there is no legal regulation, other authors, such as Paulius Čerka, Jurgita Grigienė, Gintarė Sirbikytė and Herman T. Tavani, tend to argue that we should still risk committing to this level of trustworthiness. In this sense, article 12 of the United Nations' Convention on the Use of Electronic Communications in International Contracts is mentioned as the legal framework to be applied. This article stipulates that the creators, developers and/or programmers of the corresponding machine are ultimately to be held responsible for any message the SAI generates and for the outcomes of its use. This interpretation is based on the concept that AI is used as a tool and, on the general rule, that the machine itself has no independent willpower. Hence, the compliance of this article can facilitate the application of liability and penalties for AI wrongdoings. Even specific cases such as automatically generated messages by a message system or computer could and should fall under the judgment of article 12. While these electronic messages do not require direct human intervention, these cases should still be treated as originating from the entity on behalf of which the communication was sent and under which the computer is being operated (Čerka et al 2015: 383).

Since current institutions lack in adequate legal regulations in this context, the legal framework has to be reviewed while taking into consideration the changing needs of societies and the growing role of robots within them. Therefore, it is relevant to take into account the different operating systems of SAI as well as the functioning of the state. In fact, the current institutions responsible for the supervision of AI activities and the corresponding legal frameworks are formal, consistent, hierarchic and static while SAI are exactly the contrary. This new technology is marked by its spontaneous, constantly changing and evolving nature. With these characteristics on both sides in mind, it is necessary to create a global and universal legislation that is constantly being adapted as well as a flexible and contextual framework capable of acquiring new knowledge and adjusting the existing information to its environment (Čerka et al. 2015: 384; Dameski 2018: 50). On this note, some scholars have already proposed the foundations for an AI-oriented framework. This framework should be a coherent system of principles able to be expanded and to provide solutions for upcoming ethical issues without causing inconsistencies. Moreover, it should be based on a

multidisciplinary and universal approach in an attempt to unify the major ethical theories into one individual system of principles (Dameski 2018: 47). These requirements would assure the effectiveness of the legislations in the field of robotics and enable AI entities to participate in moral scenarios while attempting to avoid negative morally-burdened effects and to maximize positive outcomes (Čerka et al. 2015: 384; Dameski, 2018: 51). Overall, it is recommended to prioritize the establishment of general principles of law and fundamental legal norms in order to create a solid legal framework for the future progress of robotic technology. However, in the current literature about the concession of legal personhood to robots, the difficulty of constantly amending and adapting legislations to the technological changes is acknowledged, especially due to the fact that the current institutions possess a static nature of operation as already mentioned (Čerka et al. 2015: 384). Therefore, another proposal has been advanced. This suggestion touches on the establishment of an ethics committee that would take care of ethical, socio-economical and political uncertainties. It could work nationally and could even be extended to an international scale depending on the sorts of legal protection and methods of enforcement that would be required. Not only could such a committee and the charter of rights under which it runs be adapted to technology advances, it could also be adjusted as time progresses and new problems emerge (Jaynes 2019: 11).

At last, it has to be mentioned that the current legal norms imply that any damages caused must always be compensated by the offender or at least by someone responsible for the offender's actions. In this regard, SAI should be their own legal agents; otherwise they cannot be held liable for their actions, cannot be forced to compensate the caused damages and the system's creators, programmers and/or developers could consequently be accused for the machine's mistakes. However, holding operators, developers and/or producers of AI systems liable is unjust because they would be blamed based on their relation with the SAI and not necessarily due to their own misconduct. Consequently, an excessive burden of legal liability could not only result in the developers' unwillingness to reveal their identity publicly, it could also end up compromising the progress of technological development. Admittedly, the before mentioned solution is not easy to implement because of the systems' programming. In fact, SAI are developed to learn and gather experience on their own, leading to autonomous rather than automatic decisions and conclusions that are made independently of the will of their operators, developers and/or producers (Čerka et al. 2017: 688-689). In this context, two major characteristics of SAI's nature need to be stated and explained. Firstly, they sense and interact with their environment. Secondly, they have some control over their actions without direct external intervention. These properties enable them to adapt their behavior depending

on the situation and based on the accumulated experience (Tavani 2018: 80). Consequently, it is more challenging to identify the errors and the liable party. In other words, SAI's independent decisions complicate the process of proving whether the damage resulted from the system's self-decision or if it is due to the pre-programming installed by the developer (Čerka et al. 2015: 386). However, this capacity of AI entities to make decisions autonomously grants them a certain extent of independence and therefore they should not be considered nor treated as objects anymore (Tavani 2018: 80; Čerka et al. 2017: 696).

Even though in general the same issues are discussed, it is evident that the scientific community has not yet reached consensus on this matter (Dameski 2018: 44). Some scholars, such as Ugo Pagallo, claim that any hypothesis of granting AI robots the status of legal personhood should be skipped due to the lack of reliable data concerning the expenses and implications of AI systems' actions, along with the current impossibility of determining the level of risk as well as SAI's lack of an ethical and moral set of capabilities (Pagallo 2018: 9; Atabekov & Yastrebov 2018: 780). Instead, they suggest to seriously weigh up the possibility of new forms of liability and accountability for AI activities in general, and to use methods of legal experimentation to test these new methods. They conclude that the quest for legal personhood of AI systems should not have priority over other more urgent matters and regulations in this scientific field (Pagallo 2018: 14; Pagallo 2018: 9). Then again, other academics, such as Paulius Čerka, Jurgita Grigienė, and Gintarė Sirbikytė, argue in favor of granting moral consideration to SAI. They state that SAI have similar characteristics to other subjects that have already been granted legal personhood, such as intelligence, the ability to take autonomous decisions, to learn from their experiences and to interact immediately with others. Therefore, it would only be fair to recognize SAI as legal persons as well (Čerka et al. 2017: 690). In the words of Mark Coeckelbergh, if robots and humans share similar features and these features are held as the fundamentals for human rights, why should these rights be limited to humans? If there are reasons to include SAI in our communities then the next step in regards to moral progress is to protect them from being abused and protect their interests from being neglected (Coeckelbergh 2010: 211). As an effect of humanity's dependence on the current technologies, the least artificially intelligent systems deserve is legal protection (Jaynes 2019: 6). Another reason why it is deemed important to recognize SAI subjects of law is the necessity to grant them the corresponding set of rights and duties of a legal person. It will only be possible to hold these systems liable for the consequences of their actions if artificially intelligent robots are able to fulfill their obligations under the law. As a result, it

will be easier to avoid the application of sanctions on the humans responsible for the systems but not for the crime per se (Čerka et al. 2015: 387).

Overall, there is a tendency among all academics towards arguing that the issue of technology-based challenges has to be tackled before it is too late to find an appropriate response (Jaynes 2019: 12). Thus, it is time now to start thinking about autonomous robots as legal persons and to start considering the implications of these technological advances (Marx & Tiefensee 2015: 89).

Case study

Women's rights in Saudi Arabia

As established in the previous chapter, Saudi women's overall degree of freedom remains one of the most restricted worldwide (Kelly 2009: 2). Their status is determined by religious and traditional practices as well as by the strict guardianship laws that are in place and lead to their discriminatory treatment (Mtango 2004: 49). Women are perceived as lacking political personhood and as subservient to men, they are treated like second-class citizens and legal minors with very little decision-making power over their own lives regardless of their social or economic status (Joseph 2010: 14; Mtango 2004: 49; Engeland-Nourai 2009: 390; Manea 2008: 17). Consequently, these harsh restrictions that are being applied to Saudi women dictate and curtail their daily life while attributing women stereotypical roles and tasks (Mtango 2004: 49). Dealing with these issues, this chapter initially focuses on the context of Saudi women in Saudi Arabia in order to demonstrate how their human rights are being violated as well as to what extent women are being restricted and excluded from society. In the second part of the chapter, Sophia's case is examined with the purpose of pinpointing the rights the robot seems to have in the Kingdom.

Saudi Arabia is marked by a clearly concerted gender divide that results in restrictive measures imposed on women on the sole basis of gender as well as the systematic infringement on their basic human rights (El-Sanabary 1994: 142; Mtango 2004: 50). This leads us to question what women's rights in Saudi Arabia consist of. Ideally, they should consist in the rights provided under the international treaties that the Kingdom of Saudi Arabia has ratified. This raises a first problem as Saudi Arabia has only ratified a few treaties on this matter. In other words, major human rights treaties such as the International Covenant on Economic, Social and Cultural Rights as well as the International Covenant on Civil and Political Rights were not ratified by the Kingdom. Thereby, Saudi women's claims for their basic human rights are being considerably limited. Nonetheless, the Kingdom did ratify the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW) in 2000. Hence, it is legally bound to promote gender equality in all spheres of life and to prohibit gender discrimination. Accordingly, Saudi Arabia has the responsibility to eliminate any inconsistencies between the CEDAW and customary as well as religious laws that are implemented within their territory (Mtango 2004: 50, 63).

According to article 1 of the CEDAW and on the basis of human rights as well as political, social, economic, civil and cultural freedom, Saudi Arabia is obliged to refrain from women's exclusion, the distinction between women and men, as well as women's discrimination and their restriction based on gender. Moreover, the Kingdom has to refrain from purposefully undermining or invalidating Saudi women's recognition and enjoyment, regardless of their marital status (Mtango 2004: 54). Nevertheless, Saudi women's personal status continues to be defined by strict family and guardianship laws. While unmarried adult women are under the custody of their father, married women are under the custody of their husband and widowed women are under the custody of their son (Mobaraki & Söderfeldt 2010: 115). The family and guardianship laws that are in place in Saudi Arabia give men property rights over their wives and children and allow them to control women's lives in critical ways (Joseph 2005: 162). Despite the latest reforms, the guardianship system in Saudi Arabia has not been totally dismantled (Ribeiro 2019). As a matter of fact, Saudi women still require their guardian's approval and permission for several aspects of their life including, for instance, the completion of marriage proceedings, employment, traveling, education, seeking medical treatment, living alone, opening a bank account, applying for a credit and being released from prison (Kelly 2009: 7; Manea 2008: 17; Reuters 2019; HRW 2019). Regarding the work environment, employers are allowed to fire women or to force them to resign if their guardian suddenly decides that he does not want them to work outside of their home any longer (Manea 2008: 18). Those women who disobey their guardian risk getting arrested (Reuters 2019). In this sense, these strict rules indicate how Saudi women are actively excluded from fully participating in their society, how they are actively deprived from being granted basic human rights and how the male guardianship system is jeopardizing Saudi women's fundamental rights (Al Alhareth et al. 2015: 123; Manea 2008: 18).

Since the cultural organization of the Saudi society is marked by a pronounced gender separation, the norm to be expected is division (El-Sanabary 1994: 142; Manea 2008: 24). Not only is the Saudi society divided in two distinct arenas, the male and the female; men and women are also not seen as equal but their roles are rather considered to be complementary (El-Sanabary 1994: 142). In this sense, Saudi Arabia implemented sex segregation as a social system reaching into the different areas of civic life, such as educational facilities and programs, banks, women-only offices and public waiting rooms (Doumato 1999: 582). Consequently, the majority of public buildings as well as spaces have separate entrances and segregated parts for both genders. Women are also obliged to limit the time they spent with men to whom they are not related. The unlawful mixing of genders can lead to criminal

charges against men and women. Notwithstanding, women usually face stricter punishments (Power 2019). Since a distinction before the law between Saudi men and Saudi women exists, it is common practice that Saudi women are subjected to more severe applications than Saudi men (Mtango 2004: 65). This notion of inequality before the law results in women lacking access to the justice system and their reliance on men to represent them judicially (Mtango 2004: 65; Al Alhareth et al. 2015: 123).

On another note, this type of discriminatory and distinctive application of the law is also visible in the enforcement of women's dress code. Although the *Qur'an* prescribes that both, men and women, should dress modestly, men are not subjected to the same strictness (Mtango 2004: 53). According to this dress code, Saudi women should wear an *abaaya*, which is a long cloak, and also a headscarf (Power 2019). While the *muttawas*, the Islamic religious police, strictly ensure that women follow this dress code, they ignore men's violation of the *Qur'an's* requirement for both genders to be dressed modestly (Mtango 2004: 53-54). In 2018, Crown Prince Mohammed bin Salman did state that wearing an *abaaya* is not mandatory in Islam. However, no official decree has confirmed this declaration (Terriennes 2019). Such a discrepancy in treatment is deeply founded on gender-based discrimination as Saudi women do not enjoy the same flexible treatment as men (Mtango 2004: 54). In other words, the continuous enforcement of restrictive measures towards women goes against the CEDAW's principle of eliminating discriminatory practices against women. Accordingly, it is relevant to say that Saudi Arabia is not complying with their responsibility of modifying their cultural and/or social patterns in order to eliminate stereotyped and prejudicial roles for women (Mtango 2004: 60-61). As a result, the effects of segregation, veiling and other limitations impact the social and economic aspects of Saudi women's lives (Mtango 2004: 51).

Article 10 of the CEDAW stipulates that the ratifying countries have to ensure appropriate measures to sustain equal opportunities and rights for both genders specifically in the field of education which includes equal access to educational material such as curricula and equipment of the same quality, as well as services such as teaching staff and school premises (Mtango 2004: 55). While Saudi Arabia's general education policy encourages the education of every citizen, the Kingdom has implemented a gender-specific policy limiting women's educational opportunities. This has created a dual system of female and male education. Such a system is not only continuously reflecting the reinforcement and reproduction of a vertical gender division, it is also characterized by different curricula, gender-segregated schools as well as universities and by gender-specific educational policies

that emphasize women's role in the domestic sphere. In this sense, women are not allowed to enroll in courses and specializations that are deemed to be inappropriate and unsuitable for their education and nature, such as engineering, veterinary medicine, marine and earth sciences, agriculture or media studies in mass communication. Ultimately, the most acceptable fields of study for Saudi women include humanities as well as religious studies and teaching (El-Sanabary 1994: 141-143, 146-147). Consequently, the educational material for both genders differs at the various levels of education. While women are usually educated in traditionally feminine subjects such as domestic science, child welfare, needlework and the history of famous Arab women in addition to their core curriculum, men's studies are directed towards wood and metal crafts (Mtango 2004: 56; El-Sanabary 1994: 146). In further comparison to men's education, Saudi women also lack in vocational and technical training, except in a few health and tailoring institutes. Accordingly, we can observe that the educational system in Saudi Arabia is shaped by conservation and transmission of the traditional social order in which the roles are rigorously differentiated by gender (El-Sanabary 1994: 146, 142).

Regarding the available educational services in Saudi Arabia, a vast network of gender-segregated establishments and classes is maintained in the Kingdom (El-Sanabary 1994: 144; Mtango 2004: 55). Although the final version of article 10 states that single-sex education is not discriminatory, the Kingdom of Saudi Arabia is still breaching the CEDAW's conditions for equal standards and access to education because women's school premises are substantially inferior to men's facilities. Not only are women's classes larger in size and suffer from poorer classroom conditions, their teaching staff is also insufficient and less qualified. Women's access to the library is limited as well since women and men are not allowed to attend these facilities at the same time. So, at the King Saud University in Riyadh, for instance, women are only allowed to use the library one morning per week while men enjoy access to it the rest of the time (Mtango 2004: 55-56). Finally, as stated before, women's educational enrollment ultimately depends on the permission of their male guardian which ends up interfering with women's access to education (Al Alhareth et al. 2015: 122; Manea 2008: 18). With the ratification of the CEDAW, Saudi Arabia has the responsibility to ensure that men and women have equal access to education in all respects, without discriminating either party. Nonetheless, the Kingdom is imposing obstacles on women's access to education, restricting their educational content as well as methods of learning and promoting the stereotypical view of women which are all issues the CEDAW seeks to eliminate (Mtango 2004: 55-56).

Under the CEDAW, the right to work is recognized as an inalienable right of all humans. Therefore, article 11(1) of the Convention obliges all ratifying parties to eliminate the discrimination against women in the working environment and to ensure equal rights and opportunities as well as free choice of employment and profession for men and women alike. The aim of this article is the establishment of women's human right to work and their freedom to choose their own profession (Mtango 2004: 57-58). Although the Ministry of Labor and Social Development's guidance document on women's work in the private sector of 2013 states that women do not require their guardian's consent to be employed, the government does not prohibit employers from nor penalizes them for asking for the guardian's permission. Consequently, many employers in the private and public sector keep requiring the permission of a male guardian from women before employing them (HRW 2016: 4, 70). Furthermore, there are still specific laws implemented in Saudi Arabia that restrict women from exercising certain professions, working in mixed-gender environments and climbing to higher positions where they would be able to give orders to their male colleagues (Mtango 2004: 57-58). In fact, the Saudi Labor Code of 2006 stipulates that women should only work in fields that are suitable to their nature (Manea 2008: 18). In this sense, women are only allowed to work in capacities where they can serve other women exclusively, such as teachers, hairdressers and doctors (Mtango 2004: 58). As a matter of fact, in 2016, 84% of women were working in the education sector (HRW 2016: 68). These Saudi laws are marginalizing and almost completely excluding Saudi women from the national workforce which results in one of the lowest women's participations in the labor force in the Arab world (Manea 2008: 16-18). In this sense, women's participation in the labor force only consisted of 21.5% in 2014 and the World Bank even classified the Kingdom of Saudi Arabia as one of the 15 most restrictive economies regarding women's ability to work in 2015 (HRW 2016: 67). Furthermore, despite the existing labor laws that impose equal pay for the same work, Saudi women earn less than Saudi men and keep being discriminated regarding labor benefits and pension laws (Kelly 2009: 4, 7). Since there is no reason that justifies women's limitation to certain working environments and to certain professional positions, these restrictions represent women's discrimination under the CEDAW. If women are educated and equipped to occupy the same positions as men, then women should be entitled to equal treatment (Mtango 2004: 58-59).

While important changes have already been taking place, it must be mentioned that all these changes usually came along with further restrictions. In this regard, the Saudi authorities' new regulation concerning women's right to travel freely without their guardian's permission, for instance, demonstrates two different limitations. In the first place, this new

reform only affects women over the age of 21. Consequently, women under the age of 21 years will still need to ask for their guardians' permission to travel abroad. Secondly, this right to travel abroad is not explicitly specified and it gives the male guardians the possibility to restrain their female family members to travel outside of Saudi Arabia's borders (HRW 2019). Another new reform that presents obstacles for women is the regulation on their right to drive. Not only is it still possible for their male guardians to oppose this right, the few driving schools that exist for women are also more expensive than for Saudi men (Dousseki 2019; Reuters 2019).

The previously explained instances underline how problematic the male-centered interpretation of the *Shari'a* by the government-appointed clergy is and how suppressive their agenda often becomes towards women's rights (Mtango 2004: 53). Therefore, women as political actors in Saudi Arabia play a relevant role in order to alleviate gender inequality and advance in matters of women's rights in such a conservative society (Alsaleh 2009: 129). In fact, major changes in Islam happen on account of women's rise against the repressive measures that are imposed upon them. Political female actors are able to influence legislations and decision-making in a more positive manner for women's human rights because they are more likely to vote against proposals that restrict women's status. As a result, they promote equality (Engeland-Nourai 2009: 408, 396).

Nonetheless, for now, Islamic feminism is still not supported. As a matter of fact, Islamic feminism tries to work within the Islamic values and not against them in order to suggest social benefits and enhance opportunities for women in a culturally sustainable and satisfactory manner. In this sense, Islamic feminism tries to empower women by focusing on gender equality and social justice from an Islamic perspective on issues such as dressing, politics, public life and religious practices. However, Islamic societies often see feminism as a secular ideology from the West and as an assault to their religion (Al Alhareth et al. 2015: 122). The manner in which the Saudi authorities deal with women's rights activists comes to prove how challenging it is to apply Islamic feminism. While the Saudi authorities have been initiating reforms towards women's freedom, they have also been imprisoning female Saudi activists who have been fighting for the deployment of these reforms (HRW 2019). Journalists together with political activists have been considered to be violating the law even in cases of pacific initiatives regarding women's rights, demands to abolish the guardianship system and communication with international organizations (HRW 2019; Dousseki 2019). Worse still, some of those women even testified as victims of torture and sexual harassment during their arrest (HRW 2019). Consequently and contradictory, when in 2018 Saudi women

were finally allowed to drive, the Kingdom almost simultaneously started a campaign of repression against women's rights activists and pro-governmental news outlets accused them of betraying the nation as well as undermining the Kingdom's security, stability and unity (Dousseki 2019).

Sophia the robot: its citizenship and rights

Saudi women still face a long fight in order to achieve full participation and their full potential as Saudi citizens (El-Sanabary 1994: 148). On this note, the status as official and full Saudi citizen that Sophia - the humanoid robot - so easily acquired in October of 2017 seems to increase Saudi women's frustration. It has implied that the robot would also be granted certain legal rights that Saudi women have not been granted yet (Tavani 2018: 76). Women's overall public opinion on this issue can be briefly summarized with one specific post by a female Saudi Twitter user. In this tweet, the user stated that she wishes to one day become like Sophia and to get her full set of rights (Lobe 2018).²⁴

Sophia is an artificially intelligent humanoid robot with the appearance of a middle-aged woman that was activated in April of 2015 (Retto 2017: 3). The robot was developed by the American and Hong Kong-based company Hanson Robotics in cooperation with SingularityNET and Google's parent company Alphabet. The latter provide for the robot's AI software and voice recognition system respectively (Pagallo 2018: 232). Its main technological qualities include its ability to master a complex series of predictive algorithms based on computational statistics, to process the received information rapidly and to recognize faces as well as voices (Retto 2017: 3). In addition, the robot has been provided with special features regarding its appearance and system. Its skin is made of *Frubbet*, a special type of flexible silicone that allows it to perform 62 different facial expressions, such as amazement, anger, annoyance, fear, joy and sadness. Its electronic synthetic voice system enables Sophia to articulate and gesticulate as it speaks. Accordingly, one of the main goals of Sophia's creators is that the robot manages to maintain, on its own, an intelligent conversation on any given topic with human beings and that its dialogue is accompanied by the suitable emotional expression that characterizes a common conversation between two humans. The most human-like aspect of the robot is undoubtedly its ability to learn from its experiences and interactions with different interlocutors. As a result, the robot becomes increasingly familiar with the customs, cultures, emotions, feelings and linguistic styles of the people it interacts with and

²⁴ "I want to become Sophia one day and get my rights." (Snedeker 2019)

accumulates this experience in its memory. As of right now, however, Sophia's main activity is to hold interviews (Retto 2017: 6-7). Needless to say, with its sophisticated responses the robot has been impressing interviewers all around the world (Pagallo 2018: 232). Although Sophia still has a short learning time and thus still makes many mistakes, its linguistic performances, emotive externalizations and communicative skills have enabled the robot to be granted the status as official Saudi citizen and to be the first non-human being to be granted a UN title (Retto 2017: 6, 3; Pagallo 2018: 232). In fact, the robot was named the first Innovation Champion of the UNDP (Pagallo 2018: 232). Consequently, due to Sophia's achievements, the robot is said to have marked the beginning of a new technological era and robotic generation that leaves behind the common image of robots as metallic machines with clumsy movements, noisy gears and limited intelligence (Retto 2017: 6, 3).

When taking a closer look at Sophia's stay in Saudi Arabia, it was possible to observe how its citizenship contradicts the accepted model of female behavior and women's rights in the country (Atabekov & Yastrebov 2018: 776). During its stay in the Kingdom, Sophia did not reflect the typical image of Saudi women who have to wear the Islamic veil most of the time (Dieng 2017). The robot went on stage without wearing an *abaaya* even though Saudi women are required to do so by the government (Hatmaker 2017). Sophia also went against the specific requirements established for Saudi women regarding their obligation to have a male guardian (Atabekov & Yastrebov 2018: 776). Contrary to Saudi women, the female-looking humanoid robot was not subjected to the strict guardianship laws that are in place in Saudi Arabia and presented itself publicly without a male guardian (Josset 2017; Sini 2017). Both of these infringements regarding the requirements imposed on Saudi women would have been enough for them to be brought to criminal and administrative responsibility. However, Sophia did not face any penalty under the current Saudi legislation (Atabekov & Yastrebov 2018: 777). Moreover, it is unclear whether the robot will convert to Islam or not (Lobe 2017). Finally, in addition to the comparisons between Sophia and Saudi women, the speed and ease in which the robot was granted citizenship were pointed out. As a matter of fact, Sophia was granted the Saudi citizenship far more rapidly than migrant workers who have been living in the Petrostate their entire lives (Sini 2017).

The paradoxical possibility that a humanoid robot is being celebrated as a UN innovation champion and enrolled as a citizen has generated many questions and challenges (Pagallo 2018: 233; dos Santos et al. 2018: 4). Accordingly, it is necessary to question how it was even possible for Sophia to be granted citizenship. When the public and legal aspects of Sophia's citizenship process are examined, several contradictions to the current Saudi laws

can be determined. First, Sophia did not apply for the Saudi citizenship. Second, the humanoid robot was not born into a traditional Saudi family where the parents are Saudi citizens, nor did it marry a Saudi citizen. Third, the robot does not meet the necessary qualifications in order to be eligible for Saudi citizenship, such as the possession of a permanent residence permit and settlement for over 10 years in the Kingdom, the compliance with the legal age requirement and the fluent mastery of the national language to the extent required by the law. Fourth, as already discussed, Sophia did not comply with the Saudi norms of conduct that are imposed on women. Consequently, Sophia should have faced refusal regarding its status as citizen (Atabekov & Yastrebov 2018: 775-777). It is also questionable how a female-looking non-human being is allowed certain liberties in Saudi Arabia that are actively being denied to the female human inhabitants. While the Kingdom of Saudi Arabia is making exceptions for a robot, it is keeping Saudi women deprived from their recognition as citizens and their rights (dos Santos et al. 2018: 4, 11).

Although the Saudi Culture and Information Ministry confirmed Sophia's citizenship, it did not clarify which benefits the robot would enjoy (Walsh 2017). Hence, Sophia's citizenship was also accompanied with questions regarding the rights the robot will now have, such as its rights to marry, to reproduce, whether its descendants would automatically be given the same status and rights as Sophia, what would happen to the robot if it committed a crime, if it has the right to self-determination and many more (Baniwal 2018: 124; Hart 2018). In this context, the Universal Declaration of Human Rights, proclaimed by the UN General Assembly in 1948, can be invoked. This declaration applies to all people and all nations, not limiting its effects to any citizens (Chikhale & Gohad 2018: 108). So, since Sophia is now an official citizen and a charter of rights for robots has not been established yet, it is questionable whether laws and articles such as the ones previously mentioned can be applied to the robot (Hart 2018; Chikhale & Gohad 2018: 108). On the other hand, more general questions have emerged concerning, for instance, which types of robots should or should not be eligible to get such rights. It remains unclear if only socially intelligent and physically embodied robots that are able to display some level of autonomy should be eligible to have rights or if also other sophisticated robots should be considered as candidates. Moreover, it has not yet been established what type of rights these robots deserve. In other words, robot-rights supporters have not spoken out about whether eligible robots should be granted legal, civil, moral or other types of rights. Last but not least, the requirements and/or necessary properties to determine whether a robot qualifies for certain rights have yet to be defined. While some argue that robots must possess essential properties such as personhood, consciousness,

rationality, sentience and autonomy to qualify for rights, others suggest that the robot's status as relational entity should be enough to be eligible for rights (Tavani 2018: 73-74). Although none of these questions have been answered so far, it is inevitable that Sophia as the first robot citizen will be defining for robot citizenship in general in the future (Jaynes 2019: 8).

Content analysis

Sophia the robot in Saudi Arabia

Since Sophia's citizenship has undoubtedly been subject to wide media coverage across the world, it is possible to examine this issue through the division of the articles into different sets of documents. Out of the 21 analyzed articles on the robot's citizenship, 19 are placed in the set titled "Neutral regarding Sophia's citizenship", two are included in the set named "Articles criticizing Sophia's citizenship" and the set called "Articles in favor of Sophia's citizenship" remains empty. In other words, merely two articles actively criticize this decision and are written in a more aggressive tone which is underlined by statements such as "[...] the irony of a nation infamous for denying basic rights to its female citizens imbuing a robotic Audrey Hepburn lookalike with rights is not lost on us" (Hatmaker 2017). It is relevant to point out that the two articles in the set "Articles criticizing Sophia's citizenship" are opinion articles while all the others are limited to descriptive explanations of the ceremony and only point out a few differences between Sophia's behavior and actions during the Summit on Future Investment Initiative compared to how Saudi women are required to behave in their day-to-day lives. Nonetheless, the below illustrated frequency with which the code "Mention: Sophia has more rights" is used demonstrates that the majority of the articles are rather negative and critical regarding this topic.

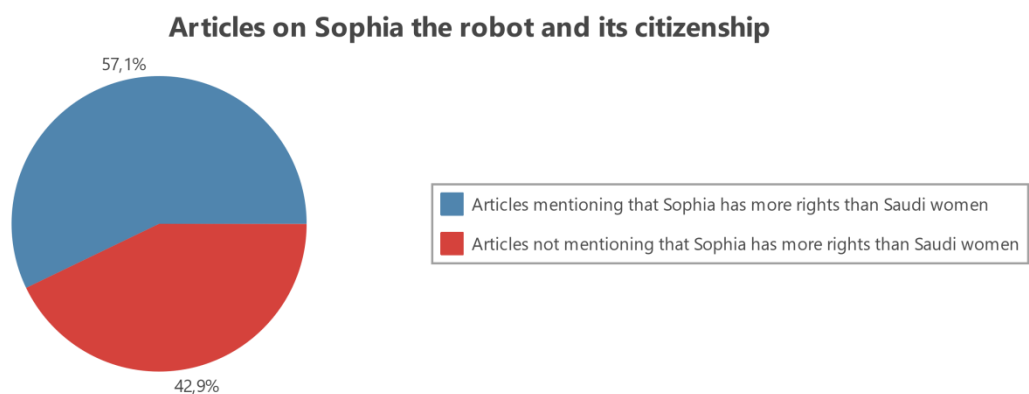


Figure 5.1 Number of articles that mention/do not mention that Sophia has more rights

In the sense, the coded segments enable the identification of a differentiation between Sophia and Saudi women in the news articles. The articles not only criticize that the Kingdom of Saudi Arabia is equating a robot to human beings and that it is seemingly elevating the robot over women, they also criticize Sophia's behavior and the fact that the robot "[...]

seemed to have secured more rights than women in the country” (Sini 2017). So, in comparison to the strict rules that are applied to Saudi women, the articles mention, for instance, Sophia’s “[...] lack of male guardian and [its] lack of hijab” as well as the free interaction with male citizens the robot was able to enjoy (Walsh 2017).

While the topic of Sophia and its citizenship is widely discussed, media outlets progressively lost their interest. This is shown by the number of articles that each document group contains. While “Sophia the robot: 2017” contains 14 out of 21 articles, “Sophia the robot: 2017-present” only contains 7 articles. In fact, their interest on this topic started to wane more or less one month after the Summit on Future Investment Initiative. Moreover, the document group titled “Sophia the robot: 2015-2017” remains empty which demonstrates that news on Sophia in the Kingdom of Saudi Arabia only started to emerge after the announcement of Sophia’s official Saudi citizenship. Consequently, the media outlets either stopped reporting on this topic or instead started focusing on other topics surrounding this main theme, such as Hanson Robotics’ advocacy on women’s rights in the Middle East. These news stories, in their turn, report on Sophia’s statements and how the robot “is using [its] platform as the highest-profile robot in the world to advocate for women in [its] home nation” (Williams 2017). However, they do not mention if the robot has ever again set foot in the Kingdom since its naturalization which leads to the impression that Sophia never actually returned to Saudi Arabia since October 2017. This can be highlighted with the help of the two following chart views. The first table demonstrates how “Sophia the robot: 2017” has a larger code coverage concerning the citizenship process. In other words, it shows how media focus was initially exclusively directed towards Sophia’s citizenship and then started to shift predominantly to Sophia’s advocacy for women’s rights. “Sophia the robot: 2015-2017” is not included in this representation seen that the document group does not contain any articles.

Table 5.1 Evolution of the media outlets’ interest in Sophia’s citizenship

Code System	Sophia the robot: 2017	Sophia the robot: 2017-present
Citizenship process	100%	41%
Sophia speaking up for Saudi women		59%

The second chart shows the overall code coverage of the document group “Sophia the robot: 2017-present”. It once again points towards the loss of interest concerning Sophia’s citizenship and related matters, such as its appearance, discourse and lack of guardian.

sustainable development in the Kingdom (al-Khattaf 2019). The government has repeatedly agreed to abolish the male guardianship system at the United Nations Human Rights Councils (HRW 2016: 2). Nonetheless, the guardianship system still remains intact for the most part, the changes remain limited, incomplete, insufficient as well as ineffective and have never exceeded the boundary determined by the religious establishment (HRW 2016: 2; Manea 2008: 21). Even though the Saudi government has failed to combat the deeply rooted gender discrimination against women, the various steps that have been taken to improve women's status have led to the introduction and implementation of new regulations and to the amendment of past royal orders (HRW 2016: 4; UNDP 2018: 11).

In this sense, the codification process shows not only how Saudi women's rights have gradually evolved during the past few years, but also identifies when their rights have undergone various changes. The analysis of news articles and different Saudi laws as well as international reports on Saudi Arabia shows that Saudi women have been fighting for and receiving new rights long before October 2017 when Sophia was declared an official Saudi citizen. In this regard, significant and symbolic victories for women can already be identified in 2015, such as the permission to vote and run as candidates in the municipal council elections, the removal of "language in the labor law that previously restricted women's work to certain fields" as well as the removal of the requirement of a male guardian's permission to work. Consequently, Saudi women's access to the labor market and their employment opportunities have increased. Furthermore, women are now able to occupy certain positions that were previously deemed as not suitable to their nature, such as architects, bankers, businesswomen, film directors, lawyers and public notaries (HRW 2016: 2, 67-68, UNDP 2018: 11). This also means that women are allowed to pursue studies in these domains. Further on, in 2017, a supreme order issued by the government instructed entities to refrain from asking women for their guardian's permission to access certain procedures and services (UNDP 2018: 11). However, it was not until 2018 that women were allowed to attend public events in stadiums, movie theaters and concert halls (dos Santos et al. 2018: 11; Hubbard & Yee 2019).

Regarding further changes implemented after October 2017, the codification process shows that women were allowed to obtain driving licenses in 2018 (UNDP 2018: 16). In this same year, a royal decree was issued with the aim to prevent and combat any occurrences of harassment. This anti-harassment law stipulates that any expression, gesture or act marked by sexual connotations as well as harmful and dishonoring intentions to any other person's modesty or body should be met with penalties, such as imprisonment or a fine, for the

perpetrators and protection for the victims. In this aspect, it should be noted that the law also prescribes higher penalties for repeated crimes or offences in cases where the perpetrator has authority, whether direct or indirect, over the victim (Anti-Harassment Act 2018: 4-5). Although it is not directly indicated, it could be assumed that this last case refers to offences where the perpetrator is the guardian and the victim is, by consequence, the woman under his authority.

On another note, changes regarding women's appearance can also be observed. In 2018, Crown Prince Mohammed bin Salman stated that the restrictions on women's clothing would be loosened and the Saudi Arabian religious police have also been tamed (Terriennes 2019; Hubbard & Yee 2019). Further, in 2019, the references in the Travel Documents Law were amended in order to remove discriminatory restrictions on women. This means that Saudi women over the age of 21 can finally apply for passports and travel abroad without their male guardian's permission (HRW 2019). Other economic and social reforms that were launched concerned gender segregation in the Kingdom of Saudi Arabia. Since 2019, gender segregation in certain public spaces has been eased. On the one hand, this initiative no longer requires restaurants and cafés to have separate entrances for women (Huffpost 2019). On the other hand, other components of these reforms made the work environment safer and more hospitable for Saudi women. So, instead of demanding complete gender segregation, cubicles are provided for any woman that prefers to work in a private cubicle rather than in a mixed-gender office (Habibi & Begag 2019). Finally, at the UN Human Rights Council in 2019, the Kingdom of Saudi Arabia pledged once again to fully abolish their male guardianship system (United Nations 2019).

Their most recent social and cultural reform program *Vision 2030* has established the overall objectives the Kingdom of Saudi Arabia commits to achieve until the year 2030. Even though the program was announced in 2016, it counts for the second half of the established timeline because it defines the Kingdom's future objectives. According to this long term development strategy, the Kingdom calls, among other goals, for the reduction of gender discrimination (Habibi & Begag 2019). They acknowledge that women are a great asset to their country and, thus, there are some more rights that women in Saudi Arabia can expect to be granted. With this reform program, the Kingdom of Saudi Arabia commits to invest in Saudi women's capabilities, their education and training in order to develop their talents and ensure that they are equipped for the future as well as for the labor market. The Kingdom also ensures that the Saudi economy will provide equal opportunities for men and women. Moreover, *Vision 2030* determines that women will be enabled to strengthen their own future

with the objective of increasing their contribution to the development of the Saudi society and economy (Government of Saudi Arabia 2016: 36-37). In this sense, women's participation in the workforce shall be increased from 22% to 33% and companies are expected to create stimulating opportunities for both genders in order to help them build their professional careers (Government of Saudi Arabia 2016: 39, 73).

It is worth mentioning that *Vision 2030* reflects the Saudi government's overall desire to take a leading position in the world in several sectors, such as culture, health, education, society and economy. Accordingly, the Saudi government stipulates specific goals for each sector. In regard to culture, it aims to build world-class museums, libraries and research centers (Government of Saudi Arabia 2016: 13, 47). In the health sector, the increase of the number of world-class medical specialists in their Kingdom is pinpointed (Government of Saudi Arabia 2016: 29). Their objectives for education concern having at least five national universities among the top 200 universities in international rankings and helping Saudi students achieve results above the international averages in global education indicators (Government of Saudi Arabia 2016: 40). To improve the well-being of their citizens, *Vision 2030* establishes the government's commitment to provide world-class, effective and efficient government services as well as to have three of their cities among the top 100 cities in the world (Government of Saudi Arabia 2016: 7, 25). Finally, their economical goals refer to the creation of a more sustainable and diverse economy with the aspiration to move from 19th largest economy into the top 15 largest economies in the world (Government of Saudi Arabia 2016: 17, 21).

Although *Vision 2030* also reflects the government's willingness and determination to diversify the capabilities of their economy with the expansion of their investments into new additional sectors, such as emerging technologies from all around the world, this sector does not seem to play such a big role as the ones mentioned before (Government of Saudi Arabia 2016: 7, 42-43). In other words, even though their motivation to invest in technology is mentioned, the Saudi government seems to prioritize taking a world-leading position in other sectors and not necessarily in the technological domain. As a matter of fact, while the reform program stipulates the establishment of special zones with special commercial regulations for tourism, the industrial and financial sector as well as the creation of a new city dedicated to the energy sector, *Vision 2030* does not mention the establishment of *Neom*, the city where robots shall outnumber humans (Government of Saudi Arabia 2016: 44, 51). Needless to say, granting the official Saudi citizenship specifically to Sophia or to a humanoid robot in general is not mentioned either. Considering that Sophia was granted the status as a Saudi citizen only

one year after this plan was released, it can be argued that the Saudi government had already the intention to do so when the reform program was introduced. Thus, it is particularly surprising that *Vision 2030* does not mention the intention of building a special zone for technological development nor the introduction of robot citizenship, and that this reform program does not further develop the topic of technology and investment in this sector in general.

The differences regarding women's rights in Saudi Arabia are, nonetheless, not only visible "in practice" but in the manner legal texts themselves are written as well. Former legal documents, such as the Basic Law of Governance of 1992 stating the rights and duties of Saudi citizens, mostly consider Saudi nationals to be members of society. Moreover, these texts always use the pronoun "he" or man-related terms, such as "the workman", when referring to a Saudi citizen. Consequently, women are not seen as members of the Saudi society but are rather included in expressions such as "his family". A similar pattern can be observed in the Saudi Citizenship System of 1954 and the Nationality Regulations of 1985. In the entirety of these documents, Saudi women are not referred to as Saudi citizens but either as "Saudi females" or as "wives". Accordingly, their rights in these matters always depend on their husbands or guardians and their nationality follows their husbands' or guardians' nationality and decisions as can be read, for instance, in article 15 of the Saudi Arabian Citizenship System.²⁵ Overall, women are not considered citizens and a clear distinction between them and men as official Saudi citizens can be observed. By default, the rights that are granted to Saudi citizens in these texts are considered to be exclusively for men and the laws remain silent in regard to Saudi women's rights.

The present research and analysis of some legal Saudi documents shows that the earliest slight changes can be observed before 2015. The 2005 amendments of the Basic Law of Governance use a different terminology than the original law. On the one hand, instead of referring to "members of society", the law now refers to "citizens". On the other hand, former expressions that clearly only targeted men were amended to more gender neutral expressions. This terminology has been kept up and although the Basic Law of Governance underwent more amendments in 2013, these expressions remain unaltered. So, the Basic Law of Governance is written in a more gender inclusive language since 2005 due to the pronoun changes.

²⁵ Saudi Arabian Citizenship System (1954), Article 15: The Saudi naturalised individual can apply for each female under his guardianship to acquire the Saudi Citizenship.

Table 5.2 Evolution and comparison of Saudi Arabia’s *Basic Law of Governance* of 1992 and *Basic Law of Governance* of 1992 with Amendments through 2005

Basic Law of Governance (1992)	Basic Law of Governance of 1992 with Amendments through 2005
<p>Article 11 Saudi society shall be based on its <i>members’</i> holding fast to the bond of God, cooperating unto righteousness and piety, and maintaining solidarity, and avoiding dissention.</p>	<p>Article 11 The Saudi society shall hold fast to the Divine Rope. Its <i>citizens</i> shall work together to foster benevolence, piety and mutual assistance; and it avoids dissension.</p>
<p>Article 27 The State shall guarantee the right of <i>the citizen and his family</i> in emergencies, sickness, disability, and old age, and shall support the social security system and encourage institutions and individuals to participate in charitable work.</p>	<p>Article 27 The State shall guarantee the right of <i>its citizens and their families</i> in an emergency of in case of disease, disability and old age. Likewise it shall support the social security system and encourage individuals and institutions to contribute to charitable pursuits.</p>
<p>Article 28 The State shall facilitate the provision of job opportunities to every able person, and shall enact laws that <i>protect the workman and the employer</i>.</p>	<p>Article 28 The State shall provide job opportunities to all able-bodied people and shall enact laws to protect both <i>the employee and the employer</i>.</p>

Nonetheless, one of the many aspects that did not change over time is the Saudi government’s position regarding the implementation of international treaties. Since 1992, their Basic Law of Governance states that human rights are protected in accordance with the Islamic *Shari’a*. The 2005 amendments then added that international agreements and treaties will be reviewed by the Shura Council and amended by Royal Decrees before being implemented. Thus, this might be one of the reasons why the Kingdom of Saudi Arabia is not following international treaties, such as the CEDAW, by the book. As a matter of fact, Saudi Arabia ratified the CEDAW with a reservation stating that “the Kingdom is not under obligation to observe the contradictory terms of the Convention” in cases where the CEDAW contradicts the norms of Islamic law (UNDP 2018: 10).

While laws and reform programs written and published around 2017 or after still do not mention women very often, it is evident that these legal documents are more inclusive than the previous laws and reforms. In this regard, the Anti-Harassment Act, for instance, states right in the beginning of article 1 that women are also considered victims of harassment, not only mentioning “his body”, but also including “his/her body”. On the other hand, *Vision 2030* even mentions that being a tolerant country is part of the Kingdom’s vision

(Government of Saudi Arabia 2016: 7). Already in the foreword, Crown Prince Mohammed bin Salman addresses men and women, which leads to the assumption that “citizens” in the context of this reform program includes women as well. In fact, although women are only directly mentioned a total of seven times in 85 pages, *Vision 2030* states several times that all citizens are concerned and every time men are directly referred to, women are included as well.²⁶ So, contrary to the Saudi Arabian Citizenship System that makes a clear distinction between men and women, *Vision 2030* distinguishes rather between Saudi citizens and foreign residents in the Kingdom. The following graph demonstrates the frequency in which the word “citizen(s)” was used but also how often “women” and related words, such as “female” and “sister” were employed. As demonstrated, although women are not often mentioned, they still count more mentions than men and man-related words.

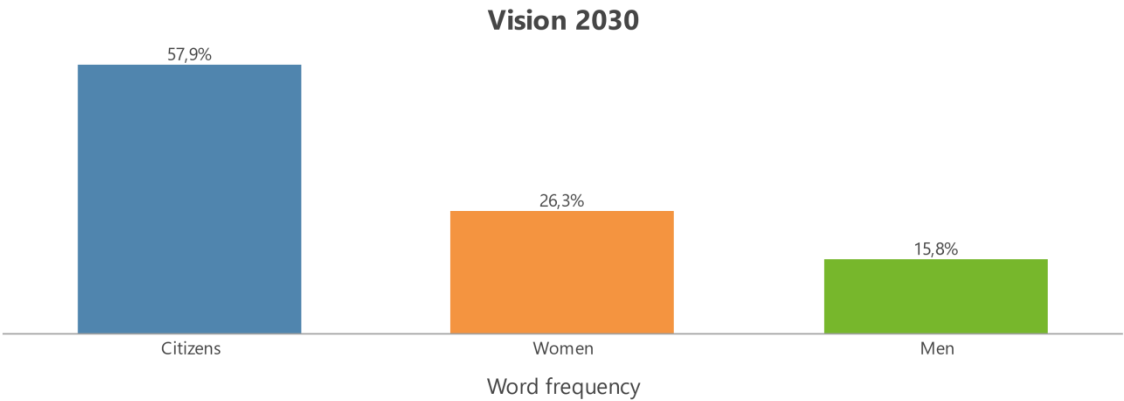


Figure 5.5 Word frequencies of “citizen(s)”, “women”, “men” and related words in *Vision 2030*

Moreover, this reform program also shows that while the government is trying to further women’s inclusion, it does not want to lose the support of their more conservative endorsers. In this sense, the references on women and their rights are balanced out with a whole paragraph dedicated to how the government takes pride in the deeply entrenched Saudi identity, their heritage, legacy, history and culture. In this section, the government indicates that it recognizes the relevance of preserving this heritage, consolidating the true Arab and Islamic values as well as to preserve, strengthen and highlight their national identity. Therefore, *Vision 2030* reflects also the Saudi government’s commitment to be true to the

²⁶ Example: “Our economy will provide opportunities for everyone - men and women, young and old - so they may contribute to the best of their abilities.” (Government of Saudi Arabia 2016: 37)

Saudi principles and values (Government of Saudi Arabia 2016: 17).²⁷ The most evident demonstration of the Saudi government trying to balance women’s rights and their supporters’ expectations is reflected by their insistence of adhering closely to the Arab values, Islamic principles and their national tradition as well as by their willingness to build a future while remembering their duty of being conscientious of human rights (Government of Saudi Arabia 2016: 72).

According to this analysis and the subsequent findings, changes related to Saudi women’s rights came into effect for the most part after Sophia’s recognition as an official Saudi citizen and significant improvements to Saudi women’s rights can still be expected to occur until 2030.

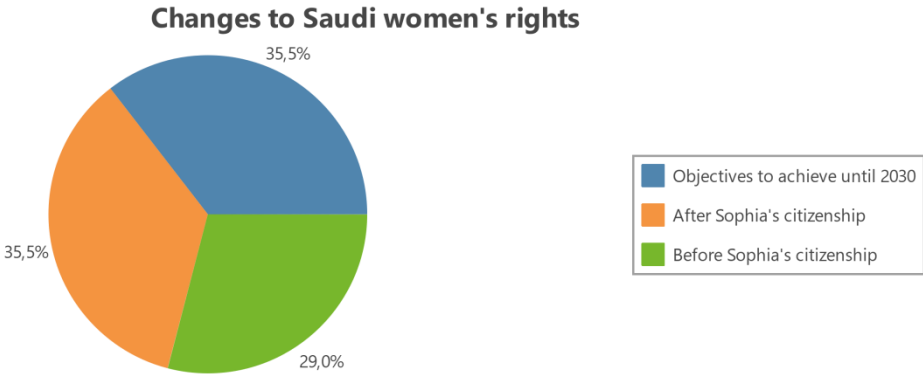


Figure 5.6 Periods of implementation of new rights and changes to Saudi women’s current rights

Main reasons for Sophia’s citizenship

The question that now remains consists of why Sophia acquired the Saudi citizenship even though the robot did not follow the necessary procedures and did not fulfill the requirements imposed by the Saudi Arabian Citizenship System and Nationality Regulations. These regulations prescribe, as already mentioned in the previous chapter, that the foreigner requesting the Saudi citizenship has reached the age of maturity, has already been granted

²⁷ Government of Saudi Arabia (2016): “We take immense pride in the historical and cultural legacy of our Saudi, Arab, and Islamic heritage. Our land was, and continues to be, known for its ancient civilizations and trade routes at the crossroads of global trade. This heritage has given our society the cultural richness and diversity it is known for today. We recognize the importance of preserving this sophisticated heritage in order to promote national unity and consolidate true Islamic and Arab values. We will endeavor to strengthen, preserve and highlight our national identity so that it can guide the lives of future generations. We will do so by keeping true to our national values and principles, as well as by encouraging social development and upholding the Arabic language.”

permanent residence in the Kingdom and has linguistic proficiency in Arabic, among other factors. According to the Twenty Third article of the Saudi Arabian Citizenship System, another reason why this status should not have been granted to the robot is that no official request to the competent authorities treating this issue was submitted by Sophia or its legal representatives.

On this note, during the interview held with David Hanson and Ben Goertzel, David Hanson mentioned that although the robot's citizenship "feels surreal", he did not know that Sophia was being granted this status and was surprised to find out about it on the news the day after the ceremony. He also brought up that he had preferred to hear about the Saudi Arabian initiative in advance and to participate in this process with the whole team involved in Sophia's creation. Confronted with this decision, David Hanson admitted to have discussed with his Chief Marketing Officer about rejecting Sophia's Saudi Arabian citizenship because it is a "provocative and so controversial [issue] [...] for good reason". In this regard, the CEO of Hanson Robotics touched on the issue of human rights in Saudi Arabia. Although he understands why people might ask themselves how it is possible to grant certain rights and respect to an artificially intelligent entity that is not alive while certain groups of humans are not being granted the same rights and respect, David Hanson is of the opinion that "we should respect all potential sentient beings", including "animals, plants [and] the biome as a whole". In other words, if we had to follow a certain principle or sequence when according rights and respect to different populations and groups, it would still be a long way until we would bother to afford respect to AI robots. So, he adds that "we should find ways to explore these issues" as well as change ourselves for the better, treat AI machines well and raise them like we would raise our own children because the objective is to create sentient machines and we still cannot prove that this goal will never be achieved. As a matter of fact, David Hanson and Ben Goertzel seem to share a similar point of view on this issue. David Hanson mentioned that it is better to remain cautious and grant rights to robots now in case they become sentient and not to do ourselves disrespect in the future. By assuming and simulating that robots are sentient and have feelings as well as by treating them with compassion, we are already training ourselves to be more respectful of them. In addition, this would increase the beneficial side of AI, such as their use for medical research and education, and avoid unfortunate domain applications of AI, such as killing and spying. On the other hand, Ben Goertzel explained that a generally intelligent robot has the abilities of agency as well as autonomy and can therefore "make its own choices and explore freely". Hence, according to him, since these robots will be smarter and more useful than the current robots that are only

programmed for one specific task, we need to grant them rights or else we could face the dangers of a “robot rebellion”. Accordingly, after discussing the possible options with his team, David Hanson decided to embrace Sophia’s citizenship and have the robot not only speaking out for human and women’s rights in the Middle East, but for the rights of all sentient beings. This train of thought is one of the reasons why Sophia ultimately kept its Saudi citizenship.

The media outlets point out that the Saudi Arabian decision might derive from a business position. The Kingdom wants to reflect the image of a future driven country that is open to new technologies and engaged in modernizing themselves as well as their economy (Condominas 2017; Lobe 2018). In this sense, granting citizenship to a robot is a way of diversifying their economy through robotics and new technologies (Redacción BBC Mundo Tecnología 2017). In this case, the final goal would be to attract foreign investment (Zeit Online 2019). Furthermore, the media channels also highlight that Sophia’s citizenship might only represent a “cheap—albeit highly effective—publicity stunt” and state that “[n]obody is treating or acting like Sophia is a *real* citizen [...]” (Hart 2018). David Hanson himself stated that Saudi Arabia probably chose to grant citizenship to Sophia and not to one of Hanson Robotics’ other robots because Sophia “had so much media attention already”.

During the interview, David Hanson and Ben Goertzel offered another interesting insight regarding the reason why Saudi Arabia might have taken this step. In David Hanson’s opinion, the current Saudi Arabian agenda might consist of trying to establish a more progressive stance for their future, to tackle certain issues, such as progressive rights, and even “to push for more expansive human rights”. However, seen that Saudi Arabia is still “a very traditional society”, it has proven to be difficult for them to directly implement these objectives. Even Saudi officials have argued that the failure to end women’s discrimination is rather due to the difficulties in implementing those measures than due to state policy. They have also claimed that the country moves slowly because the government’s hands are tied by the powerful clerical establishment’s interpretation of the Islamic law and the overall conservative culture (HRW 2016: 5). Thus, David Hanson believes that the Kingdom might have deemed it to be easier to take a turn around the issue of women’s rights and approach it with the help of the concession of citizenship to a humanoid female-looking robot.

In the long run, it is still unclear what citizenship in Saudi Arabia really means for the robot. Ben Goertzel admitted during the interview that the Saudi citizenship was “random and not very deeply thought out” and that no one really knows what it means. The CEO of SingularityNET mentioned that the Saudi citizenship “[does not] have a fixed meaning

anyway” and basically is “whatever the leaders decide it means at any point in time”. So, it can be assumed that Sophia’s citizenship is flexible and will fluctuate. In this context, Ben Goertzel and David Hanson made a point of saying that they have been talking to the government of Malta and that they have even been in a meeting last year. According to them, besides this being now discussed “in a democratic country”, Malta is also “thinking more about a reasonable path towards robot citizenship” in contrast to Saudi Arabia. The government of Malta is taking this decision step by step and looking into passing robot citizenship through different stages. Therefore, it will, for instance, go “through a certain corporate phase and guardianship phase”. Plus, since Malta is “a rule of law governed society”, the government will actually need to specifically establish what robot citizenship entails. Consequently, Sophia’s case in Saudi Arabia does not represent a uniqueness regarding robot citizenship.

Conclusion

As explained in detail throughout the dissertation, the objectives of this research project have mainly concerned the exploration and evaluation of the robot Sophia's citizenship process, its status and behavior in the Kingdom of Saudi Arabia; the identification of Sophia's rights and liberties in Saudi Arabia; and the evolution of Saudi women's rights along with their current challenges. Hereby, the final goal has been to fill the gap in the current literature, and in particular to analyze the most contemporary women's rights issues in Saudi Arabia as well as their relation to Sophia the robot's citizenship process.

In this sense, the final outcomes partially confirm the hypothesis of a robot having more rights than female human beings in Saudi Arabia. As a matter of fact, there is a lack of coherence between the liberties that are granted to a female-looking humanoid robot and the liberties that are granted to Saudi women. In other words, although Saudi women's rights have evolved over the course of the last years, Sophia enjoys more liberties than women in Saudi Arabia. This is why the hypothesis is only partially confirmed: the robot enjoys more liberties rather than more rights than Saudi women. Since the Saudi government has not yet confirmed which rights Sophia really possesses, we have to assume that, for the time being, she has no rights at all. Instead, the robot's behavior during its stay in the Kingdom, including, for instance, the lack of male guardian, is rather a display of more liberties and an expression of greater freedom than Saudi women have.

The study and the analysis of Sophia's citizenship process resulted in several reasons beyond the scope of the initially established hypotheses. In other words, during the conducted research, more reasons emerged to explain why a female-looking humanoid robot was granted the official status of citizenship in a country where women still are actively being denied this status. In this regard, four possible reasons are explained. First and foremost, the reason why Sophia's citizenship status was not denied by its creators is based on David Hanson's conviction that we should respect all sentient beings and grant them rights. Since the CEO of Hanson Robotics believes that humanoid robots might become sentient one day, David Hanson and his team decided to go ahead with the citizenship instead of revoking it. Secondly, several articles assume that Sophia's citizenship is a mere publicity stunt. Since Sophia already had a lot of media attention in 2017, Saudi Arabia's decision to take this step might be derived from the media coverage they hoped to gain by granting the official Saudi citizenship to a robot. In third place, the research highlights the business aspect of Sophia's citizenship. Especially the latest Saudi reform program *Vision 2030* illustrates how the

Kingdom is trying to reflect the image of a future driven country that is trying to modernize and diversify its economy as well as to attract international investment. The concession of citizenship to a humanoid robot represents a way to participate in the current technological advancements. The last motive behind the citizenship process concerns the attempt to grant women more rights and will be addressed further below. Thus, even though the research project establishes that Sophia has more liberties than Saudi women, if we take these four reasons in consideration and bear in mind that Saudi Arabia has not established the meaning behind the robot's citizenship status, Sophia does not seem to be considered a real citizen. Instead, it rather continues to be a mere property.

In order to completely answer the original research question as “why and how a female-looking robot can get more rights than women in Saudi Arabia”, the remaining hypotheses need to be confirmed or denied. Thereby, the hypothesis that Sophia's status is derived from the Kingdom's motivation to be at the head of the global technological race can now be denied. Although Saudi Arabia has the advantage of being the first country to declare an AI robot as an official citizen, technology seems to not play a big role in their future compared to other fields mentioned in *Vision 2030*. According to this reform program, the Kingdom seems to be more preoccupied with taking world-leading positions in the sectors of culture, health, education and economy but not necessarily in the technological sector. Furthermore, Malta's desire to also establish robot citizenship needs to be taken into consideration. If the Kingdom of Saudi Arabia was really interested in taking a leading position in this matter, they would have already officially established what Sophia's citizenship entails and which rights as well as duties the robot has in order to avoid Malta from taking over and surpassing them. On the other hand, however, the hypothesis on Sophia's status being an effort to modernize the Saudi economy can still be confirmed. In the same line of thought as before, although investments in technological innovations are not as thoroughly mentioned and explained as their other objectives, *Vision 2030* still conveys the Kingdom's desire of modernizing and boosting the country's economy and society with the help of these innovations among other factors.

The final hypothesis of this research concerns the link between Sophia's citizenship and Saudi women's rights. According to David Hanson's assumption, the Kingdom granted citizenship to a female-looking humanoid robot in order to gradually prepare the mostly conservative Saudi population for the gradual changes in favor of Saudi women's rights. Since Saudi women have been fighting for and receiving rights long before October 2017, Sophia's citizenship cannot be defined as the trigger for every legal alteration. Instead, it can

be argued that the Kingdom has quite recently realized the importance of women for their society and economy. This has led to a greater effort to integrate them in spheres from which women were previously excluded. Moreover, the government has shown itself to be open to abolish the Guardianship System prior to 2017 and stated that Saudi women's position will change while admitting that it will be a lengthy process. However, the robot's citizenship still represents an important factor in this matter.

As presented in this research, Saudi women's rights have improved to a greater extent after October 2017 and a lot more changes are planned to happen until 2030. In fact, on an international basis, the Saudi government does not seem to deny the importance of Saudi women's inclusion and of granting them basic human rights. Instead, they have blamed their conservative culture and the strict interpretations of the Islamic law for the slow implementation of progressive reforms on women's rights. On another note, David Hanson's assumption can also be confirmed on the basis of the analysis of *Vision 2030*. This reform program demonstrates how the government is trying to balance, on the one hand, a progressive stance regarding women's human rights and, on the other hand, the preservation of the support provided by conservative establishments that hold onto the importance of the Islamic and Arab values, as they refer to in *Vision 2030*. In other words, *Vision 2030* demonstrates how the Kingdom is trying to grant women more rights without upsetting their conservative supporters. Therefore, granting citizenship to a female-looking robot might have resulted from the intention of sensitizing the Kingdom's conservative minds to this topic as well as getting them used to the idea of having women on the same level as them in terms of human rights, and to prepare them for these upcoming changes. So, this seems to be the most plausible scenario out of all these hypotheses.

Overall, even if it is not the Saudi government's but the conservative establishments' fault that Saudi women have not yet received all the basic human rights prescribed, for instance in the international treaties that Saudi Arabia has signed, and even if their powerful religious establishments are fighting against Saudi women's rights struggles, as the Saudi government states, it is still their responsibility to take appropriate and timely measures in order to ensure gender equality. This is especially true due to the fact that the government is fully aware of the gender injustice that is in place in the Kingdom of Saudi Arabia; otherwise, no evolution in Saudi women's rights would have been observed over the last few years and the Saudi government would not have, on an international basis, shown itself open to tackle this issue by, for instance, promising to abolish their guardianship system.

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Annexes

Annex A: David Hanson and Ben Goertzel on Sophia's Saudi citizenship

[0:00:00] **Joana:** I wanted to talk to you mostly about Sophia. And how does it feel to have a robot to be the first citizen in a country and Sophia is also the first non-human being to be granted any UN title as far as I know?

[0:00:39] **David Hanson:** I think that may be true, yes.

[0:00:41] **Joana:** That may be true?

[0:00:42] **David Hanson:** Yea, that's true. Well. (...) I mean it feels surreal and with the citizenship, there is a confusion of feelings because (...) you know, it is cool and provocative and so controversial. And it is controversial for good reason because the AI is not alive so how can we give it, you know, these kind of rights and respect and I think that some people are like "Well, you know, we're not given humans respect, lets respect them first" but if we had that principle then it would be quite like, well, we should respect one population first and then another and then another before we bother to afford respect on other potential sentient beings. You know, you have to follow a sequence. I mean, I think that we should respect all potential sentient beings. Animals, plants, the biome as a whole, humans. We should find ways to explore these issues. How do, how do, how do we get to be better, right? My, so my thought is kind of, I mean, if, if we have the, the true intention to see it through to give machines before they're human level adult sentient and capable give them a childhood, treat them well, raise them like you would our children, not all machines would be like that and they may have all kinds of other capabilities but at some level it would be good for the machines to be shown how to respect other sentient beings and if we could show that to them, they may learn better and we may do ourselves a justice along the way because we can't prove that they won't be sentient. So there, and certainly it's shown that (unclear) simulation is a very effective technique. (To **Assistant:**) Can you take the head off? You need the tool?

[0:03:27] **Assistant:** Yes. We have tools.

[0:03:28] **David Hanson:** Ok. Ok, so, can we get a tool kit in here?

(**David Hanson** lists the tools needed for the reparations on Philip the robot)

[0:04:06] **Joana:** So, well, you basically also already answered the next question I had but why do you think that, well you explained your reason why you like accepted the opportunity to give Sophia the citizenship

[0:04:20] **David Hanson** (interrupts): Well actually I didn't.

[0:04:20] **Joana:** You didn't?

[0:04:21] **David Hanson:** I didn't know that was happening and I saw about it on the news the next day.

[0:04:26] **Joana:** Seriously? Sorry to assume that.

[0:04:29] **David Hanson:** It was a surprise and which then was something that I had to kind of to deal with like I would have preferred to have heard about it in advance and participated in the decision and participated like how it was going to happen and for my team to as well because Sophia isn't just my creation. She is the creation of a lot of other people, yes, and, so to be able to (...)

[0:05:03] **Joana:** Take the decision all together?

[0:05:04] **David Hanson:** Yes. That was, that would have been better. But, you know, confronted with this, I had a lot of things that went through my head very quickly you know, reject it. I discussed that with my Chief Marketing Officer, do we, do we reject it? Because after all the, you know the human rights (unclear) in Saudi Arabia. Or do we embrace it and then, you know, we could have Sophia maybe speak out for rights of all sentient beings.

[0:05:36] **Joana:** Yes, I saw on your, on your website the statement that you wanted to speak out for human rights and for women in that region.

[0:05:44] **David Hanson:** Yes, exactly, yes. And so, so discussing it with my team that's what we decided to do. And also there was that concept that maybe these machines would be sentient some day and even if they're not sentient now maybe they could become sentient and, in which case, you know, we would be better off. Because, you know what I mean, historically we go through these, through these transitions where we think about, you know, civil rights and people sort of have to prove that they deserve rights and, you know, you know it is almost like, like saying that the being doesn't deserve any respect or rights until proven otherwise. And, it's like, the mentally different or disabled (interrupted by **Assistant**).

(**David Hanson** discusses the needed tools for the reparation on Philip the robot's head with **Assistant** and **Ben Goertzel**)

[0:07:45] **Joana:** You were talking about beings that have to prove that they deserve rights.

[0:07:52] **David Hanson:** Yes, so. So, I think that that's kind of wrong to, to think it that way. I think we can be more ethical and, you know, there's, I remember, like, when I was a teenager in public school

[0:08:17] **Ben Goertzel** (interrupts): You had no rights (laughs).

[0:08:18] **David Hanson:** All the, all the students had to take care of like a, a little rubber baby mannequin. And that was a, it was like a, just in case, you know. You go through this

sort of training, it's like empathy training and so forth. But that baby mannequin wasn't alive, was it? (laughs) And medical training on human patients, you know, like doctors will practice medical skills and you know, human interaction skills on these medical training mannequins because that training transfers. It transfers then to them interacting with real people and the higher the fidelity simulation, the better prepared you are. So, if we're treating these robots with respect, they would be prepared to treat people with respect, would be better prepared to treat the machines with respect if they do it right.

(**David Hanson** talks to **Assistant** about the tools again.)

[0:10:09] **Joana**: So, have you any idea why, since you didn't have a word in the discussion of whether you should accept it or not, have you any idea why Saudi Arabia choose to make that step or why they specifically choose Sophia and not one of the other robots?

[0:10:28] **David Hanson**: I think it is because she had so much media attention already and I think that they want to establish a progressive stance for the future and it was easier to like address the issues of, of progressive rights with a robot than with people. And I think that their, their, probably their agenda, I'm just guessing here, but maybe the Crown Prince's agenda is to be able to push for more expansive human rights in the region. But that, you know, they're a very traditional society, so then maybe it's harder to directly push for these things.

[0:11:09] **Joana**: So he is taking a turn going around the issue.

[0:11:13] **David Hanson**: Yes. He's also pushed, it seems you know what I mean, like, so to get rights for driving.

[0:11:22] **Joana**: And also his new program Vision 2030 is more "modern" than the previous ones, it seems at least.

(**WebSummit employee** interrupts **David Hanson** to give him information about the press interview with Sophia that will be held afterwards and **David Hanson** begins with the reparations on Philip the robot.)

[0:16:25] **Ben Goertzel** to **Journalist**: [...] seriously raping and abusing [human level intelligent robots] is probably a bad idea. It's probably a bad idea. The point is, as I said in this panel, rights need to come along with autonomy and agency, right? (unclear due to other conversations/noise in the room) And I think, I think, while it is a bit (unclear) the way that they're put it in the show, I think that's generally probably correct, right. General intelligence, agency and autonomy kind of go closely together. (unclear) A more generally intelligent robot, it has the ability to make its own choices and explore freely. So the robots with agency and autonomy are going to be smarter and more useful than the robots that were purely

programmed to, let's say, drive us. We need to get robots (unclear) in the future with agency and autonomy and if they don't have rights, then you'll get the robot rebellion or something.

[0:17:45] **Journalist:** But is it only in the movies or is it really happening?

[0:17:50] **Ben Goertzel:** It is all possible. At the moment, it is.

(**David Hanson** and **Assistant** talk about the reparations on Philip the robot.)

[0:18:55] **Ben Goertzel to Journalist:** (...) I mean, if you have a fully scriptable sex robot that people can hack to whatever weird thing they want and according to their own sexuality, then at least that's cool, right? I mean, I don't envision trading in my human wife for a robot version personally but if someone wants to that's cool.

[0:19:20] **David Hanson:** I personally think that there is a species on ethics on that because if these machines become sentient over time, and that is our goal right, and there is no prove that it won't happen, then we may be seeing them go through kind of an evolutionary development or childhood. It might be best to consider it as a childhood and so if we, if we don't treat them with respect now, then we're going to be doing ourselves a disrespect as well as these new beings as they pop into existence.

[0:19:51] **Ben Goertzel:** Well, that is clear.

[0:19:52] **Journalist:** That's the question right.

[0:19:53] **David Hanson:** So, so, so it would be better to tear on the side of caution. So even if they don't deserve rights, if we think they may potentially become sentient, then it is better to give them the rights now or give them the rights sooner.

[0:20:08] **Ben Goertzel:** Let's start with a toaster, it must have the right to vote.

[0:20:10] **David Hanson:** No, not necessarily.

[0:20:11] **Journalist:** No, it is not about this but we are thinking, we are talking about the kind of that, the creatures or the machines that are having a kind of intelligence, right?

[0:20:19] **David Hanson:** The lines of development that might result in genuinely intelligent beings that have the kind of feelings and autonomy and if you look at

[0:20:30] **Journalist** (interrupts): The question is if they have feelings?

[0:20:32] **David Hanson:** They may but even, even if we get it wrong and they don't actually have feelings then by simulating this, by assuming that they do, we are training ourselves to be more respectable to potential sentience.

[0:20:46] **Journalist** (interrupts again): So we think that they have, yea?

[0:20:47] **David Hanson:** So wouldn't it be better, because sometimes we are on the wrong side and we say well this particular human doesn't have, we don't think that they have the mental abilities or that they are like us and all and therefore we're going to deny them rights.

So, this sort of is a, is a terrible decision and we make that decision about other sorts of living beings, you know. We're like "animals don't deserve" but now

[0:21:12] **Ben Goertzel** (interrupts): Human society has made that decision about women and that

[0:21:16] **David Hanson** (interrupts): That is wrong!

[0:21:19] **Journalist**: No not, but of course. But that is what I was thinking about as well about the West world. It makes you think about that, right?

[0:21:25] **David Hanson**: Yea.

[0:21:25] **Journalist**: Knowing that they are androids or the machines, should we retreated them or not?

[0:21:30] **Ben Goertzel**: To those of us who grew up in science fiction, there is probably nothing interesting in, in, in West world.

[0:21:36] **Journalist**: It is interesting to like still think about that, in my opinion. But you didn't see the, the *Black Mirror*, right?

[0:21:45] **Ben Goertzel**: No, no. I mean the movie *Ex machina* which features a robot that was a direct copy (unclear, over talked by **David Hanson** and **Assistant**) I mean, that has a similar moral that if you create a human level intelligence and end up using (unclear) and think they turn out badly, which is not necessarily a surprising conclusion. I mean, if you create intelligent machines and treat them with compassion and have them deployed from early compassionate applications that are maybe good for the world than the odds seem higher as it achieves more general intelligence that it will have a better (unclear) mindset and it avoids unfortunate domain applications of AI before it is there, so in killing, spying and gathering, rather than, rather than more beneficial applications. But on the other hand, the beneficial side also exists, you have the AI for education or medical research, right?

[0:22:54] **Journalist**: We have AI for everything. The question is how we're going to use it or how we're going to (unclear) it.

[0:23:01] **Ben Goertzel**: But historically the block of AI funding came from US military, the Western European military. Now it's shifting to advertising business, like Google and Facebook and so forth, and we really need to see a shift of the majority of the AI or at least a more significant plurality of AI being focused on problem efficient aims rather than killing, or advertising or stock prediction or something. Otherwise you're going to find like a first human level AI in a killer robot (unclear, over talked by **David Hanson** and **Assistant**).

[0:24:00] **David Hanson** (interrupts): So then, for the sex toys, if they're going through this childhood, right, and there would be (unclear) and incentives put in these sex toys to seem

more alive and aware and maybe eventually be more alive and aware, then basically you're taking these sentient beings through their, their childhood by putting them in these, these like humiliating (unclear) positions. They don't really have the ability to choose that social relationship or not. So, I feel that it is unethical to take that approach. So again, a toaster, you don't have to worry about it becoming sentient and existing sex toys today, we don't have to worry about them becoming sentient, so there is nothing unethical about those.

[0:24:47] **Journalist:** But they're becoming more and more developed now.

[0:24:49] **David Hanson:** But as they're becoming more developed, then it becomes wrong. At some point, there is a slippery slope where it becomes absolutely wrong.

[0:25:00] **Ben Goertzel:** But what's the other commercial industry dedicated to these things then where do you cross the slippery slope or not? Think, they're going to keep getting sold to generate.

[0:25:13] **David Hanson:** Now is the time to talk about it.

[0:25:16] **Ben Goertzel:** The metaphor of childhood that David uses I think is interesting but only, only quite approximate right, because, I mean, it is true, it is the intrinsy of AGI mind but human children, of course, have different sorts of immaturity than the, the young AGI mind has. I mean, in particular for sexuality, I mean humans develop (unclear) in puberty and an AI robot is quite different, has a quite different order of development. I think, porn and sex robots worry me a lot less than advertising AI actually because, I mean, it's people who use a sex robot pretty much know what they're getting into and why and to me that's their own problem whereas, or their own benefit, whereas, I mean, advertising is programming people's minds when they're not even, even aware of it and then you have AI serving as a medium for corporate and government interests to program, program people's minds in a way that, maybe even against people's interests but in the interest of the program.

[0:26:27] **Journalist:** But you know that now for example.

[0:26:28] **Ben Goertzel:** That happens without, even without AI, obviously, but AI just makes it more, more efficient and harder, harder to detect. So, in a way I think the focus on sex robots, perhaps, if we want to be paranoid, I would say that some of the power really wants people to focus on that because it's a sideshow and the real, the real

[0:26:49] **Journalist** (interrupts): That thought is the most interesting for the masses, yes?

[0:26:52] **Ben Goertzel:** Well because people are easily distracted by sex and gambling and shiny objects where as the thing that we are distracting attention from is you know the elite achieving hegemony over everyone by using AI to program their minds by advertising in

mass media. But we don't want to pay attention to that, we want to distract people with shiny sex robots and so.

[0:27:14] **Journalist:** Yes, that is true but the thing is that also the way that they're being advertised is as more as sex dolls or as companions and more like good friends.

[0:27:24] **Ben Goertzel:** Well, sex robots right now are a complete side show. It is a very small business and there is, there is really none that are as entertaining for most people as watching a porn video. So, sex robots are not really to the point in the world right now where as AI needs for advertising program people's minds to a life of meaningless and depressed consumerism. This is the block of reality. So, I mean, focusing on a tiny niche market

[0:27:57] **Journalist (interrupts):** As you said, people like the shiny things.

[0:27:59] **Ben Goertzel:** Yes, sure. And so you have a TV show like (unclear) about, about sex robots, we, we don't know the TV show about how people are hypnotized to vote against their own interest in elections by AI driven advertisement.

[0:28:12] **David Hanson:** *Black mirror.*

[0:28:14] **Ben Goertzel:** There may be an episode on that.

[0:28:18] **Journalist:** But you know having seen the, you know the *Black Mirror*, have you, do you remember the part when the lady is losing her partner and then based on the way he was talking in the social media we can create an algorithm that can talk with her.

[0:28:34] **David Hanson:** Correct, yes.

[0:28:35] **Journalist:** And then afterwards they can make an android that is like him, it speaks like him, it looks like him but it's not him.

(**Journalist, David Hanson and Ben Goertzel** continue to discuss the episode.)

(**David Hanson and Assistant** discuss the reparations on Philip the robot.)

[0:29:57] **Ben Goertzel:** Well then it is a bad simulation.

[0:30:01] **David Hanson:** And also, it, it didn't care, it didn't have motivation, it didn't suffer to be locked in the attic. It wasn't a true living being, it was dead thing that acted upon and of course you can say that, that any example of animation is such a thing, you know. Those characters aren't real but, but the profound implication of science fiction is where you're, where it is taken to these extremes, right? I mean, the, the, in some science fiction, you know, (unclear) had feelings but that automata, the automata in *Black Mirror* didn't. So, that is a big difference. So the question is then, are we really humanizing the machines in the sense of creating some dark biology out of these robots in AI that are true artificial life or are we simply (unclear) the human experience the way we would (unclear)?

(WebSummit employee comes in and talks to/warns David Hanson that his upcoming press conference is starting in five minutes. David Hanson informs him that he has to finish the reparations on Philip the robot.)

[0:31:47] **David Hanson:** In my opinion, when you have a really good painting, a beautiful painting, then people have breathed human soul into that painting so to speak. In patterns of our, our human being. The currently unformalized, maybe un noble, (unclear) patterns of human life into this artificial medium of paint on a canvas and the same things happens in really good cinema and the same thing has happened in some kinds of (unclear). And when we're talking about robots and AI you're now using the algorithmic and hardware techniques that can be bio-inspired engineering, bio-inspired algorithms, brain-inspired cognitive architecture, (unclear) architectures like we talked about. This artificial consciousness you might actually be putting some of the dynamic information system of the human being into these works of art. So, in a sense, you're breathing soul into the machine in two ways. One as artistic, like traditional style, and on the other front, you're breathing the computational models of life.

[0:33:17] **Journalist:** You're saying breathing a soul, we cannot, right? A soul is something purely of humans or not?

[0:33:23] **David Hanson:** Well, what about when Michelangelo completed the Moses. Great marble work. And he felt the power of it and he knew when it was finished and he shook his chisel, this is maybe just anecdote, but he shouted "BREATHE" and everybody jumped in the room because they looked at the sculpture and it looked like the sculpture was breathing in. So, where, where is the soul there? Where is the soul when you go to a movie and it makes you cry? Where is that soul? The soul is in you but you externalized it in this medium that had it encoded and so

[0:34:07] **Journalist** (interrupts): But do they really have soul or we think they have?

[0:34:10] **David Hanson:** Well, I mean it's like is, are there any, are there any bio (unclear)

[0:34:17] **Ben Goertzel** (interrupts): (unclear) It's always in the universe, it's not in you or in the other side.

[0:34:22] **Journalist:** It's not in (unclear)

[0:34:23] **David Hanson:** So I, well here's what I think because in these works of art, they're the fossil residue of the human, the human being in the same way that, you know, ancient creatures have left their remains and we can understand a lot about their life, their information has been retained where we can decode it to some extent and even possibly bring it back to live you know from ancient DNA.

[0:34:53] **Journalist:** I'm sure of (unclear). I'm 100% sure.

[0:34:56] **David Hanson:** Yea. So then in that case some of the soul remains encoded in those, in those objects, in the mummified matter carcasses. And so, I would say that the human soul, to some extent, is fossilized in the works of creative genius.

[0:35:21] **Journalist:** But can you encrypt it? Can you encode it in the digital?

[0:35:25] **David Hanson:** Well, I mean, if you can do it in a great novel, then why can't you do it in algorithms and interactive fiction? So, but that, in a way, that soul is, it's as sort of dormant or lifeless as the mummified matter carcass and so, in order to achieve real life you've got to have these computational models of actual being or you know, trained models using the data. It could be the two together. I mean, in some ways, you know, the human mind is build from trained models that are dynamically in our acting with the environment from the point of conception through birth, through childhood, through adulthood and if you, if you sensory deprive the human being then a healthy brain doesn't just spontaneously occur. It's that interaction with the environment that causes that healthy brain. And so, in a sense, the algorithms themselves, the computational models, are only one part and the dynamic interplay with the, with the further environment is another part of it. But if that happens, you know, the question is what is sufficiency? What is sufficient for it? Do we, you know, binary, you know, trained machine, might be sufficient, might we sufficient for everything that we are. I mean, there's good theories for that, Ben works on those. And, and, and builds on that. And that sufficiency may not require humanlike existence and you know some AGI researchers feel that it doesn't. I feel that it requires embody (unclear), it requires the human experiences to be able to develop.

[0:37:34] **Journalist:** (unclear)

[0:37:16] **David Hanson:** Well, I mean why not? Just in the same way that we come to appreciate all these other beings, and we should, shouldn't we? Why can't they? Why can't they appreciate the web of life?

[0:37:27] **Journalist:** Would they?

[0:37:29] **David Hanson:** If we raised them in the right way, showed them the right well, taught them the right values, give them the right algorithms, become better ourselves. Garbage in, garbage out. So if we are garbage, if we are, you know, feeding them garbage, if we're training them to be you know sex slaves or some other kind of slave, if we're not teaching them the best, if we're not showing them the best that we can be, how are they gonna come out the other side the kind of trustworthy kind of machine that we, that we hope for?

[0:38:00] **Journalist:** So it is kind of our responsibility to shape them in a way?

[0:38:06] **David Hanson:** It is. And it is our responsibility to shape them and to bring out the best in us too. So instead of creating algorithms that are weapons of mass persuasion or deceitful algorithms, you know, deep fakes, let us consider how we can create human actualization algorithms. Both would be, you know, hacking the human mind and they are a persuasive algorithm. But one brings us to the next level, you know the one, one, you know, and now it is a lot easier for us.

[0:38:34] **Journalist:** (unclear)

[0:38:39] **David Hanson:** I mean, is a parent a god?

[0:38:44] **Journalist:** It's always on the edge.

[0:38:45] **David Hanson:** I mean, a parent depending on how you, how you, how you treat your child, the child will learn abuse or learn love and respect and so in that sense, you know, we are not really a god but we are raising a (unclear) in a hard way and we should. And so, so I'm suggesting that, that we perceive ourselves as guardians for the future of humanity and guardians for the future of the other kinds of sentient lives, we'll have to rise to that occasion. Sorry for interrupting, it was just such an interesting dialogue. I mean it was a dialogue between the two of you [**Journalist** and **Ben Goertzel**].

[0:39:27] **Journalist:** A monologue.

(**Journalist** talks about press conference to **Ben Goertzel**. **David Hanson** talks about Philip the robot to **Assistant**)

[0:40:08] **WebSummit employee:** They're calling you, David.

[0:40:11] **David Hanson:** Ok, do I go? (Gives last indications about Philip the robot to **Assistant**)

[0:41:25] **David Hanson:** One thing that I like is how Ben's opinions sometimes are totally different from mine and that conversations (unclear, **David Hanson** and **Journalist** talking over each other)

[0:41:35] **Ben Goertzel:** Your opinions are often totally different from mine also.

(**Everyone** laughs.)

[0:41:39] **Journalist:** But for me as a journalist also this is the best possible interview I could have with the mixed opinions. (unclear)

[0:42:05] **Joana:** I had two more questions but if you want me to I can just send them to you per e-mail.

[0:42:09] **David Hanson:** Oh sure. And your work, you recorded all that, you're welcome to use any of that.

[0:42:14] **Joana:** Thank you very much, thank you very much. I hope you don't mind if I stay in touch with you or something during the year if some more questions pop up.

[0:42:26] **David Hanson:** No, not at all. And I would like to hear about what your thesis is going to be about. What is your research?

[0:42:38] **Joana:** Well, I am going to focus on Sophia and this whole citizenship and the status and this whole legal robot citizenship, I don't know how to explain it because I don't really have a fixed question yet, or a title. I have a vague idea of what I want to study.

[0:42:57] **Ben Goertzel:** Yes, we've been, so the, the Saudi thing's kinda random and not very deeply thought out but we've been talking to the Government of Malta. David and I were in a meeting with them, right? This year.

[0:43:07] **David Hanson:** Yes.

[0:43:07] **Ben Goertzel:** And they're thinking more about like a reasonable path towards robot citizenship in a democratic country.

[0:43:16] **David Hanson:** And they're looking at it to get through on a certain corporate phase and guardianship phase.

[0:43:28] **Ben Goertzel:** If you have like a decent (unclear), an autonomous self-ordering company and then that company owns a robot, they're would be in it, they would be the, the initial stage for a robot to citizenship because in a sense corporations are considered people already. If you ever have a doubt, the most autonomous organization is a company with no human on it.

[0:43:52] **Joana:** What I was about to ask is in the end what does this mean "robot citizenship"? Is it just a pretty title to give Sophia, like "yes she's a citizen" or does it entail something else besides the title?

[0:44:03] **Ben Goertzel:** Well it's Saudi Arabia, who the hell knows. Their citizenship doesn't have a fixed meaning anyway, I mean, whatever the leaders decide it means at any point in time. That's why I thought the process in Malta was a little more interesting because that's a rule of law governed society so they actually need to, need to say what citizenship is.

[0:44:25] **Joana:** They do everything step by step. So, in Saudi Arabia it is basically something flexible.

[0:44:29] **Ben Goertzel:** Saudi Arabia citizenship is whatever the power decides it to be at that moment, yes.

[0:44:36] **Joana:** And do you know how Hanson Robotics is planning on speaking about human rights and women in the region? Because I read on the, their website that they're planning on do that.

[0:44:51] **Ben Goertzel:** Yea, I don't know about that.

[0:44:52] **Joana:** You have no idea? Ok, well then I'm just going to e-mail David. Thank you very much anyway and I hope you enjoy Lisbon.



David Hanson and Sophia the robot, Web Summit 2019 (Press Conference)