



Science & Religion: Reframing the conversation

Spiritual Silicon: could robots one day have souls?

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This research is part of the project *Science and religion: reframing the conversation* undertaken by Theos and The Faraday Institute for Science and Religion. The project, funded by the Templeton Religion Trust, seeks to analyse the understanding of science and of religion today, as a means of better grasping and navigating the relationship between the two. Over three years, the research team interviewed more than one hundred leading experts and commissioned a YouGov survey of 5,000 UK adults. Theos has analysed data provided by YouGov. The results can be found at www.theosthinktank.co.uk This paper is in collaboration with the Religion Media Centre, with whom the findings were discussed in a webinar which can be found on the RMC's YouTube channel: [Religion Media Centre - YouTube](#)

Executive Summary

- Only 5% of people think that “one day robots will have a soul”, while 75% disagree (the rest are ‘Neither agree nor disagree’ or ‘Don’t know’)
- 17% of people think that “one day we will have to extend human rights to robots” vs. 56% who disagree.
- Young people are more receptive to these ideas (e.g. 27% of under-30s think that “one day we will have to extend human rights to robots”)
- There is no major difference by religion, although ‘literalist’ religious believers (12%) are *more* likely to think that “one day robots will have a soul”.
- Those who pray frequently are slightly more likely to disagree with robot souls (80%) compared to those who occasionally pray (76%) and those who never pray (74%)
- The groups most likely to be against the

notion of robot souls are those who are clearly *against* the very idea of human spirituality or immortality – closely followed by those clearly *for* human spirituality or immortality!

- For the moment, public opinion is strongly resistant to the idea of the two blurring, and robots moving, as it were, on to human territory but that seems likely to change, if only slowly.

Introduction

The idea of artificial beings has been around for centuries, but it is only in the last few years that they have become a genuine possibility. The rapid speed of technological development has forced on us questions about the nature of intelligence, consciousness, moral freedom, and human identity – and whether artificial life could achieve any (or all) of these.

Techno-utopians sometimes imagine humans uploading themselves into an eternal virtual existence or augmenting their carbon-based capacities with silicon supplements. Alternatively,

they envisage artificial intelligence – robots – becoming so like their human masters that they are indistinguishable (including in their mastery). Techno-pessimists demur, doubting the willingness of humans to ‘go virtual’ or the capacity for robots to cross the human Rubicon.

Underlying all these issues, are assumptions about what it means to be human, a question that has always preoccupied the world’s religions. Some claim human uniqueness, others the existence of a soul, most have a special place for humanity in their worldview, while some insist that the distinction between humans and other animals is overblown.

In a similar fashion, ‘rights’ have memorably been called “values for a godless age” and are sometimes understood as a substitute for religious ideas of sacredness or dignity. Rights, by this reckoning, are the result of secularising the soul, retaining an inalienable, quasi-sacred identity for humans, without the religious baggage.¹

As part of the Theos-Faraday Science and Religion: reframing the conversation project, we tested public opinion on this question. Do people think robots could ever have a soul, or should ever be accorded rights? If so, who does (and who doesn’t), and is there any religious pattern to public opinion here? The results are given below with a reflection following.

Data Used

To explore this issue, we commissioned a YouGov survey which addressed a number of questions and statements to a nationally representative sample of UK adults. (Technical details in Appendix). Total sample size was 5,153 adults. Fieldwork was undertaken between 5th May and 13th June 2021. The survey was carried out online. The figures have been weighted and are representative of all UK adults (aged 18+). We used the results from these research questions/statements:

- Q13_2 “I believe that one day robots will have a soul.”
- Q13_6 “I believe that one day we will have to extend human rights to robots.”
- Q2c_8 “Humans are at heart spiritual beings.”
- Q7_4 “Irrespective of your own beliefs, please tick

whether you think the following statements are compatible or incompatible with science... Human beings have a soul”

- Q23b_1 “Please tick to what extent you believe in each of the following... Life after death”

The results presented and discussed at length in this paper are statistically significant at $p = \leq 0.05$ unless otherwise stated.

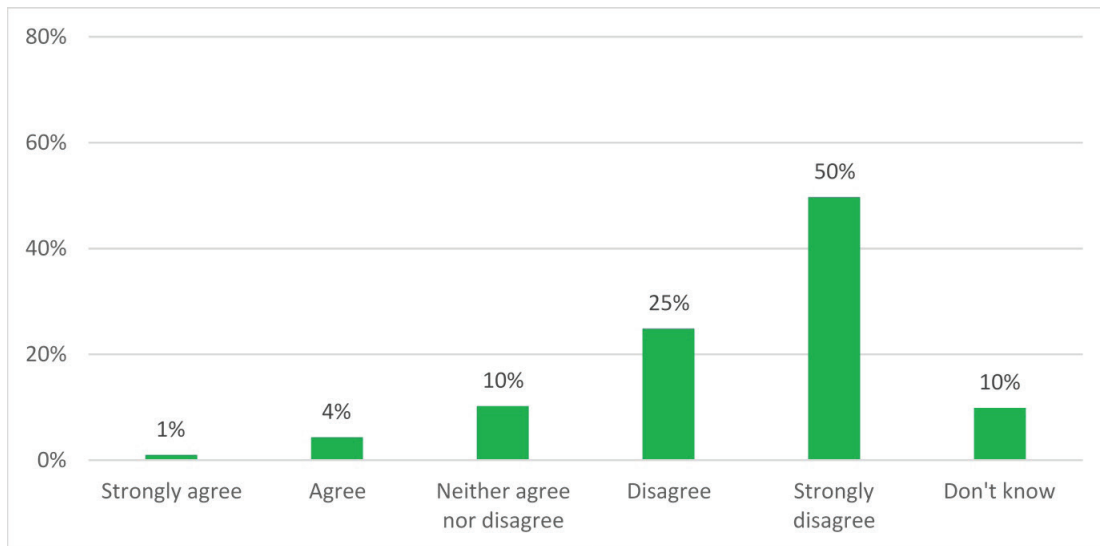


Results

Robot Souls

Overwhelmingly people disagree that “one day robots will have a soul”, 75% of the total sample strongly disagree/ disagree with the statement (vs. 5% stating they strongly agree / agree).

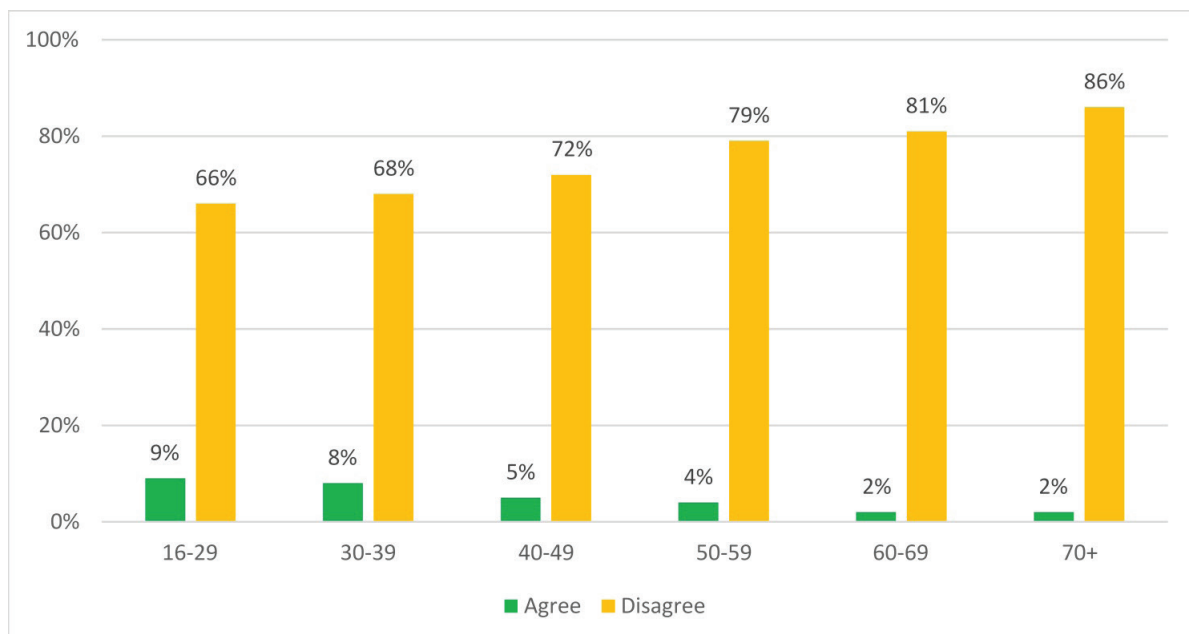
Figure 1: “I believe that one day robots will have a soul”: overall sample



Source: Theos/ Faraday/ YouGov 2022: Q 13_2 (total n= [5153])

The most noticeable demographic trend within these data is by age, with those under 40 showing higher levels of agreement.

Figure 2: “I believe that one day robots will have a soul”: by age



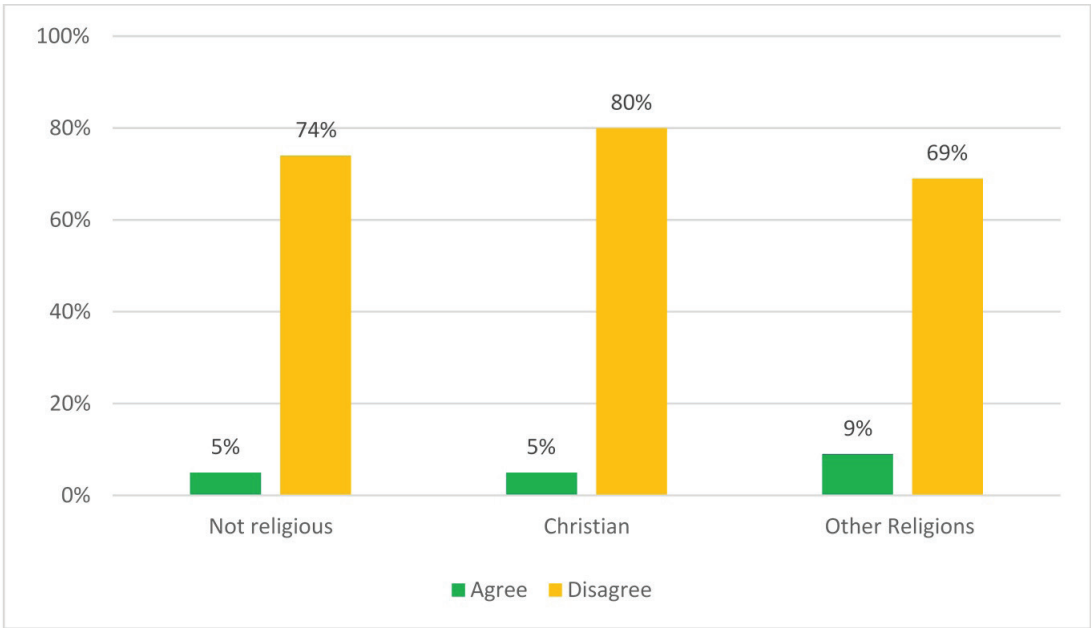
Source: Theos/ Faraday/ YouGov 2022: Q 13_2 (total n= [5153], 16-29 n= [1133], 30-39 n= [869], 40-49 n= [823], 50-59 n= [886], 60-69 n= [696], 70+ n= [745])

There is a noticeable trend here, and one that is also evident in the question concerning rights (see below), though the numbers for acceptance are still very low.

There are only small differences in levels of agreement between the non-religious, Christians, and those of other religions.² Self-identifying Christians are most likely to disagree with the idea, but the differences

are minor. Those who have a higher degree in a religion related subject (religious studies / theology) have highest levels of agreement, although the same sizes here are very small.³

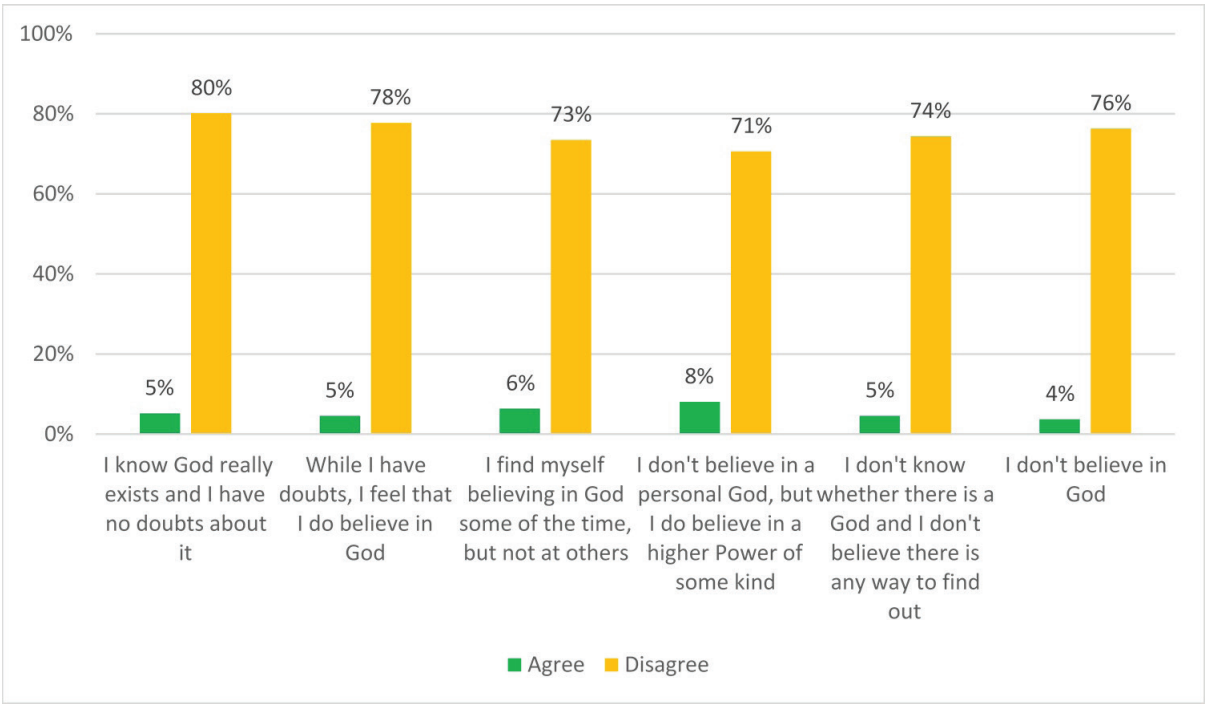
Figure 3: “I believe that one day robots will have a soul”: by religious affiliation



Source: Theos/ Faraday/ YouGov 2022: Q 13_2 (total n= [5153], not religious n= [2674], Christian n= [1651], other religions n[=481])

There are no notable differences when examining how different beliefs about God correlate with the belief in a robot soul. Confident believers are more likely to be resistant to the idea of robot souls, but the difference is a relatively small one.

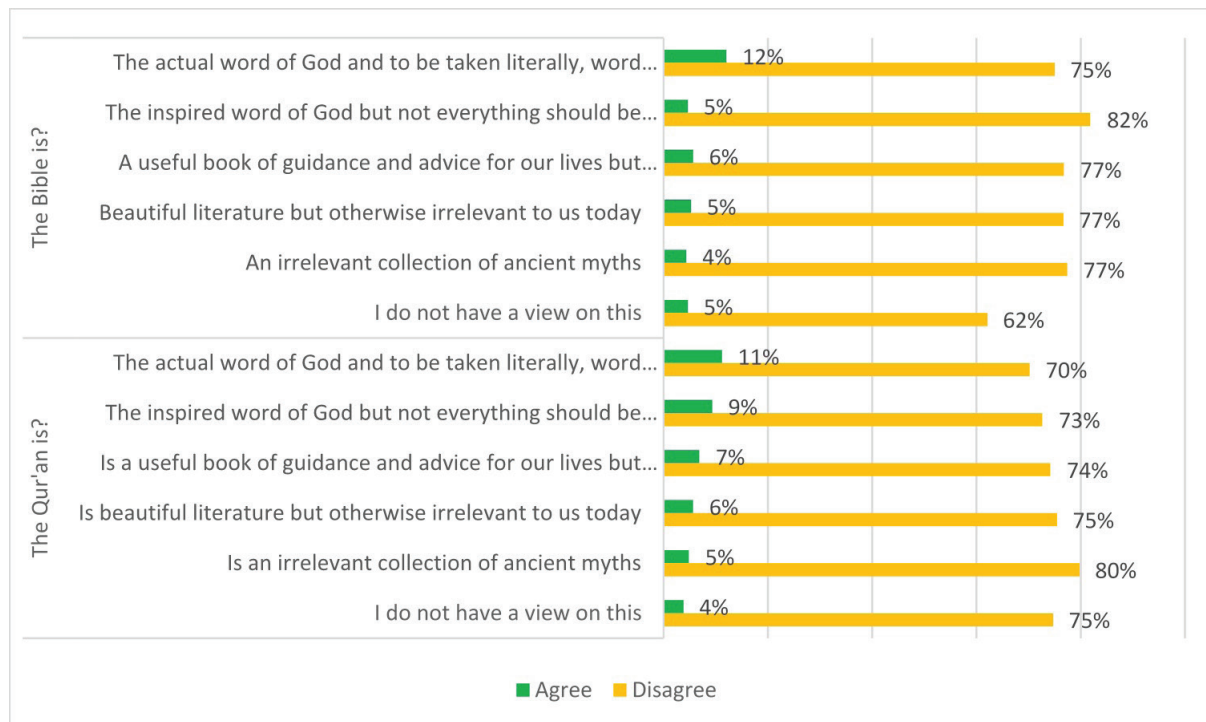
Figure 4: “I believe that one day robots will have a soul”: by belief in God



Source: Theos/ Faraday/ YouGov 2022: Q 13_2 (total n= [5153])

Interestingly, we found that individuals who hold a more literalist view of the Bible or the Qur'an were more likely to agree that robots might one day have souls.

Figure 5: “I believe that one day robots will have a soul”: by beliefs in holy texts



Source: Theos/ Faraday/ YouGov 2022: Q 13_2 (total n= [5153])

Those who believe the Bible or the Qur'an is “the actual word of God and to be taken literally, word for word” have the highest levels of agreement with this statement, with 12% and 11% respectively agreeing.⁴ By comparison, those who view the holy texts as either: “the inspired word of God but not to be taken literally” or “a useful book of guidance but not the word of God” were less likely to agree to the prospect of robot souls.⁵

Levels of agreement differ slightly according to frequency of prayer,⁶ reading of holy texts⁷ and attendance at a religious service. Those who frequently pray or read religious texts were more likely to strongly disagree/disagree with the prospect of robot souls (80% and 85% respectively) than those who occasionally (75%) or never pray or read holy texts (75%). Again, differences are small.

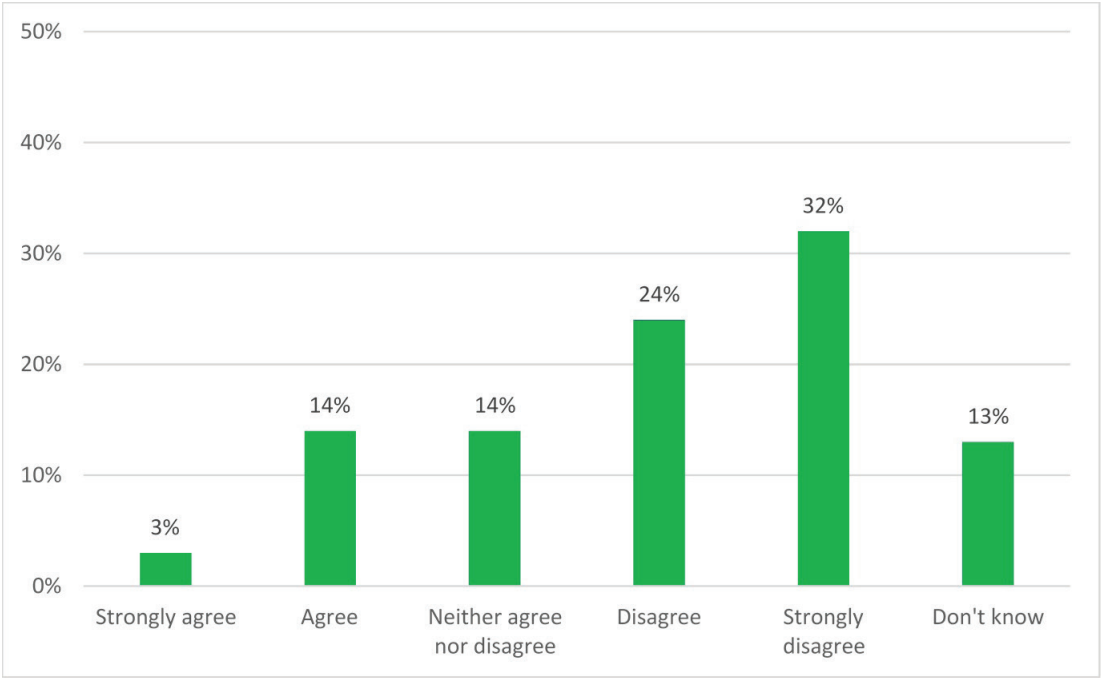
Robot Rights

We further explored the notion of the robot-human boundary by exploring whether there was a difference between the perception of robots having a soul and the notion that ‘human rights’ will need to be extended to robots.

People were more receptive to robot rights than robot souls but were still, on balance, resistant. We found that 17% of the overall sample strongly agree/agree that “one day we will have to extend human rights to robots” compared to 56% who strongly disagree/agree.



Figure 6: “I believe that one day we will have to extend human rights to robots”: overall sample

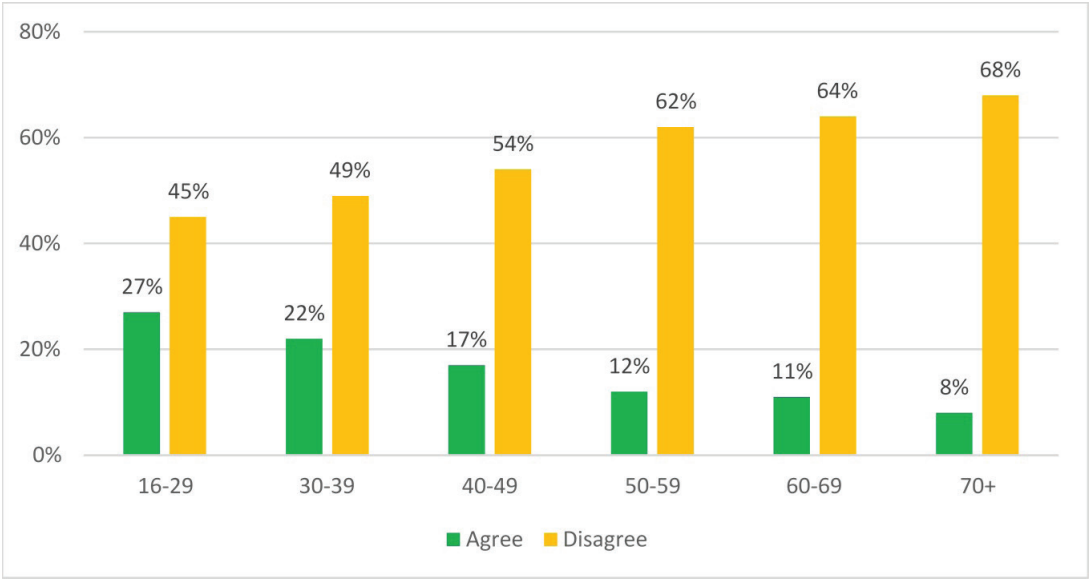


Source: Theos/ Faraday/ YouGov 2022: Q 13_6 (total n= [5153])

We found two interesting demographic trends within this overall picture. The first is that men have a higher levels of agreement with this notion than do women (21% vs 13%), a fact that cannot simply be explained by the fact that men are also more likely to voice their opinion on this issue than women (Men DK = 11%; Women DK = 15%).

The second is that there is a significant age dimension to this statement, as with the previous question, with those under the age of 40 displaying noticeably higher levels of agreement.

Figure 7: “I believe that one day we will have to extend human rights to robots”: by age

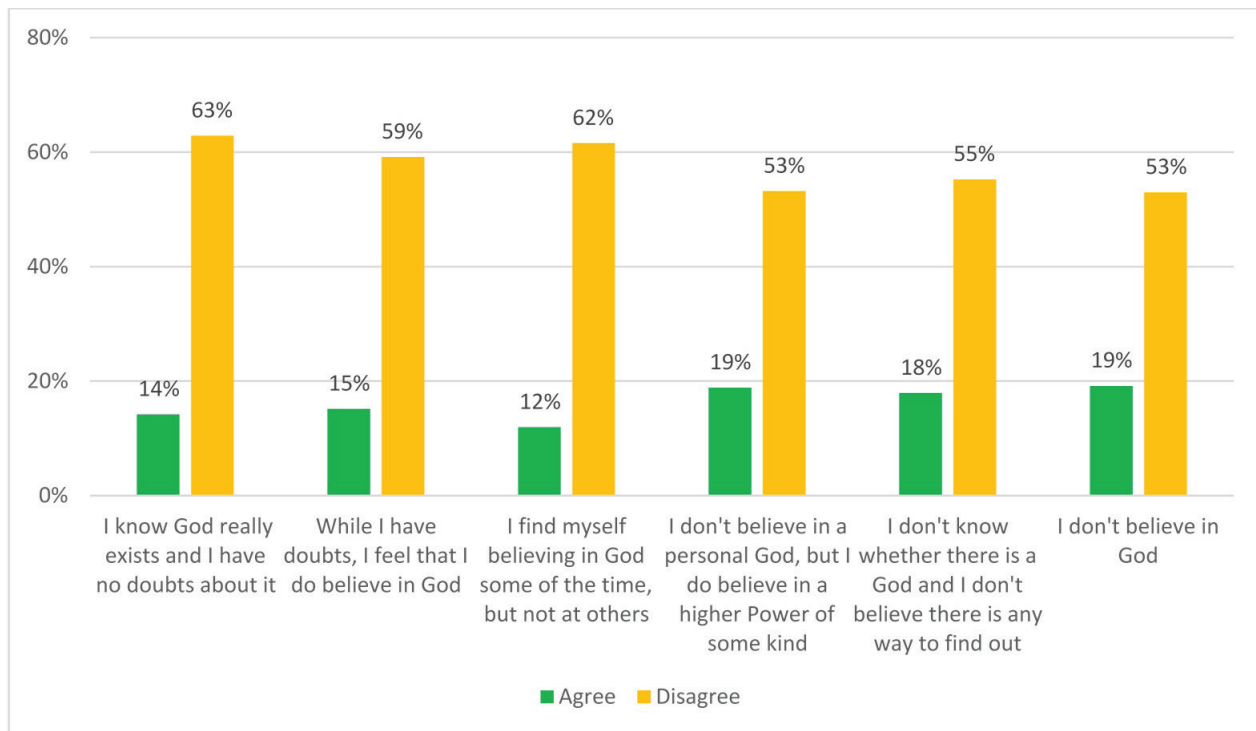


Source: Theos/ Faraday/ YouGov 2022: Q 13_6 (total n= [5153], 16-29 n= [1133], 30-39 n= [869], 40-49 n= [823], 50-59 n= [886], 60-69 n= [696], 70+ n= [745])

As with souls, the younger you are the more likely you are to countenance the idea of robots acquiring what some people think are (quintessentially and uniquely) human rights.

We found no real difference between levels of dis/agreement between the self-declared non-religious, Christian, or other religions, although there was a slight trend by belief in God, with those more inclined to believe being a little less receptive to the idea of robot human rights.

Figure 8: “I believe that one day we will have to extend human rights to robots”: by belief in God

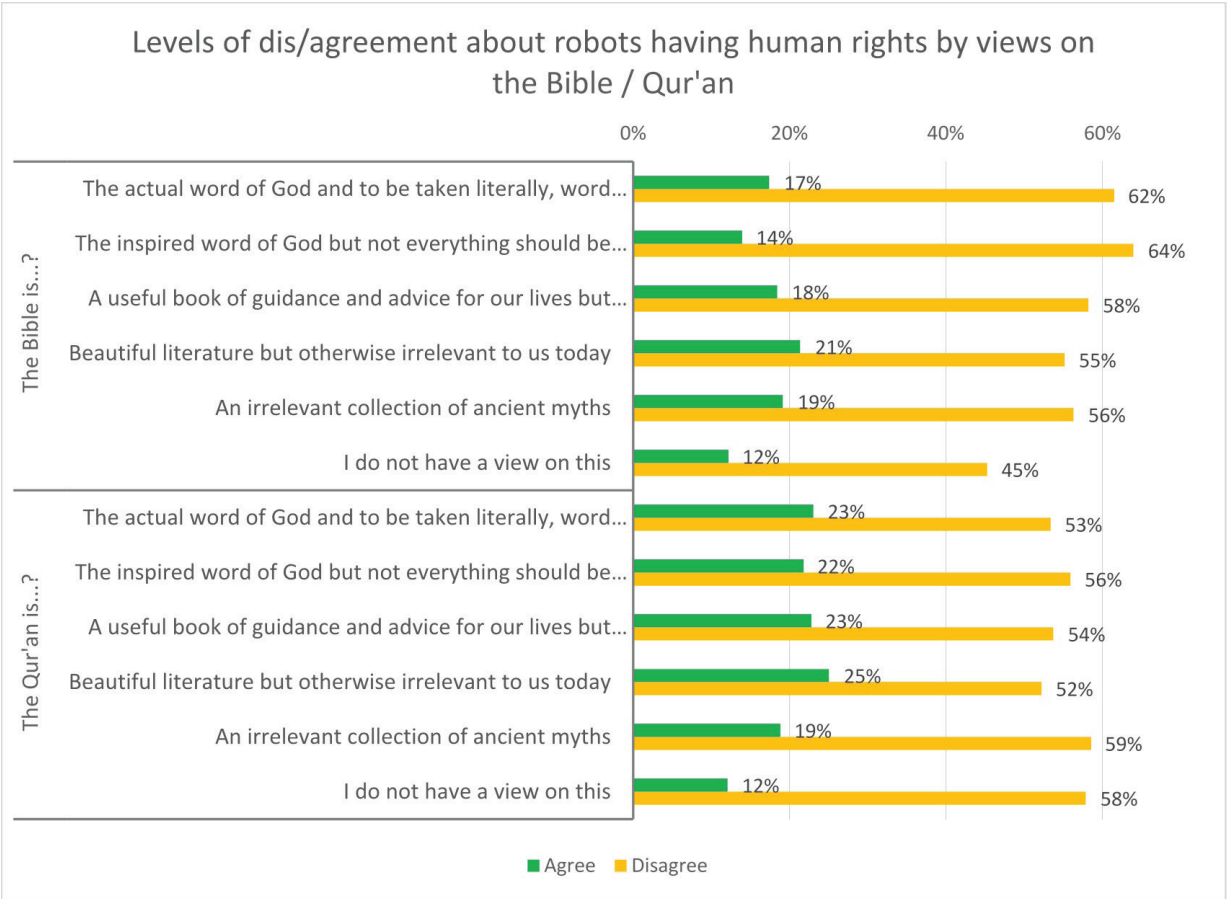


Source: Theos/ Faraday/ YouGov 2022: Q 13_6 (total n= [5153])

The strange (and counter-intuitive?) results mentioned above concerning the attitude of ‘textual literalists’ to robot souls wasn’t (quite) imitated when it came to robot rights. Those with more literal, or indeed generally more positive, attitudes to the Bible were also more resistant to robot rights. This wasn’t the case with the Qur’an although the trend here was small, as were the sample sizes.



Figure 9: “I believe that one day we will have to extend human rights to robots”: by attitude to Bible or Qur’an



Source: Theos/ Faraday/ YouGov 2022: Q 13_6 (total n= [5153])

There is little difference between levels of agreement the frequency of prayer.⁸ However, we did find that those who pray frequently are more likely to disagree with robot rights (63%) compared to those who occasionally pray (58%) and those who never pray (54%). Those who frequently/daily read holy texts also present higher levels of disagreement (67%) than those who occasionally read holy texts (58%) and those who never read holy texts (57%).⁹

Finally, it is worth noting that we found that individuals who have higher levels of science education,¹⁰ and those who are more confident in their knowledge of science are more likely to agree with robot rights.¹¹

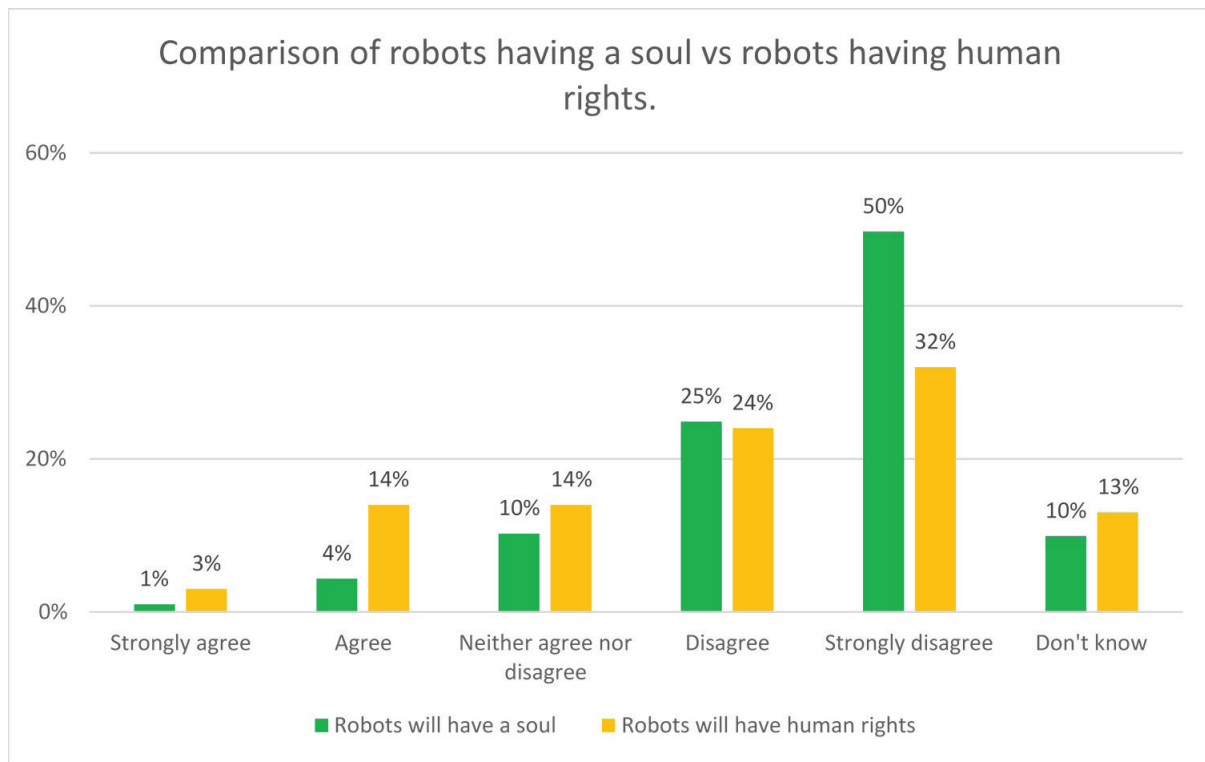
Reflection

Quantitative data of this nature do not allow us to probe what exactly people mean by their opinions, let alone *why* they hold them. These data are a prompt for reflection, rather than a conclusion.

When we compare results side by side, we can see a similar pattern, with a spike around strong disagreement with robot souls.



Figure 10: Robot souls vs. robot rights, by overall sample



Source: Theos/ Faraday/ YouGov 2022: Q [13_2 and 13_6 (total n= [5153])

This could come from the fact that more people reject the notion of a soul *per se* than reject the notion of human rights. However, it is worth noting that it is rather hard getting accurate data on the proportion of people who do believe in “the soul” (not least because the concept is itself so amorphous and vulnerable to different understandings). A 2009 BBC survey found that 70% of people believed in the soul,¹² whereas as 2016 YouGov survey found that 23% of people *definitely* believed in “an everlasting soul” whereas 37% *definitely* did not.¹³ Half-way between the two, a 2016 survey for the British Educational Research Association found that 54 per cent of pupils agreed with the statement “I believe humans have souls”.¹⁴

We did not directly ask whether people believed in a soul, but we did have some proxy questions.

The first was about belief in life after death. The data here showed that a disproportionate percentage of people who *definitely* believed in life after death (62%) *strongly* disagreed with the notion of robot souls (by comparison 51% of the overall sample *strongly* disagreed). The only comparable figure was among those who *definitely did not* believe in life after death, 59% of whom disagreed with robot souls.

The second was about people’s belief in human spiritual nature. The people who were most likely to reject strongly the notion of robot souls were those (a) who *strongly agreed* that “humans are at heart spiritual beings”, or (b) who *strongly disagreed* that “humans are at heart spiritual beings”.

The third was about whether people thought belief in the soul was compatible with science. Those who thought it was *not* compatible with science were most likely to strongly reject the notion of robot souls, but those who thought belief in the soul was compatible with science were also strongly against robot souls.

In other words, while non-belief in the soul probably does play a part in some people’s rejection of robot souls, it’s not the full picture.

Two other patterns were discernible: the greater receptivity of younger respondents to both robot souls and rights; and the slight resistance of religious people to both.

The first of these is what one would expect: younger people are more familiar and at greater ease with AI and the idea of intelligent robots. The second underlines a trend in broader science and religion data (for which see the report on Science and Religion

at www.theothinktank.co.uk) which locates one of the tension points in this debate around opinions of the human, religious people consistently being more inclined to view humans as somehow special or unique.

That noted, the fact that ‘textual literalists’ are more likely to countenance the existence of a robot soul is surprising and, assuming it is not an anomaly in the data, worthy of note. Perhaps, such textual literalists are inclined to believe that God can ‘ensoul’ whomever or whatever God wishes?

In conclusion, for the moment, public opinion is strongly resistant to the idea of robots moving onto the quintessentially human territory of ‘souls’ and ‘rights’, but there is a generational element to the result, and we are likely to see opinions shifting, albeit slowly.

Discussion points

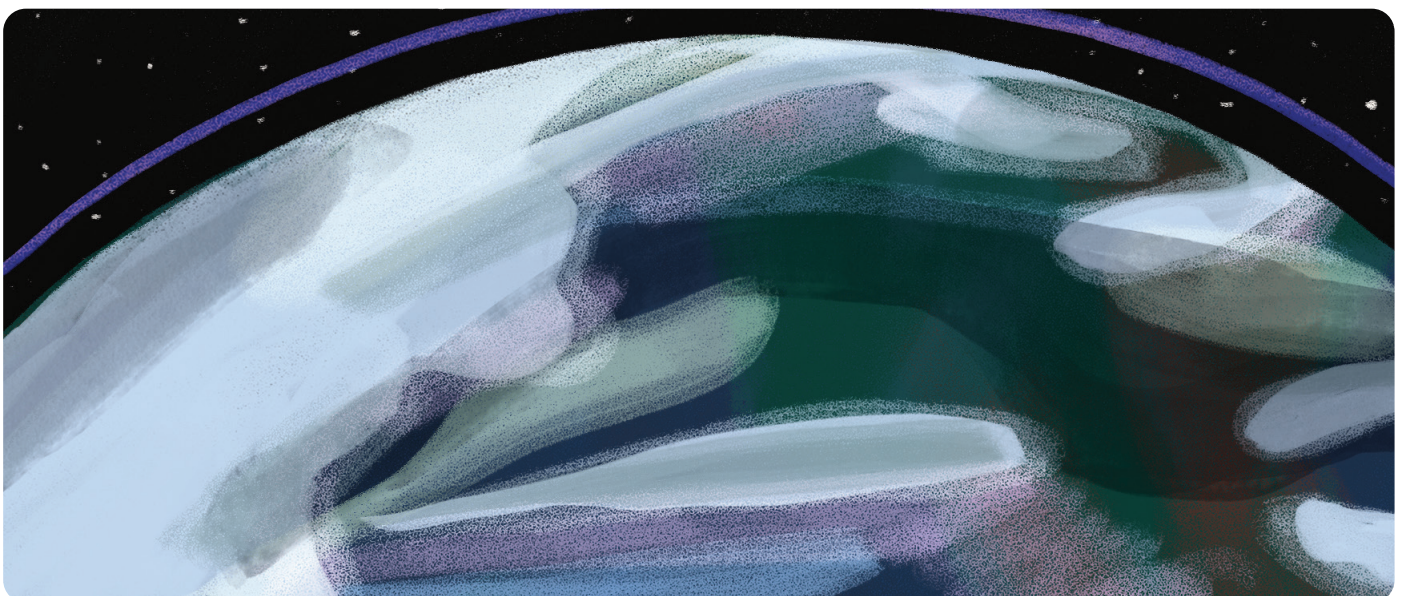
As stressed, these questions, data and reflection are intended to serve a prompt for reflection and discussion. In this instance, some of the areas on which they require further reflection are:

- What do we mean when we talk about the soul? (See Nick Spencer in conversation with Prof. John Cottingham on this issue on the podcast Reading our Times)
- Is the language of the soul or the spirit narrowly religious?
- What are the criteria on which we accord something (or someone) rights?

- Is ‘rights talk’ a secular equivalent of ‘soul talk’, and does it do the same thing?
- Are there significant technological (as opposed to metaphysical) roadblocks to robot freedom or independence?
- How would we – indeed how do we – detect if another person (meaning an entity worthy of rights, or being talked of in the language of the soul) is ‘there’?

Appendix

The quantitative research surveyed 5,153 UK adults, in fieldwork conducted by YouGov between 5 May and 13 June 2021. The survey was conducted using an online interview administered to members of the YouGov Plc UK panel of 800,000+ individuals who have agreed to take part in surveys. Emails were sent to panellists selected at random from the base sample. The e-mail invited them to take part in a survey and provides a generic survey link. Once a panel member clicked on the link, they were sent to the survey that they are most required for, according to the sample definition and quotas. Invitations to surveys don’t expire and respondents can be sent to any available survey. The responding sample was weighted to the profile of the sample definition to provide a representative reporting sample. (The profile is normally derived from census data or, if not available from the census, from industry accepted data.)



- 1 The phrase is from Francesca Klug's book *Values for a Godless Age: The Story of the United Kingdom's New Bill of Rights* (Penguin, 2000)
- 2 'Other religions' is comprised of data from Judaism, Hinduism, Islam, Sikhism and Buddhism.
- 3 The sample of those with a religious education masters is extremely small, $n=38$.
- 4 However, this is only a small sample with only $n=169$ and $n=149$ taking a conservative view of the Bible / Qur'an respectively.
- 5 Specifically, Bible is "inspired": 5% agreed, Qur'an is "inspired": 9% agreed; Bible is "useful": 6% agreed, Qur'an is "useful": 7% agreed. The numbers of those who have other views on the Bible / Qur'an is much higher (e.g., the inspired word of God is much higher [Bible, $n=1016$, and Qur'an, $n=314$], a useful book of guidance [Bible, $n=1206$, Qur'an, $n=635$], beautiful literature but otherwise irrelevant [Bible, $n=547$, Qur'an, $n=365$], an irrelevant collection of ancient myths, Bible, $n=1187$, Qur'an, $n=1091$]. It is worth noting that nearly half of the total sample selected "I do not have a view on this" regarding what they thought about the Qur'an, ($n=2315$) vs a much smaller proportion of individuals taking the same view of the Bible ($n=801$).
- 6 5% of those who state that they *never pray* agree with this statement (vs 74% who disagree), 5% of those who *occasionally pray* agree (vs 76% who disagree) and 6% of those who pray every week/ several times a week / once a day / several times a day (vs. 80% who disagree). However, what we did find is that those who pray frequently are more likely to voice their opinion either selecting dis/agree than their counter parts, as only 14% of those who pray frequently selected the options: neither agree nor disagree / don't know, vs. 21% of those who never pray and 18% of those who occasionally pray.
- 7 Similarly to frequency of prayer, we found that those who *frequently / daily* read holy texts are more likely to voice their opinions, with only 9% selecting neither agree nor disagree / don't know, vs. 18% of those who *occasionally* read holy texts and 19% of those who *never or practically never* read holy texts.
- 8 18% of those who state that they never pray agree with this statement (vs 54% who disagree), 14% of those who occasionally pray agree (vs 58% who disagree) and 16% of those who pray every week / several times a week / once a day / several times a day (vs. 63% who disagree).
- 9 67% of those frequently/ daily read the holy texts disagree (vs 14% who agree), 58% of those who occasionally read holy texts disagree (vs 19% who agree) and 57% of those never read holy texts disagree (vs. 17% who agree).
- 10 11% of those with no science qualification agree [$n=1006$], 17% of those with a GCSE in science [$n=2086$], 21% of those with an A level in science [$n=842$], 19% with an undergraduate degree or technical qualification [$n=715$] compared to 26% of those with a master's degree in science [$n=233$] and 25% with a PhD in science [$n=78$].
- 11 25% of those with a high level of science confidence [$n=1794$], agree with this statement vs 17% of those with medium confidence [$n=1739$], and 10% with low confidence [$n=1620$].
- 12 [BBC NEWS | UK | Most Britons 'believe in heaven'](#)
- 13 [British people more likely to believe in ghosts than a Creator | YouGov](#)
- 14 [Press Release – Most teenagers "believe they have a soul" | BERA](#)

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