

OTHER RELEVANT CONCEPTS

IMPACT

7.0 THE HUMAN

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ABSTRACT

The Human as a concept is not fixed across time and space but undergoes radical revision according to who is using the concept and for what purposes. Bioanthropologically, humans are members of a species of bi-pedal homo sapiens, and as modern humans, have an origin of around 50,000 years ago. Concepts of the human are influenced by Darwinian theories of evolution that propose that the human species has evolved from great apes. This interest in evolution takes on new dimensions in cultures where science, technology and manufacture have radically altered human existence.

In REELER we are interested in the way in which the meanings of what it means to be human are expressed by robotics researchers, companies and affected stakeholders. Moreover, we are interested in how specific concepts of the human emerge in Humanist theories of the Enlightenment and the anti-humanist reaction to the Enlightenment. To conclude we look at debates that propose that robots will become like humans and surpass the abilities of humans, the end of the human, characterised by posthumanist and transhumanist debates that centre around the way in which science, technology and manufacture has fundamentally transformed the human condition.

Within REELER, attention will be paid to the way in which ideas of the human are made manifest by structures in robotics, business and among daily lived experience of affected stakeholders. At the end of the project, we hope to offer some further insights into the way in which the human condition is understood through robotics.

7.1 Opening

In the REELER project the term *human* is an important concept because it a term frequently used in robotics papers and debates. Robotic scientists often contrast ‘the robot’ with ‘the human’, implying there is both analogy and difference. Is it that robotic scientists are aiming to make robots that become humanlike? Is the ultimately goal an indistinguishable symmetry between humans and robots? Or is the human a guide that will never be realised in artificial machines, but nonetheless, providing and important framework for roboticists to innovate and create new technologies?

By contrast, what are the consequences on humans on replacing face to face interactions with automated systems? Will this make humans feel alienated and isolated? Concerns that were expressed by many authors including Marx (1867) and Arendt (1958) of loss of purpose and human isolation under political and economics regimes that intensified manufacture at the expense of interest or connection with the means and products of creation.

In our own ways, we are still asking questions about the way in which robotics, AI and automation will change what it means to be human, and what kind of future is desirable for humanity.

There are several key ideas we will develop in REELER that will support the way in which our ethical roadmap is developed through the project. We will explore the way in which the field of robotics (research and industry) compare and contrast humans to robots. We will explore the capacities in the human the robotic scientists trying to emulate in their machines?

7.2 Methodology

Though this concept review is largely organised based on expertise in the area of the social anthropology of robots, some comparative search criteria was used. The term *human* has a large search space, and recognising the complexity of the concept. A search on SCOPUS from 1960 to the present day for the term *human* as a keyword returned 17,960,999 document results. As a term it is used widely and is utilised as a term in different ways. For example, the subject area of medicine returned the highest number of results with 14,188,548 results. The human as a keyword was referred to in more medicine and biological related papers (biochemistry, genetics, pharmacology, immunology and neuroscience) than subject areas of the humanities and social sciences. The social science papers used the term human as a keyword returned 434,657 results. This was fewer the subject areas of the arts and humanities, returning 210,463 results. What is surprising about this finding is that the arts and humanities (politics and philosophy) are important fields in which the concept developed at all. Perhaps it is the expansive and well-resourced biomedical and pharmaceutical industries that propel these subject areas well above the numbers found in any other area. We might ask the question if this input from biomedicine informs the robotics worldview more than the Enlightenment model (drawn from politics) that I describe below? Interestingly computer science and engineering use the term as a keyword, 221,901 and 324,883 times respectively.

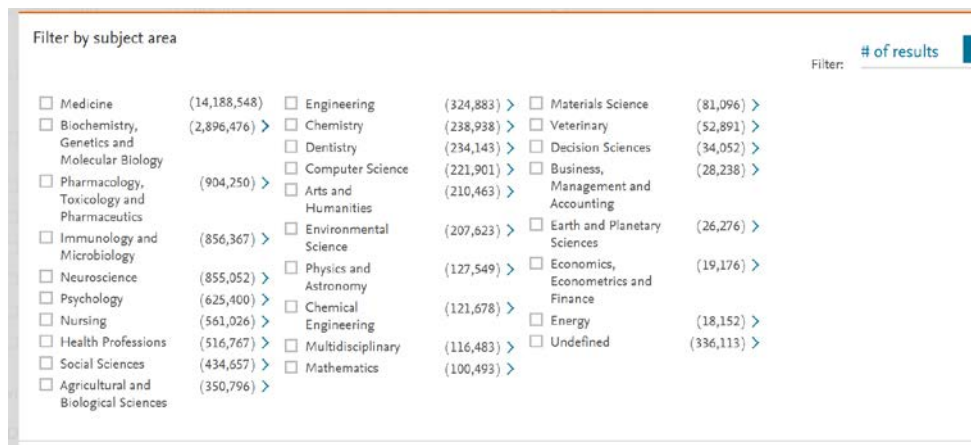


Figure 1: A SCOPUS search for the word 'human' as a keyword between 1960 and 2017

In this paper we use SCOPUS as a starting point to get a feel for how the concept of the human is spread out among years and subject areas. Surprisingly economics and finance, perhaps important areas for human beings has among the least references to the term at only 19,176.

When the search for human included AND robot and included only the subject areas of computer science and engineering, the results were revealing. In 1971, on 1 reference to the keywords human AND robot was recorded, but by 2016 it had increased to 3,944.

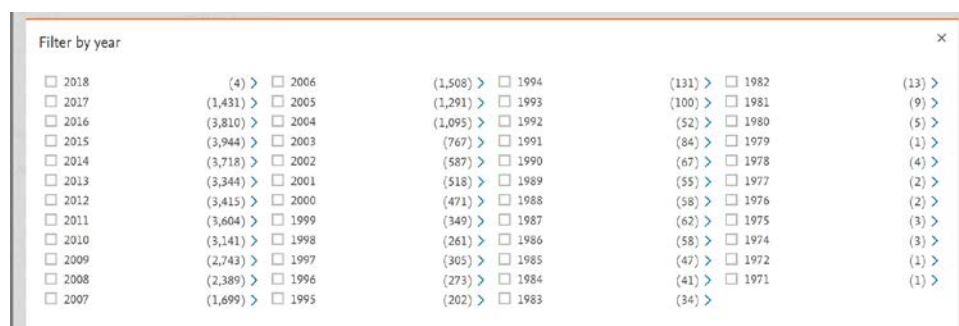


Figure 2

A SCOPUS search of the term human AND robot in the subject areas of engineering and computer science from 1970 to 2017.

The arts and humanities could be seen as the natural home of the human, as it was through the Renaissance concept of the human, and later the Enlightenment that has shaped our concept of the human today. The benefits of using search tools to try and identify patterns can be useful in the first instance as an overview. However, it would be impossible to read over seventeen million papers on the human, and the subsequent others on human and robot. Therefore what I will do for the remainder of this paper is to draw on my expertise as a social anthropologist of robotics and AI to identify some main issues in reflecting on the term human, and how and when it used in robotics.

REELER researchers are operating in a context where post-modernism, post-human, post-phenomenology and post-colonial studies have significantly influenced the scholarly discipline. These theories were a reaction to Enlightenment humanism, which while cast as a universal philosophy, represented the interests of white anglo saxon protestant males (WASPs), or a sub-section of economically privileged human beings that were able to recast their particular experience as the experience of all of humanity. Therefore for REELER, we will develop a novel approach in our project by exploring the different ways in which the human is conceptualised amongst our interlocutors, paying attention to the particular ways in which the term 'human' is deployed, in speech and through practices of robotics.

7.3 Enlightenment humanism

The term *human* is from the Latin homo=man but developed its current associations with a political movement of humanism, a disparate set of philosophies about the human condition developed during the late 1600-1800s (Hampson 1990). Humanism developed in response to the renaissance, the reworking of classical texts from antiquity in the modern era. Humanism was a varied set of political philosophies built around new a reworking of the human (read Man) as an autonomous and rational subject capable of controlling his own destiny (Bynum, Rogerson 2003).

The Enlightenment was not only an intellectual movement (though Hegel remarks it was in Germany), but drove ideas that manifested in political (anti-colonial/anti-slavery) revolutions in America (1775-1783), France (1789-1799), Haiti (1791-1804), and Ireland (1789). The political-legal-juridical expression of the human was expressed in the form of the Individualism, a set of legal, economic and political protections that freed 'men' from the tyranny of the church and monarchy (Margaret, Naffine 2001).

The Enlightenment gave meaning to the term Individual autonomous subject, but this subject was only male, the Enlightenment subject was never conceived as female, which led to feminists rejecting the usefulness of the concept of the human (MacKinnon 2007).

There is no the scope within this short paper to explore the complexity of the Enlightenment and how it shaped and informed concepts of the human, but there is scope to give some idea of what the human came to mean through the Enlightenment narratives (which underscore crucial concepts that are meaningful today such as legal personality. Legal personality is a product of Enlightenment humanism and is shaped by laws protecting human rights (Hampson 1990, Margaret, Naffine 2001).

The individual is a construct of the human that emerges out of Enlightenment (Horkheimer, Adorno et al. 2002, Cassirer 1951). The individual was the smallest social unit, often contrasted to society by political theorists (Marx 1867, Locke 1959) and modern sociologists (Weber 2002, Durkheim

1897). An idea that was challenged in the mid to late part of the twentieth century by anti-humanists (Haraway 2003, Latour 2002, Latour 2012) and neoliberal market economics (Richardson 2015, Gershon 2010).

An important thinker of the Enlightenment was Rene Descartes who in his Discourse on Method proposed that 'I think, therefore I am' and all that could be known was one's internal experience. He also proposed that bodies, animals and machines were on a par while the mind was transcendent. Writing in Meditations he wrote:

I possess a body with which I am very intimately conjoined, yet because, on the one side, I have a clear and distinct idea of myself inasmuch as I am only a thinking and unextended thing, and as, on the other, I possess a distinct idea of a body, inasmuch as it is only an extended and unthinking thing, it is certain that this I (that is to say, my soul by which I am what I am), is entirely and absolutely distinct from my body, and can exist without it (Descartes 1993, p. 91).

This mind-body dualism popularised through Enlightenment narratives can be seen today in contemporary discussions of the singularity (Kurzweil 2000a) when human can leave behind their physical bodies and ascend (literally upload their consciousness) into cyberspace.

It would be impossible to talk about what it means to be human without talking about what it means to be a slave, a form of property. For Aristotle, a slave was a tool, so persons (personhood gives human beings a legal identity which entitles them to rights, responsibilities and obligations).

The term 'person' was first used in the US constitution as the fourteenth amendment. The American Declaration of Independence (1776) had declared 'all men are created equal' while slavery was still in operation. The fourteenth amendment recognised the rights of freed slaves as 'persons' (Dworkin, MacKinnon 1988). Women did not have constitutional recognition on a par with men until the twentieth century.

However, at around the same time, corporations (a collection of individuals that own a business) secured a new set of rights, that of corporate personhood. In some circumstances they have the properties of tools. But corporations can be persons (a subset of humans that are capable of exercising rights, obligations and responsibilities).

Situating these narratives in rights based discourses are crucial, as claims about what humans are, or are not impacts on their treatment and potential. Rights based discourses recognise the human as a particular kind of agent and so describes what it means to be human (Messer 1993). Article 4 for example of the European Declaration of Human Rights is devoted to the "Prohibition of slavery and forced labour" Article 4.1 states 'No one shall be held in slavery or servitude'.

Rights protect humans from exploitation and coercion and recognise them as particular kinds of subjects.

7.4 Cyborgs

We're all cyborgs now! So the claim goes, and the belief that humans are so intimately connected to science and technology and manufacture that claims about ontological differences between humans and nonhumans are meaningless. Here we introduce the Haraway 'cyborg' to capture this narrative (Haraway 1991).

Haraway's (2003) work proposed that machines 'metallic' relational others, and aversion to these connections deriving from categorical purities that no longer are relevant (perhaps have never been so). While the Enlightenment was promoted as a period of human progress, authors such as

Haraway pointed to the use of Enlightenment ideas to justify colonialism, patriarchy, specism, racism and militarism. Instead Haraway and others (Latour 2002, Latour 2012) attacked Enlightenment humanism. Haraway and Latour in their work extended this franchise to include humanmade artefacts: nonhumans.

7.5 Posthumans and transhumans

While the concept of the cyborg developed by Haraway might be read as a rejection of Enlightenment humanism, posthumans or transhumans are the products of it. Posthumanism and transhumanism are frequently used as interchangeable concepts; both imply a human condition that has been but is past and simultaneously, a future condition. Advocates of transhumanism blend Darwinian theories of evolution (Darwin 1859) with techno-science to create new commercially inspired humans. Evolution, after all implies an upward trajectory, something evolves into something 'better'. As the 19th century evolutionary models of human cultures pit Europeans above Africans and Asian peoples, so transhumanists open up new ways of create superintelligence. Enhancing bodies, increasing memory, intelligence, interrupting the aging process are all important themes in transhumanists philosophies (Kurzweil 2000b).

It is not only humans that will transform through transhumanism, machines, built by intelligent humans and commercial companies will also transform, until a point when humans and machines are indistinguishable. Alternative representations of transhumanist predictions include The Singularity – a merging of human and machine and Superintelligence, where AI will surpass the abilities of machines.

7.6 Robots, AI and humans

Fear and uncertainty about robots is a theme that can be traced back to 1921 with the original story of the robots in the play Rossum's Universal Robots (Richardson 2015). But the fear of humans tampering with nature and creating artificial copies is a theme that runs deep in narratives of cultural life of Euro-Americans represented in tales as the Frankenstein Golem (Kieval 1997) and Frankenstein (Shelley 1994)

In 2014, world renowned physicist Stephen Hawking claimed "The development of full artificial intelligence could spell the end of the human race." (BBC 2014). As a result of these concerns, Elon Musk, a billionaire technologist created Open AI, a research programme that has awarded funding to the Centre for Existential Risk at Cambridge University, and the Oxford Institute of the Future of Humanity. Musk claimed 'If I were to guess what our biggest existential threat is, it's probably that. So we need to be very careful with the artificial intelligence," he said. "With artificial intelligence we are summoning the demon." I believe this "demon" needs immediate reflection – because these researchers uniformly believe this 'demon' or 'threat' comes from outside and in the technology, as if it could act autonomously and separately from the people and institutions that create it.

All together robots, AI and automation in their various forms are set to transform the socio-technical landscape of what it means to be human.

7.7 Conclusion

In REELER we will carry out research on what it means to be human, and the claims that it is the end of the human. We will explore the disciplines that robotic researchers draw on to make sense of the human, and how these researchers draw on specific ideas to develop robots. Drawing on Hasse (2015) we propose that the concept of the human will be as multistable as we have found the term

'robot' to be in our literature review and early research findings. The opportunity for REELER is to broaden this conversation from key public or privileged figures and include a wider range of participants in this discussion. Including affected stakeholders views of what it means to be human will add complexity and diversity to exploring these issues.

References

- ARENDT, H., 1958. The human condition, Charles R. Walgreen foundation lectures.
- BYNUM, T.W. and ROGERSON, S., 2003. Computer ethics and professional responsibility.
- CASSIRER, E., 1951. The philosophy of the Enlightenment. Princeton University Press.
- DARWIN, C., 1859. On the origin of the species by natural selection.
- DURKHEIM, E., 1897. 1951Suicide. Trans.John A.Spaulding and George Simpson.New York: Free, .
- DWORKIN, A. and MACKINNON, C.A., 1988. Pornography and civil rights: A new day for women's equality. Organizing Against Pornography.
- GERSHON, I., 2010. The breakup 2.0: Disconnecting over new media. Cornell University.
- HAMPSON, N., 1990. The enlightenment. Penguin UK.
- HARAWAY, D.J., 2003. The companion species manifesto: Dogs, people, and significant otherness. Prickly Paradigm Press Chicago.
- Haraway, Donna. 1991. Simians, cyborgs and women: the reinvention of nature. London: Free Association Books.
- HASSE, C., 2015. Multistable Roboethics. Technoscience and postphenomenology: the manhattan papers.Books, Lexington, , pp. 169-188.
- HORKHEIMER, M., ADORNO, T.W. and NOERI, G., 2002. Dialectic of enlightenment. Stanford University Press.
- KIEVAL, H.J., 1997. Pursuing the Golem of Prague: Jewish Culture and the Invention of a Tradition. Modern Judaism, 17(1), pp. 1-20.
- KURZWEIL, R., 2000a. The age of spiritual machines: When computers exceed human intelligence. Penguin.
- KURZWEIL, R., 2000b. The age of spiritual machines: When computers exceed human intelligence. Penguin.
- LATOUR, B., 2012. We have never been modern. Harvard University Press.
- LATOUR, B., 2002. Gabriel Tarde and the End of the Social. The social in question: New bearings in history and the social sciences, , pp. 117-132.
- LOCKE, J., 1959. Human understanding. Dover.
- MACKINNON, C.A., 2007. Are women human? Harvard University Press.
- MARGARET, D. and NAFFINE, N., 2001. Are persons property. Legal debates debates about property and personality, 54.
- MARX, K., 1867. 1976. Capital, vol. 1. New York: Modern Library, .

MESSER, E., 1993. Anthropology and human rights. *Annual Review of Anthropology*, 22(1), pp. 221-249.

RICHARDSON, K., 2015. *An Anthropology of Robots and AI: Annihilation Anxiety and Machines*. Routledge.

SHELLEY, M., 1994. *frankenstein*. Macmillan.

WEBER, M., 2002. *The Protestant ethic and the "spirit" of capitalism and other writings*. Penguin.