Technology and Human Nature
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The article reviews some theological discussion about developing technology. It discusses how new technologies raise questions about our understanding of human nature, and how different theological responses might approach these questions.

Specification links:

AQA A Level Component 2: Study of religion and dialogues: [religious tradition] and science.

EDEXCEL paper 1: Philosophy of Religion; 6.3 Religion and science debates and their significance for philosophy of religion; paper 4: Study of Religion; 6.2: teachings and responses to issues of science. How [religion] has responded to these in the historical and contemporary world.

OCR H573/03-07: Developments of Religious Thought; e.g. Christianity: 6 Challenges.

WJEC/CBAC/EDUQAS Component 1: A Study of Religion; Option A: Christianity; Theme 3: Significant social and historical developments in religious thought; Knowledge and understanding of religion and belief; E: The relationship between religion and society: respect and recognition and the ways that religious traditions view other religions and non-religious worldviews and their truth claims.

Introduction

In 1944, the first human-made object to reach space – a rocket – was launched. 25 years later, another rocket designed by the same man carried astronauts Neil Armstrong, Buzz Aldrin and Michael Collins to the moon. The man was German engineer Werner von Braun, and the two rockets were the V-2 ballistic missile and the Saturn V launch vehicle.

The technology von Braun designed in turn shaped his life and career, giving him a role in some of the most significant events of the 20th century – first as an SS officer, then as director of NASA's largest space centre.

It doesn't seem possible to properly understand von Braun's life without understanding the way it was affected by

technology. More generally, how to relate to and understand technology is a challenge faced by individuals and societies throughout human history. The challenge seems particularly acute during times of rapid development and change. We need to know how to think about and respond to new technologies that might allow (e.g.) human enhancement or artificial intelligence. Attitudes to more practical or immediate questions are likely to be affected by the answers we give to broader and deeper questions about technology. Is technology itself somehow good or bad? Is there any fundamental difference between modern and ancient technology? What is technology, anyway? Theological thought about technology and its relationship to humanity tries to deal with questions at these different levels.

What is technology?

If I asked you to list the technology you use every day, what would be on that list? Perhaps your phone, TV and maybe a form of transport like a train or car. What about shoes, a door handle or your favourite mug? The items on the first list are newer; but there was a time when the materials and techniques used to make the items on the second were just as new and cutting-edge as technology such as facial recognition and self-driving cars seem today. All of these items are tools or instruments that we use to fulfil a particular purpose, and so all of them are a kind of technology.

Humans have always been a technological species. Early technologies shaped the way we evolved, meaning that without technology humans would not exist as we do now.

> The capacities for social, technical or cultural intelligence . . . coevolved with the cumulative

cultural evolution of technologies. (Kendal et al., 2011, p. 788)

When understood in this sense, technology is clearly part of everyday life for all of us – and always has been.

Some thinkers, though, claim that modern technology is not just distinct because it is recent. There is some fundamental difference that sets (e.g.) shoes and computers apart. Martin Heidegger was a German philosopher who claimed that modern technology was different – and problematic. He saw the use of technology as a fundamentally creative process (a 'bringing-forth') (Heidegger, 1977, p. 10). What is different about modern technology, he argued, is that it uses the natural world as a resource in a way that fundamentally alters it (a 'challenging-forth'). Heidegger worried that this changes the way we see the world, and that technology of this kind lead us to think of things which are valuable in themselves as mere resources – even people.

Both of these attitudes to technology agree that it is crucial to understanding who we are. Below, I look at two areas where technology seems to pose particular challenges to our self-understanding: transhumanism and artificial intelligence.

Transhumanism

All of us exhibit flaws and make mistakes. We might be forgetful or irrational. We age and our bodies decline. We are sometimes selfish or cruel. Helping us to address, explain or come to terms with human frailty and weakness is a task that has occupied many of the greatest theologians or philosophers. In the last 50 years there have been increasing calls to involve technology in this task, a position called transhumanism.

> The human species can, if it wishes, transcend itself . . . in its entirety, as humanity. We need a name for this new belief. Perhaps transhumanism will serve.
> (Huxley, 1968, p. 76)

Transhumanism is not just the view that we can and should use technology to improve ourselves. I have already suggested that this is unremarkable; humans have always used technology in a way that affects our minds and bodies. Instead, transhumanism is best understood as a distinctive attitude to the relationship between technology and the human. The transhumanist attitude emphasises:

- rapid development of technology;
- rapid, extensive and widely available integration between humans and technology, both physically and mentally; and
- a focus on technology as the means of improving social goods and reducing ills.

It will not always be clear where transhumanism begins or ends. Some technologies championed by transhumanists are in general use today, but most discussion focuses on technologies that are experimental or might be possible in the future. Some of these possibilities for enhancement are listed below.

- 'Study drugs' – stimulant medication used for nonmedical purposes (Ragan et al., 2013).
- Advanced prosthetics/exoskeletons. Used primarily for mobility and therapy, but increasingly for military, industrial and recreational purposes.
- Digital integration and alternative senses.

- Transcranial Magnetic Stimulation (TMS) which exposes the brain to strong magnetic fields and is used diagnostically and to treat major depression. There is some indication that TMS may temporarily improve response time on some cognitive tasks (Dresler et al., 2013).
- Brain-computer interfaces (both invasive and non-invasive) translate neural signals into digital commands and are currently used to allow paralysed people to control computers or machines (Clausen, 2013).
- Deep Brain Stimulation (DBS) involves the implantation of a neurostimulator to send electrical pulses through the brain and is used to treat OCD and Parkinson's disease (Clausen, 2013).
- Moral enhancement. Some chemicals appear to increase pro-social behaviour, and at least one (psilocybin) can induce permanent changes in empathy (Tennison, 2012).

More speculative possibilities include genetic 'editing', brain-to-brain communication, external memory and significantly extended or indefinite lifespan. None of these, with the possible exception of exoskeletons, are well understood. Those that can be implemented may all have significant and dangerous side effects.

Theology and transhumanism.
The religious reception of transhumanism is very mixed. Some theologians are largely in favour, some against. Many transhumanists assume that their project is at odds with religion/theology – which irritates some theologians:

> Opening just one eye would disclose that religion is not the transhumanist's enemy here. (Peters, 2015, p. 142)

Transhumanism is fundamentally goal-directed, or teleological. The claim that it is possible to improve our nature relies on some idea (explicit or implied) of what a better human nature would look like. Both transhumanists and theologians tend to agree that we could be improved, but often disagree on what counts as an improvement (Peters, 2015).

> Transhumanism's advocates think they understand what constitutes a good human being, and they are happy to leave behind the limited, mortal, natural beings they see around them in favor of something better. But do they really comprehend ultimate human goods? (Fukuyama, 2004, p. 43)

Areas of agreement
- Death and illness are the enemy and should be resisted and defeated.
- Humans could be more than they are.
- We should actively seek a transformation.

Artificial intelligence (AI)
In his ground-breaking paper, *Computing Machinery and Intelligence*, digital pioneer Alan Turing argued that a sufficiently advanced machine could be capable of thought. Turing proposed a test he called the 'imitation game': if a computer could hold a good enough conversation to fool human judges into thinking it was human, then it would be reasonable to describe it as a thinking machine. Turing believed that by the year 2000, 'one will be able to speak of machines thinking without expecting to be contradicted' (Turing, 1950, p. 442).

Turing's proposal offers a format for identifying when a machine can imitate a human but does not go into great detail regarding the exact criteria for his test, and many different versions of varying levels of difficulty have been proposed. Despite increasing sophistication, computers cannot currently pass even less demanding versions of Turing's test (see Links below) but even the possibility has been enough to provoke a great deal of thought about human nature and what (if anything) makes us unique or special. If a computer could one day share in the most important parts of human nature, would there be any moral or spiritual difference between us and that machine?

One problem is that it is not clear that appearing intelligent is enough for us to be confident that a machine is actually thinking. In an influential argument, the philosopher John Searle claimed that even if a machine seems conscious, it might not be (Searle, 1980). A computer could have a conversation by following the rules of a program to produce the right responses to the right questions; but that would not necessarily show that the computer understood the responses themselves.

Searle distinguished between Strong AI and Weak AI. A 'Strong AI' is actually conscious and understanding, just like you and me. A 'Weak AI' is not really conscious or thinking, but is able to imitate consciousness so well that we cannot tell the difference. While both Strong and Weak AI are important topics of discussion, Strong AI in particular raises some very significant theological questions. Turing recognised this, anticipating a 'theological objection' to his position: 'God has given an immortal soul to every man and woman, but not to any other animal or to machines. Hence no animal or machine can think' (Turing,

1950, p. 443). In fact, theologians have taken a more open attitude to this topic than Turing expected and have been willing to seriously consider the possibility that machines could possess both consciousness and souls (McGrath, 2011).

Human nature and the *Imago Dei*

So there is no single theological position on either transhumanism or AI. Rather, both topics raise important theological questions, and the answers given will depend in large part on what theologians say about human nature. One of the key resources for theologians trying to deal with the questions discussed above is the doctrine of the Imago Dei. This is the claim that humans are made in the image of God, an important part of the biblical story of creation (in Genesis 1:26, God says 'Let us make humankind in our image, according to our likeness').

The Imago Dei does not mean that human beings are somehow the same as God; there is still a fundamental distinction between creature and Creator. It does, however, suggest that humans have a special status in creation, a special place in God's plan or a special kind of relationship with God. There are different interpretations of what exactly being made 'in the image of God' means (Cortez, 2010, pp. 18–30).

1. Structural: the *Imago Dei* refers to particular universal human attributes or properties, such as rationality or an immortal soul.
2. Functional: the *Imago Dei* refers to particular human roles or activities, such as an obligation to be responsible stewards of God's creation..
3. Relational: the *Imago Dei* refers to the capacity of humans for relationship in community – which is representative of the fundamentally relational nature of the Trinity.
4. Multifaceted: the *Imago Dei* refers to all of the above.

A key concern for theologians discussing transhumanism is whether or not changing our nature could devalue or diminish the *Imago Dei* (Ben Mitchell, 2013). For example, radical transhumanist ideas such as uploading our minds into computers might be at odds with the functional account by putting an end to bodily activities. An important question is whether a non-human (e.g. a computer) could ever possess the *Imago Dei.* If, for example, a computer was capable of rational thought then the structural account might agree that it could share in the image of God; but supporters of a relational account might be more interested in whether or not a computer can love.

Links

As of 2019, the current holder of the Loebner prize for best chatbot is 'Mitsuku'. You can chat with it here:

https://www.pandorabots.com/mitsuku

Philosopher Nick Bostrom argues for the transhumanist project in his guide to Transhumanist Values at:

https://nickbostrom.com/ethics/values.html

Stanford Encyclopedia of Philosophy article on Artificial Intelligence: https://plato.stanford.edu/entries/artificial-intelligence/ (Selmer Bringsjord, 2018)

On the long-term bet about the Turing Test between Mitchell Kapor and Ray Kurzweil, see:

http://longbets.org/1/

Discussion points

1. Would transhumanism reduce or increase social division and injustice?

2. Does a transhumanist project deserve our time and resources, or would these be better spent elsewhere?

3. Is it acceptable to 'enhance' future generations without their consent?

4. Are attempts to enhance ourselves sensible or hubristic [excessively self-confident]? Could we lose our humanity (and would that matter)?

5. If a computer could think, would it then count as a person? Would it be wrong for us to create a 'person' like this?

6. Might an AI have a soul? Could an AI be religious?

7. Should an AI have particular rights?

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