

Materials:

1. PSCF Paper “Artificial Intelligence and the Soul”
2. Projectable of Genesis 2:7 (with Hebrew for key phrases)
3. Projectable of final discussion question

I. Introduction - What this Session is About

A. General (strong) AI, not applied (weak).

This is not to deny that the Christian faith has things to say about how we use weak AI; it is rather to say that the most acute issues arise when we consider strong AI.

B. Theological, not technical or philosophical issues.

1. We have spent most of the semester talking about the technology of AI, and we have discussed a number of philosophical points of view. But the focus of this lecture is not technology or philosophy, but theology.

2. At this point, it seems reasonable to say that

a) On the one hand, there is no solid evidence that general artificial intelligence will be ever be achieved.

b) On the other hand, there is no technical evidence that general artificial intelligence will not be achieved.

C. The approach we have been taking with other papers in the course has been to have a general discussion of the paper. Because that might be a bit awkward in this case, I’m going to work questions on the article into the presentation - but **please, please, please** feel free to raise objections or ask other questions as we work through this material. [I don’t bite - I promise:-)],-

D. In discussions of general (strong) artificial intelligence, it is sometimes equated with “being human”. Thus, for example, in the film we looked at last time, Andrew Martin’s goal was to be recognized as a human being.

1. However, I think it is better to use a broader term: “personhood”, not simply “humanity” since, as Christians, we acknowledge the reality of persons who are not human (e.g. the angels).
2. In my paper, I used a definition of personhood from the philosopher Lynne Rudder Baker: “What makes a human person a person is the capacity to have a first-person perspective ... a perspective from which one thinks of oneself as an individual facing a world, as a subject distinct from everything else. All sentient beings are subjects of experience (i.e. are conscious), but not all sentient beings have first-person concepts of themselves. Only those who do - those with first-person perspectives - are fully self-conscious.”
3. When I initially decided on a “stopping point” in the *Bicentennial Man* movie we looked at last class, I chose the point based on time (57 minutes into the movie) and what seemed like a natural break in the story line. However, on reviewing it, I also noticed Mr. Martin’s observation “Andrew, you stopped referring to yourself as one” - i.e. Andrew began using “I” to refer to himself.
4. What we are talking about is the possibility of creating an artifact that exhibits genuine personhood - i.e. that has a “first person perspective”
5. Does Baker’s definition of personhood strike you as reasonable?

ASK

E. Why Might People Think General Artificial Intelligence and the Christian Faith are Incompatible?

1. In my paper, I quoted the following that appeared in an earlier paper by another author in the same publication:

“I fully grant that my theology would crumble with the advent of advent of intelligent machines”.

(Though this statement is now quite old, it is certainly still representative of a kind of thinking that exists in the Christian community today, I think.)

Why might someone think this way?

ASK

2. (If not mentioned already) A related question is whether there is any fundamental conflict between the idea of General Intelligence and the notion of human dignity and worth. (A concern that is not specifically Christian, of course - though I believe the answer is!)

Why might someone think this way?

ASK

F. Issues we want to consider

1. Is there any fundamental conflict between the teaching of Scripture about human nature and the notion of general (strong) AI?
 - a) If the answer is yes, then presumably strong AI is not possible.
 - b) If the answer is yes, then presumably a Christian probably would not want to work in this area.
 - c) If the answer is yes, future successes in this area might be seen as threatening to the Christian faith.
 - d) However, as you realize from reading my paper, I will argue that the answer to this question is actually no.

- e) Note that I have couched this claim in terms of “the teaching of Scripture” rather than in terms of “Christian doctrine”.

As is often the case, sometimes developments in the sciences force us to look more closely at the teaching of Scripture. I think this is the case here.

2. Is there any fundamental conflict between the notion of human worth (perhaps couched in terms of “the image of God”) and the notion of strong AI?
3. Does biblical teaching have anything to say about how one might go about work on strong AI?

II. The Origin of the Soul

- A. One of the key reasons why people believe there is a contradiction between Christian faith and strong AI is connected with an understanding of the nature of humanity that many Christians have held which might be called body-soul dualism. (The philosophical counterpart is substance dualism).

Though there are a range of viewpoints that fall under this general heading, the following seems to be a fairly common understanding.

1. Human beings are composed of two distinct component parts, often called “the body” and “the soul.”

(Some hold to a further distinction between “the soul” and “the spirit”. For our present purposes we will ignore this distinction and treat both the bipartite and tripartite views as variants on the same basic idea).

2. God’s creation of humanity involves two aspects:
 - a) The physical creation of our bodies.

- b) The creation of our souls.
- c) In the case of the first humans, their souls were created as a separate act of creation by God at the time of creation.
- d) In the case of the rest of the human race, several views have been put forth, but two have been dominant.

(1) (Soul) creationism - the view that God separately creates the soul of each person and unites it with that person's body at or shortly after conception.

(2) Traducianism - the view that the soul is propagated by a separate, immaterial process at the same time the body is propagated in the normal physical way.

- 3. Personhood is an attribute of the soul, not of the body - but technology (being physical) can only produce bodies.
- 4. This seems to be the essence of the "Theological objection" Alan Turing addressed in his paper:

"Thinking is a function of man's immortal soul. 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."

B. If body-soul dualism - understood in terms of two distinct creative acts by God - is a correct understanding of biblical teaching about the nature of humanity, then this would, indeed, seem to be a fundamental conflict between the teaching of Scripture and the notion of general (strong) AI. But is this what the Scripture teaches?

- 1. Many Christians have come to question traditional body-soul dualism. A key reason is explaining the interdependence of the soul and the body.

- a) On the one hand, “the soul” clearly controls the actions of the body. But how does this come about? That is, how does something immaterial affect something that is material?

This has long been recognized as a difficult question for body-soul dualism. (E.g. Descartes’ theory about the pineal gland)

- b) Moreover, we are increasingly coming to realize that the interaction goes the other way as well. There are many ways in which “the body” affects the “the soul”.

(1) The effects of tiredness, alcohol, drugs.

(2) The effect of various medications on psychological problems. (Note: “psychological” is from the Greek *psuche* - the NT word most often translated as “soul”).

(3) Diseases like Alzheimer’s disease.

2. Actually, for what we are discussing, body-soul dualism per-se is not the issue, but rather the origin of the soul is the key issue. In fact, the view of soul origin that I advocated in my paper has been defended by both proponents and opponents of body-soul dualism.

C. A key Scripture for human nature is Genesis 2:7:

“And the LORD God formed man of the dust of the ground and breathed into his nostrils the breath of life (*neshamah hayim*); and man became a living soul (*nephesh*)” (KJV)

PROJECT

1. As I mentioned earlier, a common interpretation is to see “the breath of life” as “ensoulment”, which occurred in the case of the first humans at creation, and in the case of the rest of humanity as a separate act of God at - or some time after - conception.

2. But there are several problems with this understanding.

- a) *Neshamah hayim* seems to refer to physical life possessed not only by humans but by other living creatures as well. For example, the next occurrence of this phrase (in Genesis 7:22 - with regard to the flood) reads “Everything on dry land that had the breath of life in its nostrils died”.
- b) The text reads “became” not “received”. That is, “soul” is not something a person has, but rather something a person is.
- c) Indeed, throughout the Old Testament, *nephesh* has a holistic meaning, speaking of the totality of what humans are, not a constituent part. (Footnotes 14 and 17 in my paper cite some good discussions of this issue.)

D. A view that seems more consistent with both Scripture and what we are coming to understand about the relationship between our bodies and our minds is something like emergence - that personhood emerges from our physical bodies.

(However, given that this is an area we still understand little about, it would be foolish to argue that this is, in fact, the correct explanation!)

1. William Hasker presents this view as follows:

“The human mind is produced by the human brain and is not a separate element 'added to' the brain from outside. This leads to the further conclusion that mental properties are 'emergent' in the following sense: they are properties that manifest themselves when appropriate material constituents are placed in special, highly complex relationships, but these properties are not observable in simpler configurations nor are they derivable from the laws which describe the properties of matter as it behaves in these simpler configurations.”

2. Actually, a position like this has been advocated by both proponents and opponents of body-soul dualism.
 - a) For example, Hasker, whom I just quoted, calls the view he is advocating “Emergent Dualism”.
 - b) Some form of emergence theory is also held by many who reject body-soul dualism.
3. Does this notion of emergence strike you as a reasonable account of the origin of personhood?

ASK

E. If emergence or something similar is, in fact, the case, then there does not appear to be any necessary contradiction between a biblical view of human nature and strong AI - that is, there is no reason in principle why personhood might nor arise in an artificially-constructed artifact of sufficient complexity.

(To say that this is possible in principle is, of course, not to say that this will occur!)

III. Human Worth

- A. Another concern about artificial general intelligence that often arises is that it would undermine our specialness and hence human worth.
 1. Prior to the time of Copernicus, it was widely held that the earth was the center of the universe. Theologians saw this as appropriate because of the special role of humanity in God’s creation.

Of course, it is now generally accepted that the sun, not the earth, is the center of the solar system and that the solar system itself is actually at the periphery of one of billions of galaxies.

2. Biological discoveries indicate that our physical bodies are not unique - we are mammals who share many things with animals. (In fact, according to Francis Collins (*The Language of God* p. 137) “Humans and chimpanzees are 96% identical at the DNA level”).
3. The possibility of strong AI is seen as threatening the last bastion of human uniqueness - rational personhood.

B. The underlying assumption here is that our value as human beings is ultimately tied to our constitutional specialness - there is nothing like us in the created universe (at least in the part we are aware of).

Is it really the case, though, that constitutional uniqueness and worth are linked?

ASK - Discuss

C. While this is not a distinctively Christian concern, in Christian circles it is often couched in terms of the “image of God”.

1. Genesis 1:26-27: “Then God said, "Let us make man in our image, in our likeness, and let them rule over the fish of the sea and the birds of the air, over the livestock, over all the earth, and over all the creatures that move along the ground." So God created man in his own image, in the image of God he created him; male and female he created them.”
2. A key question is this: should an artificial person be produced, would this person be “in the image of God”?

Two issues need to be considered here.

- a) The Scripture is somewhat ambivalent concerning the status of humanity being in the image of God after the fall.

(1) Genesis 5:1-3:

“This is the written account of Adam's line. When God created man, he made him in the likeness of God. He created them male and female and blessed them. And when they were created, he called them "man". When Adam had lived 130 years, he had a son in his own likeness, in his own image; and he named him Seth.”

This passage has led to the claim that the image of God was lost - at least partially - as a result of the fall.

(2) I Corinthians 11:7:

“A man ought not to cover his head, since he is the image and glory of God ...” (Note the use of the present tense)

(3) That having been said, a number of passages speak of man having been made (past tense) in the image of God.

b) To what does the phrase “the image of God” refer?

(1) This is a topic that has been discussed at great length through church history, and is certainly not one we are going to be able to deal with in the space of a few minutes here. The phrase that is often used in discussions is the Latin *imago dei*.

(2) However, it does appear that the various views on this subject fall into three broad categories.

(a) Substantive: *Imago dei* refers to something that we are. We have some substantial characteristic(s) that are like God (but unlike any other creature).

i) One characteristic that has been frequently identified as the *imago dei* is reason or rationality.

ii) If this is the correct understanding of the *imago dei*, then perhaps creating a fully rational artifact is impossible, since only God can create something that is in His image.

(b) Functional: *Imago dei* refers to something that we do.

The verse immediately after Genesis 1:26-27 (the “image” verses) says: “God blessed them and said to them, ‘Be fruitful and increase in number; fill the earth and subdue it. Rule over the fish of the sea and the birds of the air and over every living creature that moves on the ground.’” *Imago dei* is understood in terms of our function as rulers over God’s creation and as participants in the process of creation by filling the earth with divine image bearers.

(c) Relational: *Imago dei* refers to our capacity to enter into personal relationships with one another and with our Creator. Proponents of this view sometimes point out that the “image” verses end with the phrase “male and female he created them.”

3. Unless one understands *imago dei* as rationality, there does not seem to be any conflict between the possibility of strong AI and the notion of our being created in the image of God.

4. In my paper, I suggested a sort of “thought experiment”:

Suppose technology were able to create artificial persons that are equal to (or even, in some cases, surpass) humans in rational powers. Suppose, further, that God were to choose to provide redemption for these persons and that, as a result, they would be able to enter into a personal relationship with God that is no less real than that which we humans can experience, accompanied by a divine promise akin to the Christian hope. Suppose these persons

were partners with us in exercising dominion over the earth, and could also manifest something of the divine character. Would even this nullify the worth of human beings? Why?

ASK

IV. Implications of a Biblical View of Human Personhood for AI

- A. The final section of my paper some of my thoughts on this issue.
- B. But since you've just about completed a semester course in AI, let me put the ball into your court. What do you think?

ASK - PROJECT QUESTION - Discuss in groups

"What are the implications for AI of a Biblical view of human personhood.?"