Artificial Intelligence

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Summary: *As Christians, we can chart a middle-course between sceptical or overly optimistic views of technology. As humans we can cultivate technology as part of the Creation mandate, but we should not be subservient to it, and should use it for good, not evil.*

A quick guide to AI

The world of AI may feel confusing to people in the congregation, and it is worth explaining the key concepts quickly at the start of a talk:

- The human brain is made up of neural networks, billions of neurons connected to one another. Artificial intelligence mimics that structure on a microchip, with billions of transistors connected to one another. When fed with enough data, it is able to mimic human intelligence.
- The words 'artificial' and 'intelligence' are both crucial when it comes to AI. AI is able to perform tasks that would, in any other being, indicate a significant level of intelligence. Yet that intelligence is artificial. It is mimicking intelligence, not thinking for itself. Due to the sheer computational power involved, the 'intelligence' shown by AI is often able to exceed the intelligence of its creators.
- The pace of change in AI is extraordinary, and computer scientists often refer to the rate of increase as a 'double exponential'.
- Artificial intelligence offers many benefits. It enables us to tackle problems that are far beyond what would be possible with ordinary, human intelligence. Benefits can be found in many fields, such as education, healthcare, the environment, translation, disaster prediction and emergency response, and much more.
- But there are real dangers to AI too. These include, but are not limited to:
  - Civilisational risks. As seen in sci-fi films like The Matrix or Terminator, these follow the biblical theme of creation rising up against the creator. Most experts do not see this as the greatest risk of AI.
  - Misuse
    - By governments – for example, in China, AI is used for surveillance and to optimise their oppression of the Uighur people.
    - By corporations – for example, AI can be used by gambling firms to maximise addiction to their products. Similarly, social media companies use AI to maximise the amount of time spent on their apps.
    - In democracy – AI can be used to manipulate public opinion, and to create deepfakes that mislead voters. Even when these are debunked, it becomes harder to know what is true and what is false.
  - Truth, transparency, bias: AI has no concept of truth, only optimising output. Furthermore, the algorithms behind AI are so complex that it can be impossible to understand why it has made certain decisions. This is amusing or harmless when it comes to ChatGPT, but can have serious consequences, for example when AI is operating self-driving cars or working in financial markets.
  - Unintended consequences: As humans, we use technology to shape and change the world around us. In the process, technology changes and shapes us, and it is not always possible to predict in what ways this will happen. The advent of social media (our 'first contact' with AI) had a profound impact on society. Generative AI is humanity's 'second contact' with AI, and will have all sorts of effects that we will only see in hindsight.

Key points - a clash of worldviews

We regularly hear three stories about AI.

- It is the next great frontier of technology, and will transform life as we know it, much as the invention of the Printing Press transformed the world 500 years ago.
- It is a disaster we are watching play out in real time. AI will lead to the end of the human race as we know it.
- It is overblown hype.

It is the task of the preacher not to embrace any of these narratives uncritically, but to tell God's better story about technology and AI.

- Humans have been given a God-given mandate to cultivate the earth, and using technology has been part of that story since the early chapters of Genesis; Artificial Intelligence is just the latest form of this. As with many things, it is not inherently good or evil; it can be used for either. It is the human heart that will direct to what purposes it is put.
- As part of cultivating the earth, humans should never lose sight of what it means to actually be human: interpersonal relationships, the importance of work, and the human body are all part of our God-given identity. While celebrating the new opportunities AI can bring, we should be cautious of the way in which new technologies can impact our human-ness.
- Although in Artificial Intelligence it might seem like humans are playing God, only God is God! We should approach technology with both humility and faith, recognising that anything we create is by God's grace and under his sovereignty, and that He is the one who holds history in his hands. Doomsday predictions about the end of the world are not something the Christian should live in fear of.

Broader Theology

AI is an ever-evolving field, and the pace of change is extraordinary. The preachers' task is not to become an expert in the computer science behind it all, but to connect the world of AI to the theological principles the Bible gives us.

These are some of the theological areas that intersect with AI.

Technology. Christians have a better story for technology. We understand that it is a gift from God, and it is good. The seed of all technological development is found in Genesis 1:28, in the Creation Mandate to fill the earth and subdue it. As humans, we follow in God's footsteps by bringing order out of chaos in the world around us, and technology is a tool that helps us to do that better and more efficiently. We read of Tubal-Cain's development of technology as early as Genesis 4:22.

Technology, like everything else, is affected by the Fall. Genesis 3:17 is not just about thorns and thistles, but every part of the Creation Mandate. In Genesis 6, we see boat-building, the use of technology being part of God's salvation plan. Yet in Genesis 11, we read of tower-building, using technology for self-glorification and self-preservation, as a way of rejecting God. Ultimately, it is not technology which is good or evil: it is the human heart which lies behind it.

Christians are able to celebrate technological advance as a fulfilment of the Creation Mandate, even when done by unbelievers under common grace, but know not to place our trust and hope in technology (try reading 1 Timothy 6:17, replacing the word 'wealth' or 'money' with 'technology').

Humanity. Christians have a better story for humanity. Modern secularism struggles to answer the question, 'What makes humans different?' In the absence of the theological category of the imago dei, many settle on 'intelligence' as the answer. However, this would make the rise of AI a threat to human uniqueness. We end up with a 'humanity of the gaps', an ever-decreasing picture of what it means to be human, as AI is able to replicate more and more of our behaviour.

As Christians, we must emphasise the immense dignity that comes from being made in the image of God, and therefore the value of each and every human, regardless of intelligence or stage of development.

Community. Various studies have shown that our use of technology that contains AI can have the tendency to push us away from community and towards isolation. Even relationships and friendships with other humans can be replaced with AI versions. As humans, we are made in the image of a relational God, and so one Christian response to AI is to lean into our embodied friendships and communities.

The sinful heart. AI feeds on vast amounts of data, and is therefore able to predict what response a human would make in any given scenario. AI built into social media platforms observes what content we look at, and then feeds us more of the same content, with the goal of maximising our attention and engagement. In that way, AI acts like a mirror to humanity, revealing what is in the heart. On social media, AI may promote content that is angry, divisive or lustful…because that is what is in the human heart.

Work. A future without work is sometimes heralded as a wonderful promise of AI, where it brings such wealth that nobody needs to work. It is also a stark warning about what AI could do, replacing human jobs so nobody is able to work. As Christians, we recognise that work is a fundamental part of what it means to be human, and a future of luxury where no-one needs to work is not the utopia it promises to be.

Death. Some AI companies are researching 'transhumanism': the idea that we will one day be able to upload our minds through AI, thereby living forever. This is ultimately futile, knowing that we have been created as physical beings, body and soul.

There are also companies involved in 'Grief Tech': you upload voicemails, emails, text messages from a deceased loved one, and the AI is able to replicate their personality so you can continue to interact with them.

All of this is an attempt to deal with the last enemy of death. Ultimately, only Christ can defeat death, and restore us, body and soul, in the new creation.

Eschatology. AI is not going to lead to the end of the world or humanity. We know that Jesus Christ reigns on his throne. In the Incarnation, He united himself to humanity irrevocably. He will return to make all things new. God's plan is to unite all things in heaven and on earth under one head, even Christ. We do not need to fear that AI will lead to the end of the world.

Politics

- Former British PM Rishi Sunak hosted an AI summit at Bletchley Park in November 2023. Major tech leaders including Sam Altman (Open AI) and Elon Musk (X) were in attendance.

- In the 2023 Spring Budget, the UK government committed around £1 billion worth in funding towards AI research, but funding has now been cut by the new Labour

government. The 2024 King's Speech said that the Government "will seek to establish the appropriate legislation to place requirements on those working to develop the most powerful artificial intelligence models", but did not propose any more specific legislation.

- Within its 2024 General Election Manifesto, Labour committed to regulating the AI-industry, saying it would "ensure the safe development and use of AI models by introducing binding regulation on the handful of companies developing the most powerful AI models".

- Although details on regulation have not been fleshed out, before entering office, the new Science and Technology Secretary Peter Kyle suggested that tech companies might be legally required to share testing data with the Government: this could include informing the Government about plans to develop certain particularly advanced AI systems and conducting safety tests with independent oversight.

- The APPG for Christians in Parliament have produced a briefing paper identifying the potential harms of AI and suggested areas that the government should look at introducing regulation. This includes the areas of privacy, copyright, autonomy and more.

- The Center for Humane Technology (based in US) are heavily involved in campaigning for governments to regulate the introduction of AI. They have coined three rules of humane technology:
  - When we invent a new technology, we uncover a new class of responsibility.
  - If that new technology confers power, it will start a race.
  - If we don't coordinate, the race will end in tragedy.

- CARE have hosted parliamentary events, attended briefings in the House of Lords, and submitted parliamentary questions surrounding AI. We have a watching brief in this area, with the goal that any new laws are fair, ethical and don't undermine the Christian worldview.

Glossary

ARTIFICIAL INTELLIGENCE – The display, by a machine, of a cognitive process that we would expect to be done by a human.

ALGORITHM – A set of rules that a machine follows to learn how to do a task.

DISCRIMINATIVE AI – A form of AI that is able to sort and classify information into categories.

GENERATIVE AI – A more advanced form of AI that is able to create new content which has not previously existed.

WEAK AI – Simulates human intelligence. It can simulate it extraordinarily well, but it remains a simulation of intelligence.

STRONG AI – Sometimes known as **General AI,** this form of AI would actually have intelligence. This does not exist yet, and scientists are divided as to whether it ever will.

CHATGPT – a form of Generative AI. GPT stands for Generative Pre-Trained Transformer. For 'Generative', see above. 'Pre-trained' means that it has already been given the billions of terabytes of data required to function. 'Transformer' is a technical term about the type of machine-learning that it uses. It is often used to write content.

DEEPFAKE – a video of a person in which their face or body has been digitally altered so that they appear to be someone else, typically used maliciously or to spread false information.

DISINFORMATION – the deliberate creation and spreading of false information to deceive, for personal or political gain.

Key Bible Passages

GENESIS 1:27: *"So God created mankind in his own image, in the image of God he created them; male and female he created them. God blessed them and said to them, 'Be fruitful and increase in number; fill the earth and subdue it. Rule over the fish in the sea and the birds in the sky and over every living creature that moves on the ground.'"*

GENESIS 2:7: *"Then the Lord God formed a man from the dust of the ground and breathed into his nostrils the breath of life, and the man became a living being."*

GENESIS 3:17: *"To Adam he said, "Because you listened to your wife and ate fruit from the tree about which I commanded you, 'You must not eat from it,' "Cursed is the ground because of you; through painful toil you will eat food from it all the days of your life."*

GENESIS 4:22: *"Zillah also had a son, Tubal-Cain, who forged all kinds of tools out of bronze and iron."*

GENESIS 11:3-4: *"They said to each other, "Come, let's make bricks and bake them thoroughly." They used brick instead of stone, and tar for mortar. Then they said, "Come, let us build ourselves a city, with a tower that reaches to the heavens, so that we may make a name for ourselves; otherwise we will be scattered over the face of the whole earth."*

ECCLESIASTES 1:9: *"What has been will be again, what has been done will be done again; there is nothing new under the sun."*

ISAIAH 28:27-29: *"Caraway is not threshed with a sledge, nor is the wheel of a cart rolled over cumin; caraway is beaten out with a rod, and cumin with a stick. Grain must be ground to make bread; so one does not go on threshing it forever. The wheels of a threshing cart may be rolled over it, but one does not use horses to grind grain. All this also comes from the Lord Almighty, whose plan is wonderful, whose wisdom is magnificent."*

MATTHEW 28:18: *"Then Jesus came to them and said, "All authority in heaven and on earth has been given to me."*

MARK 7:21-23: *"For it is from within, out of a person's heart, that evil thoughts come—sexual immorality, theft, murder, adultery, greed, malice, deceit, lewdness, envy, slander, arrogance and folly. All these evils come from inside and defile a person."*

EPHESIANS 1:8-10: *"With all wisdom and understanding, he made known to us the mystery of his will according to his good pleasure, which he purposed in Christ, to be put into effect when the times reach their fulfillment—to bring unity to all things in heaven and on earth under Christ."*

COLOSSIANS 1:15-17: *"The Son is the image of the invisible God, the firstborn over all creation. For in him all things were created: things in heaven and on earth, visible and invisible, whether thrones or powers or rulers or authorities; all things have been created through him and for him. He is before all things, and in him all things hold together."*

For Further Research

care.org.uk/cause/technology
johnwyatt.com
humanetech.com
David Betts: The church and AI
Nigel Cameron: The robots are coming
Stephen Driscoll: Made in our image
John Lennox: 2084
Jason Thacker: The age of AI
John Wyatt: The robot will see you now
'The AI Dilemma': https://www.youtube.com/watch?v=xoVJKj8lcNQ
'For the sake of the future' conference: https://www.youtube.com/watch?v=LdNsKWt9_P0&list=PLKRljOQe5vgdMx2R4NS3cTExxKO9gliRE

Quotes

"Nothing vast enters the life of mortals without a curse." **Sophocles**

"Intelligence is central to what it means to be human. Everything that our civilisation has achieved is a product of human intelligence, from learning to master fire, to learning to grow food, to understanding the cosmos. I believe there is no deep difference between what can be achieved by a biological brain and what can be achieved by a computer. It therefore follows that computers can, in theory, emulate human intelligence - and exceed it." **Stephen Hawking**

"Here is where AI meets the afterlife, and love endures beyond the veil. Start your adventure today and let your loved ones speak to your heart once again." **Marketing slogan for Séance AI**

"Give a man a fish and you feed him for a day, teach a man to fish and you feed him for a lifetime, but teach an AI to fish and it will teach itself biology, chemistry, oceanography, evolutionary theory, and then fish all the fish to extinction." **Tristan Harris, Center for Humane Technology**

"The real problem of humanity is the following - we have Paleolithic emotions, medieval institutions and godlike technology." **EO Wilson**

"What would it mean if there were machines that had consciousness and displayed a similar level of intelligence and emotional responsiveness to that of human beings? What if there were a future when we were no longer able to distinguish human beings from robots? What would all this mean for human uniqueness?" **Professor Robert Song**

"Technology is a gift of God. After the gift of life, it is perhaps the greatest of God's gifts. It is the mother of civilizations, of arts and of sciences." **Freeman Dyson**

"When we use applications like ChatGPT that can produce a story, write an email or even a prayer, we are giving up our own creative activity and imagination, all for the sake of convenience. The author is not human and we rob God of glory when we fail to image him through human creativity and the use of our minds." **Christians in Parliament APPG**

"The big question to be faced is: How can an ethical dimension be built into an algorithm that is itself devoid of heart, soul, and mind?" **John Lennox**

"Man thinks he can become God. But infinitely greater than that is the fact that God thought of becoming human." **John Lennox**

"Part of the lampooning of the idol of the idolator is it's so transparently obvious that these idols have no innate power. But what we have created is idols that speak back to us, and idols that can move, and idols that seem to have all the appearance of being human. That is deeply troubling and interesting; it indicates why these modern idols are so much more powerful, and so much more deceptive." **John Wyatt**

"There's a lot of hype about what's happening, how long it's going to be until we have sentience, or we achieve some type of super intelligence. It's always about the red-eyed robots that are gonna come steal our jobs or kill us, one of the two. Those are the big issues that everyone wants to talk about. And I say, yes, let's have those conversations; but as Christians, we're not a fearful people…we're a hopeful people, because the end of the story's already written." **Jason Thacker**

Key Stats

- **The rise of AI**
  - The UK AI market is currently worth around $17 billion: it is expected to grow to £801.6 billion by 2035. The number of AI companies in the UK has increased by over 600% in the last 10 years.
  - China is currently the leading country for AI adoption, with 58% of companies now using AI. Within the USA, just 25% do.
  - The UK government was ranked third in the 2023 global AI Readiness Index, and was ranked highest in Western Europe. In the 2023 Spring Budget, the UK government committed around £1 billion worth in funding towards AI research, but funding has now been cut by the new Labour government.
  - Around 1 in 6 UK organisations are now using at least one AI technology (based on government research). The number is higher than 2 in 3 when it comes to large companies. The sector in which AI is used most is the IT and telecommunications sector (29.5%), closely followed by the legal sector (29.2%).

- **Use of AI**
  - ChatGPT had 1 million users within the first five days of being available. Around 85% of people in Britain are thought to be aware of ChatGPT or other AI language models. The use of ChatGPT and other AI language models has been banned by 8 of the 24 Russell Group universities.
  - It is estimated that within the UK, we will have driverless cars by 2025. By 2030, globally, it is estimated that 10% of cars will be driverless (more than 60 million). The UK government has already put in more than £100 million worth of funding into this area.
  - Following a 10-week trial of computer vision technology, Marks & Spencer reported an 80% reduction in warehouse accidents.

- **Fears about AI**
  - Forbes Advisor research found 59% of Brits have concerns about the use of artificial intelligence.
  - The most common fear was around dependence on AI and the loss of human skills (42%), but other common fears were AI making decisions without human intervention (39%), job losses (39%), ethical implications and the misuse of AI (37%), and the potential for AI to be hacked and manipulated (34%).
  - A McKinsey report predicts that between 2016 and 2030, AI-related advancements may affect around 15% of the global workforce: as many as 400 million people.
  - Within the UK, the government estimates around 7% of existing UK jobs could be displaced over the next five years. This figure may rise to around 18% after 10 years and nearly 30% after 20 years.

Stories

A tool built by Amazon to help review potential job applicants more efficiently, using Artificial Intelligence to score candidates between 1 and 5 stars, was found to be not assessing candidates in a gender-neutral way. The model was trained to vet applicants from historic data, and because the tech industry tends to be male-orientated, the system taught itself that male candidates were preferable, penalising CVs that included the word 'women's'. Although the programme was then edited, as there were no guarantees that it would not discriminate unfairly in other ways, it was eventually disbanded.

In 2023, the Guardian reported that a new AI tool, developed by the Imperial College London, the Institute for Cancer Research, and the Royal Marsden NHS foundation trust proved more efficient than current methods at identifying cancer, raising the success-rate of identifying cancerous nodules in the lung from 67% to 87%. The developers hope that the tool will be able to speed up the detection of cancer, and fast-track patients to early treatment (currently 60% of lung cancers in England are diagnosed at stage 3 or 4).

Pastoral Issues

- **Some people may be worried about the apparent existential threat from AI.**
    - Most scientists are not primarily worried about the doomsday predictions of machines taking over the world, but more importantly, reassure Christians that God is sovereign and in control. The world will only end when Jesus comes back!

- **Others may be more fearful about their own job security.**
    - It has been said that your job is unlikely to be taken by AI: it is more likely that your job will be taken by a human who knows how to use AI better than you! There may be some whom this directly impacts. For Christians, work is an important part of God's design for humanity, but it is not the only place in which we are to root our identity.
    - Encourage them to be open to the use of technology where appropriate, but also to be a critical friend, recognising its limitations and its potential impact on other aspects of being human (such as reducing face-to-face contact).

- **Some may have been particularly affected by AI within a sexual context.**
    - If given a clothed image of someone, AI is able to create a nude image of that person (eg. deepfakes). This can be particularly prevalent among teenagers, but is not limited to them, and is highly disturbing for all those affected.
    - Be sensitive when talking about the use of AI and pornography, and reiterate that those affected have not done anything wrong.

- **AI raises various issues around what we believe to be true and fake news, particularly on social media**
    - Encourage Christians to be people of truth, because we follow a God of truth; to help us in this, it might be useful to get news from multiple sources, or to follow a range of social media accounts, and to double-check outlandish material with respected news outlets.