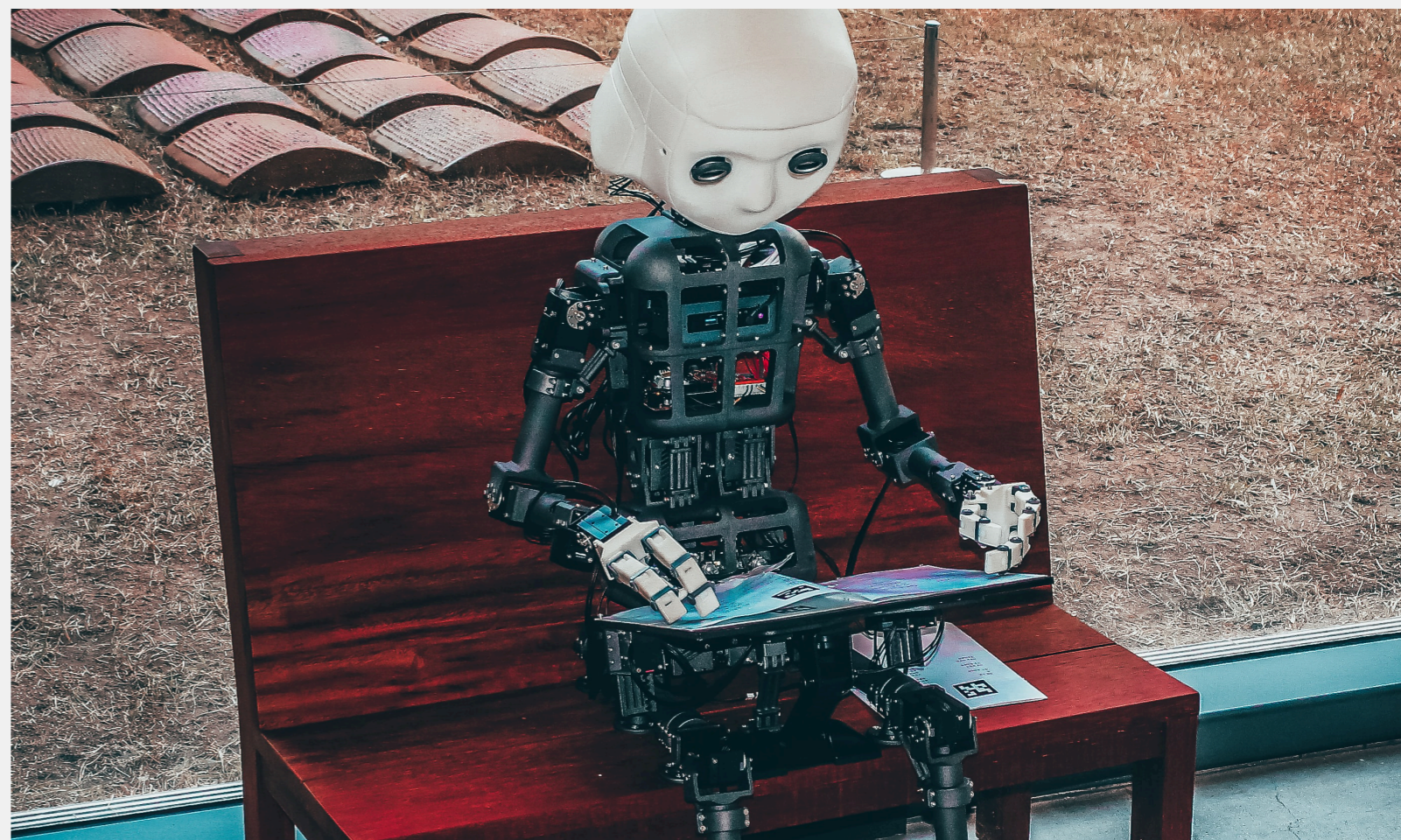This Study Guide has been written, developed, and produced by the Quo Vadis Institute, Salzburg, Austria. Quo Vadis aims to see the constructive Christian voice participate to engage and resolve Europe's current challenges, to support those at the forefront of their fields, and foster relationships between professionals. Our contribution to *The Robot Will See You Now* and our production of this *Study Guide* are in line with this aim.

For more information about the Quo Vadis Institute, please visit www.qvi.eu or email us on info@qvi.eu.

The Robot Will See You Now
STUDY GUIDE

BY JOHN WYATT & JOHANNES J KNECHT

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INTRODUCTION TO STUDY GUIDE

This *Study Guide* is intended to provide a framework for group discussions and personal study of the book *The Robot Will See You Now,* which was published by SPCK, London, in 2021. It is available from online booksellers. In Europe it can be ordered from Thalia, in the USA it can be obtained via https://qvi.eu/order-the-book.

This *Study Guide* has been written, developed, and produced by the *Quo Vadis Institute,* Salzburg, Austria.

For more information about the *Quo Vadis Institute*, please visit www.qvi.eu.

In what follows, a short and selective summary of the contents of each of *The Robot Will See You Now* chapters is provided, followed by a series of open-ended questions for discussion and debate. After every question, some space is given, for those who will print out the *Study Guide*, to take notes.

Authors of the *Study Guide*
Prof John Wyatt & Johannes J Knecht, PhD

Summary

Peter Robinson compares the unanticipated impact of the Industrial Revolution leading to climate change with the possible implications of artificial intelligence. He raises a professional concern that flawed software can pose a real threat to humankind. Much software development is motivated by the drive to increase profit, but military and other applications of the technology raise new questions about risks to human liberty and to life itself. Computer professionals must carry out their work guided by their ethical principles of motivation and competence, and the role of the Christian professional is to apply those principles in pursuing God's will.

Questions

1. (pp 1-2) Is the comparison between the potential impacts of climate change and artificial intelligence valid? What are the similarities and differences?

2. (p 6) What lessons can be drawn for the future use of AI from the Boeing 737 MAX disasters?

3. (pp 8-9) To what extent are computer technology professionals responsible for the negative consequences of their technology once released to the public, and how can professionals minimize the likelihood of negative consequences?

4. (pp 8-9) Do you think that a Christian who is working as a computer technology professional should approach their work in a different way to a secular colleague? Shouldn't every professional be concerned about competence and high ethical standards?

Summary

Ever since the publication of *Frankenstein* by Mary Shelley, SF writers have been concerned about the possibility of unintentionally creating a race of beings who would come to dominate us. But where once we worried that we were overreaching the God-given limits of human existence, we now worry that there is no God and there are no limits. Although many SF writers focus on dystopian concerns, Christina Bieber Lake argues that Isaac Asimov's robot novels highlight the weakness and frailty of human beings compared with benign and omniscient machine intelligence. In contrast the novels of Philip K Dick refer frequently to the blurring and confusion between reality and technologically created simulations. The simulated has replaced the real. When we submit to the idea that the constructed image of ourselves is all we have, we have given up on any idea of the inherent dignity of human life. The Culture novels of Iain Banks provide a utopian vision of the future in which humans can explore all kinds of pleasure and infinite possibilities because of omni-present technology. Yet at the same time their lives seem reduced to insignificance. In contrast Christina Bieber Lake argues that the novelist's attention to his or her characters mimics the loving attentive gaze of God upon us, and hence the loving gaze gives significance to each one.

Questions

1. (pp 16-20) To what extent do you think that Asimov's utopian vision of the future controlled by beneficent machines has been influential within the non-fictional computer technology and futurist worlds? Why do some people find this view of the future highly attractive, whereas others regard it as dystopian?

2. (pp 20-4) The novels of Philip K Dick illustrate the blurring and confusion between reality and sophisticated simulations. To what extent do you see these trends occurring in the real world? Does the possibility of living and interacting with realistic simulations provide increased freedom and opportunities for human beings? What negative consequences might result?

3. (pp 24-6) How should we respond to the vision of a technological utopia such as that created by Iain Banks in the Culture novels? Why does it matter whether our lives are ultimately significant or not?

4. (p 27) Christina Bieber Lake argues that the novelist's attention to his or her characters mimics the loving attentive gaze of God upon us. How do you respond to this evocative concept? How might this change our attitude to the development of technological simulacra?

5. (p 27) Pascal said "It is dangerous to show man too clearly how much he resembles the beast, without at the same time showing him his greatness...." Why did Pascal use the word *dangerous*? What dangers flow from highlighting the resemblance between humans and animals, or the resemblance between humans and machines?

Summary

Science fiction films have frequently expressed a sense of paranoia fed by fears of advanced but destructive technology. The film *Ex Machina* explores the uneasy relationship between an abusive human creator and the advanced humanoid robot he has constructed. Although framed as a victim of human abuse, ultimately the robot appears more god-like, a *deus ex machina*. Referring to the thought of Dorothy Sayers, Crystal Downing emphasises that our human fulfilment of the *imago Dei* is revealed in human artistic creativity. "The human mind of the maker creates something genuinely new ... allowing it to stand on its own rather than service the maker's selfish interest in money, fame or status."

Questions

1. (pp 33-6) How does the film *Ex Machina* explore the uneasy relationship between a human creator and an advanced life-like robot? Who is more god-like – the human creator or the sophisticated machine he has built?

2. (pp 33-6) What does this film *Ex Machina* reveal about popular fascination and mistrust of AI?

3. (pp 37-40) In what ways does the human creator of a robot reflect the image of God, the *imago Dei?*

4. (pp 37-40) What are the similarities and differences between human and divine creation, and how is this relevant to robotic technology?

3 | Behind artificial intelligence
STEPHEN WILLIAMS

PP 43 - 56

Summary

Herbert Dreyfus argued that both Plato and Aristotle elevated human rational processes to a misplaced primacy in the constitution of human beings. They established a philosophical trajectory that enabled later thinkers to conceive of human thought as calculation. Thomas Hobbes attempted to apply mathematical concepts to the nature of human thought and Descartes viewed the mind as completely separate from the body, a 'thinking thing'. The development of AI seems to be related to the view of humans as thinking machines. Joseph Weizenbaum posed the question, "What is it about the computer that has brought the view of man as a machine to a new plausibility?". Stephen Williams argues that AI is technology that takes its name from an intellectual idea – that of the possibility of a machine intelligence. We need to understand something of the intellectual forces that have helped to carve out the modern world in which AI is so obviously embedded.

Questions

1. (pp 46-9) Why was Hobbes' attempt to apply mathematical concepts to the nature of human thought so significant in the history of AI? Why was this linked to materialism?

2. (pp 48-51) How has the dualistic thinking of Descartes, with a complete separation between mind and body, influenced current thinking about computer technology and AI?

3. (pp 54-5) Joseph Weizenbaum posed the question, "What is it about the computer that has brought the view of man as a machine to a new plausibility?" How would you answer that question?

4. (pp 54-6) Instrumental reason "is incapable of determining the ultimate aims of life and must content itself with reducing everything it encounters to a mere tool." How has this way of thinking and reasoning become enshrined in the current world of AI and computer technology? What are the societal consequences of an exclusive focus on this form of instrumental reason?

4 | Being human in a world of intelligent machines

JOHN WYATT

PP 57 - 72

Summary

Many technologists have claimed that, since everything that humans have achieved is a product of intelligence, therefore intelligent machines will ultimately be capable of reproducing everything that humans have achieved. The idea that human beings are simply 'machines that think' has become commonplace. We have a human leaning to anthropomorphise machines and they are become increasingly effective at simulating human relationality and emotional intelligence. Kate Darling has argued that it may be necessary to extend some level of legal protection to robots that express human-like behaviour. Others agree that advanced robots could be considered as 'persons' if they exhibit the characteristics we associated with human personhood. Perhaps human beings are merely a temporary stage of the grand evolutionary process whose goal is the emergence of 'post-biological' life. The effectiveness of various forms of machine intelligence have created a distorting lens through which our humanity is being perceived in new ways.

Questions

1. (pp 58-9) In what ways might it be misleading to argue that since everything that humans have achieved is a product of intelligence, therefore intelligent machines will ultimately be capable of reproducing everything that humans have achieved?

2. (pp 60-1) 'We are all machines that think'. To what extent is this statement truthful and to what extent is it misleading?

3. (pp 63-4) In what ways does our natural human tendency to anthropomorphism open us up to manipulation and deception by others? What are the positive as well as negative possibilities of anthropomorphic technologies? In what ways might the manipulative possibilities be combatted?

4. (pp 65-8) Do you think that robots and autonomous systems should be regarded as moral agents in a future society? Should there be regulations that extend legal rights and protections to advanced robots? How should we respond if in future some advanced AIs claim to have conscious awareness?

5. (pp 69-71) How would you respond to someone who claimed that humanity is simply a temporary evolutionary staging post for the ultimate development of 'post-biological' life?
How do the orthodox Christian doctrines of Incarnation, Redemption and Resurrection engage with these ideas?

5 | AI and robots: some Asian approaches
VINOTH RAMACHANDRA

Summary

Robots and AI are a feature of daily life for many in both Japan and China. Some Japanese citizens are using robotic technology for their personal care and China has vowed to be on the forefront of future AI development. Vinoth Ramachandra argues that the prevalence of cartoons about robots in Japanese society is grounded in the local cultural heritage and folklore of spirits and gods. In the Shinto tradition the distinction between the natural and the artificial is not considered significant. It has been argued that this is why the integration of robots into Japanese society has been seen by the public as a positive thing. In China, Buddhist monks have called on the work of AI developers to create 'monks' to attract a younger audience to the faith. In the last section of the chapter, Ramachandra discusses the philosophical underpinnings of some Asian roboticists and suggests their primary anthropological stand-point is a functionalist one. This has led to a blurring of the lines between human beings and AI/robots at the level of the Japanese government, as both can receive the *koseki,* an official document that confers Japanese citizenship. Ramachandra argues that we must maintain a distinction between the humans who provide the informational and moral input for the machines and the machines themselves, for it is still the creating human beings who guide and shape the moral/ethical 'decisions' of the robot. Ramachandra argues that we must restrain both state and corporate surveillance and ban lethal autonomous weapon systems. "The most important human capacities in the age of robotics and surveillance will be our moral, social and emotional intelligence."

Questions

1. (pp 74-6) How might the increased presence of personal robots and AI influence the manner in which societies are willing and able to engage with other people, including social outsiders?

2. (pp 77-9) How is the "ubiquitous and intimate presence of cartoon characters in [Japan's] everyday life" tied to the country's own cultural traditions? What does this imply about the western understanding of the relationship between the 'natural' and the 'artificial'?

3. (pp 81-3) Vinoth Ramachandra argues that most Buddhist, Confucianist or atheist roboticists "assume a functionalist or behaviourist approach to the human." What does this imply and how might it influence the way in which robots and human beings are thought to relate?

4. (pp 84-7) What is the paradox that Ramachandra sees in the coming together of a functionalist approach to being human and the use of Asimov's three laws of robotics? To what extent is there an anthropocentric priority in current theories of robotics?

5. (pp 87-9) Give some practical examples as to how societies might restrain state and corporate surveillance and control and restrict the use of lethal autonomous weapon systems.

Summary

If we are to understand and evaluate the implications of the development of AI we require a good grasp of what it means to be a human person. Stephen Williams starts by contrasting the religious and non-religious answers to the question: what is a human being? In the context of a Christian or religious engagement with the question, the answer would include the Image of God (or *imago Dei*), which, according to Williams means that humans are "*essentially* related to God." Obviously, such an answer is not to be expected in a non-religious scientific paradigm, as the answer arising there would probably include a stronger foundation in the theory of evolution. However, according the Williams, although varying in starting point, both approaches need not be contradictory. What does flow from an anthropology based in the Image of God is the utter impossibility for a robot or AI to enter into a relationship with God, so Williams argues an AI "cannot be personal in the Christian sense." Secondly, embodiment is crucial, as 'being embodied' is tied strongly to our understanding of humanity. Thirdly, Williams argues that technology is generally 'neutral', having the capacity to work for good and evil. The balance is determined by the basic goal of human flourishing: does it contribute to the enhancement of love or the enhancement of the individual? As, within a Christian framework, ultimate love is found in Christ, Williams ties questions regarding the proper and appropriate use of technology to the person of Christ.

Questions

1. (pp 96-7) Stephen Williams argues that the scientific and Christian answers to the question 'what is the nature of a human being' do not have to be incompatible. Do you agree with him, and, if so, why or why not?

2. (pp 97-8) Williams argues that, even *if* a form of consciousness could be created, it would never have a personal relationship with God. Why is this and what do you think this implies for our understanding of the *imago Dei?* What is the origin our human capacity for a relationship with God?

3. (pp 99-101) Why is embodiment an essential feature of our understanding of humanity? Why do you think it is important to make a link between our current embodiment and our future embodiment on a new earth?

4. (pp 103-5) "Humans are formed in the very core of their being to be recipients and givers of love". Williams argues that the crucial question is whether the uses of AI will lead to the enhancement of human love or to the enhancement of individualism. Can you give examples of both of these possibilities? How might Christians encourage the beneficial use of AI to enhance human flourishing?

5. (p 106) Williams points to the biblical story of the tower of Babel as a warning. How does this ancient narrative relate to the development of AI? What can we do to heed the warning that Babel represents?

Summary

Robert Song suggests that common fears about AI in western countries are grounded in a wider unease with the 'place of human beings in the universe.' This unease started to grow due to the influence of the Enlightenment, but especially due to the theory of evolution, which showed the connections humanity had with the rest of the created order. In response, human rationality, creativity, and linguistic capacities were emphasised as being uniquely human. But this response is now being undermined because of rapidly developing AI. Robert Song asks whether our aim to continue to demonstrate the superiority of human beings over AI is going to work? Instead of trying to establish a 'citadel of human distinctiveness', our concern should be for preserving human dignity. The intellectual capacity of AI is of little theological significance. What is important is maintaining our unique human calling or vocation. "Is humankind flourishing in the way it is called to, or is it in practice and in theory denying that?". Our tendency to depersonalize humanity is grounded in the philosophical naturalism that arose in the seventeenth century, and it is this naturalist conception of the human that is currently guiding scientific endeavours in the field of AI. Robert Song argues that what is required is a reorientation and reimagining of the meaning of matter itself. Because matter is God-given and intended for existence and life, it cannot be a neutral entity devoid of meaning. "Matter is charged with the grandeur of God". Whether or not AIs are built that are indistinguishable from humans, "humans can never lose their distinct calling to flourish as the kinds of being they are."

Questions

1. (pp 107-8) Do you agree that common fears about AI are grounded in a wider unease with the "place of human beings in the universe"? Can you give illustrations of some of those fears? How do you think those fears are expressed in common attitudes towards advancing AI?

2. (pp 108-10) Robert Song discusses a number of ways in which human beings could be thought of as being distinct from the rest of creation. How would you describe the uniqueness of humankind in the universe as a whole? What makes human being unique? Has it more to do with the nature of their being or in what their God-given vocation is?

3. (pp 111-13) Technology is clearly catching up with much of what we used to think were uniquely human capacities. How likely do you think it is that you might encounter an AI system or robot that was genuinely acting in a way indistinguishable from a human being? If this did happen in the future how much would it represent a threat to human uniqueness?

4. (p 114) How would you answer Robert Song's question: "Are our *technological practices* compatible with recognizing the dignity and personhood of human beings, or do they simply deny that?"

5. (pp 117-20) "Matter is charged with the grandeur of God". How would you explain and develop this way of thinking to someone who regarded matter as merely the physical building blocks of the universe? How should a renewed respect and wonder for the material universe translate into our attitudes to developing AI?

6. Stephen Williams and Robert Song both emphasise the uniqueness of humanity, when compared to AI, yet their respective chapters indicate rather different emphases. Can you spell out what the similarities and differences are in their understandings of human uniqueness? How might these differences in theological perspective lead to differences in practical responses to AI?

8 | Surrogate, partner or tool: how autonomous should technology be?

PP 121 - 34

NOREEN HERZFELD

Summary

Technology has the power to do good, as seen through the extremely rapid development of a COVID-19-vaccine, and evil, as evidenced by climate change. It is the human entity behind the technology that determines its direction. But, Noreen Herzfeld asks, could AI "cross [to the realm] of autonomy"? Technology has changed from being primarily a human tool to a force which is changing our understanding of the world and shaping nature itself. As the makers of this powerful technology, humans have become 'created co-creators'. Can technology be seen as a means through which humanity gives shape to its basic calling to rule and govern creation? But how could the benefits of technology be evaluated or weighed? Herzfeld argues that the Amish base their judgement on the tangible benefits of the technology and the way in which it would affect social relationships. The fundamental question remains, is AI a tool, partner or surrogate? AI has the potential of becoming an autonomous force within society. Lethal autonomous weapons systems can protect human soldiers from harm but raise complex issues about the morality of warfare. How will sinful human beings exploit the enormous power that technology brings? Herzfeld concludes that "essentially it is a race between the development of technology and the development of morality".

Questions

1. (pp 122-3) Neil Postman suggests our society has in effect deified technology. Herzfeld argues technology is currently 'dictating our world view'. How would you respond to these claims? Can you give some examples of how technology is changing the way we look at the world?

2. (pp 124-5) Herzfeld asks whether in creating an AI we are in some ways repeating God's act of creation in Genesis 1. "In robots and AI, have we finally created something that could, one day, mimic this combination, an 'other' that is wholly different from ourselves yet with whom we might enter into relationship? Is that what we want from AI? What might the consequences be?" How would you answer her questions?

3. (pp 126-8) Lethal autonomous weapon systems are being actively developed by a number of major military powers across the world. It is argued by some that they can bring benefits to humanity as well as risks. How should we respond to these developments? Should we regard them as analogous to chemical weapons which are outlawed completely, or are they analogous to nuclear weapons which are subject to international treaties?

4. (pp 132-4) Herzfeld paints a picture in which it seems that the capacities of the technology itself and the wisdom as to how we use the technology are not developing at an equal pace. What part can we play to promote the development of common wisdom in the proper use of advancing technologies?

Summary

Many Silicon Valley technologists have a vision of the future transformation of humanity in the form of the Singularity. In contrast the Christian hope takes many shapes and forms ranging from eternal bliss in a heavenly realm to the kingdom of God built on earth through social action. How we conceive of our human future determines to a large extent how we engage in society and technology today. Theologians such as Jürgen Moltmann and N. T. Wright see some continuation between the present time and the eschatological reality, but place a momentous event of *adventus*, regeneration, or transformation in between the present and the *eschaton*. For Victoria Lorrimar there is an important hint about the nature of future existence in the person of Christ. "Jesus, fully human and fully God, is a paradigm for the (future) union of creation with God". Lorrimar then asks, what role do humans play in the fulfilment of the Christian eschatological hope? She refers to the concept of humans as 'co-creators' with God. Humans do have a role in the fulfilment of that eschatological hope, but it is always distinct and subordinate to the work of God. Technology then can be seen as a way for humanity to act co-creatively with God, participating in God's work in creation "for us and *with* us". Will the new creation include robots and AI? Victoria Lorrimar argues that "we have a God who is able to do immeasurably more than we can imagine". "We do not know whether this love is wide enough to encompass robots and AI in the reconciliation of all creation to God" but in the meantime "we use our co-creative abilities in building the kingdom as far as we can."

Questions

1. (pp 136-8) In what ways do you think our beliefs about the ultimate, future end of humanity might influence our behaviour today?

2. (pp 137-9) Do you think the Christian view that there is some form of continuity between the present and the future eschaton is important? Why?

3. (pp 141-4) How would you see technology functioning as a tool for humanity to act co-creatively with God? And how could we understand that human activity as remaining subservient to and dependent on the activity of God?

4. (pp 146-7) Could you imagine ways in which AI might be utilised positively to help the building of God's kingdom and to act in line with the Christian eschatological hope?

Summary

Technology has accelerated the commodification of sexual pleasure. "By turning sex from a mutual gift into a transaction, a range of third-party values enter the equation". Andrew Graystone highlights that sextech creates a tension between simulation and authenticity. As Sherry Turkle states, "If our experience with relational artefacts is based on a fundamentally deceitful interchange, can it be good for us?" Graystone points out that one of the perverse features of digital culture is that choice does not necessarily lead to variety. Instead the technology can reinforce conventional power imbalances and structures. He argues that the physical body has a sacramental significance in some strands of Christian theological thought. "At the heart of the sacramental significance of the human person is the sense of touch". Can the synthetic touch reproduced by a digital device ever replace the physical encounter between two embodied humans? "The synthesising of touch crosses a significant boundary in the culture and theological meanings of intimacy". It risks turning an intentional and mutual sexual interaction from a sacramental gift into nothing more than a consumer product.

Questions

1. (pp 154-5) What are the 'third party values' which enter into a sexual relationship which has been commodified by technology? How do they alter and diminish the meaning of the relationship?

2. (pp 155-6) Do you think the parallel drawn between the use of robots for sex and prostitution is valid? Why is the asymmetry between the purchaser of sexual services and the provider of importance?

3. (pp 157-8) Why does Sherry Turkle argue that "our experience with relational artefacts is based on a fundamentally deceitful interchange"? Why might this be harmful to our own lives as moral beings?

4. (pp 160-2) "At the heart of the sacramental significance of the human person is the sense of touch." Do you agree with this statement? Why should the sense of touch have such profound significance?

5. (pp 162-3) Might it be argued that although the use of a sex robot might not be ideal, there are circumstances in which it might be 'good enough' as a replacement for a human partner? Is it possible for this form of technology to find a positive role or is it necessarily de-humanising?

11 | Are the robots coming for our jobs?
NIGEL CAMERON

PP 166 - 80

Summary

Nigel Cameron argues that there is a realistic possibility that disruptive technology may lead to the spectre of long-term unemployment for many. Historically technological progress has created prosperity for humanity as a whole. However during the Industrial Revolution a sizeable share of the workforce was left worse off. It is not inevitable that technology will create more jobs than it destroys. New digital technologies lead to the emergence of new kinds of economic value with scarcely any human participation at all. But if we no longer have to work for most of our lives, what are we going to do with all that leisure time? Cameron argues that "we need to prepare for a world in which we find ourselves taking earlier and earlier retirement. The Church is the world's largest volunteer organization; it needs to prepare to handle many more volunteers." Do we have a 'theology of leisure' which is capable of addressing the practical and spiritual implications of the expansion of retirement years and the growth of 'free time'? What does God ask us to do with the time that may become available?

Questions

1. (pp 168-9) If work and employment have been generally regarded as a calling from God, how should we regard the prospect of long-term technological unemployment? Is work an essential part of a flourishing human life?

2. (pp 176-8) What are the long-term implications of new technologies which create economic value without requiring large numbers of human workers? How might government regulations restrict or compensate for the destruction of jobs for humans?

3. (p 179) How might the Christian Church play an important role in enabling those without employment to use their skills and labour productively and for the good of the community?

4. (p 180) What are the theological implications of a future in which many people face long-term unemployment? What might a 'theology of leisure' look like?

Summary

The fundamental drivers of automation – increased speed, accuracy and economic efficiency – are leading to an explosion of health-care applications. It is likely that AI and digital technologies will have a transformative and disruptive effect on the health-care professions. The positive view is that AI systems will take on the routine and repetitive aspects of patient care, allowing human professionals to spend more time in face-to-face interactions. But in the interests of increased efficiency it may be that human interactions come to be seen as less cost-effective. John Wyatt argues that there is a common narrative that underpins the introduction of AI devices into patient care. There are not enough skilled humans to fulfil the roles and machines can be a 'good enough' replacement. But caring relationships with machines are being promoted at a time of unparalleled relationship breakdown and loneliness. How may human relationships become distorted in the future if children and adults learn about relationships from their interactions with machines? John Wyatt argues that human to human solidarity lies at the heart of the physician-patient relationship. Although synthetic companions *may* play a positive role in certain contexts, "To blur the distinction intentionally between a genuine human carer and the simulated compassion of a machine does not see consistent with a Christian concern for authenticity and truthfulness." Wyatt concludes that there are more than enough human beings on the planet to undertake the work of caring, both in professional and unpaid voluntary roles in families and communities. "Although AI technology can provide remarkable benefits in the world of health care it cannot replace the centrality of the human-to-human encounter."

Questions

1. (pp 183-5) In what ways might AI and robotic technology disrupt the traditional professional roles of physicians, nurses and carers? Which patients are likely to benefit from this and which may suffer?

2. (p 188) Wyatt lists a number of ethical concerns about the use of assistive care robots for elderly people. How might these concerns be addressed and mitigated? What are the most important values which should guide the development of robotic care systems?

3. (pp 189-91) Why are caring relationships with machines being promoted at this particular time of unparalleled relationship breakdown and loneliness? In what ways might human relationships become distorted if children and adults learn about relationships from their interactions with machines?

4. (pp 192-6) What arguments might be made to support the centrality of human-to-human relationships in the delivery of health care, even if automated systems are more cost-effective?

5. (p 197) It may be true that there are more than enough human beings on the planet to undertake the work of caring, both in professional and unpaid voluntary roles, but what practical steps might be taken to encourage more human beings to take on caring roles?

Summary

AI systems are being employed to create works in many different forms, including painting, literature and music. But can AI be truly creative or is it doomed to sophisticated versions of 'pastiche', repetition and replication of works of genuine human creativity? Dorothy Sayers argued that creativity involves an act of imagination, a 'creation out of nothing', which is a reflection of the *imago Dei*. "There is a link between the divine Creator and the human creator which is perhaps often intuited rather than openly expressed." Andrzej Turkanik argues that "human creators are contributing to God's praise and majesty, regardless of whether they acknowledge it or not. A machine cannot do this." A further element of human uniqueness is the sensitivity of the creative artist to the suffering of others. Turkanik gives many examples of how great art frequently emerges as an expression of the profound suffering of a community. Deep human emotions extend over years and decades. "Being part of humanity and sharing human cultures give the creative artist access to collective memories and collective identities, stretching back through the centuries." Turkanik ends by expressing cautious optimism that AI may play a useful role as a tool to assist human composers and artists of different genres. But the product that AI's produce by themselves will lack intention, imagination, meaning and purpose, because these are uniquely human and God-like traits.

Questions

1. (pp 198- 204) Why do you think there is such interest and fascination in the apparent ability of AI systems to generate original artistic creations? What does this indicate about the role that the creative arts play in contemporary culture?

2. (pp 206-8) Do you agree that creativity involves a 'creation out of nothing' and that it is therefore a uniquely God-like trait? Even if AI-generated art is derivative, does this matter if it is appreciated and enjoyed by other human beings?

3. (pp 209-10) Why is there a deep connection between suffering and human creativity? What might this indicate about the nature and implications of the *imago Dei*?

4. (p 213) How would you respond to the questions that Andrzej Turkanik raises: "Will AI enhance or diminish human artistic expression? Will it draw out of us this exquisite awareness of the magic of fresh creation? Will it help us to treasure the inheritance of human artistic endeavour or flood us with the digital equivalent of comforting junk food?"

Summary

Surveillance capitalism is described as an interconnected political and economic system which centres on the extraction, processing, selling and use of data and on behavioural modification. It has generated enormous profits for a number of American commercial technology companies but has led to many examples of harm, primarily in connection with social media. Mladin and Williams focus on two underlying issues, privacy and autonomy. They argue that "humans flourish not by designing their own values and exalting their capacity to control their own lives, but by discovering how they are designed by the hands of their Creator and gladly internalizing and acting on their discovery. The defence of privacy begins not in the name of a fundamental absolute right to self-determination but in the name of care for others." "Big tech inserts itself into our moral formation in ways that run counter to the kinds of lives we should cultivate – of contentment rather than conspicuous consumption, of deep and genuine connection rather than superficial exchanges, of gratitude instead of envy, of patience rather than instant gratification. Big tech undermines our ability to choose what we are being transformed into. It mines or influences our subconscious desires in way we are often not aware." Mladin and Williams argue that we must assess and view surveillance capitalism in the light of the vision of human well-being set out in the Scriptures of the Christian Church.

Questions

1. (pp 221-2) To what extent are the activities of the American big tech companies responsible for the harms that Mladin and Williams outline, including addiction to social media, growing social anxiety, shortening attention spans, deteriorating mental health, political and social polarisation and social fragmentation? How have they contributed to these harms?

2. (pp 223-4) How do Mladin and Williams provide distinctively Christian reasons for being concerned about the erosion of privacy? How do these reasons differ from secular arguments based on the right of self-determination?

3. (pp 226-7) The authors argue that capitalism had developed and flourished in the form it has because it preys on our greed and desire for ever greater consumption. How would you respond to the counter-argument that capitalism is simply a neutral economic system that does not have moral implications?

4. (p 227) Can you describe ways in which "big tech undermines our ability to choose what we are being transformed into"? What practical approaches might be developed in order to protect ourselves from subconscious and manipulative influences on our moral formation?

Summary

The editors identify a number of overarching themes that have emerged in the volume:

1. Advancing AI technologies lead to a fresh focus on our understanding of what it means to be human.
2. The blurring between human and machine intelligence leads on to the concept of artificial general intelligence, a machine that would be capable of performing every possible intellectual task in a way equivalent or superior to that of a human being. In response Christians need to find common cause with others who understand and celebrate the centrality of physical embodiment to our human way of being in the world.
3. Different ways of interpreting the image of God have implications in our responses to developing AI technologies
4. The ability of AI systems to simulate human behaviour raises genuinely novel questions for the future of our society. There is an urgent need for theological and philosophical reflection on the ethics of simulation and authenticity.
5. Perceptions of how AI technologies will impact our human future oscillate between utopian dreams and dystopic nightmares. AI leads to a fresh focus on what kind of future we are being propelled towards and whether it is a future in which human beings can flourish.

Questions

1. In what ways do AI technologies influence social understandings of what it means to be human? To what extent does a renewed interest in the nature of humanity offer opportunities for Christian believers to influence our culture for good?

2. How do you respond to the possibility that an artificial general intelligence might be created in the near future? How does an orthodox Christian understanding of the centrality of embodiment engage with this possibility?

3. In what ways do different understandings of the image of God influence our possible responses to the opportunities and challenges raised by advancing AI technologies?

4. On what biblical foundations might a theological response to the ethical challenges of simulated persons be based? If no-one can tell the difference between what is genuine and what is simulated, does this matter, and if so, why or why not?

5. What would a technological future in which humans can flourish, actually look like? How can we contribute to a wider discussion of the kind of future world we wish to build for ourselves and for our children?

ABOUT THE AUTHORS

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Andrzej Turkanik, a native of Poland, born and raised during the Communist regime, completed degrees in music and art in Poland as well as theology in Germany, before earning PhD in Oriental Studies from Cambridge University. The Quo Vadis Institute, of which he is Executive Director, is dedicated to helping ask the questions as to what true human flourishing means in the changing societal landscape in Europe and the Western World and how cultural renewal can be stimulated. In this capacity Turkanik travels widely speaking at professional conferences and symposia in partnership with key influencers and thinkers across Europe and beyond.

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