



“Shaping a Digital World

Faith, Culture and Computer Technology”

by Derek C. Schuurman, 2013

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This is an unusual publication; a theology of digital technology written by a professor of computer science at a Christian University who benefited from fruitful interactions with his colleagues in Christian philosophy and theology. Published by IVP Academic, this is a serious book. It will be of interest to Technology Professionals interested in Theology and Philosophy; or to Theologians who want to explore the place of Technology in creation, our culture and our daily lives.

The book follows a simple, logical structure:

- **Introduction** – context setting, definitions and establishing the foundations;
- **Creation** – where and does technology fit within the created world and with humanity as created in the image of God;
- **Fall of man** – in a world that is disobedient to God’s commandments, what is the impact of technology;
- **Redemption** – in a world where Jesus Christ has come, lived and ‘made peace through his blood’, how should followers of Jesus view, handle and use technology;
- **Future** – hope or despair, how can we view the future in a technology dominated world
- **Conclusion** – the author summarizes the lessons he believes we need to learn, individually and collectively.

The introductory definition of ‘technology’ leans on Carl Mitcham’s work which applies labels a wide range of ‘technology objects’ as a precursor to articulating a more focused definition of what constitutes computer technology. The definition of computer technology in Schuurman’s book is multi-layered. It combines:

1. a human cultural activity
2. a response to the Creator (for good or ill)
3. both hardware and software
4. being synthetic – made with tools and procedures
5. those tools and procedures are in turn enabled by programming languages and microprocessors, which themselves require sophisticated tools and procedures to be produced; and
6. is used for practical ends or purposes.

In my opinion the most critical part of the Introduction is the assertion that **technology is not neutral**. The belief that a technical artefact is neutral is described as *instrumentalism*. A number of authors are quoted to support this perspective; like Neil Postman (from Technopoly, 1993), “*Embedded in every tool is an ideological bias, a predisposition to construct the world as one thing rather than another, to value one thing over another, to amplify one sense of skill or attitude more loudly than another.*”

For me, this issue is a critical principle we need to explore and understand as we strive to appreciate the full impact of technology as well as anticipating potential future consequences be they beneficial or not. Schuurman points out that

the very modus operandi of technology cannot be neutral as it has to reduce all operations into quantifiable entities. This means that while there is significant latitude in the function of computer technology, it tends to “*emphasize speed and the abstraction and quantification of things*”.

Abstractionism represents a real danger in this world – where we struggle to distinguish our abstractions from reality. (Please see John Wyatt's article *Simulacra and simulation* [<https://tech-human.squarespace.com/resource-bank/simulacra-and-simulation>] for more details on this issue). Schuurman points out that real life is truly complicated. While even the most sophisticated models are limited: shadows of reality. This relentless emphasis on speed has driven the ever-rising tide of busyness in our western lives. By analogy, Schuurman explores the impact of the invention of clocks first on monastic life and then on life in general. Every major technological advance has changed the nature of our society, our communities and our individual lives.

The author then goes on to examine four typical reactions of Christians to technology:

- **rejection** of technology – the Luddite approach (which Schuurman does not dismiss casually)
- **indifference** – meaning that the user does not see any conflict between technology and faith
- **embracing it indiscriminately** – to get caught up in the 'hope of progress'
- **cultivating responsible technology** – a more nuanced approach, appreciating the loaded values implicit in technology and consider, using Scripture as a guide, to try to make this world a better place.

Computer Technology and the Unfolding of Creation

One of Derek Schuurman's areas of interest is computer vision – the technology of extracting meaningful information from digital images. The author compares the power of human sight to the process of decoding digital images, and in response he echoes the words of Tomas Edison, “*When you see everything that happens in the world of science and in the working of the universe, you cannot deny that there is a 'captain on the bridge'*”. The author delights in glory of Creation. He sees the hand of God in both the natural and the 'synthetic' world: the world of man-made technology. Schuurman delights in the aesthetics of elegant algorithms, the wonder of patterns in information, the exploration of mathematical concepts. Science, says Schuurman, offers a *glimpse of the majesty of a powerful and wise Creator*.

In *Creation*, Schuurman starts with the 'cultural mandate' given to mankind in Genesis. He explores the ways humankind has used and abused that mandate, tracking a path from the biblical forefathers to the discovery and development of various disciplines of computer science. He discusses the significance of 'naming' of the natural Creation and the responsibilities of stewardship that follow. He sees parallels with the naming of synthetic computer components – ROM (Read-Only Memory), RAM (Random Access Memory) etc.: the responsibilities of stewardship follow there too. He bemoans the abuse of the cultural mandate – and particularly environmental abuse. He reminds us that Christians have too often mis-used the Creation story to justify the destruction of our planet.

Schuurman offers some warnings. The book explores the meaning of the 'Image of God', and how that colours the way we handle computer technology. He observes that we must not allow digital connections with other humans replace bulk of our now face-to-face interactions. This is made as a passing remark – and yet I think this merited deeper examination in a world where more and more human-to-human interactions are mediated by some form of technology.

In a longer passage, the author examines the commandment to take Sabbath rest. Computer technology – and particularly the technologies emerging in the Digital Revolution have led to an expectation that employees are always available, always connected. This has created a culture where even one day of rest per week is difficult to achieve. We

are now in a state of 'continuous partial attention' with no real downtime at all. To me, this is something of a clarion cry – one which we as Christians have a responsibility to heed – not for the sake of religious observance, but for the sake of humanity, that we could once again create an environment where it is possible to disconnect, in order to focus completely on our families and friends and recharge our physical and spiritual batteries.

Schuurman moves on to reductionism quoting Auguste Comte, "There is no inquiry which is not finally reducible to a question of numbers". There is a tendency for those of us who inhabit the world of Science, Mathematics and Engineering to have very narrow perspectives on the world. "Not everything that can be counted counts, and not everything that counts can be counted"¹ Schuurman sees real danger in reductionism: expecting everything to be measured, calculated or simulated. He sees escalating risk in the ever-increasing level of specialism technical schools

FAITH trust and belief
ETHICAL love and well-being
JURIDICAL retribution, restitution
AESTHETIC harmony and beauty
ECONOMIC stewardship, frugality
SOCIAL human interactions
LINGUAL symbolic meaning
HISTORICAL cultural development
ANALYTICAL Making distinctions
PSYCHIC feeling or emotions
BIOLOGICAL life, vitality
PHYSICAL energy
KINEMATIC movement
SPATIAL geometry
NUMERIC number, quantity

NORMS

LAWS

and programs are following in response to the growing volumes of information and proliferating technologies. He advocates much broader perspectives than purely technical ones.

To maintain a balanced, holistic perspective, Schuurman offers Dooyeweerd's framework of Modal Aspects (*Herman Dooyeweerd: Christian Philosopher of State and Civil Society, University of Notre Dame Press, 2011*) as a useful tool.

The principle is that these 'laws' are in effect regardless of human intervention, whereas norms require exercise of human freedom and responsibility. Schuurman has found this framework helpful in avoiding reductionism and seeing the true diversity of Creation. It helps avoid the elevation of one aspect of Creation above others - and provides a practical set of perspectives that can be used to explore contemporary issues.

At the end of this chapter, the author offers a basic introduction to 'Artificial Intelligence'. He applies the Norms and Laws model to this discussion and argues that higher model aspects (norms) require a human subject to exercise freedom and responsibility; therefore, computers can never (according to Schuurman) understand the meaning of language. He reminds us that human beings are distinct from the rest of Creation. (Gen 2:7) and points to the story of Ezekiel and the dry bones (Ez 37:1-14) required the breath of God to impart life.

Computer Technology and the Fall

God created all things good, but the fall has affected the whole of Creation (Gen 3:16-19). It is impossible to determine how our 'discoveries' have been tainted by our disobedience.

Computer Technology is both digital technology and a human cultural activity. As fallen beings we distort and misdirect these things – for example with computer viruses, cyberbullying, addictive applications and pornographic or abusive websites. Computers are being used to do good, but they are also contributing to the degradation of our humanity and to damaging the planet. Schuurman also points out that beneficial innovation is not limited to believers

¹ William Bruce Cameron, *Informal Sociology*, New York: Random House 1963

and never has been. The Israelites had to rely on the services of blacksmiths from Philistia (1 Sam 13:19-20). God pours his blessings on all. We who follow him, have a responsibility to use all these gifts wisely.

The author then moves on to explore the story of the Tower of Babel (Gen 11). After the flood (Gen 9:1) mankind was instructed to be fruitful and increase in number and fill the earth. As construction technology developed, people began to build a city. In that city, they intended to build a tower (Gen 11:4) "so that we may make a name for ourselves; otherwise we will be scattered over the face of the whole earth." This plan directly challenged the instruction to go and 'fill the earth'. God determined that he would limit the arrogant intention of humans and thwart their plans. So, he stepped in, confused their language and scattered the people. (Gen 11:7-8). We see parallels with this story in humanity's present pursuit of technological advancement. Going back to the Age of Enlightenment, which predominantly stretched through the 18th Century, there was an increasing belief in the Scientific Method and Reductionism, which has laid a foundation for much of contemporary thinking.

"Technicism is marked by three key beliefs. First is the belief that the development of increasingly complex objects is inevitable; progress cannot be stopped. Second is the belief that all technological progress will improve the conditions of humankind. Third is the belief that even if technical change brings problems, there will be technical solutions to solve those issues. Christians need to recognize that these beliefs amount to a form of ultimate concern and ultimate trust – in other words, a religion." We do not tend to make idols out of wood and stone, but as Calvin says, our human nature is a 'perpetual factory of idols'. Schuurman makes this point well – and explores the consequences of this modern form of idolatry. He cites various authors through the last 180 years who claim particular innovations – e.g. the telegraph, the world-wide web, digital technology – will engender greater world harmony. The evidence so far contradicts this position. Technicism is a false religion.

"Scientism claims that human reason can provide complete understanding of humanity and nature." This view is based on the supremacy of humanity over all things and does not acknowledge the existence of sin or the fall. This form of scientism is not consistent with orthodox Christian belief.

"Scientism drives Technicism which, in turn, feeds Consumerism". Digital technology is being used to feed consumerism. Adverts are pushed to us at in our most vulnerable moments, designed to make us covet and spend more. The culture of our obsession with technology is itself, consumerist – pursuing the latest upgrade, the newest release.

If technology brings so many dangers, asks Schuurman, shouldn't Christians avoid it all together? The author looks to Paul's instructions to the Corinthians (1 Cor 8) concerning food offered to idols and building on those arguments advocates we should enjoy God's Creation, including technology, while being mindful of those who are less mature in the faith.

The book addresses some significant questions. "Is Technology a result of the fall?" "What about 'antinormative' technology?" (by antinormative, the author means 'contradicting the norms outlined in the chapter on Creation). "What about computer bugs?" In all these questions, Schuurman's response is thoughtful. I particularly appreciated the comment that we need to maintain "a posture of humility, understanding that in our fallen state we only see dimly." (1 Cor 13:12). These are wise words to all of us who are wrestling with the challenges of the impact of technology on our humanity.

Redemption and Responsible Computer Technology

"In the end, God will come and fix his world and make it altogether good again. In between, his children are to go into the world and create some imperfect models of the good world to come." Lewis Smedes: My God and I

"Shaping a Digital World" moves onto a message of redemption and hope. Sin has distorted innovation and with our assistance; damaged our world but Christ's atoning death is central to God's plan to restore Creation. Those of us who have faith and who work within the technology domain are challenged to be good stewards: to demonstrate a distinctive difference in our work as a result of that faith. The goal, Schuurman says is not distinctiveness for its own sake, but as a result of our belief. He quotes George Marsden's reasons that our work might be distinctive as a result of our faith:

1. Our motivation to work well;
2. Where and on what we choose to work;
3. The questions we ask about the nature of our work; and
4. Our perspective of the overall environment we are working in – the 'big picture'.

It is an interesting question – perhaps a challenging one - to ask how different is my work to that of my non-believing colleague? Is our work in technology bringing peace: shalom, to the world? Schuurman quotes Abraham Kuyper on this point, *"There is not a square inch in the whole domain of our human existence over which Christ, who is sovereign overall, does not cry: Mine!"*. There is no separation of sacred or secular in our existence – all is brought under the authority of Jesus.

If something is possible, does that mean it should be done? The author suggests that while computer technology is a predominantly technical exercise, its application is generally into a particular human domain – medicine, safety, administration, transport etc. This work should ideally be under the direction of someone who specialises in that domain rather than the technologists. Schuurman advocates the general use of multi-disciplinary teams to bring a breadth of understanding to the solution design and development. He believes the use of 'Norms' as described in the chapter on Creation bring insight and help to embed the values of God's word in the solutions developed. *"Good technology is consistent with a respect for people and in the service of all kinds of life"*. It should enshrine the values of the Kingdom of God (Matt 5:1ff etc.). Schuurman then works through some of the norms as they apply to computer technology in more detail:

- Historical and Cultural;
- Lingual and Communication;
- Social;
- Economic;
- Aesthetic;
- Juridical;
- Ethical; and
- Faith.

Without giving the whole game away here, there are interesting examinations of the relevant aspects of computer technology: hardware, software and its uses. The Norms do indeed offer helpful insight. Whether we can adopt them as the basis of a value-centred framework to assess the impact of computer technology could be an interesting area of further study. Schuurman's conclusions are that, in the words of Leslie Newbigin, *"Jesus is the clue for understanding*

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all that is." In the author's words, "Responsible computer technology involves following Christ and discerning God's purpose for creation."

The final two chapters: Computer Technology and the Future, and Concluding Thoughts are much shorter. They examine the themes of optimism and despair; continuing creation. They bring a clear reminder that healing of the nations will only come with Christ's return, not as the result of technological advances. "Creation began in a garden and will end in a city", says Schuurman, which points to some cultural and technology development. He looks forward to technology that is free from the consequences of sin. He anticipates that many applications of technology that address the consequences of our brokenness, will vanish – but we can only speculate on exactly what that might look like.

Quoting Frederick Brooks, the book concludes, "As Jesus said, what comes out depends upon the condition of the heart itself [Matthew 15:18]. If we would have our creations be true, beautiful, and good we have to attend to our hearts".

This is a thoughtful book, written with understanding and insight both into the technological and theological perspectives of life. It is a small, but dense book, rich in information, gathering quite a wide range of perspectives – not just the most modern; but some older writings which still offer insight today. For those who want to put their work with technology into a robust theological context this is a useful book, that will provide helpful signposts.

(Note from the book's author: More information can be found at the companion site for the book: https://cs.calvin.edu/activities/books/shaping_a_digital_world/)

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