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Theology, philosophy and technology: Perspectives from the Hervormde Kerk

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This contribution is located in the field of Historical Theology. It gives an overview (post-World War II) of the philosophical-theological discourse on technology and humanity, articulated by academics who were members and ordained ministers of the *Nederduitsch Hervormde Kerk van Afrika* (NHKA). It serves to illustrate the close relationship between theology and philosophy within the theological tradition of the NHKA. The author concludes that there is a growing realisation that it is not primarily about technology anymore, but about humanity. In theology, there is a fundamental concern for the well-being of humanity. Theologians would forsake their responsibility if they would stay quiet on something, which is not only transforming our world view and morality, but humanity itself.

Contribution: The current discourse on technology tends to be dominated by economists, engineers, information technology specialists, jurists and medical specialists. As a result, technology takes the centre stage, emphasising the benefits of technological progress. Because of the radical impact of technology on humanity, disciplines such as history, philosophy, sociology, psychology and theology are becoming increasingly important discussion partners.

Keywords: science; technology; theology; Heidegger; Plessner; Löwith; Dreyer; Oberholzer; philosophical anthropology; Pretoria School of Philosophy; NHKA (Ned. Hervormde Kerk van Afrika); human existence; progress.

Introduction

Technology raises many questions in terms of our human existence, which could be addressed from different perspectives and academic disciplines. In general, technology is associated with engineering, information technology (IT), as well as natural and medical sciences. Because of the radical impact of technology on humanity, disciplines such as history, philosophy, sociology, psychology and theology are becoming increasingly important discussion partners. In the context of the Fourth Industrial Revolution (4IR) and the aftermath of a worldwide pandemic, the use and misuse of technology had become a 'hot topic'.

The concept of an 'industrial revolution' was first popularised by the British historian and philosopher Arnold Toynbee[1] (1852–1883), in his *Lectures on the Industrial Revolution of the 18th Century in England* (Toynbee 1883). He delivered these lectures during 1881 and 1882. He died shortly after (1883) and the lectures were made available for publication by his wife. These lectures were the first, as well as the most influential attempt to describe Britain's transition to a machine-based economy, made possible by scientific discoveries and the development of new technologies such as steam and waterpower. The use of steam engines in factories was the basis of the First Industrial Revolution.

Toynbee's views had a massive impact on our understanding of history and humanity. In the West, under the influence of Christianity, history was regarded as a linear movement from creation, with the Christ event taking the centre stage, all predestined to end with an apocalyptic event. According to Christianity, people could rest assured that God's providence will safeguard their lives and day-to-day existence until Christ returns. The concept of an industrial revolution, as well as the idea that our lives are dependent on forces of production, industry, technology and labour changed our understanding of humanity and the history of humanity.

During the 20th century, scientific discoveries, innovation and technological progress marched forward at an astounding speed. The development of electricity (the basis of the Second Industrial

1.Not to be confused with the later Arnold J. Toynbee (1889–1975), professor of international history at King's College London and the London School of Economics. They were distant relatives.

Note: Historical Thought and Source Interpretation.

Revolution) and the internal combustion engine made it possible to build cars, aeroplanes and greatly increased the military ability of European nations. Cars were changed into tanks; aeroplanes were used to drop bombs from the sky. The accumulation of knowledge and new technologies intensified with the development of computers, leading to the Third and Fourth Industrial Revolutions.

This contribution is located in the field of Historical Theology and gives a historical overview (post World War II) of the philosophical and theological discourse on technology, with specific reference to the *Nederduitsch Hervormde Kerk van Afrika* (NHKA). The NHKA is one of the South African churches with its roots in the 16th century Dutch reformation and the Hervormde Kerk of the Netherlands. The article is limited in scope, because the interface between theology and technology has become a vast field of research, which requires substantial delineation. In terms of positionality, the author has a specific interest in the NHKA's history and theology.

It should also be mentioned that the historical interface between philosophy and theology in the NHKA is gradually disappearing. The dominant position of Practical Theology and the crisis churches are facing in the 21st century, probably contributed to the receding influence of philosophy. It begs the question whether theology in the NHKA is turning into a generalised and praxis orientated theology, losing its unique character within the landscape of reformed theologies.

Philosophy and theology in the *Nederduitsch Hervormde Kerk van Afrika*

It is quite remarkable that theologians and philosophers from the ranks of the NHKA engaged with the question of technology, long before terminology like Third Industrial Revolution (3IR), 4IR and artificial intelligence (AI) became popularised. It is also clear that the insights gained from philosophical anthropology helped theologians to articulate their views on the questions of technology and humanity. Historically, philosophy always had a particular role to play within the theology of the NHKA. Beukes (2008:73–109) articulates this as follows:

> The voice of the philosopher in the NHKA is pertinently secular, Kantian to be more precise… Not only was the Hervormd approach more philosophically guided than any other local theological approach, it was and is inherently philosophically guided… Hervormd theological training at UP as being characterised by intense philosophical input, with substantial and compulsory education in philosophy in the undergraduate programme… resulting not only in numerous Hervormd theologians with magister degrees and doctorates in philosophy, but in Hervormd theologians and ministers who were extremely competent in philosophical discourse within their daily theological enterprise. (Beukes 2008:73)

Nederduitsch Hervormde Kerk van Afrika theology is characterised by diverse influences, including reformed theology (both Lutheran and Calvinistic), confessional theology, Dutch-ethical theology as well as Barthian or Brunnerian dialectical theology (see Beukes 2008). The influence of philosophy is just one of the discernible layers in NHKA theology. This philosophical-theological sub-layer in NHKA theology, was initiated by Prof. CH Rautenbach, minister of the NHKA who later became the chair of the Department of Philosophy at University of Pretoria (UP) and also Rector of UP (1948–1970).

Rautenbach was followed by Prof. C.K. Oberholzer, member of the NHKA executive and later Prof. P.S. Dreyer,[2] who remained minister of the NHKA until he passed away in 1999 at the age of 78. The theology or philosophy discourse was continued by several NHKA ministers who became professors of philosophy at various universities, also internationally (see Beukes & Van Aarde 2000).

It is remarkable how many professors in philosophy lecturing at the University of Pretoria, especially in the period between 1950 and 2020, were ordained ministers of the NHKA (Prof. Casper Rautenbach, Piet Dreyer, Alex Antonites, John Gericke and Ernst Wolff) or elders of the NHKA (Prof. Carel Oberholzer, Giel de Beer and Marinus Schoeman). Philosophers holding ties with the NHKA and working at other South African and international universities include Johann Beukes (University of the Free State and several Dutch universities), Gafie van Wyk (Rand Afrikaans University or University of Johannesburg), Danie Goosen (Unisa and Akademia University), Pieter Duvenage (University of the Free State and Akademia University), Hercules Boshoff (University of the Free State and Akademia University), Kristy Claassen (University of Pretoria and University of Twente) and Schalk Gerber (University of Stellenbosch and Vrije Universiteit Amsterdam). From the perspective of Historical Theology, it is quite evident that NHKA theology cannot be understood properly without considering the influence of philosophy.

Early influences on the *Nederduitsch Hervormde Kerk van Afrika* philosophical-theological understanding of technology

One of the philosophers who influenced the NHKA's philosophical-theological discourse on technology and humanity is Martin Heidegger (see Beukes & Van Aarde 2000:14–15). Heidegger addressed the question of technology in *Die Frage nach der Technik* (Heidegger 1929). In the introduction to his translation of Heidegger's work, Lovitt (1977) makes the following remark:

> We ordinarily understand modern technology as having arisen subsequently to science and as subordinate to it. We consider it to be a phenomenon brought about through scientific advance. Heidegger points out that, on the contrary, modern science and

2.While P.S. Dreyer chaired the Department of Philosophy at UP, he also played a major role in the mission activities of the NHKA. P.S. Dreyer (1921–1999) studied theology and philosophy at the Universities of Pretoria and Groningen from 1938 to 1950 and obtained doctorates in both disciplines. He was a highly rated Kantian scholar, publishing the only ever translation of Kant's work in Afrikaans (Dreyer 1997). Dreyer remained his whole life committed to the theological or philosophical discourse.

> machine technology are mutually dependent upon one another. More importantly, technology, in its essence, precedes and is more fundamental than science. This is no mere statement concerning chronological priority, for the 'essence of technology' is the very mode of Being's revealing of itself that is holding sway in all phenomena of the modern age. Man's arrogation to himself of the role of subject in philosophy; his objectifying of nature, life, and history in dealing with them in 'the sciences'; and his calculating and cataloguing and disposing of all manner of things through machine technology – all these alike are expressions of that essence and of that revealing. Technology, so understood, is in no sense an instrument of man's making or in his control. It is rather that phenomenon, ruled from out of Being itself, that is centrally determining all of Western history. (pp. xxviii–xxix)

Lovitt's interpretation of Heidegger's understanding of the essence of technology points to an overpowering position of technology, not merely as an instrument in the human hand, but becoming the very mode of existence, of *Sein* [Being]. Human has become *homo technicus.* Human existence is 'framed' by technology. Technology has become an extension of our real humanity. Despite this, technology is not the enemy. Heidegger (1977) points us in another direction:

> In what follows we shall be questioning concerning technology. Questioning builds a way. We would be advised, therefore, above all to pay heed to the way, and not to fix our attention on isolated sentences and topics. The way is a way of thinking. All ways of thinking, more or less perceptibly, lead through language in a manner that is extraordinary. We shall be questioning concerning technology, and in so doing we should like to prepare a free relationship to it. The relationship will be free if it opens our human existence to the essence of technology. (Heidegger 1977:3)

Heidegger is of the opinion that one should resist the temptation to offer answers or predictions of what the future holds. We live in volatile and unpredictable times. At most, as Heidegger says in the quote above, we could ask some questions. Asking questions about the history and future of human existence, technology, industrial revolutions and ethics facilitates a way forward. The way is a way of reflection, of language and questioning. That will bring more clarity to our understanding of *homo technicus* and the essence of technology.

Heidegger's existentialism found expression in the work of C.K. Oberholzer as well as P.S. Dreyer. Dreyer engaged with Heidegger primarily through his reading of *Sein und Zeit*, where the early Heidegger enters into the discourse on technology (see Botha 2001:143–145). It could be mentioned that Dreyer had an original copy of Heidegger's *Die Frage nach der Technik* in his private library.

During the very same time as Heidegger's publications on technology, Helmuth Plessner published his introduction to philosophical anthropology (Plessner 1928 [1965]). P.S. Dreyer studied under Plessner at the University of Groningen and was greatly influenced by Plessner's anthropology. In his opening phrase, Plessner (1928 [1965]) states the following:

> Jede Zeit findet ihr erlösendes Wort. Die Terminologie des achtzehnten Jahrhunderts kulminiert in den Begriff der Vernuft, die neunzehnten im Begriff der Entwicklung, die gegenwartigen im Begriff des Lebens. (p. 3)

He used three important words: knowledge, progress and life. He argues that since the Enlightenment, 'knowledge' had been the mantra, which (under influence of Hegel's dialectic) changed to 'progress'. The 20th century speaks about 'life'.

Karl Löwith also addressed the issue of so-called 'progress'. In his *Meaning in History* (1949), Löwith devotes a whole chapter on the concept of 'progress' (Löwith 1949:60–103). He argues that the idea of progress emerged in the late 17th century, as the effect of the scientific revolution and technological advance took hold and divine providence became a redundant concept. Humanity could take care of itself. The doctrine of progress assumed the function of providence, that is, to foresee and to provide for the future. Following Löwith, P.S. Dreyer argues that the ideology of progress became a secularised form of divine providence, even a 'sort of religion' (Dreyer 1974:247). 'Progress' is Christian by derivation, but anti-Christian by implication. Progress through science, innovation, technology and industry acquired an eschatological dimension, anticipating a bright future with salvation and a life in fullness available to all humanity.

One of the theologians who influenced the theology of the NHKA quite extensively was Emil Brunner. Progress presents us with complete faith in the unlimited ability of individuals and humanity as a whole to better their lives (Brunner 1953:15). Emil Brunner points out that this belief, that every next generation would be better developed, more intelligent and lead a more meaningful life, is unique to the West and a result of the *Aufklärung*. It is a linear concept of progress, strange to the great cultures in Asia.

Published contributions 1950–1990

The discourse on technology and human existence became quite prominent after WW II, also in South Africa. This is understandable and to be expected. The United States detonated two atomic bombs over the Japanese cities of Hiroshima and Nagasaki on 06 and 09 August 1945, killing approximately 226 000 people. The use of technology in weapons of mass destruction sent shockwaves around the globe. The ensuing Cold War, threatening to turn planet earth into a nuclear wasteland, led to a renewed discourse on technology and human existence.

In several published articles, the NHKA theologians and philosophers paid specific attention to questions pertaining to technology and humanity. Reading the articles, it is quite evident to what extent they were influenced by Immanuel Kant, Edmund Husserl and Martin Heidegger's ontology, existentialism, hermeneutics, critical theory and post-structuralism (Beukes & Van Aarde 2000:14). Philosophical

anthropology became the keystone of the so-called Pretoria School of Philosophy (Duvenage 2016:13).

With the very first conference of the SA Philosophical Society (Cape Town, April 1951), Dreyer presented a paper in which he addressed the challenges universities are facing, the unfounded optimism of natural sciences, the blind faith in progress and the negative impact of technology (Dreyer 1952:180). The Cold War and the race between East and West to acquire nuclear firepower, loomed large and threatening in the background. Against the background, Dreyer spoke of technology as a 'Frankenstein' (Dreyer 1952:180) that threatened human existence. Over against a world view dominated by science and technology, he argues for a turn to humanity (p. 190) and a value-driven society. Human beings are so much more than pieces on the chess board of financial exploitation, production processes, science and technology. The voice of the philosopher and the theologian should be heard, protesting against the dehumanising effects of technology.

In another paper presented before the SA Society of Philosophy (Pretoria 1954), Dreyer describes the historical link between the Renaissance, Enlightenment, Rationalism and the anti-religious philosophy of Feuerbach and Marx and comes to the conclusion that the Christian understanding of history and salvation was not only secularised in the concept of progress but also in the growing emphasis on the *Dieseits* and rejection of the *Jenseits* (Dreyer 1954:37). Science, technology and progress replaced faith and the kingdom of God.

During 1964, the Department of Philosophy at UP hosted a series of public lectures under the heading of *Philosophical Anthropology and Humanities* (ed. Cronjé 1966:Introduction). One of the contributions relevant to the topic was by Prof. Carel Oberholzer, the then chair of the Department of Philosophy. He addressed the issue of medical science and technology and its impact on the sick person. He concludes (Oberholzer 1966:54) that humanity will not find salvation in technology, under the assumption that technology enables our control of and power over all sorts of calamities (including sickness and pandemics). This does not mean that medical research and intervention is unimportant – on the contrary. The issue is not whether medical interventions are important but rather how we maintain the dignity of the sick and the dying. Technology is an important tool to assist healing, but it is important for the medical practitioner to engage with patients not as objects to be managed in terms of technological innovation or medical science, but as fellow human beings and travellers on the narrow road between life and death. His contribution is especially poignant, if one remembers that his own daughter suffered from cancer and eventually succumbed to the disease.

During 1977, the year Lovitt's translation of Heidegger's '*Die Frage nach der Technik*' appeared, Dreyer again addressed the challenges of science and technology in a paper delivered to the SA Philosophical Society (Potchefstroom 1977). In this contribution, Dreyer describes technological innovations as the 'practical implementation of scientific research' (1977:58). Since the 19th century, science and technology became the basis of all industrial revolutions, resulting in a pragmatic and utilitarian understanding of science. This impacted on theology as well as philosophy. All 'pure' science must become 'applied' science (Dreyer 1977:59). Again, like in previous contributions, Dreyer argued for a turn to humanity – for a fundamental respect for human life, the quality of life and meaningful existence (p. 61). Every human being is in essence a communal being, living with and between other human beings (p. 63). The challenge to historians, philosophers and theologians is to open a discourse on meaningful existence of every human being in community with other human beings, especially in a context of a technology-driven society. Government must create an environment of justice and equitable implementation of laws. Injustice is a contravention of God's will and violation of the deepest essence of humanity (pp. 63–64).

Published contributions 1990–2020

The theological response to technology should be more than a few practical examples of how we could use technology. Theology (and the Church) could fall in the 'technology trap', assuming that everything in future will be determined by technology. Could technology, computers, internet, AI and virtual liturgy really replace the touch of a human hand? Would a machine, pre-programmed to recite very soulful prayers in a nice human voice, have the same impact on a terminally ill patient as the warm and caring words and touch of a fellow human being?

In recent years, several attempts were made to address the issue of technology and the Church on a more fundamental level. A previous moderator of the NHKA, Andre Ungerer, published an article with the title '*Homo disruptus and the future Church*' (Ungerer 2019), in which he examines the impact of 4IR and how it will disrupt and radically change the world, the uncertainty of human existence and the need for the Church to 'foresee' (Ungerer 2019:6) the impact of the Fourth Industrial Revolution and the challenges it poses to the Church.

In 2019, the current moderator of the NHKA, Prof. Wim Dreyer, published an article with the title '*Being Church in the era of homo digitalis*' (Dreyer 2019). The article was a reworked version of a conference paper presented at the Vrije Universiteit Amsterdam in 2018. Dreyer wrote the following:

> In the current academic discourse, the 'Fourth Industrial Revolution' is often mentioned. The Fourth Industrial Revolution is predominantly shaped by digitisation and networking. Klaus Schwab, founder and chairman of the World Economic Forum, is of the opinion that it will change not only what we do but also ***who we are***. It will affect our identity, our sense of privacy, our notions of ownership, our consumption patterns, the time we devote to work and leisure, how we develop our careers, cultivate our skills, meet people and nurture relationships. (see Dreyer 2019:3; Schwab 2016:1)

The phrase 'who we are' is important, pointing to the fact that the discussion of technology is not in the first place about technology, but about humanity in relation to technology. Our understanding of humanity has become the focal point of our discussion on 4IR and the emerging 5IR. Much research and literature has been published on the so-called *homo digitalis* (see Dreyer 2019), pointing to the fact that the extensive human exposure to digital technology not only changed social patterns and behaviour but also resulted in physical changes in the structure of the brain. The altered structure of the brain resulted in changing emotional response. For many young people, virtual reality is not an alternative reality, but it is the primary reality. They live in cyber space, where much of their time is spent in front of a screen, either working or socialising. This has far-reaching implications for the Church.

Probably the most outstanding theologian-philosopher coming from the NHKA is Johan Beukes. He is an honorary professor of philosophy at the University of Free State and works at several research centres for medieval philosophy in the Netherlands and was also for some time a research associate of the Faculty of Theology at the University of Pretoria. His extensive monograph on Foucault (Beukes 2020a) and two magisterial volumes (covering 1619 pages) on medieval theology and philosophy (Beukes 2020b, 2020c) speak of his extensive integration of philosophy and theology. Remarkable is the fact that he produced these works while still in full-time ministry in the NHKA. He received many accolades for his work. His work on the relationship philosophy-theology in the NHKA is well known (see Beukes 2008).

It is important to recognise the shift that took place from an older generation of philosopher-theologians to the newer generation. The older generation emphasised (under influence of Heidegger and others) humanity and existentialism. In the last few decades, the central role of humans has been questioned, and the *imago Dei* has been shifted from human beings to creation (or the Sabbath). However, one should recognise that in the work of Plessner ([1928] 1965) as referenced above, a fundamental difference with Heidegger and the existentialist philosophy is evident. Plessner, as a trained biologist, was much more orientated towards questions of earth and humanity as part of creation. That is probably the reason why there is a revival in studies on Plessner.

The shift in research focus to creation and ecology is evident in publications of philosopher-theologians such as Claasen and Buitendag. One of the younger NHKA theologians, Kristy Claassen (currently with the Department of Philosophy of the University of Twente in the Netherlands), addressed issues relating to technology, anthropology and creation (Claassen 2014:37–43). She continued in this vein with the publication of an article on the philosophy of technology with specific reference to nuclear power (Claassen 2021). In her contribution (with reference to Foucault and Stiegler), Claassen continues the tradition of fundamental suspicion of any form of technology that would imply the misuse of power. She specifically addressed issues of consumerism and the destruction of nature through the misuse of technology (Claassen 2021:61). Although Claassen does not address the issue from a theological perspective, it is another example of how NHKA theologians include philosophy in the discourse on technology, earth and humanity.

One of the NHKA theologians who made a massive contribution to the discourse on science, technology and theology is Prof. J. Buitendag, retired Dean of the Faculty of Theology and Religion, University of Pretoria. Buitendag recently (2023) received the CLF Elize Tempelhoff prize for his contribution to eco-theology (see https://nhka.org/besondere-toekenning-aan-emeritusprofessor/).

One example will suffice: in a 2023 article in *HTS Theological Studies* (Buitendag 2023), Buitendag (2023) reflects on the question why science needs theology, and why theology needs science. He also reflects on the:

> [*S*]cience and religion consonance in which theology increasingly takes cognisance of empirical research and scientific data and, on the other hand, how natural sciences are increasingly aware of the need to transcend their traditional limitations to find a comprehensive paradigm to come to grips with a sustainable reality. (pp. 1–2)

As the awareness of a possible 'omega point' (the destruction of earth through technology and misuse) increases, the closer natural sciences and theology come together. He agrees with the naturalist Edward O. Wilson (2006:4) who observed: 'I suggest that we set aside our differences to save the Creation'.

Buitendag applies a methodology of bringing Jürgen Moltmann's eco-theology in conversation with ecological research as well as the Club of Rome's different reports. This approach of juxtaposing social sciences and natural sciences confirms the need for 'theology to take cognisance of scientific research and vice versa for scientific research to engage with the human sciences' (Buitendag 2023:2).

The openness to philosophical insights and use of technology in the NHKA is also visible in official documents of the NHKA. Looking at the minutes of various General Assemblies of the NHKA, it is quite remarkable how open the Assemblies were to philosophical concepts as well as information based on modern science and technology. Various Assemblies made use of specialised medical and technical advice when faced with challenging issues, for instance, abortion, euthanasia, fertility treatment, homosexuality and others. For this contribution, one example could be mentioned, that is, the technical reports on homosexuality contained in the agenda of the 71st General Assembly (2016). In an agenda of 990 pages, the reports on homosexuality cover almost 200 pages (NHKA 2016:413–603). Among these reports are those of Prof. RJE Erasmus, former professor in the Medical Faculty of UP as well the technical report of the Academy of Science of South Africa under the title *Diversity in Human Sexuality – Implications for Policy in Africa* (Academy of Science of

South Africa 2015). These reports were considered very carefully, resulting in a revised policy on homosexuality. In this instance, technical reports based on extensive medical research played a major role in Church policy and ethics (for this see Buitendag 2004, 2005).

Conclusion

The current discourse on technology tends to be dominated by economists, engineers, IT specialists, jurists and medical specialists. As a result, technology takes the centre stage, emphasising the benefits of technological progress. Much research funding goes into the development of new technologies. The question is: What would be an appropriate theological response to a world dominated by science, computers, social media, virtual reality and technology? However, it is not a question of right or wrong, of technology being the enemy, but rather finding a way to engage in meaningful conversation.

As long as the focus of the current discourse on technology is moving towards a new understanding of humanity, an opportunity for meaningful dialogue between various academic disciplines (including theology and history) exists, because of the growing realisation that it is not primarily about technology, but about humanity. In theology, there is a fundamental concern for the well-being of humanity. Theologians would forsake their responsibility if they would stay quiet on something, which is transforming our world view and morality but is transforming humanity itself. Technology holds the potential of progress, but also of physical harm.

The central question seems to be human existence. This could imply that the tension-filled relationship between technology and the Church should also be discussed from the perspective of theological anthropology. Once again it raises the question of how do we, as Christians, think about humanity.

After WW II, the conviction that 'God created man in His image' (Gn 1:27) became a battle cry against racism, discrimination, exploitation and injustice. However, theology will have to broaden its scope to include the dehumanising and exclusionary nature of a technology-driven society. I am convinced that technology should not only be addressed in terms of its benefits and use in the day-to-day ministry and running of the Church but also on a much deeper and fundamental level. Maybe it is time that we should revisit the *locus* of theological anthropology.

In Christian theology, the advent of Christ gives meaning to human existence and history. It is the centre point of history, not in a chronological manner but in terms of meaning. From a Christian perspective, no industrial revolution, technological advances or 'miracles' produced by scientists could bring about a sense of meaning as faith does. Many would disagree with this, finding meaning in life without religion playing any role. But this negative evaluation of a Christian understanding of history does not imply that it is invalid (Dreyer 1974:232). As little as meaning could be scientifically established or proven, could it be disproved. In the final instance, individual human beings create a meaningful existence for themselves. Part of this process is the discovery of meaning, and for many that would be through their faith in Jesus Christ. Living in a loving relationship with God and fellow human beings just makes sense. It creates hope for the future and gives meaning to life.

Human existence is always an existence located in time. Our existence cannot be extricated from history. Living a meaningful life requires a process of sense-making – making sense of history and my place within history.

Human existence becomes meaningful if it is value-driven. The question is, what could such values be? For some, human existence becomes meaningful within an environment of loving relationships, healthy communities and respect for nature. For others, a meaningful existence might be directly equivalent to progress, money and possessions. Some find meaning in their religion or philosophy. Some people exist in a virtual world, creating a persona that gives expression to their deepest feelings, dreams and values.

In a society that is technology-driven, the question of values becomes acute. Technology is associated with progress and the development of new and innovative products, which stimulates consumer spending. Companies are forced to produce high volumes of new and better-looking cars, cell phones, clothes and many more. Simultaneously, there is a growing reaction against consumerism. Business publications have been covering this trend for years. Consumers are becoming more suspicious of so-called 'progress', especially when technology is used to stimulate hyper-consumerism.

Human beings are not pre-determined captives of their *Umwelt*. We are aware of our place in this world, continually rethinking, reshaping and reordering it to benefit ourselves and others. These creative processes challenge our human boundaries and horizons (Dreyer 1974:237). Change is fundamental to human existence, because we exist in openness and freedom in relation to the world.

In the words of Heidegger, we should reflect on *Sein* and *Geworfenheit* in a technologically driven world. We do not have a choice of the world we want to live in. We are 'thrown' into it (Heidegger), without being asked if we wanted to be here. Some may aspire to live on the moon or planet Mars someday, but until then we are bound to this planet and each other. Are we brave enough to live in a technologically driven society? What would be the values we would cherish in such a society, that we could teach to our children? Are we free enough to make the choices necessary to lead a meaningful existence?

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