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Chapter 2

Close encounters of the fourth kind: A theological essay about new technologies

R. Ruard Ganzevoort

1. Introduction

The astronomer Josef Allen Hynek is – to my knowledge – not frequently mentioned in theological literature, but his work has probably influenced more people’s theological self-understanding than all the contributions in this book. After the Second World War, the United States Air Force hired him as consultant scientist in projects on what were then called “flying saucers”. Starting as a sceptic aiming to debunk the seemingly hysterical reports, he transformed “from skeptic to – no, not believer because that has certain ‘theological’ connotations – a scientist who felt he was on the track of an interesting phenomenon” (Hynek 1977:26-27). For this moment I leave aside his apparent need to distance himself from theology, although that would be an interesting starting point to reflect on our discipline. Hynek’s impact came through a classification of unidentified flying objects (Hynek 1972:98ff.), which lent its name to the epic Spielberg movie *Close Encounters of the Third Kind*. According to Hynek, who served as scientific consultant to the movie, there are three levels of close encounters. “Close encounters of the first kind” refers to seeing an unidentified flying object (UFO) within 200 yards. The second kind involves interaction of the UFO with the environment. The third kind refers to a situation when humans actually see the occupants of a UFO, be they humanoid or otherwise. Subsequent writers added more kinds of encounters, including alien abduction, direct communication and the emergence of hybrid alien-human creatures.

Apart from the obvious reference between the chapter title, “Close Encounters of the Fourth Kind” and the Fourth Industrial Revolution, this background narrative seems meaningful to start our reflections on the new technologies and our human self-understanding. As we know from art history and the study of popular culture, the social, economic, technological, political, and cultural contexts are essential to understand how a piece of art and the surrounding popular perceptions come into existence. We can see this as part of what Ricoeur would call the world behind the text and it is one of the three essential dimensions to establish the meaning of the text. The context for the widespread interest in extra-terrestrial life was in my view related to two major contextual factors. On the one hand, we see in that era of the Third Industrial Revolution the technological innovations, which made it conceivable that we could move and communicate beyond limitations experienced before. And on the other hand, this was the time of the Cold War, a period of several decades in which the earth’s superpowers were in a standoff situation due to their prolonged feud and arms race. After the end of the Cold War, UFO-research was in decline, although under the Trump administration there seems to be a kind of resurgence (Bender 2019), which would support the hypothesis that geopolitical antagonism and technological innovation are indeed key factors in the interest in UFOs.

It is then not such a big step to the theme of this volume, the Fourth Industrial Revolution. This little detour at the beginning may help us to reflect not only on those technological innovations but also on our interest in these innovations. I hope it may serve as an invitation to self-reflexivity and to consider the possibility that our interest in the technological development we are experiencing may itself resonate with the socio-cultural and geopolitical context of our days. Our times are indeed defined by new technological developments, but also by new geopolitical challenges. Instead of the bipolar deadlock of the Cold War, we now face a multipolar fragile balance with the USA, Russia, China, Europe, and some others aiming for superpower positions. At the same time, we may reach the phase where nation-states become obsolete. Their economic power and intel position are often outshined by the tech giants and multinational companies and the most threatening violence is deployed by terrorists and other non-state actors. Our reflections about the technological innovations are thus located in a world of radical

uncertainty and global interconnectedness, two prominent themes also for the theological reflection we will embark on a bit later.

In this contribution, I will first outline what I understand to be the Fourth Industrial Revolution. I follow this with a reflection on utopian and dystopian perspectives on the future. In the next section, I explore three key areas in which the Fourth Industrial Revolution affects the realm of religion: data, body, and connectivity. The theological reflections in the following section focus on human uniqueness, fragile knowing, and transcendence. Finally, I conclude that the Fourth Industrial Revolution changes religion in a fundamental way.

2. The Fourth Industrial Revolution

Founder of the World Economic Forum, economist Klaus Schwab (2016) coined the term “Fourth Industrial Revolution”. He claims that we are on the brink of a new era in which technology advances so fast that it should be called a revolution. Although the concept as such can be disputed, the technological developments merit our reflection.

The First Industrial Revolution was the transformation to new manufacturing processes from the mid-1700s onwards. This radically boosted the whole economy, gave new opportunities and a growth of wealth for many, but also changed the relations between the labourers who could not afford to buy the technologically advanced production means and became dependent in new ways on the factory owners who had the capital. Urbanisation increased as a result of the centralisation of labour and new social issues emerged. The icon of this period is the steam engine.

The Second Industrial Revolution was marked by mobility and communication, facilitated by the development of larger systems like railroads, telephone networks, sewage, and gas and water supply. Electrification was a major technological driver, and globalisation, rapid transportation and mass communications were some of the important outcomes. Here the icon could be the telephone. Globalisation became more prominent during this era, including the increased possibilities of transnational trade. The deployment of new weapons and technologies changed wars from relying mostly on direct physical combat to fighting the enemy from a distance. The development of the modern nation-state is closely related to this Second Industrial Revolution.

In the Third Industrial Revolution, we saw the emergence of electronics, nuclear energy (and weaponry), biotechnology, and, in sum, the development of automation and data processing. The robot is the icon of this third period of massive innovation. With increasing speed, we learned to accommodate to the innovations in home electronics and we grew accustomed to the idea and then the fact of space travel and moon landings. The emergence of the internet, the World Wide Web, open to the public since 1993, has led to a whole new virtual space in which people started to interact. On the one hand, this increased the digital divide between those who can access endless amounts of information and those who cannot. On the other hand, especially since the rise of mobile internet, countless people, even in less developed areas, have by now become netizens. Trade and production became decentralised and even more transnational: The elements of one single product (like a pizza) can originate from a dozen or more countries. This era was also the time for de-development of multilateral international organisations like the European Union and the United Nations.

Just like in earlier stages, the Fourth Industrial Revolution builds on the accomplishments of the previous ones, but with an accelerated pace and radicalised nature. While it took the telephone 75 years to reach 100 million users, Instagram needed only two years and the game Candy Crush only one (Schwab 2018). The computing power of the simplest smartphone dwarves the high-end computers of a decade ago. Automated processes, mobility, systems, and connectivity all come together in this Fourth Revolution, which promises to be as disruptive as all the revolutions before. Central to this Fourth Industrial Revolution is the blurring of the boundaries between the real and the virtual, hybridisation of the human and the technological, radical data-driven processes, and artificial intelligence. As we are only beginning to see the possibilities of cyberwarfare, bitcoin-based financial trade, 3D-printing of goods locally (thus reducing the transportation of physical goods), and post-nation-state communities, it is difficult to predict the effects of the Fourth Industrial Revolution on how we structure our societies.

3. Dystopian and utopian futures

To assess the possible effects of these innovations on human life, it is helpful to consider the character of the main technologies. Dialoguing with a group of experts, Schwab (2018) summarises four main groups of technologies:

- New computing technologies, which allow for new approaches to data and the interface between data and the real world.
- New materials and artificial intelligence, which reshape the physical world and the way we move and function.
- New bio- and neurotechnologies and augmented reality techniques, which change the way we interact with ourselves, the others and the world.
- New approaches to energy, earth, and space, which engage a redefined integration with the environment.

Schwab is not a prophet of doom and his analysis is far from the dystopian views that others may hold. He claims that like its predecessors, the Fourth Revolution has the potential to generate a new exponential rise in the global economy and human well-being. Although his liberal views of economy seem to equate economic growth with well-being, he also understands that it has significant risks for vulnerable populations and environments, especially because we lack the adequate systems of control and governance and our institutional safeguards are dysfunctional and obsolete in light of these new challenges. For that reason, he states that we should take a value-driven approach to the Fourth Industrial Revolution and make sure that the benefits are distributed fairly, that risks and harms are being remedied, and that the developments will remain human-led and human-centred.

At this point, the voice of the Israeli historian and futurologist Yuval Harari enters the conversation. In his epic books *Sapiens* (2014) and *Homo Deus* (2016a), Harari answers the question of how humans have ended up controlling the earth and whether there is still a future ahead of us. In *Sapiens* he describes our history until now, explaining how the cognitive revolution allowed us to work in larger communities thanks to the development of shared narratives and morality. The agricultural revolution allowed us to domesticate animals and plants alike and develop a stable existence. The industrial

revolution allowed us to move beyond our natural and physical limitations. In *Homo Deus*, he explores how these developments are more and more a matter of data processing and questions rather gloomily the future of humankind given that other creatures are much better at data processing and that our human algorithms are outlived by the intellectual superpowers of modern technology. In effect, Harari claims, these developments are no longer human-led and human-centred. Even though his third book, *21 Lessons for the 21st Century* (Harari 2018), aims to provide a constructive and pragmatic approach to these developments, Harari's future is basically the end of *sapiens*: Humans are no longer necessary because different species with artificial intelligence will take over. That future has no more space for humans than the old world had for Neanderthal-humanoids and dinosaurs.

Both Harari's more dystopian view and Schwab's more utopian perspective acknowledge that the future is by definition ambivalent and that the key question is how to take a moral stance and find the wise responses to the challenges ahead. In the end, Harari seems to opt for individual meaning and even spirituality (although he critiques the idea of individual uniqueness), whereas Schwab advocates a social-liberal ethics of protecting the vulnerable. It is precisely this ambivalence that makes our attitude toward this technological future resonate with the search for extraterrestrial life, not knowing whether they will come to bring us new knowledge and perspective, or eternal annihilation. It sounds as if we are back in the garden of Eden, hesitating at eating the fruit from the tree of knowledge.

The same ambivalence can often be observed in perspectives on technology from the perspective of theology and Christian philosophy. Writing in the heydays of the Third Industrial Revolution, Jacques Ellul's Christian philosophy, for example, sees technology as the central driving force of society. Whereas his inspirator Karl Marx explains the capitalistic society with economic categories, Ellul sees the technological rationalism and efficiency-driven processes as the hallmark of modern society. He claims explicitly in the foreword to his third major book on the subject, *The Technological Bluff*, that he has never been against technique (as he calls it) but "I want to alert people to the future potential of technique and to the risks entailed by its growth so that they might be able to react and to master it, lest otherwise it escapes their control" (Ellul 1990:xiii). Later in his book, Ellul

criticises the Christian naiveté apparent, for example, in the World Council of Churches in his days, who approached technology only in a descriptive sense without any critical assessment, except the mundane claim for fair distribution – a claim that Schwab puts at the heart of his value-approach (Ellul 1990:398-399; Schwab 2018:29ff.). What is needed, Ellul claims at another place, is a radical voice from outside, a dialectic response that acknowledges the distinction between the order of truth and the order of reality (Ellul 1985:186). Our response to the ambivalence of technology should not only be ethical, but deeply theological, reflecting on the need for a transcendent perspective.

At this point, it may be relevant to clarify the futurological approach taken here (Van den Berg & Ganzevoort 2014). Based on the differentiation between various levels of actualisation – the real, the probable, the possible, and the impossible – we can opt for three different attitudes toward the future.

1. The realm of the impossible yields visionary utopian/dystopian approaches that clarify our fundamental values and principles.
2. The realm of the probable invokes adaptive approaches, fostering adequate responses to what is inevitable.
3. The realm of the possible requires a designing attitude, creatively looking for new and desirable options that bring us the best possible future.

The approach in this essay is primarily adaptive, exploring the ambivalences and inviting reflections about the best responses.

4. Data, body, and connectivity

The ambivalence of technological advances in the Fourth Industrial Revolution can be seen more clearly if we zoom in on some of the major domains of technological progress and the fundamental issues pertinent to those domains. It is of course rather arbitrary to choose these domains, and I will let myself be informed by both the analyses of Schwab and others and the artistic dramatisation of the future by the television series *Black Mirror*, in which the makers explore the possible effects of social media and augmented reality on our memories, morals, social interaction, and identity. *Black Mirror* for that reason can be seen as a critical portrayal of the Fourth Industrial

Revolution's effect on human experiences and interactions. I will focus on the lived experience of users because that will be my connection to the field of lived religion. I will not speak directly to issues like work and unemployment, or the effects of constantly performing the self on Instagram; although that would be important as well, I will look at data, body, and connection.

4.1 *Data*

At the heart of the digital age we live in and of the Fourth Industrial Revolution, is the preponderance of data. It is not hard to see the effect of this data-driven world on our lived experience. Our memories are supported significantly by the ability to store and retrieve information. This was already the case when humans started to write and create images, for example, in prehistoric cave paintings, but with the digitalisation of everything, our memories are much more easily captured, processed, stored, and found again. Facebook regularly reminds me of what happened one year ago or of the photos I exchanged with particular friends. This brings to mind what was already slipping into oblivion.

The data-driven society has a lot to offer. As long as our internet connection works, we have endless amounts of information at our fingertips. We are no longer limited by the capacities of our brain functions. And our choices about what to read or see or where to go can indeed be more informed than it used to be. On the level of communities and society, big data approaches allow for new knowledge about threats to our safety and well-being and for our governments taking more adequate measures to protect us from medical risks, terrorist attacks, and energy shortage, to name but a few of the obvious advantages.

But these advantages of the abundance of information are of course coupled with some major downsides and risks. The digital divide implies that the privileged have more access to all this information and more ways of using it to their advantage than the underprivileged. This is even more true for those who control the data flows. In that sense, the role of data today equals the role of capital during the earlier industrial revolutions. Whoever controls the data is at the winning end of the economic developments, as is increasingly the case in the platform-industry. Some of the major new companies do not produce, process, or handle goods, but only work with data. The largest hotel

chains, Booking.com and Airbnb, own no accommodation. The largest taxi-company, Uber, does not run cars. The largest media-companies, Facebook and YouTube, do not produce content. They own the data flows and exert their data-based power to users at both ends. Serious critical issues regard privacy, data ownership, and the right to be forgotten. European governments for this reason, have taken measures to limit the powers of the tech giants in efforts to protect individual citizens (Wolford 2019). Those same individuals, however, often willingly or naively allow those giants access to their most personal information in exchange for some benefits like playing a game.

Following Ellul, however, we should not stop at these descriptive and simple protective measures but ask what the dominance of data means. Harari goes as far as claiming we live in the age of “Dataism”, the philosophy – or religion, he says – “that the universe consists of data flows, and the value of any phenomenon or entity is determined by its contribution to data processing” (Harari 2016a:428). Harari also avers:

Dataists further believe that given enough biometric data and computing power, this all-encompassing system could understand humans much better than we understand ourselves. Once that happens, humans will lose their authority, and humanist practices such as democratic elections will become as obsolete as rain dances and flint knives (Harari 2016b).

Free data flowing is imperative and this will entail a shift of authority:

Just as divine authority was legitimised by religious mythologies, and human authority was legitimised by humanist ideologies, so high-tech gurus and Silicon Valley prophets are creating a new universal narrative that legitimises the authority of algorithms and Big Data (Harari 2016b).

When feelings, opinions, convictions, beliefs, bodily functions, and choices are all defined as data flows processed by the suboptimal algorithms of our human brains, then it seems to make sense to replace these algorithms by the much more advanced systems available today. Anyone browsing through Amazon or Netflix will have experienced the many instances we are advised to watch a specific film or buy a particular book based on the past behaviour of ourselves or others. Harari suggests that our e-readers will soon be able to read our emotions and reading responses and adapt the reading material or the suggested titles to our responses. This will factually inverse the data flowing process of reading and increase the capacity to influence us: Instead of

the reader accessing the reading material (data) available through the reading device, the device will access the personal data in the reader.

4.2 *Body*

This development links data to our body, the second domain of radical innovations. Modern medicine is built on solid data. We rightly trust lab results and CT-scans instead of relying on the self-report by patients. Large data sets give new insights into the development, treatment, and prevention of diseases. This can reach the point where we let our medical decisions be based on statistics rather than factual complaints. Harari refers to the case of actress Angelina Jolie who learned from a genetic test that she was carrying a dangerous mutation of the BRCA1-gene, which according to statistics gave her an 87 per cent probability of developing breast cancer. Although at the time Jolie did not have cancer, she decided to pre-empt the disease and undergo a double mastectomy (Harari 2016b). She is not the only one. In the Netherlands, a few hundred women yearly have their breasts removed for this precise reason. However, medical researchers announced in July 2019 that their meta-analysis showed that this preventive procedure is not necessary at all and that half-yearly check-ups suffice. One could ask how much emotional suffering has ensued from the trust we have put in these statistics.

But body-related technological innovations go further than data and statistics. Many techniques have been developed to remedy our bodily imperfections and overcome our limitations. High-tech implants make up for our natural weaknesses or our non-compliance with cultural standards for beauty. So, what does the perfectibility of our bodies mean? Again, on the one hand, it removes or reduces a lot of the suffering people experience. Admittedly, there are serious issues with the unfair distribution of medical possibilities. Research investments are usually targeted at diseases prevalent in the Western world, leaving few resources to combat, for example, childhood diarrhoea, which still claims half a million lives a year, predominantly in South Asia and sub-Saharan Africa. But even so, medical care has improved around the globe and in many places, our chances of surviving have increased. On the other hand, human enhancement and perfecting our bodies may come at a price we are not willing to pay. Will we still accept the birth of imperfect children, and will society still allow us to do so? How will we relate to our bodies when they

are increasingly objectified and possibly instrumentalised? Is there still space for different physical abilities, or will we move toward standardisation of the human body? If we do, will we not lose our individuality as we move along? And will we, with all bodies developing the same high level of capabilities, still be able to enjoy the Olympic Games?

Obviously, our most radical limitation is death, and the search for longevity-causing DNA is, therefore, the holy grail of modern medicine. Whereas previous generations spoke about the *ars moriendi*, the art of dying, our life span expectancy has already doubled and we are to take seriously the possibility that we could live much longer than even today, if not forever. In the *Black Mirror* episode “Be Right Back” (2013), this is stretched even further by contemplating the possibility that our memories of a deceased partner and data retrieved from video and audio sources can be combined with robotic (or if you want cyborg, Graham 2002) technology into an artificial reproduction of that loved one. This way we can live on with that partner as if (s)he had not died. The emotional and social complications of this technique are presented as deeply problematic.

4.3 Connectivity

Data, body, and person converge with the social in the domain of global connectivity. The rise of social networks has shown how easily we can get connected and how each platform attracts specific constituencies and stimulates specific types of behaviours. From the semi-political debates to digital lynch mobs on twitter to business opportunities on LinkedIn or self-visualisation on Instagram, social networks mirror our social exchanges in the real world, without the boundaries of time and space. One salient feature of this connectivity is the possibility on many platforms to like, endorse, or support your post, thus facilitating social approval. The number of likes then becomes a measure of likeability and we can use the metrics to assess who is worth following. Although this is not fundamentally different from the dynamics in a classroom or at an academic conference, the scale and semi-anonymous nature of the processes bring it to a whole new level. This is portrayed in a horrifying way in the *Black Mirror* episode “Nosedive” in Season 3 (2016), where everybody rates everybody and where many societal benefits are only available for individuals with an average score above a certain

threshold. Individuals with a 4+ average are entitled to rent better cars and are invited to social gatherings where 4- individuals are not welcome. The episode shows the ruthlessness of the system, the ensuing lack of empathy, and the dramatic cost of falling outside the social system – even though there is also one character who lives as an outcast and who is perhaps socially disadvantaged but also the most liberated of all.

If that sounds far-fetched, the Chinese government is developing a social credit system in which personal scores will be generated based on one's actions and communications. Benefits are available if your scores go up, including “qualification for personal credit loans, easier access to sharing economy services (e.g., renting of bikes or cars), fast-tracked visa applications, preferential treatment at hospitals, and free health check-ups” (Kostka 2019:1568). At present this is not yet one integrated system but a series of pilot systems by governmental and commercial entities.

Astonishingly, at least to the Western mind, is the high rate of approval of this system, especially among the more socially advantaged and better-educated citizens in China. Instead of fearing their loss of privacy, they see primarily advantages and benefits (Kostka 2019). This exemplifies the ambivalence of technological developments. Our networks certainly cost a lot. We surrender our privacy. We let our worth be defined by others and more and more also by certain algorithms we do not even understand. We yearn for the approval we receive from the anonymous masses and in doing so we become completely focused on extrinsic values. But at the same time, this connectivity allows us previously impossible communications. Everybody can find a dedicated community to blend in, even if you were the odd-one-out in the local community. Individuality and social standardisation are both facilitated by this increased connectivity.

5. Theology

I stated in the beginning that our world is characterised by radical uncertainty and global interconnectedness. Our obsession with modern technology may perhaps aim at reducing this uncertainty by creating better data and stronger control of our bodies and of our social interactions. Our fears regarding technological innovations are likewise connected to this uncertainty and to the loss of our position in the world for us as individuals and for humankind

as a whole. After the masters of suspicion, Marx, Freud, and Nietzsche had already decentred humankind, the technological advances of our days turn this into a lived experience. This leads to fundamental theological challenges regarding our human uniqueness, the fragility of our knowledge, and transcendence. In my opinion, we are not at the point where we can answer those challenges, so the most important thing to do is identify the crucial questions.

5.1 *Human uniqueness*

The abundance of information in our data society questions our fundamental human self-understanding and therefore relates directly to theological anthropology. The first serious challenge regards our human uniqueness. In 2018, the European Parliament discussed the need to attribute a limited legal status of personhood to robots in order to be able to hold them accountable (Delvaux 2017). The resolution referred to Frankenstein, the Golem, and science fiction writer Isaac Asimov and states:

[I]n the scenario where a robot can take autonomous decisions, the traditional rules will not suffice to give rise to legal liability for damage caused by a robot, since they would not make it possible to identify the party responsible for providing compensation and to require that party to make good the damage it has caused (p. 242).

This neatly emulates instalment 39 of *Star Trek: The Next Generation*, where the android Lt-Com Data is on trial: “I am taking part in a legal hearing to determine my rights and status. Am I a person or a property?” Practical theologian Elaine Graham (2002) rightly picks up on this in her analysis of our views of humanity and human personality in light of the transhuman. The key question then is whether we can still see ourselves as qualitatively different from animals and robots.

Taking it a bit further: If artificial intelligence equals and surpasses our mental abilities, including creativity and ethical discernment, and if neurosciences show that our measurable brain functions can explain many of our cognitive processes, not unlike other animals, what does this mean for the idea of *imago Dei*, the crown of creation, and stewardship?¹ Not that we did a good

1 Eva van Urk (MA) is presently working at VU Amsterdam on an NWO-sponsored PhD project on this very topic.

job at that; the disastrous effects of the Anthropocene should evoke a new cosmic humility in us instead of repeating the sometimes victorious language of classical theological anthropology. It would be a blessing for this earth to see humans go extinct, so who are we anyway? Have we not lost the moral right to exist as humans given our destructive track record and should we not simply yield to beings who will do better than we did?

We probably need to acknowledge that we are not unique. Both animals and artificial intelligence have shown smart decisions, judgment, and creativity, which means we need to rethink our ideas about the nature of humans themselves. Rather than considering humans as the only species able to generate world-encompassing knowledge about other species, maybe we must conclude that we are just not intelligent enough to understand their intelligence. Or spirituality for that matter. My cats are usually very zen and they relate in many ways to their Higher Being – me. What is so different from my relation to God? Already twenty years ago Ray Kurzweil (2000) wrote about the possible spiritual experiences in the sophisticated machines we are developing. If humans are more like animals than we may want to acknowledge and if artificial intelligence entities are more like us than would serve our pride, why do we think that only humans are spiritual? What does that tell us about our views of humankind (and what does it reveal about our conceptualisation of spirituality)?

5.2 *Fragile knowing*

The second serious challenge regards the fragile nature of our knowing. If anything, the discussions about data processing, intelligence and memory critique the whole notion of knowing and put into question our ability to know at all. The technological developments invite us to move forward in efforts to know and remember more, but they leave us with the uncanny awareness that our knowledge is even more limited than we thought and that what we thought to know is most possibly a self-delusional haphazard misunderstanding of coincidental perceptions and observations. If the human mind is at best suboptimal in generating knowledge, perhaps we should let go of our aspirations to establish the truth and embrace our limitations and fragility. Theologically speaking, this resonates with a long tradition from negative theology to Barthian and post-modern perspectives, teaching us that

transcendence implies that the sacred and truth are elusive and beyond our grasp. It is the awareness that all we can ever experience and observe are the *vestigia Dei*, the “traces of God”, where the sacred has passed by but cannot be observed directly.

Perhaps this should also lead to a renewed appreciation of the art of forgetting. Theology has come a long way in appreciating memory and remembrance, but there is something to be said for forgetting as well. Our memories are, after all, limited and usually flawed, so it may be wise not to put too much weight on them. Some of those memories are such a burden that we would be better off without them. Trauma studies teach us that commemoration may be a good thing but memory itself can be our fiercest torturer. Perhaps we can find inspiration in the prophet Isaiah’s promise that God forgets the sins of his people (Isa 43:25). What a blessing would it be if we could forget the grudges we hold against each other or the pain and suffering others have inflicted upon us! A theology of forgetting could be part of the liberating quest to let the past go and allow the future to be open again, precisely because it moves beyond the deterministic perspective based on the idea of an unmalleable past.

The fragile knowledge of the easily forgetting human does justice to the epistemological transcendence of the sacred, always just beyond our intellectual grasp. This refers not only to God. It also refers to our past, our future, and our encounter with other humans. Our intellectual honesty dictates that we accept our intellectual fragility and that we acknowledge the fragmented nature of our knowing and existing. Practical theologian Henning Luther (1992) spoke for this reason about our fragmented identity as a key feature of late modern society and as a key concept for theology. A unified and defragmented identity, he concluded, is only possible if we denounce the ruins of our past, the unfinished scaffolding of our future, and the life-changing dynamics in the encounter with the other. In other words, our identity can move beyond the fragments only in death.

5.3 Transcendence

If fragile knowledge points to transcendence, we may find the third serious challenge in rethinking transcendence. This relates to the question of how the domination of our lived experience by data systems can be interrupted. As mentioned before, Ellul suggests that we need this system to be countered

from the outside, which implies a transcendent perspective. The theological challenge then will be to develop a language that acknowledges the dialectical dynamics between the system and the fragments, between the theory-of-everything that Dataism promises and the fragile limited knowledge of our human existence. This interruptive language should not position itself completely outside the data discourse, as that would make it irrelevant. It should acknowledge the central role data play in our societies and the many positive effects it has brought about. At the same time, it should speak up for the sake of not-knowing, of being irrational, of following your heart – even when one knows that that heart is probably the limbic part of your brain following well-orchestrated external impulses. To do so, we do not need theological moralists and prophets of doom, but artists, players, and lovers. Revelation then should not function as a claim to truth, overpowering the reality we live in, but as the receptively experienced possibility of transcendence (Ganzevoort 2006). Revelation is the experience that continuously makes us doubt what we see, not the absolute ground on which we can build our convictions.

6. Religion and theology

Having explored some of the major domains of technological advances and their ambivalent meanings – data, body, and connectivity – and the theological challenges regarding our human uniqueness, fragile knowing, and revelation, the last part of my contribution will reflect on the concepts of religion and spirituality themselves. If the world we live in is indeed radically changing, are the concepts we use to understand that world still valid? See, for example, the concept of spirituality that I challenged earlier in light of the discussion about human uniqueness. I would start with the assumption that also after the Fourth Industrial Revolution it will be meaningful to speak of religion and spirituality, but only if we adjust some of the categories often used to study it.

Most importantly, perhaps, we have to reconsider the central roles we have usually given to the doctrinal and institutional dimensions of religion, and instead focus more on its limbic and playful character. Much research deals with organised religion and the convictions people hold about the transcendent. It assumes that religion implies that one holds certain convictions about a

transcendent reality to be true and to correspond to the ontological status of that transcendent reality. This (modern) view has two fundamental problems.

First, augmented reality shows us that the real and the virtual can blend in a way that makes it almost impossible to differentiate between transcendence and immanence, implying that ontology is not what it used to be. We cannot simply approach transcendence as yet another level of reality that we can discuss with quasi-empirical concepts. Swiss Reformed theologian Emil Brunner already wrote in his reflections on the Apostolic Creed:

To the merely inquisitive question, “Is there a God? I should be interested to know whether or not there is one,” silence is the sole possible answer. ... God is neither an object of scientific investigation nor something that we can insert in the treasure of our knowledge, as one mounts a rare stamp in a special place in an album – there it is, finest and costliest of all. God is not something in the world, the eternal being, the divine inhabitant of the world. God is not in the world at all, the world is rather in God. God is not within your knowledge, your knowledge is in God (Brunner 1954:1-2).

Dialectically formulated, Brunner objects to the modern ontological approach to transcendence and advocates a more relational perspective. Our awareness of virtual realities may offer us a new language and theological repertoire to think of transcendence as another virtual dimension of reality, as something that can be real and unreal at the same time.

Second, neurosciences teach us that our cognitive structures, such as our convictions, are not necessarily the driving forces in our human existence. Our behaviours and experience are better understood from complex brain processes including our limbic responses to sensory stimuli. This holds not only for trauma, sexuality, and leisure, but also for religion. The meaning of incense or organ music is not defined by some theological concept about the liturgical narrative, but by our nose and ears, directly connecting with the synapses in our limbic system and evoking emotional responses. Religion then is better understood as a limbic process, partaking in a massive multi-player game in which we encounter a virtual reality and play out the various roles that are available to us.

To understand that playful world, it is only of limited value to focus on the institutional structures. Those in charge of that structures were considered to be authorised to define what is within the boundaries of a tradition and what is not. By implication, this assumes that there are clearly delineated religious traditions that we can study. Nowadays, however, the traditional guardians of the spiritual capital of our societies are eroding. Religion today is a disruptive market with radically new business models and governments uncertain whether and how they should regulate it. How to deal with transnational religiously inspired internet-based extremism? How to manage the many religious start-ups aiming to cash in on the unfulfilled spiritual needs of the masses?

7. Conclusion

In a world of radical uncertainty and global connectivity, religion has become messier. Our fundamental drivers are not found in cognitive content but in pain, desires, and power. Our theological concepts are very helpful tools for analysis and reflection, but they should not be disconnected from our limbic and physical existence. And the changes in the religious field do not come primarily from new theological insights or religious leaders, but from changing power dynamics, new encounters through migration and communication, and changing ways in which we experience our bodies, our minds, and the other. Theology is not the feature film, not the main story, but the subtitles we use for better understanding. But if that is the case, theologians should ask themselves whether they do understand the language they are trying to translate.

I define religion as the transcending patterns of action and meaning emerging from and contributing to the relation with the sacred (Ganzevoort 2009). What is held to be sacred, however, can change from person to person and from era to era. As fundamental values are changing over time, so does religion. Where individual expression becomes more important and consumers become content producers, religion changes from following tradition to mixing and matching one's own. Where the real and virtual merge and humans start to acknowledge they are less unique than they thought, religion changes from putting humans centre stage to understanding ecological embeddedness and becoming more receptive to the possibility of other life forms and other

dimensions and realities. We may need theology at some point to understand the aliens, that is, the receptiveness of humans for alterity. We are experiencing unprecedented encounters with a world we do not know. Close encounters of a fourth kind.

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