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Creation Technologies

The Technological Condition of Humanity

Abstract – Vor allem die letzten Jahrzehnte waren geprägt von einer rasanten technologischen Entwicklung, im Besonderen im Bereich der Information- und Kommunikationstechnologie (IKT). Computertechnik, Internet und mobile Geräte und Anwendungen erlauben es den Menschen, schneller, effizienter und nahezu überall zu kommunizieren und große Mengen an Daten, z.B. Dokumente, Bilder, Filme, zu speichern, verwalten und für andere zugänglich zu machen; kurz gesagt: IKT sind heute sowohl aus dem privaten als auch dem beruflichen Alltag vieler nicht mehr wegzudenken. Im Zuge dieser Entwicklungen kommt es auch zum Verschwimmen von Grenzen, die bisher statisch oder unüberbrückbar waren: Mensch und Maschine, Natürlichem und Künstlichem, Realem und Virtuellem.

Die Omnipräsenz von IKT und die technologische Durchdringung des alltäglichen Lebens erleichtern aber nicht nur viele Aufgaben, sondern prägen auch in zunehmendem Maß die Weisen unseres Weltverhältnisses, unserer Weltwahrnehmung und damit letztendlich unseres Selbstverständnisses. Die Frage nach dem Menschen, seinem Wesen und seiner Natur ist damit nicht nur eine Frage, die zu unterschiedlichen Zeiten immer wieder neu gestellt wird, sondern die Antworten auf diese Frage sind immer auch vom jeweiligen kulturell-technologischen Kontext abhängig. Wie sich der Mensch also Mensch begreift, versteht, darstellt und zur Sprache bringt, steht in enger Beziehung zur (technologischen) Umwelt, die er produziert und gestaltet.

Der vorliegende Aufsatz stellt einige grundlegende Überlegungen zu dieser ‚technologischen Verfasstheit' des heutigen, ‚vernetzten' Menschen an. Den Ausgangspunkt bildet die biblisch-theologische Überzeugung, dass Mensch-Sein immer auch In-der-Zeit-Sein ist, die Sprache vom Menschen daher immer auch eine Sprache der Zeit ist, die nicht nur interpretierbar, sondern interpretierbedürftig ist. Um die Wechselwirkung zwischen Technologie und menschlichem Selbstbild analysieren und bewerten zu können, werden in der Folge IKT nicht als Werkzeuge verstanden, sondern als Symbolsysteme und Kulturtechniken. Diese Analyse soll zeigen, dass technologische Entwicklungen ein *fascinosum* darstellen, dass ihnen Bedeutung zugesprochen wird und sie in die vielfältigen Prozesse der menschlichen Sinnsuche und Sinnstiftung eingebunden werden. Aus dieser Perspektive ist (kommunikations)technologisches Handeln nicht ein dem Menschen Äußerliches, sondern steht in einem engen und wechselseitigen Verhältnis zum menschlichen Selbstverständnis und muss als solches in einer (theologischen) Anthropologie mitberücksichtigt werden.

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Introduction

The 20th and the beginning of the 21st century have been characterized by rapid changes and developments in the area of technology in general and information and communication technology (ICT) in particular. Today, we are able to communicate with anyone anywhere on this planet almost in real-time.[1] We can send documents and pictures within seconds from our computers or mobile devices. With the growing number of applications and solutions, ICT and technological appliances increasingly shape our everyday life. All these developments may lead to something we could call a human being that is a fundamentally networked being. Thus, the technologization and mechanization of the world – and ultimately of ourselves – raises the question of the 'nature' and the self-understanding of the human being in its relation to its environment. However, with the blurring of boundaries between humans and machines, humans and other species, it seems to be increasingly difficult to talk about something like the human 'nature' at all. What, then, happens with the biblical tradition of humanity being created in the image of God and as the pride of creation? Do we have to let go of the biblical narrative and thus of our Judeo-Christian understanding of the human being?

In this paper, I discuss this technological condition of humanity. Specifically, I refer to information and communication technologies (ICT), but also talk about technology in general because a strict differentiation between those two is often not possible or desirable. I deliberately exclude, however, technologies and appliances such as genetic engineering, stem cell research, and cloning from my considerations because there are already quite a number of Vatican statements and scholarly publications on their moral and ethical problems and implications. Further, everyday technological gadgets and solutions have a subtle yet deep and often overlooked impact on how we understand ourselves. After some fragmentary comments on the biblical/theological understanding of the human being, I therefore argue that technology and ICT have to be understood both as symbol system and cultural technique. Further, I analyze humanity's fascination with technological development and how it impacts our self-understanding. I argue that this fascination and the understanding of technology as symbol system have to be a fundamental part of any reflection of what it means to be human. In the end, I draw on Karl Rahner and offer some preliminary reflections on what the technological condition of humanity might mean for theology.

[1] Given that the person we want to communicate with has access to and is able to use today's communication technology. It is important to point out that even in the West, many people are not media apt or cannot afford access to these technologies.

1. The biblical and theological framework

The term 'creation' by itself suggests that something or someone has been formed, constructed, or brought into existence. In itself, outside of a religious context, the term does not give us any details about the creator or how that which is or was created came into existence. Nor does it tell us anything about the relationship between the/a creator and creation. Considering the Judeo-Christian context and the biblical narratives, the notion of creation becomes more specific. Romans 8.19 ('For the creation waits with eager longing'), for example, suggests that what has been created is nothing static; instead, the text describes creation to be something dynamic. It expresses that creation is longing and hoping for something – that there is something worth hoping for and aspiring to –, which is, in the context of Romans 8, salvation.

In biblical tradition, the human being is *created* in the image of God, in his likeness. This means that humanity's relatedness with and orientation towards God must not be understood as surplus or that s/he chooses to relate him/herself to God, but that this relatedness is fundamental to the human being and his/her existence. Thus, human perfection cannot be thought but from this perspective as well as the realization of his/her God-relatedness.

A fundamentalist reading of the creation narrative might suggest a stable, absolute human nature with incommutable characteristic traits. Such a fundamentalist reading has to be rejected because as pride of creation, human beings share in the dynamic character and process of creation. Further, throughout history there have been different interpretations of what exactly 'being created in the image of God' means and what it says about the relationship between humans and God, humans and creation, and an individual and his/her fellow human beings (Koch 2001, 53). The Biblical narratives, however, are not unambiguous and have been informed by and drawn on the symbol systems they emerged in. They are multilayered and offer plural approaches to the understanding of God – and thus ultimately also of the understanding of the human being. They are based on the experience of the people of Israel with the God of history and they describe the permanent renegotiation processes of the relationship between JHWH and his people. As such, they do offer a valid framework to interpret, describe, and renegotiate today's experience and relate them to God as source of anything that exists:

Being human and being created always already means being *in* time. However, we experience time as something ambivalent because it is both a gift and withdrawn from our own grasp. Our beginning – birth – and ultimately our end[2]

[2] While we can choose to terminate our lives at a specific point (independently from the moral and theological implications of such a decision), ultimately, we do not have control of the time and the circumstances of our death.

– death – are beyond our control. Time can also be defined as lived relation with God as the creator and source of all being, with the world and fellow human beings as part of God's creation (Dirscherl 2006, 50f, 77-81). Since we are beings *in* time, whatever statements we make about ourselves, the world, and God, are an utterance/expression of and in this – our – time. Erwin Dirscherl states that 'the language of things and objects and the language of human beings are related to time' (Dirscherl 2006, 79).[3] Thus, the question of the human being, of its self-understanding in his/her relation to the o/Other, to God, the world, and to fellow human beings is always also a question asked in a specific time and context. This means that the question of the human being is always already a question of the context in which *being* human happens. Therefore, any reflections on what it means to be human, on the *nature* of the human being have to be permanently reevaluated from a theological perspective in relation to the 'sign of the times'.

Yet, Karl Rahner identifies a tendency in theological and philosophical reasoning to understand different traits and characteristics to be essential to the human nature which in contrast are contextual and historical (Rahner 1966, 58f). Such characteristics may, in fact, present themselves as stable traits for centuries leaving the impression that they are a vital and essential part of human nature. Upon closer analysis, however, they often turn out to be part of the ongoing and permanent process of renegotiation of what it means to be human within the cultural framework. In fact, Rahner argues that the human being is a contextual being: '[Humans are beings] who in culture, i.e. in self-manipulation, actively constitute, cultivate, and shape their nature and do not presuppose nature as fixed or stable category' (Rahner 1966, 58).[4] As a bodily being, s/he is 'welthaft' and 'weltbezogen' (Wenzel 2003, 155. Cf. also Larcher 1997, 51–4), i.e. a contextual being that – in his/her bodily existence – can only be thought in his/her relation to the world and his/her environment. As being created, s/he is set into a specific cultural, social, and historic setting/context, yet contributes to writing human history and relating him-/herself to creation. A theological reflection in the light of current socio-cultural and technological developments is therefore vital.

Further, as human beings we are always already 'Ausgesprochene', 'Angesprochene', and 'Antwortende'. As such, the use of language, linguistic symbols, and symbols in general has to be understood as major trait of humanity. According

[3] '[d]ie Sprache der Dinge und die Sprache der Menschen hängen mit der Zeit zusammen.' Translation A.O.

[4] '[Der Mensch ist ein Wesen], das in Kultur, d.h. in Selbstmanipulation, seine Natur aktiv bildet und gestaltet und sie nicht einfach als schlechthin kategorial fixe Größe vorauszusetzen hat.'

to the biblical narrative, however, humanity does not only call things by their names, but names things and thus participates in God's act of creation (Dirscherl 2006, 55-72. Cf. also Pannenberg 1999, 339–61).

Language and, according to Paul Ricœur, human action, however, are always already mediated through symbols. 'If, in fact, human action can be narrated, it is because it is always already articulated by signs, rules, and norms. It is always already symbolically mediated' (Ricoeur 1984, 57). Signs, symbols, rules, and norms, however, are part of a cultural system and process of communication. Thus, language and action are always also contextual language and contextual action that need to be interpreted in order to be understood.

2. Technology as symbol system

What, however, is a symbol? How does something become a symbol? Which symbols are used in which ways by whom and what for?

The Pontificial Council for Social Communication understands media just as tools: 'We say again: The media do nothing by themselves; they are instruments, tools, used as people choose to use them' (Pontificial Council for Social Communication 2000). With the ongoing transformation of our environment and communication systems through ICT, with the advances in pervasive computing and nanotechnology, with the increasing abilities to network people, objects, and places with each other, we will witness major changes in the ways we interact with each other as well as with our environment. As Lewis Mumford emphasizes, however, humans are not mere tool users or tool makers, nor is the production and usage of tools a unique feature of humanity (Mumford 2003, 344-50). '[T]here was nothing uniquely human in tool-making until it was modified by linguistic symbols, esthetic designs, and socially transmitted knowledge. […] No single trait, not even toolmaking, is sufficient to identify man. What is specially and uniquely human is man's capacity to combine a wide variety of animal propensities into an emergent cultural entity: a human personality' (Mumford 2003, 346).

In contrast to the Pontificial Council, I therefore hold that technology in general and ICT in particular are an important part of the symbol systems 'action' and 'language'. They are not mere tools of communication or tools for human enhancement but become themselves symbols in our quest for meaning. With their help we explore and interact with our environment and engage in meaningful communication. We use them to explore options of meaning making, to stage ourselves, to present and re-present our sense of self to the world and to the other. We perceive the world we live in as well as the o/Other mediated with and through technology and ICT; and it does matter which technology

we use and how we use it. With that, I do not necessarily refer to the differences between specific forms of communication, e.g. on a mobile phone or through a webcam (though people sometimes certainly engage in 'meaningless' communications on their cell phone). While these differences are important, the point I want to make here is that human action and communication is always already symbolically mediated and media, ICT, and technology are part of this symbol system – both as mediators of symbols and as symbols themselves.

The symbolic relevance of technology and ICT and the mutual relationship between human self-understanding and technological development, i.e. technology as symbol system, becomes obvious when we look at the impact of mechanization, cybernetics, or artificial intelligence (AI) research on the understanding of the human being. They contributed to a mechanistic understanding of humanity and a dualism that prefers information, i.e. the mind, over matter. Other examples are what can be called anthropomorphism and technomorphism, i.e. the attribution of human characteristics to machines and vice versa. ICT thus form the environment in which the understanding of what it means to be human is permanently renegotiated in a fundamental and important way.

Technology and ICT will also play an increasing role in the processes of self-discovery, self-transformation, and what Mumford calls self-design (Mumford 2003, 347). While I maintain with Karl Rahner that self-manipulation and self-design is a fundamental feature of humanity and humans have manipulated, staged, and designed themselves in one way or the other to various degrees ever since (Rahner 1966, 47f), the vast possibilities technology and ICT are and will be offering increasingly challenge traditional understandings of 'reality' and our notion of 'being human' and of 'humanity'. The concepts of 'nature', the 'natural', and the 'artificial', 'manufactured and what has come to be by nature […] dedifferentiate' – as Jürgen Habermas (2004, 46) states.[5] As this dedifferentiation process unfolds, we become aware that we do not simply become more immersed into the technological environment we produce, in particular when compared to our ancestors, but that 'humanity has always co-evolved with, and defined itself in relation to, its environment, tools and technologies' (Graham 2002, 223). Through the transformation of human-human and human-technology

[5] Habermas is, however, very critical towards these developments, in particular with regards to biomedicine. In particular, he argues that genetic engineering can endanger the freedom of those who become the objects of genetic modifications: 'The parents' eugenic freedom, however, is subject to the reservation that it must not enter into collision with the ethical freedom of their children' (2004, 49). Similarly, he distances himself from a 'leveling out of the differences between the grown and the made, the subjective and the objective' (2004, 50).

interaction, the way we express our emotions, feelings, and ideas of who and what we are, how we make meaning, and the notion of memory, ICT will radically change human identity (Ascott & Shanken 2003, XVIII).

3. Humanity's fascination with technology

Looking back in history, a close – and often intimate – relationship with technology is not entirely new. In fact, humanity seems to have been fascinated with technology, with the active shaping of the world, and with creation, i.e. the 'act' of 'creating' something, ever since. In the *Iliad*, Homer tells us about Hephaestus who diligently crafted golden maidens. These beautiful yet artificial creatures were not simply automatons to support Hephaestus in his daily work, but 'golden handmaids […] who worked for him, [who] were like real young women, with sense and reason, voice also and strength, and all the learning of the immortals' (Homer, XVIII).

Homer's text expresses more than the human desire to always create new technologies or enhance existing ones. It expresses more than a simple fascination with tools and gadgets or the desire to create and produce smart and useful tools that help us in our daily activities and make life easier. Homer's text is one of many examples that technological developments are always informed and driven by a vision, be it a vision of the future and the destiny of the world, or a vision of what the human being is or potentially can become (Heim 1993, 118f). 'Often a technological vision taps mythic consciousness and the religious side of the human spirit' (Heim 1993, 118). Throughout history, an integral part of this vision seems to be the desire to create an artificial counterpart, in our own likeness. Even more, this vision expresses the human desire to rethink and recreate ourselves, to relocate us in our relationship to the world, and to overcome whatever seems to limit us in our own development.

This desire to overcome whatever limits us is also expressed in more recent cultural texts. The Japanese anime GHOST IN THE SHELL (Mamoru Oshii, Japan/UK 1995) expresses this quest for meaning in a technological environment and as a product of a technophile culture. Technology and ICT play a very ambivalent role in the film. The main characters in the film are highly modified humans, i.e. cyborgs, with the ability to link their mind to data networks and access information anywhere and anytime; their highly technological bodies are state of the art. Yet, technology and ICT cannot satisfy their human longing. Despite her enhanced brain and cybernetic body, the main character Major Kusanagi feels confined in her 'shell' and has a sense that there is more to human destiny. She has a feeling that her very existence is beyond her control; or – one could say with Schleiermacher – as a feeling of

absolute dependence[6]. On the other hand, in the film Major Kusanagi ultimately transcends her existence through technology and the possibilities it offers; or in other words: in the film, technology is the condition of possibility of transcending oneself.

The ultimate goal of these visions, then, is to transcend the *conditio humana* with the help of cultural techniques and technology, or to put it differently: with the help of technology as a cultural technique. It is an desire both for an encounter with an o/Other, with a completely o/Other, and to transcend oneself and the conditions of human existence (Ascott & Shanken 2003, 244). The o/Other who is desired is not necessarily God in a Judeo-Christian understanding, but is the reference point for a sort of restlessness which is already expressed in Augustine's 'our heart is restless until it rests in You'.

4. Technology as cultural technique

Understanding technology as symbol system as well as cultural technique provides a framework to analyze the impact of our environment on our self-understanding as well as the human-machine and human-environment relation and interaction. Rather than understanding the human being as immutable character within his/her environment, the relationship between us and our world and us and technology is a fundamental and existential one out of which our (self-) understanding as human beings emerges. The use of technology does not just make our planet habitable or facilitate communication. Rather, technology and ICT and the imaginative and creative forces that drive their development contribute to a symbolic appropriation of the world that is founded in humans' mandate to name things and call them by their name.[7] In doing so, s/he has a part in the act of creation and becomes 'in Christ a co-creator with God' (Johannes Paulus II. 1979. Cf. also Dirscherl 2006, 57f).

Our relationship with our environment has thus to be understood as twofold and mutual: We actively engage with and shape our environment and it is exactly this environment which we shape that in return shapes and informs us. The way we shape our environment and whatever products and tools we produce, becomes part of our *conditio humana*.[8] In this sense, we constantly create, recreate,

[6] For a discussion about the translation cf. Behrens 1998.

[7] As Donna Haraway (2004) points out, there is also something ambiguous about technology. Many inventions we have become familiar with and rely on, which shape us and which we use to express ourselves, have their origins in the military. Further, Haraway locates this human-machine entity, the cyborg, outside salvation history because of its transgressive nature.

[8] For an analysis of the products of human activities as condition of human existence cf. Arendt 2003, 352–4.

and renegotiate our human condition and our self-understanding. According to Hannah Arendt, what we produce and the way we shape our environment 'possess the same conditioning power as natural things' (Arendt 2003, 353), or – one could say –, creation as it is given over to us. This is not to be understood in a deterministic way, i.e. that technology would determine who or what we are. Rather, it is a mutual relationship or as Katherine Hayles puts it: ''what we make' and 'what we (think) we are' are deeply intertwined' (Hayles 2005, 240). Peter Sloterdijk expresses this close relationship between humans, history, and environment even more radically. He argues that what the human being is or might become has always been dependent with technology: 'What humans become, depends on what they have at hands. Humanitas depends on the state of the art […] Therefore, nothing alien happens to humans, if they expose themselves further *Hervorbringung* and manipulation' (Sloterdijk 2001, 224).[9]

5. Preliminary reflections on theological anthropology

An evaluation of technology and ICT based on the biblical narrative and the premises of theological anthropology is problematic because of the irreducible vertices grounded in the understanding that the human being is related to God. While participating in the act of creation as 'co-creator in Christ', s/he is not *the* Creator but ultimately owes his/her existence to God. If theologians believe in the truth claims of Genesis 1 – not in a historical-empirical understanding but as a testimony of an ultimate reality and an expression of our consciousness that life is God's gift – then this truth claim has to have universal character throughout history and thus still hold true today. Otherwise, Genesis 1 would be anything but a meaningless story (Körtner 2007, 177).

The developments in the 20th and 21st centuries in the natural sciences, medical sciences, technology, ICT, might have suggested at some points that we know everything about us, how we function, and our role in the universe. Often, it seemed that the question of the human being had either been settled once and for all or would not be of importance any longer. In what seemed technologically possible soon, several versions of the 'human' future have been imagined. The visions of humanity entertained in a technological – or cybernetic – context often depict humanity to be fully immersed into an information and communication network (Hayles 1999, 1-24). In this context, the question of the human being, of what it means to be human, of our very self-understanding

[9] 'Was er wird, ist bedingt durch das, was ihm zur Hand ist. Humanitas hängt am Stand der Technik […] Daher geschieht den Menschen nichts Fremdes, wenn sie sich weiterer Hervorbringung und Manipulation aussetzen.' Translation A.O.

– *today* and in face of these radical changes of our technological environment – poses itself in an even more radical way, particularly when one has in mind what Foucault maintains. He argues that '[b]efore the end of the eighteenth century, *man* [sic!] did not exist' (Foucault 2002, 336). Today, this radicalization is introduced through the human body because its abilities and limits have become a sort of a 'thorn of alterity' (*Stachel der Alterität*) in the discourse on human destiny.

I agree with Ulrich Körtner in his view that the question if and how certain technological inventions and developments can be accommodated with a specific (Christian) understanding of humanity is an inadequate one (Körtner 2007, 176).[10] Rather, the question should be: '[What does it mean] for the self-understanding of a human being […], if – in the future – one has to understand and comprehend oneself as technological product created by one's conspecifics?' (Körtner 2007, 177).[11] I think this is the urgent question, in particular if theology aims to engage in a multidisciplinary discourse. For the aim of this article, to discuss the communication technological condition of humanity, Körtner's question can be rephrased: what does it mean for humanity, if their self-understanding is increasingly shaped by the interaction with and immersion in digital communication networks?

Only after an assessment of current developments and their possible impacts on our self-understanding theology can adequately evaluate them and pose critical and relevant questions such as: What are the impacts of this technological environment for humanity as created in the image of God and co-creator in Christ? Can humanity design, re-design, and manipulate itself, and if so, to what extent; or – and I think this question will become more and more important – have ICT already started a process that is subtle but irreversible?

Any theological considerations have to be based on the understanding of ICT (and technology in general) as symbol system and cultural technique. This perspective provides a framework to understand that they do something with us as we do something with them: they are integral to human identity and it is not possible to think or imagine humanity independently from these techniques. Any human action is always already mediated through symbols, i.e. the human being lives in and produces a symbolic environment. Not only are ICT part of this symbol system, but the individual human being as bodily

[10] Körtner argues further, that there is no such thing as 'the' Christian idea of humanity because of the ongoing re-negotiation processes and the divergent ideas within and across denominations.

[11] '[Was bedeutet] es für das Selbstverständnis eines Menschen […], wenn er sich künftig als das technisch erzeugte Produkt anderer Artgenossen begreifen muss?' Translation A.O.

being becomes a symbol (Glas 2009) and finds him/herself in permanent re-negotiation processes. Thus, today, there is not 'one' answer to the question who or what the human being is. Rather, any considerations are the result of various processes and negotiations within culture (Pannenberg 1999, 317-22).[12]

A valuable starting point for what might be a theological contribution to a technological-theological anthropology are Karl Rahner's thoughts on self-manipulation. In his essay *Experiment Mensch* from the 1960s, Rahner primarily reflects on biomedical developments. As stated in the beginning of this essay, I deliberately excluded biomedicine and genetic engineering from my reflections. Yet, I think Rahner's thoughts are highly relevant for reflecting on the various ways humanity and ICT in particular and technology in general interact with or how humans use ICT, make sense of them, and incorporate them into their everyday lives.

In his original essay, Rahner argues that the topic of self-manipulation, or the technological condition of humanity, is first and foremost a question of technosciences. Yet, he stresses that any technological development that impacts the whole human being is fundamentally and always already a theological topic because theology deals with the human being in all of his/her dimensions (Rahner 1966, 45f). These two perspectives are not a contradiction but rather a methodological question. On which grounds do theologians and researchers in ICT/technology engage in discourses on the human being, which methodologies are used and which arguments are made for what purpose? On these grounds, Rahner can assert his 'humble' theological approach. Generally speaking, he is open to human and technological development as well as our longing to transcend ourselves, or one could rephrase rather provocatively: technology and self-manipulation as expression of our longing to transcend ourselves. 'The human being is inherently operable and is allowed to be so' (Rahner 1966, 52).[13] In fact, he interprets the operability and ability for self-manipulation as fundamental features of Christian anthropology and the understanding of the human being as being free (Rahner 1966, 54). For Rahner, humanity has always been 'faber sui ipsius' (Rahner 1966, 55). Up until today, self-manipulation and self-formation was ascribed to the inner of the human being and thus remained mostly restricted to a spiritual/mental level.[14] In the context of ICT this means that humans today can transform themselves into networked beings with the help

[12] However, for my purposes – and because of the methodological atheism I hold –, I would want to see the 'mythical self-understanding' (ibid., 321.) introduced at a later stage in the discussion about the sources of culture and the relationship between culture-symbols-humans.

[13] 'Der Mensch ist grundsätzlich operabel und darf es sein.' Translation A.O.

[14] This is not to say that self-formation through, for example, 'body modifications' such as body paintings or other rituals, in particular in a religious context, are something entirely new.

of ICT. Today, however, humanity can transform and re-create itself both as spiritual/ethical and bodily/contextual being. For Rahner, the ability for a transcendental self-manipulation on both levels is not necessarily a violation of human 'nature' or the Christian understanding of what it means to be human. Rather, it radically expresses the level and notion of freedom inherent and vital to the Christian understanding of humanity. As such, the self-manipulation as bodily/contextual being is just a further – and radical – realization of what it means to be human and thus can be a step towards realization of human perfection:

> Today, the transcendental self-manipulation of humanity becomes particularly obvious (though ultimately it remains theologically ambiguous). Humanity creates itself not only as moral and theoretical being in the face of God, but as earthly, bodily, historical being. […] But precisely in that way it becomes obvious, what humanity has been ever since. What humanity is as transcendental, intellectual free being, now takes a hold of its physis, psyche, and socialty and expresses itself in these dimensions. Humanity's ultimate 'nature' has breached the spheres of existence given to human beings. Further, humanity has become what it really is from a Christian perspective in an inclusive, radical, palpable way: free and given over to itself (Rahner 1966, 55f).[15]

The theological ambiguity Rahner mentions is important: He does not want to issues a *carte blanche* for humans to do whatever we want and work towards becoming a disembodied being who is fully immersed into information and communication networks. The line, Rahner draws – as a sort of insurmountable 'obstacle' so to say – is the human being as transcendent being. Whenever we cease to be transcendent beings, we would no longer be 'human' in its ultimate meaning, i.e. being founded in oriented towards God. Death, then, gains a broader meaning – not just biological death but death as transcendent being. By that he does not refer to a choice one can make to live life without God, but to the technological or artificial removal of the thorn of alterity as inherent and fundamental aspect of human existence. As such, death as transcendent being, individually or collectively, is the ultimate and unavoidable ultimate

[15] 'Jetzt aber tritt diese transzendentale Selbstmanipulation des Menschen deutlich (wenn auch letztlich theologisch zweideutig bleibend) in Erscheinung. Der Mensch schafft sich nicht mehr bloß als sittliches und theoretisches Wesen vor Gott, sondern als irdisch leibhaftiges, geschichtliches Wesen. […] Aber gerade so erscheint, was er immer schon war. Was er immer ist vom Grunde seines transzendentalen, geistigen Freiheitswesen her, ergreift nun auch seine Physis, Psyche und Sozialität und kommt als solches in diesen Dimensionen zur ausdrücklichen Erscheinung. Sein letztes Wesen ist gewissermaßen in die ihm vorgegebenen Außenbezirke seines Daseins durchgebrochen. Er ist weiter, umfassender, radikaler, handgreiflicher *der* geworden, der er nach christlichem Verständnis ist: der Freie, der sich selbst überantwortet ist.' Translation A.O.

human reality – even in (at least) today's technological context. In fact, he argues that humans' path leads through death – and only through death – to God as the ultimate reality (Rahner 1966, 65-7). The understanding of death as a datum of human existence as finite and bodily beings seems to offer a link for further discussions with other disciplines and with critical transhumanists and posthumanists, such as Katherine Hayles, who hold that both finiteness and bodilyness are – and should continue to be – fundamental to human existence.

Rahner's framework is thus valuable for several reasons. It allows for an appreciation of technological development and the technological condition of humanity as fundamental part of what it means to be human from a Christian perspective. Through his 'humble' approach he offers various points of contacts with other disciplines which is necessary if theology wants to stay a valuable dialog partner. 'Such an anthropology that is open to human self-manipulation [can] […], on the one hand, criticize the dominance of specific ideas of humanity, on the other hand, discuss different perspectives of humanity in their current condition as well as their further development' (Capurro 2009).[16]

Conclusion

As I have been trying to show, the crucial (and decisive) question for a theological reflection on the technological condition of humanity and the morality of ICT and technology depends on the question: What are ICT and technology? Are they just tools that we can (or cannot) use according to our religious and ethical world views, or are they both symbols in our communication system and an expression of us being created in the image of God, and of our (co-)creativeness?

I have argued that ICT are not mere tools but have been part of human life ever since. In fact, the human being cannot be thought without the context s/he lives in because the relationship between humans and environment has to be understood as mutual. Further, we both appropriate and perceive and experience the world through and with technology.

Technology has also to be understood as symbol. Doing so expresses the ambivalent nature of technology. We can experience the human-machine relationship and the possibilities to manipulate, re-create, and form ourselves as fulfilling and realization of the freedom God has granted us. At the same time,

[16] 'Eine solche auf die Selbstveränderung des Menschen offene Anthropologie [i.e. Rahner's] [kann] […] auf der einen Seite die Vorherschafft einzelner Menschenbilder in Frage stellen und, auf der anderen Seite, die Perspektiven für die ganze Menschheit in ihrer gegenwärtigen Existenz sowie in bezug auf Ihre Zukunft thematisieren.' Translation A.O.

technology could lead to death – not necessarily to our biological death but to our death as transcendent beings.

This essay has focused on an assessment of the status of the *conditio humana* in today's (communication) technological environment rather than their ethical issues.[17] Such an assessment is vital because despite all cyborg or network fantasies some scientists or science fictions authors might have for humanity, we need to be aware that we do live in a technological environment, that we use various technologies that subtly affect us on many different levels. And it is these everyday gadgets, tools, and appliances we often thoughtlessly use but that have a profound impact on how we define our relation to the world we live in. Gregory Stock, for example, argues that we might not become cyborgs in the traditional sense but that we already are 'functional cyborg[s] or fyborg[s] […] Cyborgization incorporates machine components into our bodies. Fyborgization fuses us functionally, rather than physically, with machines' (Stock 2002).[18]

'The eager longing of creation', then, suggests that creation is not completed yet but is awaiting and longing for completion and perfection. With Rahner, we can understand this longing to encompass both spiritual/intellectual/mental, bodily/material levels, and – in the context of technology – functional levels that fuse us with machines. Seen from this perspective, self-manipulation and ongoing renegotiation processes are not something 'unnatural' or against God's will, but part of what it means to be human. Finally, Rahner's approach allows theology to enter a discourse with other disciplines that evolves around the questions: What should our future look like? What do we want the limits of these developments to be? And: What role does the human body have in the context of these developments?

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[17] It is important to note that some of the cultural analysts used in this essay are highly critical of certain technological developments, e.g. Lewis Mumford.

[18] I would like to thank Stephen Garner for this reference.

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