How ‚Secular' and ‚Modern' are our Technological Practices and Culture? Techno-Religious Forms of Life and Hierophanies in the Information Age

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Usually contemporary technology is understood to belong to secular modernity. But how ‚secular' and ‚modern' are our technological practices and culture? In this essay I argue that if we want to better understand technology, thinking in terms of a rupture between modernity and premodernity is inadequate. I show that Judeo-Christian forms of thinking still pervade modern technological visions and could help us think about what I call the ‚delegated spirituality' of the artefact, but that our encounters with particular technological artefacts make possible other kinds of spiritual experiences which we can make sense of by referring to non-modern religion such as animism. I also argue that ‚transfigurations' are only possible if we assume the radical instability of meaning. I conclude that all cultures, including ours, can be described as ‚techno-religious' forms of life which have a spiritual-material history. The rather exceptional idea of secularization is itself part of such a particular history, and does not exclude breakthroughs of the sacred into technological worlds.

Introduction

Many of us believe that modernity is entirely secular, that our current technology is by definition modern, and that technology is secular. Religion is seen as something that essentially belongs to the pre-modern world, something that must necessarily conflict with our technological culture. It belongs to the people of the ‚wilderness', the people of the village perhaps, but not modern people living in high tech modern cities. If people in the Western world today are still religious at all, then their beliefs and practices are seen as islands in a sea of secularity. Moreover, religious people are understood as living in two different worlds. To use Augustine´s terms: They are either in the city of God or they are in the city of Man (Augustine 2003). They are either in the church or on the street. It seems that there is no ‚between', there seems to be an unbridgeable gap. To many it even appears that there is only one, earthly city left.

This seems especially true for the internet and other electronic technologies and related technological practices. People who use electronic technologies – at work, at home, anywhere – seem to be immersed in the cares and pleasures of the passing world. More generally, they appear to live in an entirely *secular* on-line and off-line environment. High tech also seems to imply high secularity. Technology has been cast out of the temple and the gods, if not already murdered, have been driven out of the city streets. The world of computers is seen as a *material* world par excellence. In the ‚silicon' world, there is no longer room for the spiritual, if existent or relevant at all. In its shadowy valleys, there is no shepherd who walks with us.

However, this view of modernity and technology is inadequate if we want to better understand the meaning of our technological culture and practices – and indeed if we want to better understand ourselves and our age. In this essay I argue that there are at least two ways in which religion and spirituality are still highly relevant in our current technological culture. First I show that earlier ‚religious' ways of thinking are still shaping our modern technological culture. This reveals modernity not as the end of, or emancipation from, religion but as its *continuation* in a different form. But there are also other forms of spirituality, which might still shape what we may call our ‚form of life' (German: *Lebensform*) (Wittgenstein 1953/2009). This leads me to the second part of my essay where I explore the possibility that our current technological practices themselves – including contemporary information and communication technologies – could reveal the sacred and make possible spiritual experience, albeit not necessarily a Christian one. I conclude that our current, Western form of life is a hybrid of various techno-religious ways of thinking and doing. The term ‚form of life' then refers to the totality of patterns of meaning, of practices, of ways of doing and thinking, which make possible, and are at the same time constituted by, our present information-technological experiences and practices.

My approach in this essay is inspired by Heideggerian[1] and Wittgensteinian thinking and can be called a ‚hermeneutics' and ‚phenomenology' of technology in the sense Bernhard Irrgang, Don Ihde, and other contemporary philosophers of technology use the term (see for example Irrgang 2009).[2] I understand my project not as being concerned with

[1] Related to Martin Heidegger, phenomenology, sciences and technologies see also Armando A. Chiappe *„Pragmatische Phänomenologie und Grundfragen der Technikphilosophie"*, Néstor A. Corona *„Wissenschaften, Philosophie und Sinn des Lebens. Eine Besinnung"* and Balasundaram Subramanian *„Die Verwandlung der Dinge. Zur Technikkritik Rilkes"* in this book.

[2] For hermeneutical approaches in the philosophy of technology see also Don Ihde *„Euro-American Philosophy of Technology Today"*, László Ropolyi *„On the*

facts and *explanation* but with *understanding* and *interpretation*. It is about the meaning that is created by the way we relate to the world and handle things, and about the general framework of meaning in cultures that forms a background, a horizon, for interpreting and shaping how we deal with technology and with artefacts. Furthermore, it can be called ‚transcendentalist' in the sense that it analyses ‚conditions of possibility'. However, my approach is different than that of classic philosophy of technology, which used the transcendentalist approach to think about the ‚essence' and origin of technology (Heidegger 1977). This has indeed resulted in one-sided views of technology (Verbeek 2005). Yet I believe there are different ways of using the approach. Here I use the term ‚conditions of possibility' in two ways. I consider religious ways of thinking as conditions that make possible, and constrain, particular contemporary cultural-technological forms. But I also understand technologies and technological practices *themselves* as part of the conditions of possibility of our culture: They shape our ways of seeing and acting, and as such they make possible and co-constitute our form of life.

This approach does not necessarily lead to a focus on ‚culture' or ‚modernity' alone if this means that concrete technologies and what they ‚do' (Verbeek 2005) remain out of sight. Rather, it enables us to study technology at various levels and as various phenomena: The form of life, the culture, and the society, but also the concrete practice and the concrete artefact and its use. ‚Transcendentalist' means here: To analyze and interpret what kind of ways of experiencing, thinking, and doing are made possible by a particular form of life, practice, or artefact and its use, and to explore to what extent do particular technologies and technological practices constitute and *change* our form of life. What ways of seeing are promoted? What kind of experiences are excluded? What actions are encouraged? And how do current technological practices contribute to the ongoing but slow metamorphosis of our form of life?

Furthermore, the approach also creates room for historicizing technological culture and for being sensitive to cultural differences. Our form of life is always a historical form, it changes, has change, and will change again. It helps us to understand what we are doing if we also understand these changes, in particular if we reveal historical patterns in thinking and practice that are still relevant for how we think and how we do things today. This is especially important for thinking about religion and tech-

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Nature of Technology. An Essay with some Undisclosed Hermeneutical Views", Gerd Grübler *„‚Dispositiv' als Konzept der hermeneutischen Technikphilosophie"* and Bernhard Irrgang: *„Skeptisch-kritische Epistemologie, kontextbezogene Selbstorganisation des Verstehens und positional-perspektivische* Metahermeneutik in this book.

nology. A cultural-philosophical, more historical approach to the discussion about secularization and secularized modernity gives us more insight into the dynamic and complex relation between religion and technology.

‚Religious' Ways of Thinking versus ‚Technological' Ways of Thinking?

Modernity is usually associated with secularization. It is understood to involve emancipation from religion. In the West this means: Emancipation from Christianity. Enlightenment thinking was meant to liberate humanity from ignorance and from irrationality. Science and technology, then, are part of this emancipatory, secularizing project.

At first sight, it seems that the project of secularization succeeded. Max Weber coined the term ‚disenchantment' (German: *Entzauberung*) to describe the shift from a religious understanding of the world to a scientific understanding (Weber 1919/1946). He argued that in modern experience, science and technology have expelled the religious experience of mystery and magic. There is only room left for clarity, calculation, rationalization, and control.

But how modern are we, and how secular are we? There is a sense in which we have never been modern (Latour 1993) but also a sense in which we have never been secular. There are good reasons to say that we have today a post-Christian and post-Judaist form of life, which is not radically different from the previous one. Modernity is a continuation of pre-modernity, albeit in a different form. There is no radical rupture; instead as I will argue the very idea of a rupture is part of both forms of life. Let me explain this.

Consider how in cultural history religion and science have much more to do with one another than the secularization view assumes. There was no decisive break with the religious past but a history of science-and-religion, a ‚fusion' between religion and science. Bronislaw Szerszynski has therefore argued that „the modern secular" is „a distinctive product of the West´s religious history" (Szerszynski 2005, p. 814). He shows that people such as René Descartes, Isaac Newton, and Gottfried Wilhelm Leibniz did not abandon but transformed theological discourse. There is also a close link between religious practices in medieval monasteries and the way we think and deal with time in modernity. And science is so ‚mythological' that Bruno Latour has called for a secularization of Science (Latour 2004).

Consider also and especially how ‚religious' ways of thinking from ‚the past' are still shaping our thinking in a ‚modern' technological cul-

ture, and how these religious patterns make possible – that is, act as conditions of possibility of – the technological and scientific project of modernity.

Creational Thinking and Spiritual Aura of the Work of Art

First, modern thinking and Christian thinking are both creational and dualistic. The main metaphysical relation is one between the (one) creator and the creation and its (many) creatures. On one side of the great ontological divide there is God, on the other side there is the creation. The secularized, modern version of this dualistic view denies the existence of a divine side, but confirms the a-spiritual, radically un-sacred nature of the universe. There are facts, there are objects, there are data, there is information, but all that is ‚cold' matter. The world has no meaning – religious or otherwise. At most, meaning is something that is ascribed by humans; they have to give meaning to otherwise meaning, spiritually empty ‚matter'. Since the death of God they even have to create, since there is no One left to do it. In modernity, humans take the place of God and become creators.[3]

This replacement of God by humans has set up not only an ontological but also a *spiritual* gap between humans and technological artefacts. Spirituality is mainly on the side of the creator. Objects are non-spiritual or, at best, have only a kind of ‚derived' or ‚delegated' spiritual quality: Objects are only spiritual if and in so far they are artefacts, that is, in so far they are created by humans. Humans were the children of God; in a technological culture artefacts become the children of *their* creators. But even this derived form of spirituality is often denied to artefacts; usually they are seen as ‚mere things', which have no spiritual value whatsoever and not spiritual relation to their creators. In that case, even the very idea of creation is lost. Humans are not seen as creators but as designers and producers. Not the craftsman or the artist are models, but the heroes of the industrial age: The entrepreneur, the designer, and the engineer. The purpose of creating an artefact has no longer anything to do with the creator as such, but with solving a practical problem, with transforming meaningless matter into something we can use, something which derives its only meaning from this use.

Note that within this thinking we can still make a difference between the derived spiritual value of the art object and the derived spir-

[3] Like Nietzsche, Sartre still sensed the moral significance of this shift (Sartre 1946) – today we tend to take it for granted.

itual value of industrial products. Walter Benjamin has point to this difference when he discussed the ‚aura' of the work of art (Benjamin 1936). He attributed this ‚aura' to the ‚uniqueness' of the artefact, but I believe in creational thinking the *spiritual* difference lies in the nature of the relation between the one who makes the artefact (creator) and the artefact (created). Because in the case of the artist or craftsman there is a more direct relation between creator and creature than in the case of designed artefacts, one could say that the spiritual value of the work of art is also higher. It has an ‚aura' or a ‚soul', not because its ‚matter' had any spiritual or other value, but because the hand of the creator has touched it. Consider the difference between cooking understood as ‚producing a meal' versus cooking as a craft and a gift from the cook, who blends his or her ‚spirit' and the ‚matter' of the ingredients by very concrete ways of practical handling – this too is a kind of ‚delegated spirituality': Spirit is transferred from the cook to the food.

In the information age, the secularization of technology means that when the natural (let us call it universe 1) and physical-artificial universe (universe 2) is extended with, or mixed with, a universe of non-physical, virtual artificial things (information, data, code, etc. – universe 3) these new entities are usually seen as part of the a-spiritual world of ‚matter' or are even denied reality. But in principle one could also consider the possibility that ‚virtual' entities have creational spirituality in its derived form: In so far as the World Wide Web and all its entities are *created* by humans, they could also be seen as *creatures*, in which case they have derived spiritual value. This would be especially possible if programmers would see themselves as craftsmen or artists, and render their (chunks of) code more child-like than they are supposed to be according to the secularization thesis. In that respect, it is telling that Hans Moravec, a transhumanist who works in the field of robotics and artificially intelligence, wrote a book called *„Mind Children"* (1988). Robots and artificially intelligent entities are then seen as our ‚children', which implies that they might have some ‚derived spirituality'.

Let me conclude that these interpretations show already at least two ways in which the thesis about secular modernity is problematic: There is a continuity in the creational and dualistic metaphysics they share and creational thinking creates also a condition of possibility of creational spirituality *in the information age*: We might conceive of the new world we are shaping as our ‚creation' and this lends some form of derived spiritual value to the new ‚things', if any value at all.

However, there is another sense in which the spiritual value of ‚products' can change from ‚death matter' or ‚object' to something more spiritual: They can get an ‚aura' not only by instantiating the ‚concept' of

the designer-creator, but also by being *used* in a particular way. To understand this we need to turn to non-creational, non-Christian, and non-modern thinking (see the second part of this essay).

Transcendent Thinking and the Desire to become Immortal

Second, there are also other but related ‚religious' ways of thinking that still shape our modern culture. If one assumes a creational and dualistic metaphysics, then seen from the perspective of the self-conscious *creature* one´s spiritual predicament is rather uncomfortable and undesirable, if not appalling. Either you find yourself in an entirely ‚cold' universe devoid of meaning (the modern scientific/Romantic view) or even an ‚evil' universe (the Manicheic/Gnostic and ‚Lord of the Rings' view) far removed from any moral or spiritual value. Or you find yourself in the situation that you have *some* derived spiritual value – in the best case half of you is spiritual, the other part material. In both cases, you are unhappy with your poor spiritual state: You want to escape from the spiritual desert and drink from the sacred well, you long to be re-united with your creator and to be fully spiritual. In other words, you wish to *transcend* your (too) material condition. You want to be resurrected (verticality), to awaken and stand up rather than sleep with (other) dead matter (horizontality).

At first sight, our current technological culture seems to have nothing to do with these religious aspirations. But this is only so if we hold on to the assumption that technological practices are purely material and are entirely external to the main patterns of thinking that make possible and shape modern practices, including Judeo-Christian thinking. If we shed this assumption, a very different picture emerges.

Consider people who endorse the transhumanist vision of the technological future. It is not difficult to show that they are far from ‚secular'. They stand firmly within the Western tradition. In particular, they think *within* the transcendent pattern. Influenced by (Platonic) Greek thinking, Cartesian dualism, and the transcendent aspirations of Judeo-Christianity and different but related spiritual forms of life (Gnosticism), they wish to leave the earth and their body, they want to free their (rational) soul. If these people want who desire to re-engineer their body and, ultimately, to ‚upload' their mind into cyberspace, this is not a ‚weird' idea but an idea that is made possible by Western transcendent thinking. They think of the earth as plagued by death and disease, and they want to shed their body, their earthly vulnerability. In cyberspace or any other future technological world, they hope to be free from the misery and ignorance they find in the earthly city. They wish to be resurrected and

join a realm of freedom, a realm of *minds* without *bodies*. They wish to roam in an invulnerable eternity. ‚Enhancement' is meant to overcome the human condition, either by becoming entirely material (machines, cyborgs) or by uploading – that is, by becoming entirely spiritual. For example, Moravec has envisioned a future when humans are replaced by superintelligent devices: The idea is that once released from the limitations of the human body, our intelligence can evolve freely (Moravec 1988).

Again technology and religion are shown to be deeply intertwined rather than entirely distinct. In some technological visions, technologies become what we may call ‚immortality engines'. We might even want to speculate, as David Noble does, that the reason why our culture developed such an obsession with technology is that technology promises the transcendence of mortality (Noble 1997). Modern technology is then revealed as a means to reach the aim popular Christianity has always promised: Eternal life. And to the extent that this transcendent technophile thinking is highly dualistic it bears resemblance to Gnosticism, which holds that we have falling into a dark, material world and that we should try to overcome this. The cyberworld then becomes a means to achieve Gnostic liberation. Stef Aupers and Dick Houtman, for example, have concluded from an empirical study that „digital technology seems to be increasingly considered the means *par excellence* to liberate the self from worldly suffering and imperfection and to overcome the alienation of modern life" (Aupers & Houtman 2005, p. 38).

The End of History and the Idea of a Singularity

Third, in our current technological culture, including transhumanist visions of the future, we also find a particular view of history. Most of us have *a linear view of human history*, which is very modern but also at the same time very much Judeo-Christian. Both forms of life share the idea that there is a linear progression in time. Today we moderns and post-Christians think of humanity as moving through time. This concept has its roots in the creational idea that history has a beginning (creation) and then moves on to an end. This way of thinking made possible modern science (for example the concept of cause-effect, the linear idea of time) and modern history. But this is not the only possible way of conceiving time. Before and next to Judeo-Christian thinking, there were (and are) other views of history, in particular cyclical views.

Moreover, both in modernity and in Judeo-Christian thinking the idea of linear progression is also combined with the idea that there are, or can be, radical *ruptures in time*. There are different ages (for example the information age, the New Age, etc.), and there is a radical difference

between ‚before Christ' and ‚after Christ'. Again this idea has its origin in creational thinking: The creator brings the new into the world. There is a new birth, a radical kind of natality[4]. The god comes into the world, incarnates, spirit enters flesh.[5] Similarly, the desire to bring the new into being is a key to understanding modernity[6], and current visions of the technological future often suggest that there is, or will be, a radical rupture in history.

Consider the idea of the (technological) ‚Singularity': The hypothesis that a greater-than-human superintelligence will emerge and that there will be an intelligence explosion. After this event, it is stated, events can no longer be predicted. Stanislaw Ulam has attributed this idea to the famous mathematician and physicist John von Neumann (he was involved in the Manhatten Project, which produced the atomic bomb): There will be a „Singularity in the history of the race beyond which human affairs, as we know them, could not continue" (Ulam 1958). Later the concept has been further developed by Vernor Vinge (1993), Ray Kurzweil (2005), and others.

This concept of a ‚Singularity' is also an example of *eschatological* and *apocalyptic* thinking: The former says that there is a final event in history, an ultimate destiny, an end time, the end of the world as we know it, the latter adds that this will happen soon: Our civilization will soon come to an end because of a catastrophic event. This is very similar to Singularity thinking: The idea is that the rupture is so radical, that there is no longer linear progression to an end; rather, the end is already there. The final event ‚in' history also at the same time terminates history: The end time means *the end of history*. Technology is then seen as the final *terminator* and *liberator*. Again the aim is immortality. Robert M. Garaci has shown that texts by Moravec and Kurzweil offer a course of the future that „profoundly parallels that of ancient Jewish and Christian apocalypticism" since it is promised that technological progress will overcome our bodily limitations, liberate us from alienation in our moral bodies, and produce a new paradise in which we will live immortal lives

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[4] Here the term ‚natality' does not refer to ‚birth rate' but to the philosophical concept of natality as for example described by Hannah Arendt. For her, each birth represents a new beginning, the introduction of novelty in the world. In *„The Human Condition"*, she writes: „It is in the nature of beginning that something new is started which cannot be expected from whatever may have happened before. This character of startling unexpectedness is inherent in all beginnings" (Arendt 1958, pp. 177f.). She links that idea to the capacity and freedom to act, given to us by God.

[5] See also the Christian view on the meaning of Christmas and the practice of communion.

[6] It may also be interesting to know that originally, in the 5th century, the term ‚modern' was used to distinguish the Christian era from the pagan era.

since our minds will exist in robotic bodies or even virtual bodies (Garaci 2010, pp. 1005f.).

These similarities between ‚religious' and ‚technological thinking' reveal modernity not as the end of, or emancipation from, religion but as its continuation in a different form. In this sense, Szerszynski was right to place modernity inside rather than outside the history of the sacred – although his *historicizing* of religion and modernity remains modern.

However, so far I may have given the impression that Western technological thinking and practices are only made possible by Judeo-Christian thinking. But how Christian are we when it comes to contemporary technological experience and technological practice? And are these practices only ‚applications' or ‚instantiations' of modern and Christian thinking, or do these technologies and the way we use them have a more ‚active' role in shaping our experience and guiding our actions? We should not only study how religious thinking makes possible technological culture, but also how technological practices shape our religious thinking, how they make possible and promote particular forms of spirituality rather than others. Taking this approach also enables us to reveal other, non-modern but also *non-Christian* and non-Platonic sources of spirituality. Attending to these sources of spirituality helps us to make sense of phenomena which we cannot understand if we only use Judeo-Christian and modern-scientific hermeneutic frameworks.

Uncanny Presences in the Lab and Hierophanies in Cyberspace

If it is true, as Latour said, that we have never been modern, we could also say with some exaggeration that *we have never been Christian*. Our current Western life-form is not only made possible by modern and Judeo-Christian thinking but is also indebted to *other* spiritual experiences and cultures – cultures which *preceded* Christianity but have also partly *merged* with it and have persisted *in spite of it*. We can consider here the ‚pagan' nature spirituality that was absorbed by Christianity (especially by what is now referred to as Roman-Catholicism) and the ‚pagan' spirituality that continued and continues in Western practices in spite of rejection and condemnation by religious and (later) by modern-scientific authorities. The qualifications ‚continue' and ‚scientific' are important. Many of us might consider themselves ‚secularized' and ‚modern', and openly and explicitly reject any religious ‚beliefs', but this does not mean that experience and practice in the current technological culture are entirely devoid of spirituality and religion. There have been works of what Latour calls ‚purification', for sure, attempts have been

made at further secularization, but these efforts have never been entirely successful when it comes to concrete experience and practice.

When it comes to design and engineering practice, for example, I already suggested that creational thinking may still exert some influence. Our current designers and engineers are supposed to experience as ‚objects' and dead ‚products', but in practice at least some of them consider their products as their *children*. They may feel that they *created* rather than *engineered* the thing, which then becomes a *creature*. This makes possible a very different cloud of meanings and experiences. Think of a robot that is given a name by scientists, that is treated as if it is a child. If a team of robot designers considers their robot as their ‚child', not only as a ‚machine', ‚project', or ‚research platform', then this is spiritually relevant. This experience contrasts with the modern-scientific ideology of ‚objectivity', ‚neutrality', and, more generally, with the entire scientific world view as sketched in the first section. Of course it is more likely that this *transfiguration* from ‚object' to ‚creature' happens in a lab/workshop setting than in an industrial setting. In this sense, Walter Benjamin was right about the ‚aura' of the thing. We think of our children as unique; an industrial product is not a ‚child' in that sense. And how much ‚aura' an ‚engineered thing' gets depends on how much of an artist and craftsman (rather than an ‚engineer') the scientist is and on the corresponding relation she has to the ‚thing' (or indeed her ‚child').

Note that we can only pay attention to these transfigurations if we assume that ‚reality' is always mediated by our personal and cultural way of seeing, if we acknowledge human subjectivity and interpretation. Here the value of a hermeneutic-phenomenological approach is clear: It enables us to reveal different ways of seeing, different perspectives. It shows that ‚that what is' is never stable in meaning. Note also that these experiences can only be called ‚irrational' from a particular perspective: A scientific world view that assumes that one way of seeing, one perspective has ontological priority. In addition, in contrast to the modern view it turns out that people have much less control over how they see something: This depends in a range of conditions mediated by culture, the social, by technology. For example, in this case creational thinking frames what we see.

However, there is also a significant and large domain of ‚spiritual-technological' or ‚techno-religious' experience that cannot be revealed by employing Judeo-Christian hermeneutic patterns, and that cannot only be found among designers and engineers but also among users. Thus, let us consider *user* experience and some of the religious-spiritual experiences it makes possible.

The Spirit and Presence of Things

First, user experience of contemporary electronic technologies makes possible the phenomenon we give considerably more spiritual value to ‚objects' and ‚things' than would be ‚allowed' by modern science and by Christianity. We are supposed to regard artefacts as tools. But sometimes they become more than tools. Consider the experience that an object has a ‚soul', a ‚spirit', or a ‚presence'.[1] This may happen, for instance, when one sees an anthropomorphic or zoomorphic robot and interacts with it as if it is a human being or an animal, or if one treats an electronic device as if it were a living thing. Such experience can be ‚special' and even creepy[2], especially if we are not used to *think* of ‚objects' or ‚machines' in this way due to our scientific education, but it can also be very mundane, such as when one shouts at one´s computer or robot.

In order to better understand what is happening here, especially in the case of ‚artefacts' or ‚things' that seem to have a spirit or soul, we need to know more about animism and its corresponding form of life. Animism, and more generally nature religion, does not see the world as a collection of a-spiritual objects but as an already meaningful world full of spirits. In this world view, spirit is not transcendent but *immanent*. The world is suffused with spirit. Plants and animals, but also objects possess spirit. There is no matter without spirit. Technological objects are no exception. Animist cultures make no sharp distinction between ‚technological' culture and ‚religious' culture. Of course in the West we acknowledge that in the earlier stages of child development, one can have animistic experience. But adults can also think and experience in animistic ways. In fact, we have done so for a long time before Christianity and modernity. Perhaps it is true that, as Charlton writes, „we were all animistic children once, and for most of human evolutionary history would have grown into animistic adults. Animism is therefore spontaneous, the ‚natural' way of thinking for humans" (Charlton 2007, p. 727). Whether or not it is ‚natural', it would be unwise to exclude it from our interpretations of technological culture.

Indeed, the possibility of animistic experience also implies that technological artefacts can be experienced in animistic ways. Again, not only

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[1] Hiroshi Ishiguro, a famous Japanese robotics researcher who creates androids, has been explicitly interested in investigating the phenomenon of ‚presence' (in Japanese the meaning is close to ‚ghost') by means of tele-operated robots. We may ask if ‚the ghost' gets ‚in the machine', if the ‚spirit' of the operator ‚incarnates' in the machine. (See Ishiguro´s research on the Geminoids and on the Telenoid R1.)

[2] See the so-called ‚Uncanny Valley hypothesis'.

children but also adults often talk to computers, robots, or other electronic devices. They give names to artefacts, get angry at machines, and hug robots. They might also experience that the ‚thing' is ‚more-than-a-thing', that it has a ‚soul' or a ‚spirit'. Their relation with the artefact may change into what Don Ihde calls an ‚alterity relation'. For example, a robot can appear as a ‚quasi-other' (Ihde 1990). This also shows again that the meaning of things is unstable – Ihde uses the term ‚multistable'. Technological artefacts have multiple meanings.

Hierophanies in Cyberspace and Spirits in the Network

Second, once we take an immanent rather than a transcendent view of spirituality, and acknowledge that the sacred can be *everywhere*, there is no reason why it should not be revealed in ‚cyberspace' or, more precisely, in our internet-mediated experience and action. (We should not consider ‚cyberspace' as a separate sphere – this would be dualistic thinking again.) Consider the hunter-gatherer form of life and its associated immanent, animistic spirituality. According to the anthropologist Tim Ingold, hunter-gatherers do not see their environment as an alien, „external world of nature"; they are „immersed from the start, like other creatures, in an active, practical and perceptual engagement with constituents of the dwelt-in world" (Ingold 2000, p. 42). These constituents are often experienced as sacred. For example, hunter-gatherers felt that there was something sacred about animals, that they are spiritual beings, and that it was up to the animal to *reveal* itself. The animal would *show up*. The animal shows itself to the hunter (or not) and ‚gives' itself to the hunter (or not). Similarly, tools are „instruments of revelation" (Ibid., p. 320): They are not necessarily instruments of control but are part of the relational world (see also Coeckelbergh 2012b, p. 151). There is no absolute dichotomy between human and non-human, or between spiritual and non-spiritual.

Similarly, in internet-mediated practices we can have the experience that information ‚appears'. We have search algorithms, of course, but these are not only instruments of control; they can also be instruments of ‚revelation'. To the extent that we do not control them, they make at least *possible* the appearance of the sacred. More generally, the internet might be experienced as similar to the world of the hunter-gatherer. We are immersed in a hybrid on-line/off-line world (not a separate space) and engage with the constituents of this ‚mixed', ‚hybrid' world. Hunting for information and gathering information, the information we need ‚shows up' (or not), ‚gives' itself to us (or not). We rely on high tech, yet

we do not control its use; we are dependent and are grateful when something happens. In this sense, information can have a sacred dimension. More generally, ‚cyberspace' (which is never a separate sphere but is combined with the so-called ‚off-line' world) makes possible what is sometimes called ‚hierophanies': Manifestations or revelations of the sacred.

In addition, internet-mediated practices can also reveal the world as an interconnected whole. To connect and to re-connect is an important part, if not the most important part, of what religious is supposed to do (see also the meaning of *re-ligare*). There is no reason why global and local communities of internet users would have less possibilities for the spiritual experience of ‚communion' than other communities. And perhaps ‚network thinking' can make possible a kind of ‚network spirituality': We might feel part of a network of spirits or even experience the network itself as spiritual (Coeckelbergh 2010). Of course this is not necessarily so. Like with the other relations between technology and spiritual experiences, there is no determinism. Technological practices make these forms of spirituality possible, but there is no guarantee that it happens.

Thus, in so far that it is true that *we have never been modern* and that *we have never been Christian*, technology is a condition of possibility for animistic and other non-Christian and non-modern experiences. This turned out to be yet another way spirit and the sacred can be revealed in our ‚technological' world.

Conclusion

This was just a brief exploration of some relations between contemporary technology and religion, and more conceptual and empirical research is needed in order to further develop these reflections. But I hope to have shown that our current ‚modern', ‚secular', and ‚technological' life form depends on, and makes possible, various kinds of religious and spiritual experiences. Some of these experiences can be interpreted as being part of mainstream history: They can be incorporated into the dominant grand narrative of Western thinking, that is, the history that of Greek thinking and Christian thinking. However, I have also shown that if we want a more comprehensive understanding of contemporary technological culture, including ‚electronic culture' and ‚internet culture', we need to revise that dominant story and also tell different, non-modern and non-Christian stories.[3] I have shown that thinking in terms of a rupture

[3] Related to technologies, Christian and non-Christian values see also Carl Mitcham *„Rethinking Cultural Transfer"* in this book.

between modernity and pre-modernity is inadequate. It turns out that Judeo-Christian forms of thinking still pervade modern technological visions, but I have also argued that our encounters with, and handlings of, particular technological artefacts make possible spiritual experiences we can only make sense of by referring to non-modern religious cultures such as animism. Furthermore, I have also suggested that making sense of these ‚transfigurations' and indeed ‚hierophanies' is only possible if we assume the radical instability of the meaning of technological artefacts and their environments. I conclude that all cultures, including ours, can be described as ‚techno-religious' forms of life which have a spiritual-material history. The rather exceptional idea of secularization is itself part of such a particular history, and does not exclude breakthroughs of the sacred into technological worlds.

These reflections are relevant for the discussion about modernity in philosophy of technology. Whether we reflect on technology transfer[4] and ‚embedding' modernization in developing countries (Irrgang 2011), seek to ‚overcome' modernity, or hope for an ‚alternative modernity' (Feenberg 1995), we need to develop an adequate understanding of modernity and of its relation to technology and religion. For this purpose, it is unhelpful to understand science and technology only in terms of its own ideologies and visions. In particular, this essay supports the idea that modernity´s self-understanding in terms of ‚secularity' is problematic and unfruitful, that we should not understand modernity in contrast to religion. Moreover, I have also suggested here that we should not understand ‚religion' and Western religion as being only about Christianity, although it is sometimes difficult to articulate non-modern and non-Christian views because the mainstream ‚modern' currents in our culture and in philosophy deny this ‚outside' – or at least its relevance for contemporary technological culture. In a sense, *we* in the West *also* have a problem with ‚embedding' modernity, if this is desirable at all. This does not render us *that* different from the alternative modernities in the East and elsewhere. If there are indeed what Shmuel Noah Eisenstadt has called ‚multiple modernities' (Eisenstadt 2000), the problem of modernity and its relation to religion and technology is a global problem. Moreover, we should not assume that cultures are fixed. The multiple modernities are themselves dynamic (see also Coeckelbergh 2012a) and this implies that the techno-religious forms of life involved will also change. In order to guide that change, we must try to learn from these ‚other' cultures and how they cope with ‚modernity'. Again this requires reflecting on religious and spiritual matters. Thinking about religion and technology is not just a hobby of people interested in these topics: We *all* have

[4] See also Reena Patra: *„Technology Transfer and Cultural Apparatus. A Philosophical Appraisal"* in this book.

an interest to better understand our age, and without systematic questioning of our deepest modern/Western assumptions such efforts are futile or at best superficial.

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