

A Rumour of the Scandal of Naturecultures In Science and Theology

Anne Kull

Abstract

Whitehead noted that it takes a special effort of mind to pay attention to what is always or nearly always present. We construct our cultures of understanding nature (science is culture), and along the way we also construct the surrounding nature itself. Both the ecological processes and dumping grounds enfold our ideas of nature and the ideas of ourselves. Ecological knowledge (as a natural scientific knowledge) in principle is not sufficient to solve ecological problems. We need an extended biology. Similarly, the problems technology is introduced to solve are never purely technological problems. In one sense it would seem that 'more' technonature means 'more' culture. But the mathematics does not work. The perception that there is less nature in the world is joined to the feeling that there is less culture, and less society for that matter – less community, less tradition. When diversity appears to depend literally on the vagaries of human individuals, it suddenly seems at risk; variation may not ensue. The definitions of science, technology, nature are highly sensitive for obvious reason: discussions of technology are the reverse side of the coin to debates about human nature. We cannot grasp the significance of any complex technological device, such as a nuclear reactor or a spaceship or a computer or a reproductive technology, without understanding its history, complex support system, social meaning and political implications. Any technology joins together countless humans and non-humans, from engineers to genetically engineered laboratory animals. Any technology reveals some aspect of the human nature.

It is theologically relevant to pay attention to our constructions of technoculture and technonature. If we cannot determine a place for technology and nature in our theological constructions, we lose credibility for those who are able to experience the new in a creative spirit, those who take the risk to fail. If we cannot incorporate nature and technology in our theology, it will remain a reductionist (supernatural) theology. If we cannot find symbols to express the technonatural and technocultural situation, 'blinkers' will not be removed and we will not address the contemporary situation, detrimental both to the churches and individual believers. Christians are not exempted of personal and corporate responsibilities for the products and impact of technosciences, and the least helpful would be to encourage technophobic understandings of technology and sentimental understandings of idealized nature. "Technology is ambiguous, as is everything that is; not more ambiguous than pure spirit, not more ambiguous than nature, but as ambiguous as they are" (Paul Tillich). Once we reduce our own fight-or-flight reaction to emergent naturecultures, and stop seeing only biological reductionism or cultural-religious uniqueness, both people and God will look different.

Biography

Anne Kull studied at the Lutheran School of Theology at Chicago (Ph.D., 2000). Her thesis was titled "A Theology of Technonature Based on Donna Haraway and Paul Tillich". Since 2000 she has worked at the University of Tartu, Estonia. 2000-2002 a lecturer of the New Testament, since 2002 as head of the department of systematic

theology and lecturer, since 2003 as associate professor of systematic theology. She is founder and head of the Collegium of Science and Religion at the University of Tartu. She is a member of ESSSAT. Lutheran by church affiliation. Main research areas are science and religion, contemporary theology. She has published papers in Zygon, Currents in Theology and Mission, various collections of conference papers both abroad and in Estonia.

Whitehead noted that it takes a special effort of mind to pay attention to what is always or nearly always present. In the contemporary world there are two everpresent terms: economics and ecology. Both have the roots in the same Greek word “oikos”, and yet obviously we do not know how to put these two ‘houses’ together. We experience the houses simultaneously but as soon as we begin to plan or analyze the one or the other, our vision becomes single (to paraphrase William Blake). How the technical, textual, organic, historical, mythic, economic and political dimensions of entities, actions, and worlds collapse into each other is a matter of fundamental theory and practice.

1. Miscommunication.

We miscommunicate, or communicate pathologically with nature. Getting to know nature resembles an arms race in the description of its practitioners, and if we find a striking expression or metaphor for the ideal relationship to nature, then it’s invariably an idealized relationship to idealized nature. Metaphors are problematic and de-stabilizing; and the problem is rooted in the problem of the relation of bodies and language. The pathology is usually spelled out via impending disasters: the destruction of the rain forests, the erosion of our soil, the loss of sources of fresh water, the spread of deserts, the alarming rate of extinction of species, global warming, etc. All and other items of similar seriousness are compounded by human numbers. A natural scientific knowledge is not enough to solve cultural-natural problems. Donna Haraway has expressed the issue thus, “... how to have *simultaneously* an account of radical historical contingency for all knowledge claims and knowing subjects, a critical practice for recognizing our own ‘semiotic technologies’ for making meanings, *and* a no-nonsense commitment to faithful accounts of a ‘real’ world, one that can be partially shared and friendly to earth-wide projects of finite freedom, adequate material abundance, modest meaning in suffering, and limited happiness” (Haraway 1991: 187).

There is a widely popular narrative, following a certain kind of idea of nature and culture: The little nations of the past lived within territories that conformed to some set of natural criteria. The culture areas overlapped, almost exactly, with broadly defined major bioregions. The older human experience of a fluid, indistinct, but genuine home region was gradually replaced – across Eurasia, the Americas, Africa – by the arbitrary and often

violently imposed boundaries of emerging national states. These imposed borders sometimes cut across biotic areas and ethnic zones alike. Inhabitants lost ecological knowledge and community solidarity. We can imagine that in the old ways, the flora and fauna and landforms were part of the culture (and indeed, Native People claim this even now). We can call this nature and this culture zero nature and zero culture – the absolute idealizations of naturecultures. The world of natureculture, which is actual, is almost a shadow world now, and the world of political jurisdictions and rarefied economies passes for reality. Deep ecologists, Earth-mystics and several kinds of New Agers love to believe these stories in order to hate them in the name of Wilderness before the Fall into Culture, just as humanists believe them in order to fend off biological encroachments on culture.

Similarly, the problems technology is introduced to solve are never purely technological problems. In one sense it would seem that 'more' technonature means 'more' culture. But the mathematics does not work. The perception that there is less nature in the world is joined to the feeling that there is less culture, and less society for that matter – less community, less tradition. When diversity appears to depend literally on the vagaries of human individuals, it suddenly seems at risk; variation may not ensue. The definitions of science, technology, nature are hingly sensitive for obvious reason: discussions of technology are the reverse side of the coin to debates about human nature. We cannot grasp the significance of any complex technological device, such as a nuclear reactor or a spaceship or a computer or a reproductive technology, without understanding its history, complex support system, social meaning and political implications. Any technology joins together countless humans and non-humans, from engineers to genetically engineered laboratory animals. Any technology reveals some aspect of the human nature.

We observe the fragmentation but the whole is more than the mere sum of its parts. Both culture and nature are defined by their context. Culture's context is nature, nature's context is culture, and most of the time it is unclear which one is the main text to the other, and where the borderlines are. If we think that we are the natives, born with knowledge of our particular culturenature, then we are open to a grave illusion. The natives of whatever kind do not have a stable point of view but are themselves engaged in

questioning their allegiances and their dispositions in the private and public networks, in their cultures-natures. We have to learn to be natives in our particular culture-nature. Charting demarcations, locating them is at best an arbitrary business, inexactly accomplished. The discrimination of breaks, or continuities, the drawing of lines around sets of individuals as set against different sets of individuals, other voices in other rooms, is a good deal easier in theory than it is in practice. Ours is a very material world where boundary creation and maintenance are testing our imagination.

2. Incomplete biology and incomplete theology.

That the human species together with its cultures is entirely a part of the ecosystem, with its element circles, and that humans can never escape the ecosystem, has been taught by ecology. Ecology describes the material processes in ecosystems; it can demonstrate the imbalances of carbon, nitrogen, or phosphorus cycles, can model the population dynamics and provide the optimum rates of fishing and resource management. It can give ideas how to develop ecological technologies and to protect species and communities in a more efficient ways.

However, ecological knowledge (as a natural scientific knowledge) is in principle not sufficient to solve many ecological problems, it is incapable of meeting the environmental issues of contemporary culture. Despite the fact that we apparently know why, the number of living species in the world is decreasing, the human population is growing, the mountains of waste reach from the backyards and oceanic abyss to the upper layers of the atmosphere. This is the case not just because of lack of knowledge of ecological processes, but because the solution of these problems also requires, in addition to the knowledge of ecological processes, an understanding of human behaviour. The still ongoing story of co-evolution is not a nice and easy story, neither to ourselves nor to our various neighbours, and it is multiform, unfinished and consequential.

In reaction to reductionist materialism, Christian theologians invented the supernatural realm. All the earthly reality was conceded to modern science and theology preserved to itself a privileged 'spiritual' realm immune to confirmation or refutation – all what was important, was also immaterial – soul, spirit, salvation. The result was invariably a reductionist theology, at the high cost to the churches and individual believers. It is theologically relevant to pay attention to our constructions of technonature

and technonature. If we cannot determine a place for technology and nature in our theological constructions, we lose credibility for those who are able to experience the new in a creative spirit, those who take the risk to fail. If we cannot find symbols to express the technonatural and technocultural situation, 'blinkers' will not be removed and we will not address the contemporary situation. Christians are not exempted of personal and corporate responsibilities for the products and impact of technosciences, and the least helpful would be to encourage technophobic understandings of technology and sentimental understandings of idealized nature.

3. Extended biology and extended theology.

Biosemiotics have guessed that the semiotic aspects of human-nature relationships are still not sufficiently taken into consideration or understood. We construct our cultures of understanding nature (science is culture), and along the way we also construct the surrounding nature itself.

The ecological processes and dumpsters and dumping grounds enfold both our ideas of nature and the ideas of ourselves. The application of a semiotic approach in biology or ecology is fundamentally different from applying mathematical or physical methods in life sciences. Semiotic biology, as well as semiotic ecology, means that we step over the limits of natural science, and what we get, or what we need, is thus an extended biology, and an extended ecology as well.

Biosemiotics can be defined as the science of signs in living systems. A principal and distinctive characteristic of semiotic biology lays in the understanding that living entities do not interact like mechanical bodies, but rather as messages, the pieces of text. This means that the whole determinism is of another type. Semiotic interactions do not take place of physical necessity (however, not contradicting this), but because some of the interactors have learned to do so (using the notion of 'learning' in a broad sense here). The phenomena of recognition, memory, categorization, mimicry, learning, communication are thus among those of interest for biosemiotic research, together with the analysis of the application of the tools and notions of semiotics (text, translation, interpretation, semiosis, types of sign, meaning) in the biological realm. Biosemiotics attempts to be of importance for science in general, to pave a way of conjoining humanities with natural sciences, culture with nature, through the proper understanding

of the relationships between ‘external and internal nature’ (Hoffmeyer 1996: 155). Hoffmeyer has proposed the synthesis and reformulation of evolutionary theory and ecology through semiotics: ‘A modern unification of biology /.../ has to be based on the fundamentally semiotic nature of life.’ Semiotics has been seen as a tool for approaching the epistemologic problems of biology: 1) it seems to propose for biology a sort of philosophical basis or background; 2) it enables the introduction of subjectness, i.e. organism as a subject, into the biological realm; 3) it helps to understand the development of mental features through the semiotically interpreted evolutionary epistemology. Hoffmeyer has emphasized the importance of biosemiotics as an approach which can resolve the dualism: ‘To modern science, dualism still holds good as a way of dividing the world into two kingdoms, those of mind and matter, the cultural and the natural spheres. /.../ and it is this boundary that biosemiotics seeks to cross in hopes of establishing a link between the two alienated sides of our existence – to give humanity its place in nature’ (Hoffmeyer 1996: 94). According to the biosemiotic view, ‘system could be more or less rational; rationality is something that can occur at levels other than that of the human psyche’ (ibid.: 93). To describe the realm of biosemiotics, J. Hoffmeyer (1996: 96) builds a triangle which consists of culture, external nature, and internal nature. According to Hoffmeyer, the relationship between culture and internal nature is the sphere of psychosomatics, the relationship between internal and external nature is the field of biosemiotics, and the relationship between culture and external nature is the environmental sphere. This latter can also be named an ecosemiotic area. However, ‘the sphere of psychosomatics’, is it assigned to medicine, or some other science? It seems to me that here bio/eco-semiotics will benefit of listening to religious analysis, particularly of the kind, e.g., of Walter Wink, Phil Hefner, Paul Tillich.

Ecosemiotics, or semiotic ecology, in which semiotic processes are those which make the organisms living and the living themselves interconnected, means the introduction of a view which is beyond the limits of natural sciences. In semiotic ecology, a subject is taking part in life, a subject which has no behavioristic description. Thus, also, the natural scientific methods of model-testing happen to be too narrow for this field, and should be extended. Ecology, which includes culture, and not mere material processes of producing waste or of producing energy or even competition between the

firms, turns out to be a fundamentally different field – which still includes ecology, seen however, as standing on a considerably different basis. Semiotic ecology is extended ecology, with a change in its philosophical and methodological assumptions. It is no longer a natural science – in the same way that semiotics is not, and like biosemiotics or semiotic biology, is essentially an extended biology, for which the existing biology is a special, restricted case.

In contemporary theology we have been accustomed already with terms like ecotheology or theology of nature. To remain still a theology, a theology of nature has to be in recognizable continuity with Christian tradition. However, it should satisfy the criterion of secular/public relevance, and academic honesty demands that our critical reflections on faith were intersubjectively accessible. The symbolic-romantic approach to nature by theologians may provide rich possibilities for interpretation but it is hardly sufficient: this view is very little aware of the real structures and dynamics of nature. The result is a creation of an arbitrary imagination. The relevant and successful theology of natureculture basically will turn the traditional supernaturalistic theology a restricted and special case in theology, in analogy of relationship between biology and bio- or ecosemiotics.

Paul Tillich has written, “If God has nothing to do with nature, he finally has nothing to do with our total being.” Whatever we know in any realm bears witness to its creative ground. When nature is removed from theology, God gradually disappears to us because we ourselves are nature. Since science deals with “the logos of being, the inner structure of reality, ... the witness of science is witness to God” (Tillich 1967: 126, 162). Our idea of nature influences what we think we know about God, and vice versa.

Natural scientists do not study God, theologians are those people who are supposed to to develop models of God and find symbols to express God-human-world interactions. Inevitably they develop their models, relying in various ways on our understandings of nature and human being. Even those perceived identities that persist alter in their bonds, their content, and their inner meaning. It would seem that a number of serious adjustments in thought must occur if we, theologians, philosophers, natural scientists or whoever, are going to have something useful to say about the world of

restless identities and uncertain connections. First, difference must be recognized, not obscured. And second, difference must be seen not as the negation of similarity, its opposite, its contrary, and its contradiction. It must be seen as comprising it – locating it, concretizing it, giving it form. What unity there is, and what identity, is going to have to be negotiated, constructed out of difference. That would be a positive gain to see creativity in its many expressions not simply as an attribute of God but as inherent part of the nature. In humans creativity takes the form of life-long learning how to be natives.

4. Natures-cultures disguised.

Nature comes to us, supplemented by culture, in the interdependence of perspectives and operation. The nature here is meant in several modes: Zero nature – it is an object the natural scientists would want to study but – the woods that are studied, are planted; the lands meliorated for centuries; animal, bird and insect populations regulated as well as where, when and how the humans may enter this nature. Zero nature is the absolute idealization of nature. First nature would be the nature as we recognize, describe and identify it.

(1) Recognition already implies a tendency to take the recognized under one's control. All that is recognized can be used or manipulated; any organism automatically, unavoidably and obligatorily, changes nature. Even nature protection means change in nature. Here categorization and systematization is a fitting tool for natural languages.

(2) Recognition of an object, at least to some extent, decontextualizes it. To be able to replant specimens of a useful species automatically means that specimens are taken out of their original biocoenosis, removing with this many connections with other species which are not taken with the plant to its new habitat. In constructed ecosystems (i.e., fields or parks or gardens), people often grow foreign, non-indigenous plants. Therefore, species in such places may encounter new relationships with other species which they have never experienced before. A typical example of decontextualized behaviour is that of weeds, which have lost the (semiotic) controls which limited their abundance in the primary habitat. As J. N. Thompson remarks,

the real tragedy accompanying the destruction of natural communities is the loss forever of specialized and highly coevolved interactions. These are the relationships between species that are probably disappearing fastest, yet they are

precisely the ones that could tell us the most about the evolutionary consequences of particular ways of interacting. /.../ Detailed models will remain an untested academic exercise if the most specialized interactions have disappeared or have lost the community context in which they were formed (Thompson 1994: 292).

(3) Operation and remodelling (forming). Operation always depends on (is regulated by) the forms and images the organism (a human) has acquired. Operation is a work of imagination. Operation does not follow the whole structure of the environment and its webs of relationships, but disregards many sides. At the same time, it adds something what is not there in the original/descriptive experience of nature. It adds interpretation, and our survival depends on how well we describe what is not there. It adds also new combinations and relations which were not there in the beginning. Our survival depends on the maintenance of a viable symbiosis between human culture and the rest of nature. Second nature – translated, materially changed nature, is our actual everyday nature. Here both cyborgs and companion species loom large, Donna Haraway's recent addition to the family picture of the humans. Haraway writes, "Cyborgs can be figures for living within contradictions, attentive to the naturecultures of mundane practices, opposed to the dire myths of self-birthing, embracing mortality as the condition of life, and alert to the emergent historical hybridities actually populating the world at all its contingent scales." (Haraway 2003: 11). The rest of her 'doggy' manifesto is about the co-history of co-constitutive relationships (in which none of the partners pre-exist the relating), and an exercise to learn how to inherit the consequences of co-evolution in natureculture (ibid.: 12). The relationship is not especially nice, it is full of cruelty, waste, ignorance, as well as of joy, invention, labor, intelligence, and play. When living with nature, we cannot avoid, regardless of our ecological consciousness or perhaps against the wish, but build a second nature, to replace the first one. At best, we can make the changes slower and maybe less harmful for biodiversity, yet what we get is nevertheless nature with new co-signers. And not just superficially but deep down to the molecular level. Haraway has noted that co-evolution has to be defined more broadly than biologists habitually do.

Certainly, the mutual adaptation of visible morphologies like flower sexual structures and the organs of their pollinating insects is co-evolution. But it is a mistake to see the alterations of dogs' bodies and minds as biological and the changes in human bodies and lives, for example in the emergence of herding or agricultural societies, as cultural, and so not about co-evolution. At the least, I

suspect that human genomes contain a considerable molecular record of the pathogens of their companion species, including dogs. Immune systems are not a minor part of naturecultures; they determine where organisms, including people, can live and with whom. The history of the flu is unimaginable without the concept of the co-evolution of humans, pigs, fowl, and viruses” (Haraway 2003: 31).

Haraway is quite sure that once we reduce our own fight-or-flight reaction to emergent naturecultures, and stop seeing only biological reductionism or cultural uniqueness, both people and animals will look different.

(4) Opposition and reduction. Recognition means an ability to make distinctions, which, in a simple case, are polar. There is a tendency to replace the importance of the whole by the importance and value of particular parts. A trivial example in our context would be the distinction between nature and culture, that the processes of culture or respectively of nature are more important to consider than those of the whole.

(5) Understanding and devaluation. Understanding the mechanism of a phenomenon has a tendency to remove the value previously attributed to this phenomenon. The object is decontextualized from the self. Familiarity breeds boredom, and boredom contempt.

(6) Kinship and valuation. Including a phenomenon into self has a tendency to assign value to this phenomenon. The limits of one’s self may be very different, e.g., these may include just one’s body and skin, or home and house and city, or family, or country, or Gaia, or technological devices. How organisms integrate environmental and genetic information at all levels, from the very small to the very large, determines what they become. Earth’s beings are prehensile, opportunistic, ready to yoke unlikely partners into something new, something symbiogenetic. Co-constitutive companion species and co-evolution are the rule, not the exception.

McKenzie Wark (1994a; 1994b: 20) has used the term ‘third nature’: “Second nature, which appears to us as the geography of cities and roads and harbours and wool stores is progressively overlaid with a third nature of information landscape which almost entirely covers the old territories. /.../ if there is a qualitative change in the social relations of culture which deserves the name postmodern, perhaps this is it.” A feature of biosocial modernity is certainly surveillance via information technologies. Even cyborgs have to be technologically enhanced to survive in the modern world.

All four natures are always already here, yet in the course of cultural histories the role of the zero and first nature inevitably tends to diminish. Yet the second nature cannot be built on an empty space. The implosion of biologics and informatics is taken for granted in many ways, e.g., endangered species in the necessarily managed wilderness wear electronic sensors and live in habitats monitored by satellites as a crucial part of their biological reproductive apparatus.

The building of second nature means that people apply certain models, or perhaps we can say even, certain general linguistic patterns upon nature. All four natures participate in the usual discourses of natural sciences. Zero nature is that which biologists want to describe. The first one is that which they perceive and describe. The second one is the one in their lab, a controlled and managed nature. And the third nature is what they get in their papers and models. However, in all cases nature is a complex of naturecultural processes, not a thing 'out there'.

In a way this may seem trivial, but without paying attention to this, scientists are often misguided. The result is that the scientific literature on various aspects of ecology is describing humans and culture in disguise, very often without noticing or even not being really aware of it (or of the extent of this aspect). The mean age of the existing biocoenoses (if measuring from the last greater change in the management regime, or from a considerable change in the edificator density) is very short, usually extending to few decades and rarely to several centuries, whereas biodiversity is directly dependent on community age, together with population structures, species relationships and element cycles all of which are in transition. To recognize the culture in nature is not easy, it requires very rich experience on the part of the biologist, but without this the conclusions made may happen to be just artefacts.

The natures from zero to the third can be seen as the steps (or types) which distinguish the meditative, descriptive, experimental (technoscientific), and theoretical science. Here we can see that, what are being described are, in one aspect, the stages of the development of science, and in another aspect, the different natures. Nature as described by theoretical biologists may not coincide with the nature described by descriptive naturalists. The natures from zero to the third can be assigned also 'theological' equivalents. Zero nature would be nature created and sustained by God. The

first nature can be the everyday nature, and here some prefer to see the created nature as evil, corrupted, or at best indifferent. The others would see the created order and beauty in it, but still in the end consider nature inconsequential: the goal is supernatural 'heaven', escape from all earthly. The second nature would be managed nature, fields and gardens, the land of great blessing, the nature mixed with human creative work. The third nature could be a resurrected nature, the New Creation: nature of such almost mind-blowing possible future that natural scientists qua scientists hardly can affirm it.

A human community with nature, even at its best, cannot be a community with wilderness. Living with nature ultimately means changing nature. 90% of trees growing in England are not of indigenous species; people, however, may describe this landscape as beautiful. The forests of Finland are monocultural plantations, although some people may think of them as true forests. The most colourful and species-rich old meadows in Estonia are a result of human management which created them less than two thousand year ago. The models of nature's beauty and naturalness, which people apply when protecting valuable areas, are ideal models, which, due to this, change the order of (zero) nature. The danger of the extensive replacement of zero nature by the second and the third one comes from the incompleteness of linguistic knowledge: human signs cannot copy all the details of non-human signs, and thus, the reconstructed and constructed natures simplify and restrict some of the relationships in nature. Yet multiple literacies are needed if there is to be theology (or biology, for that matter) relevant to humans and our non-human companions. Culture is disguised, not signing its presence in our scientific constructions of nature; nature is disguised in our theological constructions of the content of our faith, and yet natures-cultures' signatures are all around us and within us.

We should be intensely interested in finding a way not to reproduce the Same, knowledge projects, be scientific or religious, modeled on war, or on discovery and secret narrative. How to come up with a reconfiguration, perhaps just the bare possibility of the world being different, perhaps even livable, that's the problem. Haraway has called her approach at one point "cat's cradle". Cat's cradle is making string figures on fingers.

Cat's cradle invites a sense of collective work, of one person not being able to make all the patterns alone. One does not "win" at cat's cradle; the goal is more interesting and more open-ended than that. It is not always possible to repeat interesting patterns, and figuring out what happened to result in intriguing patterns is an embodied analytical skill. The game is played around the world and can have considerable cultural significance. Cat's cradle is both local and global, distributed and knotted together (Haraway 1997, 268).

Cat's cradle could be a narrative net to catch subjects and objects in the making. The aim on this narrative webwork is transformation, a refiguration of the subjects, objects, and communicative commerce of the New World Order, Inc. into different kinds of knots. And the most important: there are neither winners nor losers. Whatever originality and distinctiveness forms of life may have, and they clearly have a very great deal – it arises out of the ways in which the variety of practices which make them up are positioned and composed. It is not a single thread which runs all the way through them that defines them and makes them into some kind of a whole. It is the overlapping of differing threads, intersecting, entwined, one taking up where another breaks off, all of them posed in effective tensions with one another to form a composite body, a body locally disparate, globally integral. Teasing out those threads, locating those intersections, entwinements, connectings, and tensions, probing the very compositeness of the composite body, its deep diversity, is what the analysis of these sorts of peoples and religions and natures demands.

To do this – to connect local landscapes, full of detail and incident, to the intricate topographies within which they are set – demands an alteration not only in the way in which we conceive of identity but of the way we write about it, the vocabulary we use to render it visible and measure its force. We need a language of sortings out rather than summings up. The available genres of description and assessment are ill-fitted to a multiplex world, mixed, irregular, shifting, and discontinuous.

Experience drives faith again less inward and more toward external - nature, politics, culture, a world of contemporary coalitions and networks. The cyborg both resists literal figuration and joins in the external, to intervene, to originate, to erupt in new tropes, new turns of historical possibility, to stand for some forms of life, and not the others. Identity does not live just inside, hidden in the soul, but outside among and along other organisms and machines. To understand the role of religion in the contemporary

world, it is therefore useful to look beyond the scope of traditionally religious issues, and also beyond the changes in a given society to global changes.

And where is the scandal? I think it is our experience confirms one thing, and our theorizing often another. Our experience tells us that our nature is technonature, that humans are cyborgs, and that creativity did not end on the sixth day of the creation. We are not merely creators of technologies but also creators of ourselves. And we know both from natural and social and cognitive sciences – and theology – that we are created at the same time. This idea has been extensively elaborated by Phil Hefner, in his understanding of humans as created co-creators.

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