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Postmodernism – Posthumanism – Evolutionary Anthropology

It is a great pleasure and honor for me to be invited to this conference that explores different facets in the multi-colored field of posthumanism and transhumanism.

The organizers asked me to speak about the relationship between posthumanism and postmodernism. They probably did so because they regard me as an expert of postmodernism, and because they are aware that I have recently developed a conception which, in some respects at least, congrues with posthumanism.

Postmodernism (1): an updated version of modernity

In 1987 I published a book on postmodernism. The title was *Our postmodern modern (Unsere postmoderne Moderne)*.¹ This book was quite successful. I was very happy to see it published also in Korean language in 2001. So some of you may know my position on postmodernism. My general thesis is that postmodernism is not a sort of anti-modernism or trans-modernism but is the type of modernism that incorporates the advanced tendencies of the 20th century (especially those of the arts and the sciences). In this sense, I defined postmodernism as the required form of modernism in the late twentieth century. I still think this was correct.

Postmodernism (2): evolutionary anthropology really transcending the framework of modernity

In the years after 1987, however, I began to ask myself what a conception might look like that – in contrast to standard postmodernism (as a variant of modernism) – would *really go beyond modernity*. Starting in 2000, I have developed such a conception that does transcend the modern way of thinking. I published four books on the issue in 2011 and 2012.² This new conception of mine develops a new understanding of the human. It presents so to speak not a humanist but an evolutionist anthropology.

This conception cancels out the guiding axiom of modernity according to which man is the central figure from which one must start in all matters and to which one has to refer everything back (as was paradigmatically declared by Diderot in 1755).³ The evolutionary anthropology I have in mind is able to refute this – as I call it – anthropic axiom of modernity because it surpasses the early modern decree that there exists an unbridgeable gap between man and world. The anthropic axiom was obviously a result from this decree, for if man has nothing in common with the world, then he simply cannot help starting from his own point of view, making it the center of everything. Hence ruling out the early-modern gap thesis also suspends the anthropic axiom of modernity. And evolutionary anthropology does override the

¹ Wolfgang Welsch, *Unsere postmoderne Moderne* (Weinheim: VCH Acta humaniora, 1987; 7th edition Berlin: Akademie Verlag, 2008).

² Wolfgang Welsch, *Immer nur der Mensch? Entwürfe zu einer anderen Anthropologie* (Berlin: Akademie Verlag, 2011), *Blickwechsel – Neue Wege der Ästhetik* (Stuttgart: Reclam, 2012), *Mensch und Welt. eine evolutionäre Perspektive der Philosophie* (Munich: Beck, 2012), *Homo mundanus – Jenseits der anthropischen Denkform der Moderne* (Weilerswist: Velbrück Wissenschaft, 2012).

³ "L'homme est le terme unique d'où il faut partir, & auquel il faut tout ramener" – "Man is the unique concept from which one must start and to which one must refer everything back" (Denis Diderot, "Encyclopédie" [1755], in: Diderot, *Œuvres complètes*, vol. VII: Encyclopédie III, Paris: Hermann, 1976, 174–262, here 213).

assumption of a fundamental gap between man and world by demonstrating how much man is a world-connected being – a being that originated amidst the evolutionary process of the world and, in its structure and capacities, is shaped by this process.

So this my new conception of an evolutionary anthropology really transcends modernity by cancelling out its basic axiom – the anthropic axiom – and, first of all, the very ground of this axiom – the early modern fantasy of an unworldliness of the human, of the human being a stranger to the world – by showing that we are inherently worldly beings, deeply rooted in the process of evolution and therefore by no means unique and supranatural beings, but by all means occurrences and participants in the process of life sharing a great many traits with other living beings.

Surpassing early and late modernity, this conception of an evolutionary anthropology does, of course, also transcend the standard version of postmodernity that was so popular in the eighties and nineties of the last century and that embodied, as I said before, just an updated version of modernity. Evolutionary anthropology represents quite a different and new type of postmodernity – one that might really deserve this name.

Let us now ask how these two versions of postmodernism relate to posthumanism.

Postmodernism (1) and Posthumanism: obvious affinities

It is obvious that the first one, the standard version of postmodernism overlaps with posthumanism in some respects. Just remember the slogans "death of the subject" or "death of man" so typical for the standard version of postmodernism. Michel Foucault had, in *The Order of Things* from 1966, paradigmatically proclaimed the "end of man" (as Heidegger had, already in his *Letter on Humanism* from 1947, stated the insufficiency and due overcoming of humanism). Foucault had rightly stated that the human as the central figure of epistemology was a typical modern invention,⁴ and he considered this modern thought-form as ruinous. He argued in favor of a future where "man would be erased, like a face drawn in sand at the edge of the sea."⁵

Posthumanism too tries to set an end to the modern conviction of man's uniqueness and sovereignty and to overcome traditional modern humanism that had rested on exactly these assumptions. As Stefan Lorenz Sorgner put it: Humanism was characterized by endowing man with a special status – assuming that man differs not just gradually but categorically from all other natural beings; but this position has come under attack; post- and transhumanism try to transcend this traditional type of humanism.⁶

To be sure: posthumanism comes in many flavors; it is a *pollachōs legómenon* (as postmodernism was). But dismissing the centrality and exclusivity of the human is common to all its variants. Herein lies an obvious congruence with postmodernism. The anti-humanistic touch of postmodernism, one could say, is being continued in posthumanism.⁷

⁴ Michel Foucault, *The Order of Things. An Archeology of the Human Sciences* [1966], (New York: Vintage, 1973), 308.

⁵ *Ibid.*, 387.

⁶ Cf. the announcement of the book series *Beyond Humanism: Trans- and Posthumanism / Jenseits des Humanismus: Trans- und Posthumanismus*, edited by Stefan Sorgner, published by Peter Lang Publishing Group.

⁷ Ihab Hassan, one of the main theorists of postmodernism in literature, linked already in 1977 postmodernism to posthumanism (cf. Ihab Hassan, "Prometheus as Performer: Toward a Postmodern Culture?", in: Michel Benamou and Charles Caramello, *Performance in Postmodern Culture*, Madison, Wisconsin: Coda Press, 830–

Transhumanism: an updated version of humanism

Yet there is another aspect too. Hegel has taught us that opposing something is often a way of remaining bound to it. This, it seems to me, holds for at least some versions of posthumanism. They repudiate the uniqueness of the human, yet all their interest still remains focused on the human. They are only interested in posthuman enhancements of the human – not caring at all about other living beings. In this respect, they remain human-centered, anthropic, humanistic.

This holds at least for the tendencies that one better labels as transhumanistic, not as posthumanistic.⁸ Just think of Hans Moravec's fantasies. What's at stake in such cases is the production of technological improvements or even surpassings of the human condition.⁹

Evolutionary anthropology (postmodernism 2) and posthumanism: suggesting a new framework for comprehending the human

How does, on the other hand, the evolutionary anthropology that I advocate and which surpasses both modernity and standard postmodernism relate to posthumanism? One commonness is obvious: both evolutionary anthropology and posthumanism suggest a new, posthumanistic conception of the human (instead of just striving for technology-based enhancements of the human as transhumanism does). Or, to put it more concisely, they propose a new *framework* for conceptualizing the human.¹⁰ The point is not to simply abandon the features of humanism but to develop a framework more tenable than that of humanism, and then to see which features of humanism can be reformulated and substantiated within this new framework while others are to be dropped. The specifically cultural nature of the human, for example, might be a point to be kept, whereas claims to superiority are to be dropped. Just making a switch from humanism to anti-humanism would in any case fall short.

Given this similarity between evolutionary anthropology and posthumanism, the next question is whether we better follow the suggestions of evolutionary anthropology or those of posthumanism for the due alteration of the framework.

Two striking aspects that call for a reconception of the human: the human-animal continuity and the human-artificial-intelligence continuity

The main motive that drives the turn to posthumanism is an increased awareness of two continuities that invalidate the former, singularity-claiming conception of the human: the *human-animal continuity* on the one hand and the *human-artificial-intelligence continuity* on the other hand. In the following I will try to make clear how evolutionary anthropology can – partly in agreement with posthumanism, partly differing from it – help us come to terms with these important issues.

Evolutionary anthropology and the human-animal continuity

Humanism rested on the assumption that rationality is a human privilege, that *only* humans possess rationality – as is expressed in the definition of the human as *animal rationale*. This

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⁸ Cf. Cary Wolfe, *What is posthumanism?* (Minneapolis and London: University of Minnesota Press, 2010), XIII–XV.

⁹ Joel Gaffreau calls it an "engineered evolution of 'post-humans'" (*ibid.*, XIII).

¹⁰ This is particularly emphasized by Cary Wolfe (*ibid.*, XVI).

assumption has long turned out to be wrong. Biologists have collected a huge amount of evidence that rationality is widespread already in the animal kingdom. Vertebrates are capable of elementary categorizations, pigeons are downright experts in abstraction and generalization, mammals understand the permanence and aspectivity of objects, chimpanzees and bonobos manage causal relations and understand the intentionality of conspecifics, they are also capable to recognize themselves in mirrors, and sometimes they even do problem-solving through mere deliberation.¹¹

So the very core of human exclusivity has broken down. We are, of course, rational beings, but rationality does not make us unique but aligns us with many other rational beings – our large rational kin in the animal kingdom. Human rationality arose from animal rationality, and it still draws on a solid stock of animal cognition (especially mammal and primate cognition). It represents an enlargement and reflexive intensification of animal rationality. Furthermore, our (advanced-mammalian) mode of performing rationality is not the only or the highest one; birds perform similar functions with very little brains working very differently, namely not, as our cortex, with neural networks, but with neural clusters – no reason then for considering us the peak of evolution.

Today, the human can simply no longer be regarded as an exclusive being gifted with a supernatural power by the name of rationality (as was the core of the humanistic conception). The human cannot even be understood by looking at the human alone. Rather it is to be comprehended by considering its commonality with other animals and by taking into account its emergence in the long course of evolution.

What seems particularly important to me is to understand that our animal ancestry and kinship is not something lying *behind* us, but something *inherent* in us, making up the biological nature of each of us.

The original inventions of the organs and capacities that are decisive for our existence date back very long in evolution. The circulatory system, for example, was invented about 600 million years ago, the central nervous system 590 million years ago, pulmonary respiration around 380 million years ago and coordinated binocular vision – to mention just a few achievements extremely important for our existence – more than 200 million years ago.¹² The crucial point is that continuous lines lead from these evolutionary prime inventions to their ongoing presence in us. One must be aware that evolution is extremely conservative. An invention made once was not made again later – perhaps in a shorter or more sophisticated or more efficient manner – but was retained and expressed in the same way in the individuals emerging million years later. The eye, for example, has been invented during evolution only once. Admittedly different types of eyes developed later – for example, the vertebrate eye as distinct from the insect eye – but in all living beings with eyes, the formation of the eye still begins through the same regulatory gene that was originally responsible for the first eye ever.

Each contemporary individual still draws on these evolutionary inventions and paths of modification. This can be seen very directly in ontogeny: the human embryo does not start out as a human embryo but at first looks like a fish, after that like an amphibian, then like a newt or sala-

¹¹ The last point became evident already in 1917 when Wolfgang Köhler published the report on his later on famous experiments in Teneriffa: Wolfgang Köhler, *The Mentality of Apes* (London: Routledge, 1925). Cf. also Konrad Lorenz, *Die Rückseite des Spiegels. Versuch einer Naturgeschichte menschlichen Erkennens* [1973] (München: Deutscher Taschenbuch Verlag, 1977), 165–167.

¹² Other, for us equally essential inventions like immune defense and sexuality, are – with more than 2 billion years – even older than the ones mentioned. And the genetic code dates back almost four billion years.

mander, subsequently like a reptile somehow similar to a mammal, and only at the end of the eighth week it becomes obvious that a human being is in the making. Thus, the human embryo in his development runs through the whole alley from fish via amphibian and reptile to mammal – exactly the route that in evolution led to us humans.¹³ Phylogeny is not *behind* us, but *in* us, it still shapes each one of us.

Again: The human is to be understood by taking its alliance with the long current of evolution into account – and in no way by looking just at the human as such. The human is to be understood in its animal affinities and relations.

Just consider also that each of us is actually not only one being but consists of billions of beings. You certainly know that your skin and your stomach cannot function without the help of bacteria. But do you have an idea how many of them are making you up? While a person consists of about 10 trillion (10^{13}) cells, it contains ten times more bacteria!¹⁴ So animals are not only around us, they are literally and stunningly numerous *within* us. We would not be able to survive a millisecond without our evolutionary heritage, our animality.

Many posthumanist claims would, it seems to me, gain more plausibility and argumentative power if they were based not just on recommendations (and often tiresome quotations) from the field of literary, cultural, critical, feminist studies (in short: from the humanities, including philosophy) but on findings from biological and especially evolutionary research (from the sciences in general). Statements by the champions of posthumanism in my opinion all-too-often indulge in intentions and declarations and have an air of wishful thinking instead of being based on clear analysis and solid argument.¹⁵ Turning to evolutionary anthropology might get posthumanism off the hook.

A non-humanistic framework for considering humans and animals

It is evident that evolutionary anthropology not only makes us comprehend the details and hard facts of the animal-human-continuity, but also helps us perform the due alteration of the framework within which we ought to discuss the animal-human relationship. It even urges us to do so.

The traditional framework was characterized by an autonomous conception of the human. The human was seen as *animal rationale*, or *homo faber*, or as a cultural being, etc. The human was the human. Other beings were other beings. We had to discuss our relationship to them starting from our, the human condition.

This is overruled by the evolutionary perspective. If the human cannot be understood by looking at the human alone (as the anthropic principle of modernity would have it) but only by taking the animal-human continuity into account, then the other beings cannot be judged from the viewpoint of a humanistic framework, but both – humans and other animals – are to be

¹³ Cf. also Haeckel's "biogenetic fundamental law" according to which ontogeny is "a brief and rapid recapitulation of phylogeny" (Ernst Haeckel, *Generelle Morphologie der Organismen*, vol. 2, Berlin: Reimer, 1866, 300).

¹⁴ Cf. the research on holobiont and hologenome.

¹⁵ For example: To consider animals as victims of the food industry or of a globalized genome industry is certainly correct, but to base one's critical interventions just on appeals to our sense that these animals are finite beings as we are and therefore capable of suffering (cf. Wolfe, *What is posthumanism?*, loc. cit., 139) is insufficient. One would better put the hard evolutionary commonness between us and them in the balance instead of referring just to soft feelings.

addressed from within an evolutionary framework that has, from the outset, wiped out any human-animal dualism.¹⁶

The new focus then, is not on species – neither on a single species, the human one, nor on the whole range of species populating this planet – but on the *process* through which each and every species arises, and during which it will finally vanish. The perspective of evolution motivates us to think in terms of processes not of substances, of trends not of statuses, of transition not of stability.

Evolutionary anthropology and the human-artificial-intelligence continuity

There is a second aspect that, as I said, provokes a goodbye to the old, singularity-assuming conception of the human and a turn to posthumanism: the obvious transitions between human and artificial intelligence. This is another point showing that rationality – formerly taken to guarantee human uniqueness – is not something exclusively human but can be found elsewhere too: in computers, smart-phones, robots, etc.

To be sure, there is an important difference to the human-animal continuity: animals exist naturally without our intervention, while machines with artificial intelligence are products of us humans. Animals are natural entities, machines are artifacts.

¹⁶ Wolfe rightly says that "the distinction between human and animal should be of no use in drawing" new guidelines (98). But why is he referring to Derrida for this statement? Why not to science, to biology, to evolutionary insights? Why the hell to Derrida who in fact *denied* any continuity between human and animal (Jacques Derrida, "Das Tier, welch ein Wort!" [1999], in: *Mensch und Tier. Eine paradoxe Beziehung*, ed. Stiftung Deutsches Hygiene-Museum, Ostfildern-Ruit: Hatje Cantz, 2002, 191–209 [excerpt from "L'animal que donc je suis (à suivre)"], here 205–207).

Overcoming the dualism of matter and mind

Nevertheless did it come as surprise that not only the human brain but some arrangement of pure matter – silicon crystals – is also able to perform intelligent operations. Here the old dualism of mind and matter went out of the window. (Yes, we are living in an age where dualisms of many kinds are fading away, this is even a typical trait of posthumanism.)

Let me introduce a further point from contemporary science. The narrowing of mind and matter that we witness today – every smart-phone user is aware of it or at least profits from it – receives an interesting explanation by contemporary physics, by theories of cosmic and biotic evolution. According to them, self-referentiality and self-organization are the great driving force for structure formation in cosmic as well as biotic evolution. The principle of self-organization underlies the formation of galaxies and stars, the constitution of organisms, and finally also the emergence of consciousness and thinking.¹⁷ In this sense, spirit (or mind) in its explicit form is not something alien to physical processes, but is a late emergent of nature's innermost organizing principle. Spirit is potentialised self-reference that, on principle, had begun very early in the evolution of cosmos. Hence spirit is not opposed to but akin with matter. So the possibility of matter performing intelligent operations – the core phenomenon of artificial intelligence – receives a plausible explanation through theories of cosmic and biotic evolution. – Evolutionary thinking, you see, is able to better comprehend not only the human but also the constitution of nature altogether, from pure matter through to mind.

Transhumanistic expectations

Artificial intelligence has raised great expectations. A modest version just looks for intelligent tools that are helpful for human purposes – cardiac pacemakers, cochlea amplifier implants, advanced driver assistance systems, etc. A more ambitious version expects future human-machine hybrids to represent the next, really posthuman step in the evolution of mankind.¹⁸ Another version anticipates the transfer ("download") of flesh-based human intelligence to pure computing machines free from the insufficiencies of the flesh and able to calculate much faster and more reliably than our brains. Still another version hopes for intelligent transhuman machines that will take over the planet and make ordinary human existence superfluous.

Enhancement has long since been natural for humans

What's the take of evolutionary anthropology on these issues? It recommends, first of all, to be aware that human nature has never been constant but was always on the move and that an ongoing series of enhancements is quasi natural to the human condition.

There was – to give just a brief account – a first phase, dating from about 2.5 million years ago to about 40,000 years ago, during which human nature was shaped the way it still is today. Upright walking, the reduction of hairiness, a bundle of sexual reorientations, and the development of an extremely reflexive brain occurred during that period. And all this did not just befall mankind, but humanity had a great part in its own making – man, as Clifford Geertz once stated with respect to this protocultural period, "quite literally created himself".¹⁹

¹⁷ Cf. on this in more detail: Wolfgang Welsch, *Homo mundanus* (Weilerswist: Velbrück Wissenschaft, 2012), 876–886.

¹⁸ Cf. Donna J. Haraway, "Manifesto for Cyborgs; Science, Technology and Socialist Feminism in the 1980's", *Socialist Review* 80, 1985, 65–108.

¹⁹ Clifford Geertz, "The Impact of the Concept of Culture on the Concept of Man" [1966], in: *The interpretation*

At the end of this period human nature was genetically fixed, and the take-off of cultural evolution occurred – which, as we know, is accompanied by only minor genetic changes, for cultural evolution has created a much faster and more efficient mode of transfer, that of cognition-based tradition-building instead of genetic transmission. This cultural period was, as everybody knows, a period of ongoing attempts at human enhancement – in cognitive as well as emotional, economic as well as political, and scientific as well as technological respect.²⁰

Today, however, we are entering a new stage. For the first time, mankind is able to improve itself not only by ameliorating its cultural software but by altering its genetic hardware. Cultural development which since its beginnings around 40 000 years ago had decoupled itself from genetic advancement, is now, in its advanced technological state, extending its grip even onto the so far uninfluenceable genetic makeup of humans. This really amounts to a paradigm change. No wonder, that people feel insecure about it, that they are scared, see serious problems.

What I want to emphasize here is that from an evolutionary perspective such shifts are not surprising or frightening, but virtually natural. This holds for evolutionary processes in general, and for human development in particular. Humans typically are innovators, from time to time they transcend borders that were formerly believed to be uncrossable.

The evolutionary perspective on cultural leaps

I'd like to document how natural this is from an evolutionist point of view, by giving a historical example.

In 1863 a certain Samuel Butler published an essay entitled "Darwin among the Machines".²¹ Four years earlier, when leaving England for New Zealand in September 1859, he had ordered a copy of Darwin's *On the Origin of Species* (to be published in November of the same year). Having finally received Darwin's book in New Zealand, Butler applied Darwin's concept of biological evolution to what he envisaged as the next step in technological evolution. In Butler's view, mankind is on its way to cultivate a new species of machines that will soon be superior to humans and gain dominance over the planet. – Please bear in mind this is a prophecy from 1863 – when the steam engine was still the prototype of machinery and nobody yet knew anything of cybernetics oder computers! But Butler, applying the perspective of evolution to the current situation, was able to imagine machines that are marvellously self-monitoring (much more than man ever was). And Butler prognosticated that these machines will supersede us humans (their temporary slaves) and create ever more perfect generations of machines.²²

You not only see that this is a fantastic anticipation of future developments but also that in an evolutionist perspective it is quite natural to envisage not just soft alterations but even quantum leaps. Evolutionists are not advocates of the status quo, rather their eyes are open to the past and future flow of things.

And evolutionists are not speciesists. To them it is natural that species segregate or die out, or that they are transformed and that new species arise that cohabit with the old ones or super-

of cultures (New York: Basic Books, 1973), 33–54, here 48.

²⁰ I have discussed all this in great detail in *Homo mundanus*, loc. cit., 715–776.

²¹ Samuel Butler, "Darwin among the Machines" [1863], in: *The Shrewsbury Edition of the Works of Samuel Butler*, Vol.20: The Notebooks of Samuel Butler (London: Jonathon Cape, 1926), 35–40.

²² "The upshot is simply a question of time, but that the time will come when the machines will hold the real supremacy over the world and its inhabitants is what no person of a truly philosophic mind can for a moment question" (*ibid.*, 39).

sedate them. Evolutionists will not assess such processes on the basis of speciesistic viewpoints and arguments – because they are aware of the kin (and not special) character of the species, and because they regard species as floating appearances in the ongoing stream of life. Hence they neither see reasons for objecting to the usage of organs of other species in organ transplantation for humans nor do they see principled arguments for the preservation of a given state, for example of the human condition as we know it up to now.

So my overall advice is this: Turn to the perspective of evolution (of cosmic, biotic and cultural evolution). It best enables us to cope with the demands as well as misconceptions of the posthuman condition. It teaches you comprehending the human in a larger than human context and prevents you from turning posthumanism again into a dance revolving only around the golden calf named "the human".

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Let me close with a final remark: It seems to me that the perspective of evolution – by emphasizing the commonality between man and world, by explaining the kin relation of humans with other beings, and by even making us aware of the whiff of mind that pervades nature and culture altogether – has deep affinities with key features of traditional East-Asian thinking (Daoism, Buddhism, etc.). An evolution-inspired posthumanism, I suppose, might be more acceptable for people connected with this tradition than a posthumanism that is modelled just on the technological aspirations of Western thinking.