

Human Enhancement and the Anthropology of the “Entire Human Being”

Richard Saage

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Abstract About one and a half decades ago, two prominent reports were published in the United States (US) which strongly influenced subsequent international discussions on the topic of human enhancement: a 2002 report on “converging technologies for improving human performance”, based on a workshop which was organised by the US National Science Foundation (NSF) and the US Department of Commerce in December 2001, and the first report of US President George W. Bush’s Council on Bioethics (PCBE), published in October 2003 with the title *Beyond Therapy: Biotechnology and the Pursuit of Happiness*. The 2002 report included a wide variety of contributions from academics in various fields of research, from representatives of US institutions, and from companies. Due primarily to the influence of the two NSF staff editing the report, it can be regarded as the first major instance of the influence of transhumanism, a technofuturist ideology and movement, on the US technology and innovation discourse. The PCBE report, on the other hand, is a prime example of a conservative critique of the transhumanist notion of human enhancement. In this invited contribution, these two crucial publications are analysed mainly in order to point out the relevance of

philosophical anthropology as developed since the 1920s by Helmuth Plessner and others. This remarkable school of thought is experiencing a revival in countries such as Germany and the Netherlands, and, to some extent, in the English-speaking world. In this article, it is argued that philosophical anthropology provides us with an important alternative to both anthropological essentialism and scientism, two approaches that are still highly relevant in current discourse on human enhancement.

Keywords Philosophical anthropology · Human enhancement · Transhumanism · Helmuth Plessner · Adolf Portmann · Converging technologies · Essentialism · Scientism

Introduction

Is philosophical anthropology, as developed since the 1920s by Paul Alsberg, Max Scheler, Helmuth Plessner, Arnold Gehlen, Erich Rothacker, Adolf Portmann and others, now antiquated as an integration pattern for bringing together the humanities and natural sciences? Or is it – as from the time of its formation until the 1960s – still capable, by the example of the “entire human being”, of dissolving the confrontations between these “two cultures”, and of correcting specific one-sided attitudes of both?

Nowhere can these questions be answered more reliably than with respect to the ethical dimension of the so-called “technological upgrading of the human being”, i.e. “human enhancement” by technological means. Can

R. Saage
Martin-Luther-Universität Halle-Wittenberg, Halle, Germany

R. Saage
Sächsische Akademie der Wissenschaften, Leipzig, Germany

R. Saage (✉)
Berlin, Germany

philosophical anthropology help us with developing normative standards which, beyond any one-sided spiritualisation on the one hand and any scientific naturalisation on the other, will maintain our *conditio humana* even under the conditions of the scientific-technological civilisation of the twenty-first century? It is natural to discuss the anthropological question through the example of human enhancement,¹ because once again it has emphatically raised the anthropological question also for the social sciences, so that it has become a crucial topic in the political public sphere.

However, such an attempt may face two difficulties. The first problem is that philosophical anthropology did not at all understand itself as a homogeneous discipline. For, under the aegis of essential shared concepts (such as ‘openness to the world’, the centrality of language, the fragile and preliminary nature of human existence, the interplay of the first, animalist human nature and the second, socio-cultural one), we find settled positions that maintain quite a critical distance from each other. One criticism Gehlen had of Scheler was that, through his central category of “spirit” (“*Geist*”), he reintroduced the Cartesian dualism of *res cogitans* and *res extensa* into anthropology ([2], 14–17). Plessner in turn critically discussed Gehlen’s position, claiming that the variability of human nature cannot be put into the narrow behaviourist straightjacket of “action” ([3], XIV–XIX). From a cultural-anthropological point of view, Rothacker criticised the paradigm as a whole because, he claimed, it did not sufficiently focus on the culture of origin of the individual as a precondition for his openness to the world ([4], p. 174). And Portmann believed he could identify defects in Gehlen’s definition of the human being as a deficient being. Against the latter’s thesis that the human being, exposed to raw nature, was “under all circumstances nonviable, due to his innate physique and lack of instinct” ([2], 18), he argued that just the opposite is correct: Only the non-instinctive insecurity of human behaviour allows for that openness to the world which constitutes the human ability to learn ([5], 205–206). Nevertheless, this does not at all rule out the possibility that the categories of philosophical anthropology the “school” agreed on may still provide

meaningful contributions to, and even advance, the current debate on human enhancement.

The second problem is that the topic discussed here – that is, current human enhancement – could not be a topic in the lifetimes of the above-mentioned authors, because only since the beginning of the twenty-first century have such fields as neurobiology, nanotechnology, information technology and cognitive science provided the preconditions for a new science of life. Nevertheless, there are indications that Plessner, but in particular Portmann, had at least the tendency to anticipate the controversies about “human enhancement”. For, what today is grasped by this formula or by the notion of the “technological upgrading of the human being”, was then, under the term “breeding”, on the agenda of academic and science policy discussions. Notwithstanding all conceptual differences between “human breeding” and “human enhancement”, both approaches share the intention of the perfection and thus the artificial steering of human evolution. Portmann was one of the first biologists in the German-speaking countries who, at the beginning of the 1960s, called this process “transhumanism”, referring to Julian Huxley. Portmann argued that in Charles Darwin’s lifetime Thomas Huxley was already far-sighted enough to characterise human civilisation as the neutralisation of the natural forms of the struggle for survival. And he added: “Today Sir Julian Huxley, the grandson, through his transhumanism once again takes up his grandfather’s ideas” ([6], 316).

Also Plessner, in the addendum to the second edition (1965) of his seminal work *The Levels of the Organic and Man*, stated that human monopolies such as “language, methodical action, the invention of tools” and “the development of institutions of unstable nature” ([3], 316) result in a concentration of power allowing for human rule over both organic and inorganic nature. Indeed, he said, we do not know in how far this appropriation also includes the “subject of power” ([3], 352). But at least he formulated questions which today, in view of the discourse on human enhancement, are of surprising topicality: “Has nature, has evolution gained control of itself? In line with Schelling’s and Hegel’s ideas, has it come to itself by man? Is it thus confronted with an obstacle or (by way of purposeful breeding, which for the time being is just a pipedream of dabblers but, with growing insight into the chemism of the gene, becomes a possibility which must be taken seriously and which already casts its shadow in the utopias of Orwell and Huxley) does it pursue a new direction?” ([3], 352). It is

¹ The term “human enhancement” is disputed in scientific and scholarly discourse ([1], pp. 17–20). In the following, I will use the term in the sense of a heuristic working definition which must prove its worth by the empirical material and not by a normatively charged concept of illness or health. My focus is, however, on non-therapeutic interventions into the human body for the purpose of improved performance.

remarkable that Plessner counters the challenge of human enhancement in the context of the more recent life sciences with a response which seems to be largely congruent with the dystopian scenarios in the famous novels to which he alludes: Aldous Huxley's *Brave New World* (1932) and George Orwell's *1984* (1948). Is it correct to assume that Plessner's association indicates his scepticism towards the "technological upgrading of the human being" he anticipates?

To come closer to an answer to this crucial question, this essay will first reconstruct the debate on the future of human nature, on the basis of two key texts in human enhancement discourse from the United States (US). Firstly, the report entitled *Converging Technologies for Improving Human Performance. Nanotechnology, Biotechnology, Information Technology und Cognitive Science* [7] from June, 2002, which was based on a workshop in 2001 co-organised by the US National Science Foundation (NSF) and the US Department of Commerce. This so-called "NBIC report", with "NBIC" standing for nanotechnology, biotechnology, information technology and cognitive science, was explicitly criticised in a report from the year 2003: *Beyond Therapy. Biotechnology and the Pursuit of Happiness* [8]. This latter report was authored by the President's Council on Bioethics (PCBE), which was appointed with reference especially to the topic of human enhancement by President George W. Bush.

Against the backdrop of a comparative analysis of these two publications crucial to human enhancement discourse, the question will be discussed of whether the categories developed by philosophical anthropology are still suitable not only for providing "connection points for a new, interdisciplinary kind of research" ([9], 214)² but, beyond this, for providing innovative orientational knowledge concerning the future.

The NBIC Report

The NBIC report starts out from what it assumes to be or to become the guiding technologies of the twenty-first century as well as from those sciences they are based on. However, its extrapolations aim at the future of human nature and its socio-technological conditions over the coming twenty years. To at least somewhat come to

grips with this overall scenario and the 59 individual contributions on 390 pages, it seems advisable to focus on an overview of the report by its two editors, NSF's Mihail C. Roco and William S. Bainbridge [10].

In this context, from the point of view of our epistemic interest, the following questions are of relevance: What do the authors mean by converging technologies? What is the latter's value in the course of the history of the sciences? What are the foci of the contributions presented by the volume?

After having clarified these issues, the focus shifts to the actual problem: What is the status of the human being in the focus of converging technologies? To what degree is human nature technologically available? Are there limits to the technoscientific manipulation of human beings? When it comes to applying technoscientific means to the human body, are there distinctions between therapy, i.e. between the restoration of failing physiological functions, and applying technological means to the healthy body? And what is the role of ethics as a possible corrective of undesirable developments?

Already the subtitle of the NBIC report lists the relevant new guiding technologies and sciences: nanoscience and nanotechnology, biotechnology and biomedicine including genetic engineering, information technology including advanced computer and communications sciences, and finally cognitive science including neurotechnology. These new guiding technoscientific fields, however, are not deemed to be isolated from each other but are seen as converging, in the sense of creating synergetic effects as a result of interfaces at the nano-level which are supposed to allow for a tremendous enhancement of human capabilities, the performance capability of society at large, and the quality of life of its members within an appropriate ethical and social framework. The convergence topos appears already on the frontispiece of the NBIC report: its label is an arrow symbolising the combined interplay of nanotechnology, biotechnology, information technology and cognitive science for the purpose of a rapid improvement of human mental, physical and other capabilities.

However, according to the NBIC report this already ongoing scientific-technological breakthrough, whose magnitude may well be compared to the invention of agriculture and the industrial revolution, is definitely in line with the previous history of science: as a predecessor, the NBIC report mentions in particular the Renaissance. One thousand years after the decline and fall of

² All translations from texts originally written in German were created for the present article.

the Roman Empire, it says, this age had succeeded in ending the period of ignorance and bloody chaos of the medieval world, by way of re-establishing and renewing the ancient foundations of the sciences, thus creating the preconditions for the dynamic scientific development of the Modern Age. As the trademark of the Renaissance, the NBIC report identifies its holistic approach, which covered all fields of arts, sciences and culture: in the spirit of interdisciplinary cooperation it lent momentum to the rule over nature it had started. With the growing accumulation of knowledge, however, over the centuries a degree of specialisation pushed through which resulted in intellectual fragmentation. The converging technologies, the NBIC report claims, once again take up this spirit of the Renaissance: they return to the holistic perspective at a higher or extended level, based on new theories and principles ([10], 3).

An overview of the topical foci of the NBIC report makes obvious that the possible improvement of human capabilities refers to two sectors: to the sphere outside the body and to the latter's technological upgrading as such: whether it is only temporary or whether it is a permanent enrichment with machine components. As we are dealing here with the anthropological question in the stricter sense, in the following we will not focus on the objectives of mastering outer nature by way of using converging technologies, such as preventing environmental pollution, conquering space, or creating "intelligent" production sites, new products, innovative materials, robots etc., but rather on the internal technological improvement of the human within its own body.

From an analytical point of view, it is conspicuous that this technological upgrading serves both therapeutic and non-therapeutic purposes. Both variants are referred to as "enhancements", without any analytical or normative distinction between them becoming explicitly obvious. That said, there is the question of which technological improvements of human nature are to be expected if the development of converging technologies continues over the coming twenty years.

Quite unsystematically, what we are talking about is, among others, the following alleged "optimisations" of the human organism: it is supposed to become more durable, healthy, energetic, easier to repair, and resistant to many kinds of stress, biological threats, and ageing processes. In this context, the NBIC report considers a

wide range of NBIC applications for therapeutic purposes. In the same breath, however, the NBIC report also mentions "improvements" of healthy people ([10], 5): fast, broadband interfaces directly between the human brain and machines will transform work in factories, control automobiles, ensure military superiority, and enable new sports, art forms and modes of interaction among humans. Moreover, knowledge of the structure, the function and sometimes the dysfunction of neural networks will open up new cognitive potentials. Artificial brains, simulated by computers, might prove to be an important research tool. While such analogisation has been criticised, because it views the brain as a unity which is capable of spontaneous options [11], the direction of the argument is clear: it follows the ideas of transhumanists such as Ray Kurzweil who believe it will be possible that aspects of the human consciousness may be transferred onto hardware, in order to optimise the interaction between humans and machines ([10], 16). At the same time, according to the NBIC report, the fight against ageing will soon reach a new peak, allowing humans to live an active and dignified life well into their second century of existence. Genetic therapies which cure early symptoms of ageing will become a generally accepted norm and guarantee widespread longevity combined with a high quality of life for millions of people.

How does the NBIC report judge the ethical quality of such a kind of human enhancement that blurs the difference between therapy and the technological upgrading of healthy people? In sum, we may say that the report indeed speaks several times of ethics as a correlate of the development and application of converging technologies. It is however, understood rather as the result of the latter and not as its normative counterpoint. It seems as if the anthropological foundation of convergence-technological ethics is identified by the words of the Renaissance philosopher Giovanni Pico della Mirandola:

We have given you, Oh Adam, no visage proper to yourself, nor any endowment properly your own, in order that whatever place, whatever form, whatever gifts you may, with premeditation, select, these same you may have and possess through your own judgment and decision. The nature of

all other creatures is defined and restricted within laws which We have laid down; you, by contrast, impeded by no such restrictions, may, by your own free will, to whose custody We have assigned you, trace for yourself the lineaments of your own nature ([12], 7).

Or, to put it in a modern way: “you have not only the right but also the duty to free your own evolution from its blindness and consciously take it into your own hands!” This autonomous human self-determination by way of self-invented scientific-technological means creates a kind of ethics that serves the goals of technological convergence. Accordingly, a passage of the NBIC report argues that to the same degree to which the technological control of the human genome, of agricultural plants, and of animals will be beneficial for society, it will create a widespread consensus about the ethical, social, and moral principles guiding this process ([10], 22). It is thus an ethics of the future, showing speculative features. It may be, the NBIC report says, that in some fields of human life ancient customs and ethical principles will survive, but it is difficult to predict which actions and experiences they will concern: “Perhaps wholly new ethical principles will govern in areas of radical technological advance, such as the acceptance of brain implants, the role of robots in human society, and the ambiguity of death in an era of increasing experimentation with cloning” ([10], 22).

Such a kind of ethics which assists and supports convergence-technological progress – while the entire system of schooling and training shall be made subject to the latter – is in accordance with the development dynamics the NBIC report lives on: it is not interested in considering and weighing which traditional qualities must be abandoned if humans make themselves dependent on technology to a historically unprecedented degree. Rather, vice versa, it assumes that it must provide a reminder of what will be lost if the possibilities of technological convergence, through the determined efforts of researchers, governments, enterprises, and others, remain unexploited. Thus, the credo of the NBIC report is: “Progress can become self-catalyzing if we press forward aggressively; but if we hesitate, the barriers to progress may crystallize and become harder to surmount” ([10], 3). It seems that the editors of the NBIC report believe that what is at risk is the promise

to humanity made by the founding fathers in the US constitution: the pursuit of happiness. They state:

The twenty-first century could end in world peace, universal prosperity, and evolution to a higher level of compassion and accomplishment. It is hard to find the right metaphor to see a century into the future, but it may be that humanity would become like a single, distributed and interconnected “brain” based in new core pathways of society. This will be an enhancement to the productivity and independence of individuals, giving them greater opportunities to achieve personal goals ([10], 6).

The PCBE Report

In October 2003, Leon R. Kass in his function as the chairman of the PCBE handed the report *Beyond Therapy. Biotechnology and the Pursuit of Happiness* (in the following: PCBE report) over to US President George W. Bush. This report can be seen as the antithesis of the NBIC report, which is the first publication referred to in the PCBE report ([8], 6). In the following comparative analysis, we will first point out some differences regarding the formal and topical structures of the two texts.

The NBIC report consists of a number of individual contributions which, however, are preceded by a synopsis by the editors, who aim to demonstrate what the contributions have in common. The PCBE report, on the other hand, is authored by the entire committee of 17 members. Occasional differences between the members are pointed out in the footnotes. Whereas the NBIC report refers to synergetic effects of the four NBIC technologies, the PCBE report focuses on biotechnology. Indeed, the PCBE report also discusses the promises of the scientific-technological developments of the future. But its main interest is in the current effects of biotechnological human enhancement on the individual and society, in as far as the technological possibilities of manipulating human nature can be referred to concrete states of research or be realistically extrapolated. The epistemic interest is not in the question of how much additional happiness individuals may expect from their

technological upgrading but in how much loss of authenticity, autonomy and creativity they must expect if they deliver themselves to that what is technologically possible beyond therapy. And not least, the PCBE report, in contrast to the NBIC report, distinguishes sharply between therapy and enhancement. This difference even becomes the crucial normative reference criterion concerning the limits of applying technologies for the modification of human nature.

In the preface, Kass gives the objective towards which the PCBE oriented its discussions. It was nothing less than the establishment of a forum for national debate on crucial bioethical questions, in order to increase the awareness of the US public. The contributors approach their topic on the basis of five focal points. Part I is an introduction to the topic “Biotechnology and the Pursuit of Happiness”. Part II is dedicated to the case of “optimised” children (“Better Children”), also known as “designer babies”. Part III discusses increasing the performance capability of the human body through the example of sports (“Superior Performance”). At the heart of Part IV, there is a key aspect of the modern life sciences: the biotechnological promise of a substantial prolongation of life (“Ageless Bodies”). Part V discusses how the US constitution’s promise of the pursuit of happiness could be realised with the help of biotechnological means. The evaluation of a biotechnological kind of well-being in this part leads to the concluding Part VI, bearing the programmatic title “Beyond Therapy: General Considerations”. Starting out from the above-mentioned case studies, the concluding part is about working out general threats and about pointing out generalisations and consequences as suggested by the material from the case studies.

Again and again, the authors emphasise that they welcome the application of technological means to the human body when it comes to the restoration of failing physiological functions: to this extent they reject the accusation of being hostile towards technology. In their opinion, the threat arises only in the case of a non-therapeutic biotechnological intervention into an actually healthy human body. Then it is a question of an assault on human nature and the inalienable dignity of the human being ([8], 284). The authors are of the opinion that the appreciation of and respect for what is “naturally given” are threatened by hubris, that the dignity of human activity is threatened by “unnatural” means, that the preservation of identity is threatened by

efforts at self-transformation, and that full human flourishing is threatened by spurious or shallow substitutes. ([8], 285). Both subjectively and objectively, they state, the uninhibited application of biotechnological means to human beings will bring us closer to a future which will not develop towards the fulfilment of the pursuit of happiness in the sense of the US constitution but towards a dystopian society of tomorrow that we cannot desire if we want to maintain the human core of our existence. According to the authors, the challenge in today’s liberal society is less the protection of liberal basic rights in the face of a tyrannical authority than the pressure for conformity exerted by society itself ([8], 264, 281–283), in whose slipstream, the consensual application of biotechnological means to human beings becomes the biggest danger for humankind in the twenty-first century.

We have seen that the opposing position, as represented by the NBIC report, rejects these essentialist premises. As with the outer nature, the inner nature of the human also serves as material for technological upgrading. The editors of the NBIC report believe the unavailability of human nature to be a myth that restricts or even prevents freedom of scientific research, thus generating negative results for the future of humankind. It is positions like this that the PCBE report explicitly attacks. Both religious and non-religious groups, the authors of the latter report claim, accuse the engineers of new biotechnology of usurping the role of God. Not seldom, however, the problem is less in such a self-empowerment but rather in a fake attitude, without actually having the pretended divine power. By trying to play God, one acts without the corrective of wisdom based on life experience. Consequently, as an alternative the authors of the PCBE report recommend the conservatism of the ecological movement and its way of dealing with nature. The latter’s motto: “Treat nature carefully, because otherwise you might destroy everything!”, they say, is also true for non-therapeutic human enhancement:

Over the past few decades, environmentalists, forcefully making the case for respecting Mother Nature, have urged upon us a “precautionary principle” regarding all our interventions into the natural world. Go slowly, they say, you can ruin everything. The point is certainly well taken in the

present context. The human body and mind, highly complex and delicately balanced as a result of eons of gradual and exacting evolution, are almost certainly at risk from any ill-considered attempt at “improvement.” There is not only the matter of unintended consequences, a concern even with interventions aimed at therapy. There is also the matter of uncertain goals and absent natural standards, once one proceeds “beyond therapy” ([8], 285).

The PCBE report refers explicitly to the metaphorical figures of the physician and the engineer, in order to clarify its position in relation to “nature”. The physician understands herself or himself to take the role of a servant in therapeutic interventions: through her or his medical means s/he supports nature, so that it can complete the patient’s healing process. The bioengineer, on the other hand, pursues non-therapeutic goals and does not appear as a servant but rather as the master or ruler of nature, guided only by his or her own will and ideas. But this Promethean aspiration to remake nature, including human nature, leads to a dead-end, the PCBE report argues, because it starts out from a false understanding of the world as a gift dedicated to us. Accordingly, the authors of the PCBE report say, our talents and powers are not wholly our own doing, nor even fully ours, despite the efforts we expend to develop and to exercise them. Just the same, it is not that everything in the world is at our disposition: “not everything in the world is open to any use we may desire or devise” ([8], 286). Such a way of understanding the unavailability of certain aspects of natural facts limits the Promethean project and results in “a much-needed humility” which is vital for our existence. Although it is in part a religious sensibility, the authors add, its resonance reaches beyond religion.

Clearly, in the context of the debate on human enhancement there are two opposing camps whose differences concern the question whether, in principle, one should strive for the technological improvement of healthy people or not. What does such a confrontation look like from the point of view of philosophical anthropology? Is there a third way that avoids both anthropological essentialism and the scientific self-empowerment for the technological reconstruction of the human being?

Philosophical Anthropology and the Future of Humankind as a Species

The authors of the PCBE report take an essentialist position on the Promethean premises of the NBIC report. One of the co-authors of the PCBE report, Michael Sandel, puts its basic intention into a nutshell when opting for a “plea against perfection” [13]. As Elif Özmen ([14], 104–105) has pointed out with respect to Sandel’s plea, we are currently witnessing a rapid technological development which for the first time enables us to sustainably, by way of genetic intervention, change, manipulate, and arrange our nature. The moral vertigo and the moral perplexity we are currently experiencing are, according to Sandel, not the usual concomitants of technological progress but are real crisis phenomena of the Promethean aspirations accompanying this leap, which has been desired since the modern era but is now possible, towards ruling not only over the nature around us but also over our own nature: the nature of life as a gift is radically put into question, and together with this sense of giftedness, which is constitutive for human self-understanding, also the moral practice resulting from this characterisation. Purposefulness instead of giftedness, control instead of the acceptance of the undesired, a human-technological blueprint instead of a naturally evolved being – all this, Özmen says of Sandel’s argument, destroys the key elements of our moral landscape.

Is such a position, also expressed in the PCBE report, in line with the approach of philosophical anthropology? Or does the NBIC report show more paradigmatic closeness to philosophical anthropology? Or did philosophical anthropology point out a “third way”?

By referring to Plessner’s “utopian point of view”, Özmen has offered some considerations relevant to our context. She starts out from a differentiation between the first animal and second socio-cultural aspects of human nature, a difference which is a feature of all positions of philosophical anthropology. This differentiation is analytically important because the definition of the relation of the two dimensions to each other defines the limits and possibilities of non-therapeutic human enhancement. By referring to Pico della Mirandola’s point of view that human beings are free of all restrictions when it comes to deciding on their nature, she comes to the conclusion that the human capability of self-design and self-improvement implies the potential “of continuously

changing and improving one's own biological nature" ([14], 114) with the help of technological means. Quite in line with the spirit of the NBIC report, she writes about the relationship between the first and second human natures:

In this sense, the "first" (biological-physiological-physical) human nature is a "material" which may be modified, due to the "second" (creative, culture- and technology-creating) human nature. However, this freedom in dealing with oneself is not the kind of freedom that reduces a human being to a mere object, a material object of nature, and thus a dubious kind of freedom, but rather it is an expression of the unique dignity of the human being ([14], 114)

Everything suggests that such a definition of the relationship between the first human nature and the second contradicts the intentions of philosophical anthropology.³ In particular Portmann warned against tendencies to degrade the human organism to a mere commodity of its second nature. He explicitly supported a kind of anthropology that opposes non-therapeutic human enhancement which, as already mentioned, in his time – the early 1960s – mainly referred to the biotechnological goal of breeding humans. Indeed he had doubts that such a project could be scientifically and technologically successful. But in contrast to the notion of an asymptotic approach towards the unattainable, he did not rule out the feasibility of realising these possibilities. Such a "success", Portmann explained ([6], 343), would be a step on the wrong track right from the beginning because it would threaten that tension that constitutes humanity, "the tension between that which must be maintained, the lasting, the primary aspect of being human as well as the changing secondary relation to the world, and the historical development it brings with it". About this tension, he wrote: "These days, this tension, which is and stays a basic condition of the human being, is constantly intensifying and, led by the

occidental spirit, increasingly takes hold of all humankind". Portmann explicitly identified the archaic human, with its animal nature, "as a heritage of humanity which must be preserved" during the transition to the "secondary world". This, he said, is "the return of an unavoidable, original starting point of primary humanity" which "we experience as the actuality of the timeless": if this heritage is wasted as the result of biotechnological transhumanism, humankind will end up in a utopia that is perceived rather as a dystopia. Portmann expressed the hope that this insight will take us back to a "reverence for the mystery of human existence".

We can therefore establish that, if thought through to the end, the artificialisation of human nature implied by the NBIC report, is, after all, not in line with the intentions of philosophical anthropology. A successful life is possible only if there exists a non-dualist balance of both spheres, in the sense of a corrective relation: autonomy in a lifeworld context requires that the body does not get the upper hand over the socio-cultural dimension and thus open the floodgates of uninhibited naturalism. Vice versa, however, the predominance of socio-culturality, which of course also includes the NBIC fields, over the first human nature must be avoided because this would end in merging into one with the machine, a kind of human-machine interaction which would put an end to the rootedness of humankind in the history of nature. Morality in a human sense is only possible if we start out from "the entire human being" in the sense of a non-dualist unity of both human physiological nature and socio-cultural nature. To put it in anthropological categories, indeed *homo faber* is present as the constructor of the world of socio-cultural facts. But at the same time *homo faber* is eclipsed in a non-dichotomist way by *homo sapiens*, who appears as an advocate of the partial rootedness of humanity in its own natural history as well as in the human body as it emerged from biological evolution: as the bearer of this responsibility, as Portmann emphasises almost imploringly, *homo sapiens* is an indispensable part of the human [6].

This statement brings us to the question of how the relationship of philosophical anthropology to the essentialism expressed in the PCBE report can be defined. For philosophical anthropology, there can be no neo-Aristotelian approach, because the sphere within which human life primarily happens is the socio-cultural world of artefacts created

³ Joseph Fischer ([15], 236), for example, emphasises that the human being cannot be rid of the body and the urge to "embody" his inventions. Due to the ineluctable manner in which the body is bound within the cosmos, the human being remains reliant on the re-translation of his eccentric reaching into the macro- and micro-cosmos into the language of positionality, on the reconnection of the abstract with the concrete. However, how is this back-reference to happen if the human "lived body", upgraded to the extreme, merges with the machine and this restructuring of the physique results in its own destruction?

by humans themselves. Seen this way, there is no “pure” human nature that could be seen as a metaphysical essence inherent to humans over time. Humankind is a product of itself to a far greater extent than assumed by the PCBE report. In a mostly secularised world, where Darwin’s theory of evolution has undermined any idea of a self-contained work of creation with a predetermined fate for humanity ([6], 311–313), any idea of a sacrosanct human nature that would be metaphysically protected from technoscientific reshaping is anachronistic. Perhaps this relation can best be defined from the perspective of the “utopian view” developed by Plessner in *The Levels of the Organic and Man* [3]. Notwithstanding their rootedness in the first human nature, all three of his anthropological basic laws constituting the *conditio humana* – that is the law of natural artificiality, that of direct immediacy, and that of the utopian view – are unthinkable without taking into account the socio-cultural shaping of human nature. As “an eccentric, imbalanced being, placeless, timelessly standing in nothingness, constitutively homeless”, the human being must first make itself what it already is ([3], 309). To achieve this goal it needs “a complement of the non-natural, non-grown kind” ([3], 310).

Human self-generated socio-cultural nature provides stabilisation; however, it is also fragile. A breakdown, even one of a revolutionary kind, appears to be possible, and thus also a collapse of worldviews and the moral systems they were based on:

Accordingly, there exists an inalienable human right to revolution if the forms of sociality themselves destroy their own meaning, and revolution occurs if the utopian idea of the ultimate destructibility of all sociality gains power. Nevertheless, this idea is only a means for the renewal of society ([3], 345).

This possibility is ruled out by the PCBE report: according to this, there is only *one* binding human nature which, also in its normative idealisation, is socio-culturally fixed. The entire Western history of ideas in particular, to which the authors repeatedly refer, testifies to this. In contrast, Portmann emphasised the openness of our talents: they confront each of us and

each generation with the task of finding new solutions concerning our social relations, and of seeking a synthesis of relatively constant natural phenomena and the respectively unique historical situation. And he added:

Even if this shape seems to be very solid, as a result of true traditions, and the individual is born into a clearly organised social world – even then the uniqueness of exceptional human beings, of the special talents of great individuals, has the effect that the social world is constantly prone to change and even that which has proven its worth by tradition must make its stand again with each generation ([5], 157).

The inherited rituals of the animal world for regulating their social relations, Portmann stated, are not true for human co-existence; human beings must again and again newly invent, maintain and consolidate them” ([5], 156).

But socio-cultural self-empowerment is limited. This is the case to the degree that philosophical anthropology emphasises the body’s value as an integral part of the human. Without it, the socio-cultural world of artefacts would lose its counterpart of animal nature. With a view to the dangers resulting from the concentration of technoscientific power, Portmann made a similar diagnosis to the essentialists of the PCBE report, but with different reasoning. Whoever joins him and the other representatives of philosophical anthropology in taking a post-metaphysical stance cannot close the *conditio humana* off from the outside. Such a tendency would contradict the third way between naturalism and spiritualism to which Plessner explicitly referred ([3], 311–315). On the other hand, it is evident that the fight against scientific self-empowerment by means of NBIC applications can draw its power only from the socio-cultural sphere, which includes the NBIC fields but also responsible ways of handling them.

What we can learn from philosophical anthropology is thus, on the one hand, that the decision about the future of human nature is in the hands of humanity itself and will be a result of societal deliberation. However, in order to take this decision in a responsible manner, society must on the other hand recognise the pre-human, evolutionary origins of its existence as something which has developed over time and is not its own creation; and

it must be fully aware of the individual and societal consequences of radical attempts to reshape the human body ([6], 209).

In this respect, the humanities have a crucial role to play, namely to provide the public with orientational knowledge concerning the NBIC fields. There is no question that the PCBE report, most of all due to its emphasis on the risks of non-therapeutic enhancement, has made an important contribution to this, even if we do not share its normative premises. We will, however, only be able to meet the great challenge of the twenty-first century if we treat the Plessnerian notion of the human being as *homo absconditus* as an open question, while at the same time trying to prevent a future reminiscent of the *Brave New World* famously described by Aldous Huxley. We need to stay alert to the fact that human self-determination would lead to the destruction of human autonomy if human enhancement by technoscientific means became the norm. By surrendering ourselves to our technologies, we would make ourselves extinct as a species and thus share the fate of so many species which have not survived the evolutionary process.

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