

26 Philosophical Anthropology 2.0

Reading Plessner in the Age of Converging Technologies

Jos de Mul

Introduction

The aim of this chapter is to demonstrate the relevance of Helmuth Plessner's philosophical anthropology in the twenty-first century. In the first part of this chapter, I will argue that the heydays of philosophical anthropology in the first half of the twentieth is closely connected with the (Darwinian) naturalization of the worldview. Whereas the debate on naturalization resulted in an unfruitful opposition between 'greedy reductionism' and a no less 'greedy transcendentalism,' Plessner's philosophical anthropology, presented in his magnum opus *Die Stufen des Organischen und der Mensch* (1928), offered a promising 'third way.'

In the second part of this chapter, I will discuss some of the objections that have been raised in the course of the twentieth century against the alleged essentialism and anthropocentrism of the project of philosophical anthropology, and which, at least according to the critics, suggest that philosophical anthropology has to face the same fate as its subject 'man,' which – to use the often quoted metaphor of Foucault – is about to be "erased like a face drawn in the sand at the edge of the sea" (Foucault 1970, 387). I will argue that, although Plessner is far from being a hardboiled essentialist or a defender of anthropocentrism, the critiques invite a revision of at least some elements of Plessner's philosophical anthropology in order to make room for a necessary reflection upon the challenges we face at the beginning of the twenty-first century.

In the third and last part of my chapter, I will argue that such a revision is especially needed in light of neo-Darwinism and the converging technologies that are intertwined with it. These technologies promise – or threaten, depending on one's perspective – to give Foucault's 'End of Man' a *material* turn. While classical Darwinism challenged the human place in cosmos mainly in theoretical terms, converging technologies like genetic modification, neuro-enhancement and electronic implants, have the potential to 'overcome' *Homo sapiens sapiens* as we know it in a more radical,

practical sense.¹ This creates within us a certain urge towards fundamental post-essentialist and post-anthropocentric human self-reflection. The claim I will underpin is that Plessner's anthropology still offers a fruitful starting point for the development of this 'philosophical anthropology 2.0.' I will demonstrate this by a critical re-interpretation of Plessner's three 'anthropological laws' in light of the aforementioned converging technologies.

Beyond 'greedy reductionism' vs. 'greedy transcendentalism'

One way to interpret the rapid development and immense popularity of philosophical anthropology in the first half of the twentieth century is to conceive of it as a reaction to the revolutionary developments in the natural and social sciences that took place since the second half of the nineteenth century. Especially Darwin's theory of evolution necessitated a fundamental reconsideration of – to quote the title of Scheler's famous essay – 'the human place in the cosmos' (Scheler 1928). Darwin's 'dangerous idea' (Dennett 1995), the presupposition that a simple algorithm of reproduction, variation and selection is responsible for the entire evolution of life on earth, did not only question the alleged gulf between human beings and (other) animals, but even questioned the gulf between animate and inanimate nature. After all, Darwin's theory of evolution seduced many followers to a 'greedy reduction' of life to a series of biochemical processes.

The main reactions of those who opposed this mechanistic interpretation of Darwin's theory of evolution were twofold. Negatively, the opponents tried to underpin Kant's claim – in *Kritik der Urteilskraft* – that there will never be a biological Newton who could explain teleological phenomena such as the emergence of even a single blade of grass (Kant 1968, B337). Positively, the opponents tried to show that there are phenomena or principles that necessarily escape a naturalistic and mechanistic approach. They either postulated the existence of a vital, teleological principle, a life-force distinct from biochemical reactions, as did, for example, the neovitalist Hans Driesch by implementing an Aristotelean notion of entelechy, or of a spiritual, metaphysical dimension, as did Max Scheler by opposing a divine Spirit (*Geist*) to the 'drive driven' life force (*Drang*). As different as the approaches of these two supervisors of Plessner were, they both deepened

1 Varying Marx's eleventh thesis on Feuerbach, the motto of the converging technologies seems to be: "The *biologists* have only interpreted the world differently; the point is to change it."

the emerging gap between the natural sciences (*Naturwissenschaften*) and the humanities (*Geisteswissenschaften*).

Plessner, coming both from biology and philosophy, took another, more fruitful approach, which – critically – endorses the naturalization of the worldview. In “Ein Newton des Grashalms” – written in 1964, one decade after the first adequate description of the double helix structure of DNA molecules, which marked the beginning of the turbulent history of molecular biology – Plessner states that by now even the phenomenon of (inner) teleology has become subject to a biochemical analysis. Several decades before the emergence of synthetic biology, Plessner already admitted – approvingly quoting Wendell M. Stanley – that “eventually chemists should be able to synthesize a small polynucleotide specifically arranged, hence one now dares to think of synthesizing in the laboratory a structure possessing genetic continuity and of all the tremendous implications of such an accomplishment” (Plessner 1980ff.; GS VIII, 262).²

However, this did not convince Plessner to accept a mechanistic interpretation. Biochemical analysis may eventually clarify *how* the vital and psychic functions of living organisms are being materialized, but not *what* life in its subsequent stages and various expressions *is*. In his own words: “It is here that we find the limits of the Newton of the grass blade, not in the phenomenon of teleology, as Kant thought” (GS VIII, 262).

However, as much as Plessner rejects the ‘greedy reductionism’ of the mechanistic worldview, which attempts to explain “too much with too little” (Dennett 1995, 82) he also rejects the ‘greedy transcendence’ of the vitalistic and metaphysical alternatives of Scheler and Driesch, which explain ‘too little with too much’ and for this reason inevitably are driven back to “cryptological formulas’ (GS VIII, 261), various intuitions of a transcendent God (GS IV, 18), stop-gap solutions (*Verlegenheitslösungen*) and contradictions (GS IV, 32). To clarify his own position, Plessner uses the term ‘hylozoist,’ which Driesch used to debunk Plessner’s approach in *Die Stufen*, as an honorary nickname. After all, the idea that life is inseparable from matter (GS IV, 177), and that human life is a psychophysical unity (GS IV, 75), is not only defended by ancient hylozoists like Thales, Anaximenes, and Heraclitus, but it is indeed also the very presupposition upon which Plessner’s bio-philosophy and philosophical anthropology rest.

2 The English translation of this and the following quotes from German texts in this chapter are made by the author, with the exception of the quotes from *Die Stufen*, which are taken (sometimes with small modifications) from the not-yet-published translation of Scott Davis.

Philosophy, as Plessner understands it, should take the scientific understanding of life forms as its starting point in order to elucidate the “immaterial dimensionalization of lived matter” (GS VIII, 261). Or, as he expresses it in *Die Stufen*, it is an “a prioristic theory of the essential characteristics (*Wesensmerkmale*) of the organic” (GS IV, 158). In the foreword to the second edition (1975), Plessner further elaborates: “This theory is not a prioristic because of its starting point, as if it would develop out of pure concepts, with the help of axioms, a deductive system, but because of its regressive method which aims at elucidating the conditions of possibility of a given fact” (GS IV, 29-30).

Plessner further elucidates these conditions of possibility as “material [or concrete] a prioristic” characteristics of life (GS IV, 172; cf. GS VIII, 392ff.). They are

preconscious a priori forms, categories of existence, vital categories, which belong to deeper strata of existence of the carrier of life, the organisms (not understood as existing objects, but rather as living subjects), upon which the mutual address and mutual belongingness of the organism and its surrounding world [*Umwelt*] are based (GS IV, 110).

Because only “life understands life,” as Plessner quotes Dilthey’s life-philosophical credo in *Die Stufen* (GS VIII, 59), one needs a hermeneutical phenomenology to explicate and interpret these vital categories, inherent in all organic expressions of life. The vital categories that result from this hermeneutics of organic life – ‘double aspectivity,’ ‘boundary’ and ‘positionality’ – enable Plessner to develop a profound and illuminating analysis of the subsequent stages of life, which not only holds the promise of bridging the gulf between life sciences and philosophy, but also, with the additional category of eccentric positionality, provides the building bricks for a (material) philosophical anthropology (cf. Fischer 2000, 279-283), which, moreover, provides the social sciences and humanities within a profound psycho-physiological foundation.³

³ “The aim of Plessner’s anthropology was to find a mind/body neutral language that could, in terms simultaneously empirically and phenomenologically meaningful, locate human beings amongst the continuum of living organisms and yet also pick out the differentia of their organismic being” (Moss 2007, 147).

Philosophical Anthropology 1.0 under attack

In retrospect, as promising as philosophical anthropology appeared to be in its formative years, its heyday was short-lived (cf. Fischer 2008). After World War II – prepared by the vitriolic attacks Heidegger directed at philosophical anthropology in the 1930s and 40s – the discipline became the subject of a series of fundamental critiques. Though for different normative reasons, these critiques were especially directed against the alleged *essentialism* and *anthropocentrism* of philosophical anthropology.

This critique was, at least in part, politically motivated. In the case of the Frankfurt School, for example, it was directed at the essentialist notion of a fixed human nature, which, according to the critics, characterizes philosophical anthropology. Referring to Scheler, Max Horkheimer states in his early “Remarks on Philosophical Anthropology,” that “there is no formula that defines the relationships among individuals, society and nature for all time” (Horkheimer 1993). The critique of the Frankfurters was especially directed against the conservative politics that would emerge from this essentialist notion of human nature, and which contradicts the neo-Marxist hope to create a ‘New Man’ along the way of a more or less revolutionary transformation of society. As Lukács claims in *Geschichte und Klassenbewußtsein*, “[t]he transformation of philosophy into an anthropology has lead to a fossilization of man transforming him into a fixed objectivity [*Gegenständlichkeit*], and as a consequence a setting aside of dialectics and history” (quoted in Marquard 1982, 134).

One could question whether this neo-Marxist critique also applies to Plessner. After all, eccentric positionality, the key notion of Plessner’s philosophical anthropology, does not so much set aside the notion of history, but rather designates the fundamental openness of the human life form that is the very condition of the possibility of human history. As we read in *Die Stufen*: “As eccentrically organized being, man must *still make himself into what he already is*” (GS IV, 383). This is not an accidental characteristic, but constitutive for the human life form. After all, as Plessner expressed it in the first of his three anthropological laws: man is *artificial by nature* (GS IV, 382ff): “Because man is compelled by his type of existence to lead the life that he lives, i.e. to make what he is – just because he only is when he realizes himself – he needs a complement of an unnatural, non-grown kind. That is why they are artificial by nature, on the grounds of their form of existence” (GS IV, 384-5).⁴

4 “Man tries to escape the unbearable eccentricity of his being, he wants to compensate for the lack that constitutes his life form. Eccentricity and the need for complements are one and

It is because of man's natural artificiality and his "ontic necessity" (GS IV, 396) to express himself, that man has a history:

Thanks to his expressivity, man is a being that, even when he continually intends to conserve himself, presses on towards ever different realization [*nach immer anderer Verwirklichung*], and so leaves a *history* behind himself. In this expressivity alone lies the inner ground for the historical character of his existence (GS IV, 416).⁵

Be that as it may, in a certain respect the critique that Plessner's philosophical anthropology presupposes an unchanging human nature, hits target. Although the notion of 'eccentric positionality' constitutes the inner ground of historicity, Plessner seems to understand the material a priori of eccentric positionality as a kind of essence of humanity, which itself is not subject to historical development. In this sense, we paradoxically might call Plessner an anti-essentialist essentialist. After all, in his final analysis, Plessner explicitly claims that eccentric positionality is the highest possible stage of animal nature:

One comprehends why animal nature must remain preserved at this highest positional stage. The closed form of organization is only carried out to its most extreme degree. The living thing in its positional moments just does not have a point from which a rise [*Steigerung*] could be attained, other than through realization of the possibility of organizing the reflexive general system of the animal body according to the principle of reflexivity, and through positing that which constitutes the animal

the same. We should not understand 'need' in this context psychologically or as something subjective. It is something that is logically prior to every need, drive, tendency or will. In this fundamental need or nakedness we find the motive for everything that is specifically human, the focus on the unreal and the use of artificial means, the ultimate foundation of the technical artefact and that which it serves: culture" (GS IV, 385).

⁵ As Lenny Moss argues in 'Contra Habermas and towards a Critical Theory of Human Nature and the Question of Genetic Enhancement,' referring to the philosophical tradition to which Herder and Plessner belong: "The progressive removal of an organism from a fixed niche for which it is specialized and to which it is finally attuned results in an interiority that is increasingly capable of undertaking its own self-formation. Detachment results in vulnerability, but also in a potential space of subjective openness to both the nature within and the nature without. The space of subjective openness can and must become formed, and it does so in a social context" (Moss 2007, 142). Concerning the persistent tension between anthropology and philosophy of history in the German philosophy of the last centuries, see Odo Marquard's 'Zur Geschichte des philosophische Begriffs "Anthropologie" seit dem Ende des achtzehnten Jahrhunderts' (Marquard 1982, 122-144)

stage of life, once again in relation to the living creature. A further rise beyond this is impossible, since the living thing now really comes behind itself (GS IV, 363).

In this crucial passage, Plessner seems to revert to a kind of Kantian transcendentalism in which the a priori is formal and timeless (not unlike is the case with Heidegger's *Daseinanalytik* in *Sein und Zeit* – bien étonné de se trouver ensemble!).⁶ Although it might be true that Plessner – as he emphasizes in the foreword to the second edition – offers no deductive system out of pure concept, the developmental logic of the subsequent stages of positionality gives his argumentation a 'conceptual closure' that resembles the conceptual necessity of Hegelian dialectical synthesis. Anyway, this developmental logic seems to convince Plessner to repudiate, at least in passages like the one just quoted, the open character of the historical development of the material a priori, as analyzed by Dilthey in his *Kritik der Historischen Vernunft* (see De Mul 2004, 140ff.). Our eccentricity should not be understood in an essentialistic, a prioristic sense, it is the result of a long evolutionary, historical, cultural and technological development (Nauta 1991; De Mul 2003).

In light of the historical character of the material a priori and the ongoing techno-cultural developments, it seems to be rather inconsistent to exclude the possibility of further stages of positionality on 'formal-transcendental' grounds, whereas only empirical experience of future life forms – be it organic or artificial – could determine the outcome of this possibility. Considering the past four billion years of the evolution of life on earth it seems to be somewhat naïve, certainly for a biologist, to claim that the eccentric type of positionality that characterizes *Homo sapiens* is the highest positional stage that can ever be attained.

It all comes down to one question: could we imagine a type of positionality beyond the eccentric type? As the development of life does not follow a necessary logic, but is rather the product of a series of contingencies (Gould 1989), predictions about the future are dicey. However, the prospect of *Homo sapiens 2.0* and trans – and posthuman life forms is not sheer science fiction. A number of technological developments already seem to have started to modify the positionality of the human life form. Specific types of information and communication technologies, such as telepresence, create a phenomenal experience which could be called poly(ec)centric. When a

6 Perhaps this a priorism also displays the impact that Weber's typology had on Plessner (Schüßler 2000, 12f.).

person is connected to a robotic body and experiences the world through the artificial senses and limbs of the robot, the result of this doubling of the body is an experience of simultaneously having multiple centres of experience, and occupying multiple eccentric positions (see for a detailed exposition: De Mul 2003; cf. Verbeek's contribution to this volume).

This phenomenon of poly(ec)centricity can be situated within the 'contingent logic' of Plessner's stage-model. In order to be able to do so, we should first realize that the stages Plessner distinguishes show a certain dialectical order. Whereas the positionality of plants is *open*, the positionality of the animal is *closed*. In the sixth chapter of *Die Stufen* Plessner characterizes the closed form of positionality of animals as *centric*, whereas in the seventh chapter the human sphere is opposed to this sphere as (also) being *eccentric*. If we wish to characterize eccentric positionality in *Die Stufen*, we could call it *virtual*. Why virtual? Well, it's because the eccentric position a human being can occupy is not a physical place or body, but rather a reflexive relationship, the relation the living body has to itself. However, in the case of telepresence, when we perceive the world through the artificial senses of the robot and interact with the world with the help of its artificial limbs, our eccentric position gets a material (boundary) realization. Virtual eccentricity becomes *real* eccentricity: our centricity doubles. Whereas the center of the somatosensory apparatus remains located in our organic body, vision and hearing are phenomenally experienced from the center of the robotic body. However, our eccentricity also gets distributed: though we are centred in two bodies at once, at the same time we are outside both of our bodies. The result may be dissociation, at least from an anthropocentric perspective.⁷

This last remark evokes the second fundamental objection that has been raised against philosophical anthropology, which is directed at its inherent *anthropocentrism*. Although anthropocentrism is no invention of philosophical anthropology – it characterizes the modern, Western worldview and before that Christianity, if not already in its Jewish and Greek roots – philosophical anthropology has been accused of being one of its last and most radical expressions.⁸ Just as in the case of the critique of its

7 New technologies – be they new means of transport, prostheses or deep brain stimulation – often have a disruptive effect on the human body scheme and evoke phenomena of de-centring, which calls for collective strategies of domestication and incorporation of those technologies (cf. Kockelkoren 2003).

8 As Heidegger expresses it vehemently: "Turned into anthropology, philosophy gets ruined by metaphysics" (Heidegger 1967, I, 79).

alleged essentialism, the ontological critique often has a normative tenor.⁹ For example, deep ecologists such as Arne Naess regard anthropocentrism as a crucial element in the reduction of all inanimate and animate nature to raw materials for the inexhaustible human needs and desires. Theoretically, by devaluing animals to sheer machines, as did Descartes, or practically, as we can witness it in the bio-industries. According to deep ecologists, philosophical anthropology sets man apart from nature, whereas we should instead consider humankind as an integral part of the ecosystem.

“Our history is not a single-species narrative, but intimately connected with the histories of various other species, ranging from domesticated animals and cultivated plants to ecosystem dynamics and climate change. Seeing humans as ‘authors’ or ‘directors’ of processes of domestication, philosophical anthropology failed to appreciate how we are targets as well” (De Mul, Verbeek, and Zwart 2009).

It is true that the branches of philosophical anthropology which are motivated by a ‘greedy transcendentism’ – we could think of Max Scheler here again – indeed have a strong tendency to oppose man, gifted by *Geist*, to nature. However, in the case of Plessner, there is a rather strong emphasis on the continuation of life forms, as they are linked as stages or levels of positionality. At the same time Plessner’s philosophical anthropology makes clear why it is so difficult, if not impossible, for humans to act in a non-anthropocentric way. Both aspects can be explained from the fact that human beings are both centric and eccentric. As centric beings, anthropocentrism – and the individual form of it: egocentricity – is unavoidable. However, thanks to our eccentricity we not only have the possibility to take the perspective of our fellow men and women, but that of other centric species as well. As such, we are even able – though not always and seldomly in its full range – to criticize egocentricity and anthropocentrism and to embrace a non-anthropocentric, ecological point of view instead of a single species narrative.

Today, philosophers of technology argue that we should not only apply this non-anthropocentric, ecological approach to animate nature, but to inanimate nature as well. Bruno Latour convincingly argued that technical artefacts are less instrumental than it is often presupposed and should be regarded as “actants” themselves (Latour 2002). Technology co-evolves with human beings. While technological innovations can be seen as products of human tool-making, we ourselves are the products of technology as well. Eccentricity is as much the outcome of, as it is the precondition for

9 As every ontology implies a certain deontology, every ontology-critique is motivated by a different (de)ontology.

techno-cultural development. It cannot be seen as simply given, but it is interwoven with technologies, ranging from the introduction of mirrors and writing, up to intrusive information and communication technologies.

When we think Plessner's second anthropological law, the law of *mediated immediacy*, we realize, however, that the idea of a co-evolution of man's positionality and techno-cultural artefacts isn't foreign at all to his philosophical anthropology, even though Plessner – because of his aforementioned closed developmental logic, isn't able to develop its full implications:

Equally essential for the technical artifact is its inner weight, its objectivity that discloses the aspect of technology that only can be found or discovered, but never made. Everything that enters the sphere of culture shows its dependence on human creation. But at the same time (and to the same extent) it is independent of man (GS IV, 397).

When we take note of the aforementioned critiques of the alleged essentialism and anthropocentrism of philosophical anthropology, the tentative conclusion is that Plessner's philosophical anthropology is still a good starting point for the development of a philosophical anthropology, which is prepared for an adequate reflection on the challenges humankind faces at the beginning of the twenty-first century. However, in order to develop such a 'philosophical anthropology 2.0,' we should purify Plessner's account from its essentialist tendencies, opening the space to reflect on emerging trans – and posthuman types of positionality. Moreover, it should complement its unavoidable anthropocentrism by eco-centric, socio-centric and techno-centric views, calling for even more intense interactions between the various fields involved, and bridge the alleged gap between humanities, social and natural sciences (De Mul, Verbeek, and Zwart 2009).

Philosophical Anthropology 2.0

The development of an upgraded version of philosophical anthropology is needed, because at the beginning of the twenty-first century the proclaimed 'End of Man' seems to get yet another, more material turn as a result of the development of neo-Darwinism and the converging technologies (biotechnology, information technology, nanotechnology, neurosciences, cognitive science, robotics, and artificial intelligence) that are intertwined with it. Whereas classical Darwinism challenged the human place in the

cosmos mainly in a theoretical sense, technologies like genetic modification, neuro-enhancement and electronic implants have the potential to 'overcome' *Homo sapiens* as we know it in a practical sense.

Genetic modification, neuro-enhancement, electronic implants and distributed explants offer unprecedented possibilities to modify the human life form, whereas synthetic biology, robotics, artificial intelligence and artificial life might even create new artificial life forms. Given the ontic necessity of the human expressivity and artificiality, the question is not *whether* we will use the technological possibilities to (continue to) modify ourselves, but rather for what purposes, in which direction, and in what manner. At first, these questions seem to belong to the normative branches of disciplines such as ethics, and social and political philosophy (concerning the goals) and technical disciplines (concerning the means). Besides the question if goals and means simply can be distributed that way, which I personally do not believe to be the case (see De Mul 2010b) – herein lies a fundamental task for philosophical anthropology 2.0. After all, in order to be able to answer the ethical questions for what purposes and in what manner we should apply these technologies, we should not only answer the question what exactly the living thing *is* that we want to modify or transform¹⁰, we should also try to figure out what kinds of life forms are possible given the constraints of the 'raw material' we are working with.

In a number of respects, the *theoretical* challenge 'philosophical anthropology 2.0' faces at the beginning of the twenty-first century strongly resembles the challenge of 'philosophical anthropology 1.0' at the beginning of the twentieth century. Plessner's main opponent in *Die Stufen* is Descartes; that's why the second chapter of the book is entirely devoted to a fundamental and subtle refutation of Cartesian dualism and a preparation of Plessner's alternative thesis, which departs from the notion of double aspectivity of 'the living thing.' Although Plessner is far from being the only twentieth century critic of Cartesian dualism, in many ways this dualism is still prominent in the theories that surround the converging technologies, even when these theories often are presented as anti-Cartesian.

This, at least, is the critique that Max Bennett and Peter Hacker direct against the dominant movement of contemporary neurosciences. In their much discussed book *Philosophical foundations of neuroscience* (Bennett

¹⁰ "The constitution of hermeneutic as anthropology needs a foundation in a science of life, a philosophy of life in the sober-minded, concrete sense of the words. First, it is necessary to gain clarity about what may be referred to as alive, before further steps be taken to a theory of the experience of life in its highest human strata" (GS IV, 76).

and Hacker 2003) they argue that the whole history of neuroscience is characterized by a profound dualism, although during its course it transformed from a substance-dualism into a structural dualism. In their discussion with Daniel Dennett and John Searle – published under the title *Neuroscience & Philosophy. Brain, Mind, & Language* (2007) – they summarize their critique as follows:

The greatest figures of the first two generations of twentieth-century neuroscientists, e.g. Sherrington, Eccles, and Penfield, were avowed Cartesian dualists. The third generation retained the basic Cartesian structure but transferred it into brain-body dualism: substance-dualism was abandoned, structural dualism retained. For neuroscientists today ascribe much the same array of mental predicates to the brain as Descartes ascribed to the mind and conceive of the relationship between thought and action, and experience and its objects, in much the same way as Descartes – essentially merely replacing the mind by the brain (Bennett et al. 2007, 131).

According to Bennett and Hacker, expressions like ‘The brain sees...,’ ‘The brain interprets...,’ ‘The brain decides...,’ etc., which we find in almost all mainstream neuroscientific literature, are victim to what they call a mereological fallacy, which “involves ascribing to parts attributes that can intelligibly be ascribed only to the wholes of which they are parts” (ibid., 131). After all, it is not the brain that sees, interprets or decides, but the whole person.

The critique of Bennet and Hacker is clearly inspired by the later Wittgenstein and Ryle: in their view a mereological fallacy – or ‘pars pro totology’ – is an evident example of a category mistake. However, as sound as their critique, which is entirely in alignment with Plessner’s anti-dualist hermeneutics of organic life may be, as Wittgensteinian ‘therapists’ they mainly criticize and do not offer an alternative to mereological neuroscience. As Bennet and Hacker argue, the progress of neuroscientific research, as fascinating many of its findings may be, is suffering severely due to the fact that these findings are often misinterpreted from a dualistic perspective. Far from being able to actually explain the phenomena, these theories mask the absence of any substantial explanation by redescribing them in misleading terms (ibid., 161). For this reason there is a strong need for a more adequate interpretation of neuroscientific research, which could “facilitate it – by excluding nonsensical questions, preventing misconceived experiments, and reducing misunderstood experimental results” (ibid., 162).

Such a hermeneutics of organic life might also be helpful to develop a more adequate understanding of the research and experiments in the domains of robotics, artificial intelligence and artificial life, which are also still strongly misunderstood from a structural dualism. We could think here of thought experiments about downloading the mind in a machine, as described by, for example, Hans Moravec and other so-called transhumanists (Moravec 1988, 1999; for a critical discussion see De Mul 2010a, 243ff.).

Moreover, the theoretical debates that currently surround the converging technologies also show – in a new shape – the same unfruitful opposition which characterized the debate around 1900. In the case of molecular biology and the debates about genetic engineering, for example, we again witness the opposition of a ‘greedy reductionism,’ defended by popular biologists like Richard Dawkins (Dawkins 1976) vs. a ‘greedy transcendentalism,’ nowadays mostly defended by creationists with a Christian background. The unfruitful discussions – if we may call the mutual debunking that way – between the representatives of both groups push for a new, ‘third way.’ Herein lies an important task for a Plessner-inspired philosophical anthropology 2.0.

With regard to the determinism in molecular biology, the prospects of a hermeneutics of organic life, are clearly more promising than they were in the two decades immediately following the publication of Dawkins epochal book in 1976. The ‘one gene, one function’ approach that initially characterized DNA research, which – for theoretical and/or funding reasons – was still dominant at the beginning of the human genome project, lost its popularity with the growth of our knowledge about the complexity of the expression of genes. As we realize nowadays, genes cannot only play different encoding roles depending on the specific ‘genetic network’ in which they are operating, their expression is equally dependent on their interaction with all kinds of intra – and extracellular influences. Moreover, as system biologists like Denis Noble have shown, the reductionist approach and metaphors such as ‘selfish genes’ become even more misleading in the context of multilevel systems biology:

Higher levels of organization, such as tissues, organs and system, constrain and order the lower levels through what we may call downward causation. [...] Viewed from the perspective of the organism, or even from that of its environment, DNA is a database from which the organism extracts the information required to make the proteins it needs in the right quantities in the right places. This form of downward causation is effected through epigenetics: chemical marking of the genome to determine which genes are used or silenced at a given time. Genes therefore don’t

have much chance to be selfish; they are more like the ‘prisoners’ of the organism. [...] Like the pipes of a huge organ (there are organs with as many pipes as there are genes in the human genome!), they are ‘played’ in different ways by the different cells, tissues and organs of the body to produce the ‘music of life.’ And when we succeed in identifying ‘genetic programs’ in the body, they turn out to be the functionality itself (Noble 2008; cf. Noble 2006).

While causation on the molecular level is susceptible to a *mechanistic* explanation, an additional layer of *functionalist* explanation is needed as soon as we enter the domain of multilevel systems such as tissues and organs, where mechanical processes become a function of this higher level of organization. On this level, we can no longer separate these physical processes from the functionality itself. Seen from a Plessnerian perspective, we could say that on this level we witness the emergence of double aspectivity that characterizes the ‘living thing.’ Moreover, the metaphor of the music of life, which Noble uses, opens the space of yet another, third layer, that of a *hermeneutics* of organic life, in which tissues, organs, organisms, and groups of organisms interpret both their ‘genetic scores’ and their environment. We could image a ‘poetics of genetics’ that would study the different modes of interpretation we find in the different levels of organic life (cf. Borgstein 1998).

Moreover, in the age of converging technologies, such a hermeneutics of organic life, that also includes the ‘prehuman,’ should be complemented by a hermeneutics of artificial life, that studies the art of interpretation as it is and will be found in ‘posthuman’ forms of life. Starting from a sheer syntactic interpretation of the mechanical computers as we know them today (comparable to the basic levels of interpretation on the molecular level), via the pragmatic interpretation as we find in the more complex robotics systems that are currently being developed (and which may be compared to the way multi-level systems in ‘living things’ interpret the DNA database and their environment), such a hermeneutics of artificial life might lead us to the semantic types of interpretation, which we already find on the level of human life. And perhaps this development may even lead further to modes of interpretation that are far beyond the grasp of the embodied intelligence of human beings.

Although the understanding of such posthuman life forms may finally remain out of reach for human intelligence, we should realize that the stages of organic and artificial life are continuous entities: together they form a continuous chain of countless life forms. As the example of telepresence

has showed us, we are already involved in the creation of next-level life forms. This at least opens the prospect that we might be able to understand the emerging new forms of life up to a certain level. In the concluding part of this chapter, I would like to try, looking at the development of the converging technologies and using Plessner's three anthropological laws, to formulate some general intuitions about post-anthropological life and the three affiliated post-anthropological laws.

From 'artificial by nature' to 'natural by artifice'

The law of *natural artificiality* does not provide any reasons for repudiating the converting technologies driven cyborgization of man as unnatural, as this process has characterized the co-evolution of the human species, culture and technology from the very beginning. Although Plessner only witnessed the very first steps of this process when he was already relatively old, he certainly did not turn down this development. In the 1975 foreword to the second edition of *Levels of the Organic and Man*, he writes: "Phenomena such as regulation, control and memory, which for long have been regarded as the Arcana of the living substance, have lost their uniqueness in the light of cybernetics. Perhaps too fast, but these electronic models entices us into analogies. And these are fruitful too" (GS IV, 15).

However, the converging technologies promise – or threaten, depending on one's perspective – to reverse the relationship between the natural and the artificial. When we think of synthetic biology, for example, we witness the development of a whole array of techniques that modify existing live forms with the help of genetic modification, metabolic pathway engineering, genome transplantation, the creation of entirely new life forms with the help of BioBricks, extended DNA (xDNA), and the creation and use of additional nucleotides, which expands the four-letter language of DNA to a six-letter language (ETC Group 2007). This so-called 'alien genetics' is only one way the cyborgization of life is taking place (De Mul, 2013). We could add numerous other strategies that are being developed, such as the neurotechnological and nanotechnological engineering of organic life, the addition of electronic implants and distributed explants, up to the creation of artificial intelligence and artificial life. Natural selection, which has been the motor of the evolution of life on earth for several billion years, and which in the short human culture already has been complemented with breeding, is increasingly becoming an *unnatural* selection of artificial elements. As a consequence, trans – and posthuman life will increasingly be '*natural by artifice*.'

From 'mediated immediacy' to 'immediate mediality'

The second anthropological law formulated by Plessner, the law of *mediated immediacy*, seems to undergo a dialectical radicalization and reversal as well. In the age of intentional bionic artifacts, the realization of the boundary (*Grenzrealisierung*) of the human body will be increasingly modified by implanted intentional bionic artefacts, profiling technologies, remote control etc. In at least two important ways, the situation we have today differs from the past. First, in comparison with previous forms of technical mediation, these artefacts are increasingly *made* and *invented* instead of being found or discovered (cf. GS IV, 397). Second, due to their invisibility, we will also become less and less aware of the mediated character of their mediation, leading to an 'invisible visibility'. Plessner defines mediated immediacy as "that form of binding [between two terms] [...] in which the mediating intervening term is necessary in order to accomplish or secure the immediacy of the connection" (ibid.). In the case of living beings, this intervening term is the human body (cf. the contribution of Maarten Coolen in this volume). 'Immediate mediality,' on the other hand, refers to the fact that in cases of poly(ec)centricity or meta-eccentricity, immediacy is the result of a technological mediation that is constitutive for human experience and without which the experience wouldn't be possible at all.

Mediated immediacy also refers to the fact that cultural and technological artefacts, though dependent on human creation, gain a certain independency and start to determine human life. In the case of intrusive technologies, this has profound consequences for the control we have over our body. They are characterized by *immediate mediality*, as the independence of our technological creations increasingly loses its metaphorical character. When Bruno Latour calls laboratory instruments agents and writes about the "tragic dilemma's of the safety belt," he admits that he in a way is overstating his case (Latour 2002). However, synthetic biology and artificial life are creating agents in the full sense of the word, *real* agents, whose behavior is difficult to predict and even more difficult to control. And when we merge these agents and human bodies, for example, in a conceivable case of engineered permanent deep brain stimulation, this would affect the human lifeform in a fundamental way.

In the past decades, sociologists like Ulrich Beck and Anthony Giddens have introduced the notion of a risk society, which is closely connected with the fact that modern society increasingly manufactures new types of risk because of the unforeseen side effects of our technological actions (Beck 1986; Giddens 1990). By producing intentional bionic artefacts, the

converging technologies not only manufacture risks, but also fundamental uncertainty with regard to their effects. Whereas classical risk governance tried to control simple and complex risks by precaution measures, it is increasingly confronted with uncertain and ambiguous risks that urge us to redefine the very notion of precaution.

From a 'utopian standpoint' to a 'tragic standpoint'

Plessner's third anthropological law, the law of the utopian standpoint warns us, today in an even more radical sense than Plessner could have ever imagined, not only for being too optimistic about the controllability of this project of cyborgization of man, but also for being too optimistic about its contribution to (trans – and post)human well-being or happiness. The technological modification of our positionality and the distribution and transformation of our eccentricity might intensify the alienation that is inherent in the eccentric life form and that constantly evokes our attempts to overcome this alienation. If something will be overcome, it will not be our alienation, but rather our specific form of life.

Living things die. As Marjorie Grene expresses it in her analysis of Plessner's philosophical anthropology:

The inevitability of death, the approach of death, taken together with the whole spiral-like process of development that has preceded it, show us further, that living things, unlike inanimate objects, have a destiny. [...] Living individuals and only living individuals, with their Janus-like direction to and from the world around them, to and from the bodies that they both are and have, are *destined* to live as they do – and to die (Grene 1966, 259).

It is our eccentric positionality that gives to our existence the ambiguity – of necessity and freedom, brute contingency and significance – which it characteristically displays (Grene 1966, 274).

Another, ancient word for this ambiguity of coinciding necessity and freedom, brute contingency and significance is 'tragic' (De Mul 2009; De Mul 2014). It is not only individuals who can die. In the evolution of life on earth, it is the destiny of all species that suffer extinction sooner or later. Perhaps it will be the destiny of man to be the first species that will create – both out of freedom and out of ontic necessity – its own evolutionary successors. This project will display both the grandness and the dreadfulness of the human

life form. In this sense, philosophical anthropology 2.0 is coloured by a ‘tragic humanism.’ Perhaps this *tragic standpoint* is the price we have to pay for developing a level beyond eccentric positionality. We might be tempted to call it inhuman, but as Plessner concludes his essay on inhumanity: “Inhumanity is not bound up with a specific historical age [...], but is rather a possibility that is given in man, to ignore himself” (Plessner 1982, 2005).

Bibliography

- Beck, Ulrich. 1986. *Risikogesellschaft: auf dem Weg in eine andere Moderne*. 1. Aufl., Erstausg. ed. Frankfurt am Main: Suhrkamp.
- Bennett, M.R., and P.M.S. Hacker. 2003. *Philosophical Foundations of Neuroscience*. Malden, MA: Blackwell Pub.
- Bennett, Maxwell, Daniel Dennett, Peter Hacker, and John Searle. 2007. *Neuroscience & Philosophy: Brain, Mind & Language*. New York: Columbia University Press.
- Borgstein, Johannes. 1998. The Poetry of Genetics: Or Reading a Genetic Sequence – A Literary Model for Cellular Mechanisms. *Lancet* 351: 1353-1354.
- Dawkins, Richard. 1976. *The Selfish Gene*. Oxford: Oxford University Press.
- De Mul, Jos. 2003. Digitally Mediated (Dis)embodiment: Plessner’s Concept of Eccentric Positionality Explained for Cyborgs. *Information, Communication & Society* 6 (2): 247-266.
- De Mul, Jos. 2004. *The Tragedy of Finitude: Dilthey’s Hermeneutics of Life*. New Haven, CT: Yale University Press.
- De Mul, Jos. 2009. Prometheus Unbound: The Rebirth of Tragedy out of the Spirit of Technology. In A. Cools, T. Crombez, R. Slegers, and J. Taels, eds., *The Locus of Tragedy*. Leiden: Brill, 279-298.
- De Mul, Jos. 2010a. *Cyberspace Odyssey: Towards a Virtual Ontology and Anthropology*. Newcastle upon Tyne: Cambridge Scholars Publishing.
- De Mul, Jos. 2010b. Moral Machines: On the Delegation of Human Agency. *Technē: Research in Philosophy and Technology* 14 (3).
- De Mul, Jos. 2013. eLife: From Biology to Technology and Back. In P. Bruno and S. Campbell, eds, *The Science, Politics and Ontology of Life-Philosophy*. London: Continuum, 93-107.
- De Mul, Jos. 2014. *Destiny Domesticated. The Rebirth of Tragedy Out of the Spirit of Technology*. Albany: State University of New York Press.
- De Mul, Jos, Peter-Paul Verbeek, and Huub Zwart. 2009. Philosophical Anthropology 2.0: Research Project. The Netherlands Organisation for Scientific Research (NWO).
- Dennett, Daniel C. 1995. *Darwin’s Dangerous Idea: Evolution and the Meanings of Life*. London: Allen Lane: Penguin Press.
- ETC Group. 2007. *Extreme Genetic Engineering: An Introduction to Synthetic Biology*.
- Fischer, Joachim. 2000. Exzentrische Positionalität. Plessner Grundkategorie der Philosophischen Anthropologie. *Deutsche Zeitschrift für Philosophie* 48 (2): 265-288.
- Fischer, Joachim. 2008. *Philosophische Anthropologie*. Freiburg and München: Verlag Karl Alber.
- Foucault, Michel. 1970. *The Order of Things: An Archaeology of the Human Sciences*. London: Tavistock Publications.
- Giddens, A. 1990. *The Consequences of Modernity*. Oxford: Polity Press.
- Gould, Stephen Jay. 1989. *Wonderful Life: The Burgess Shale and the Nature of History*. New York: W.W. Norton.

- Grene, M. 1966. Positionality in the Philosophy of Helmuth Plessner. *The Review of Metaphysics* 78 (2): 250-277.
- Heidegger, M. 1967. *Vorträge und Aufsätze*. 3rd ed. 3 Bdn. vols. Pfullingen.
- Horkheimer, Max. 1993. *Between Philosophy and Social Science: Selected Early Writings*. Cambridge, MA: MIT Press.
- Kant, I. 1968. *Kritik der Urteilskraft, Vol. X: Theorie-Werkausgabe*. Frankfurt.
- Kockelkoren, P. 2003. *Technology: Art, Fairground, and Theatre*. Rotterdam: NAI Publishers.
- Latour, B. 2002. Morality and Technology: The End of the Means. *Theory, Culture, Society* 19 (5-6): 247-260.
- Marquard, O. 1982. *Schwierigkeiten mit der Geschichtsphilosophie. Aufsätze*. Frankfurt am Main: Suhrkamp.
- Moravec, Hans P. 1988. *Mind Children: The Future of Robot and Human Intelligence*. Cambridge, MA: Harvard University Press.
- Moravec, Hans P. 1999. *Robot: Mere Machine to Transcendent Mind*. New York: Oxford University Press.
- Moss, Lenny. 2007. Contra Habermas and towards a Critical Theory of Human Nature and the Question of Genetic Enhancement. *New Formations* 60 (1): 139-149.
- Nauta, Lolle. 1991. Synchronie und Diachronie in der philosophischen Anthropologie Plessners. In J. v. Nispen and D. Tiemersma, eds, *The Quest for Man: The Topicality of Philosophical Anthropology*. Assen: Van Gorcum.
- Noble, Denis. 2006. *The Music of Life: Biology beyond the Genome*. Oxford: Oxford University Press.
- Noble, Denis. 2008. Systems Biology: A New Paradigm? (abstract). In *Systems and Synthetic Biology: Scientific and Social Implications. 9th EMBL/EMBO Joint Conference 2008*. Heidelberg, Germany.
- Plessner, Helmuth. 1980-1985. *Gesammelte Schriften (GS)*. 10 volumes. Edited by Günter Dux et al. Frankfurt am Main: Suhrkamp.
- Plessner, Helmuth. 1982. Unmenschlichkeit. In *Mit anderen Augen: Aspekte einer philosophischen Anthropologie*. Stuttgart: Reclam.
- Scheler, M. 1928. *Die Stellung des Menschen im Kosmos*. München.
- Schüßler, Kersten. 2000. *Helmuth Plessner. Eine intellektuelle Biographie*. Berlin and Wien Philo Verlagsgesellschaft bmH.