Introducing
Post- and Transhumanism

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Scientific and technological advances have questioned predominant doctrines concerning the human condition. Transhumanism and posthumanism are among the most recent and prominent manifestations of this phenomenon. Debates on trans- and posthumanism have not only gained a considerable amount of academic and popular attention recently, but have also created a widespread conceptual confusion. This is no surprise, considering their recent dates of origin, their conceptual similarities, and their engagements with similar questions, topics, and motifs. Furthermore, trans- as well as posthumanism frequently question their relationship to humanism and reconsider what it means to be human. In this regard both movements are streaming beyond humanism. What this means, however, is far from clear and shall be subject of discussion in this volume.

In order to make sense of these two approaches and to investigate their interrelationship, a clarification of these concepts is necessary. As a first approximation, transhumanism can be seen as a stance that affirms the radical transformation of human’s biological capacities and social conditions by means of tech-

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1 We will not be able to address the complex histories and varieties of humanism in this chapter. Yet, the following must be noted: The word “humanism” (Humanismus) was coined in 1808 by the German theologian and philosopher Friedrich I. Niethammer in the context of educational curricula, as it is derived from the Latin word humanitas. This word has a variety of meaning but has strongly been identified with the Greek word paideia (παιδεία), e.g., i.) in Cicero’s De Oratore (I, 71) the meaning of the concept humanitas corresponds to that of the concept paideia; ii.) in the text Noctes Acticae (XIII, 17) by the Latin author Aulus Gellius, who lived in the 2nd century, an explicit identification of paideia and humanitas can be found. The word humanitas within this tradition has both ontological as well as ethical elements. A categorical dualist ontology, which implies the special status of human beings, has been associated with the notions of paideia (e.g. Plato’s analogy of the divided line) and humanitas (e.g. Cicero’s affirmation of an immortal soul). Such dualist ontology, however, is absent in some of the recent humanist traditions, e.g. atheist, secular, evolutionary or naturalist versions of humanism. Post- and transhumanists distance themselves from the categorical dualist ontology, too. Concerning the ethical dimension, paideia and humanitas imply strong perfectionist concepts of the good, which are represented best by Plato’s philosopher king as well as by the Stoic sage. There is no simple relationship between beyond humanist movements and humanism with respect to their ideals of perfection. Some traces of a stronger concept of perfection can also be found within transhumanism (e.g., the Renaissance ideal). Such ideals, however, are absent in posthumanism. For an overview on humanism, see Davies (1997). Soper (1986) and Seubold (2001) focus on the 20th Century discourses on (anti-) humanism, which have influenced contemporary posthumanism in particular.
nologies. These transformations are widely perceived as *human enhancement* or augmentation which might be so fundamental that they bring about life forms with significantly different characteristics as to be perceived as other than human. The result of such technologically induced version of evolution is referred to as the *posthuman*. However, there is no commonly shared conception of what posthumans are, and visions range from the posthuman as a new biological species, a cybernetic organism, or even a digital, disembodied entity. The link between the human and the posthuman is the *transhuman*, an abbreviation for a transitional human, to which transhumanism owes its name. In this regard, transhumanism can be understood as a *transhuman-ism*. By the same token, transhumanism, according to its self-understanding, is a contemporary renewal of humanism. It embraces and eventually amplifies central aspects of secular and Enlightenment humanist thought, such as belief in reason, individualism, science, progress, as well as self-perfection or cultivation.

While transhumanism presents a more or less coherent set of technoptimist ideas, advocated by numerous distinguished transhumanist institutions and authors, *posthumanism* is a highly ambiguous notion. If transhumanism is seen as an intensification of humanism, a type of hyper-humanism, it may help to analyze posthumanism as a break with humanism; it is a *post-*humanism. In recent years “posthumanism” served as an umbrella term for a variety of positions that reject basic humanist concepts and values. Above all, the construction of “human beings” is deemed to be ideologically laden, insufficient, dangerous, or paternalistic. While there is certainly not *one* humanism, which could be identified as a common target of posthumanist criticisms, there are persistent concepts and dualities in Western culture, such as nature/culture, man/woman, subject/object, human/animal, or body/mind, which are deeply rooted in the Western tradition and which get challenged by posthumanist thinkers. Yet, not every criticism of these concepts must be seen as a posthumanist one (see Hayles 1999, 4). Feminism, postcolonial theory, and other postmodern theories have already questioned many of these historical constructs. Posthumanism, as we understand it here, is characterized by a specific focus on (emerging) technologies. The predominant concept of the “human being” is questioned by thinking through the human being’s engagement and interaction with technology. It is this peculiar aspect that has caused confusion concerning the meaning of the concepts of trans- and posthumanism. Both philosophical approaches consider the question of human coevolution with technology, and both, post- as well as transhumanist thinkers, sometimes employ the motif of the “posthuman”. However, in posthumanism the concept serves as a label for a new narrative, which may replace that of “the human”, rather than one for a radically enhanced human being. Transhumanism, on the other hand, is characterized by a straightforward
affirmation of technological augmentations and visions of an enhanced posthumanity.

This sketch of transhumanism and posthumanism is certainly vague and far from capturing all facets of both discourses. However, this initial attempt to characterize both ways of thinking shall give us some guidance for exploring central discourses beyond humanism. Before moving on and providing an overview on the topics of this volume, some further remarks on fundamental aspects of transhumanism and posthumanism are necessary.

Transhumanism

The terms “transhumanism” and “posthuman” have an ambiguous origin and ideas of human perfection can be found throughout the history of ideas. However, contemporary transhumanists emphasize their roots in Enlightenment thought and their commitment to secular humanism (see Hughes 2010). Furthermore, they frequently associate the notion “transhumanism” with Julian Huxley (1887-1975). Darwin’s bulldog, Thomas Henry Huxley (1825-1895), was his paternal grandfather. The author of the novel Brave New World, Aldous

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2 For an overview on the word “transhumanism” and “posthuman(ism)”, see Krüger (2004, 107-112).
3 The most comprehensive study on the history of human perfectibility has been written by Passmore (2000). A well-known history of transhumanist thought has been brought forward by Bostrom (2005) and Wiesing (2008) focuses on the medical history of ideas on human enhancement. Miah (2008) and Capurro (2012) outline the history of transhumanism alongside with posthumanism. The 20th Century history of transhumanism has been analyzed by Hughes (2004, 155-184) and More (2013). Since the most recent history of transhumanism is only documented in the internet, it is difficult to find reliable references.
4 Not only the coinage of “transhumanism” is associated with Julian Huxley. Recent studies have pointed to the early 20th Century roots of transhumanism in the intellectual milieu of Huxley. Huxley’s friends, J. B. S. Haldane (1892-1964) and J. D. Bernal (1901-1971) can reasonable count as early forerunners of current transhumanism, too (see Bashford 2013; Tirosh-Samuelson 2012). Another contemporary of Huxley is worth further investigations with regard to the history of transhumanism: the Jesuit priest and paleontologist Pierre Teilhard de Chardin (1881-1955). Huxley, who contributed a forward to Teilhard’s posthumously published The Phenomenon of Man (1955), is not the first to consider “trans-human” conditions. Teilhard referred to similar concepts before Huxley. In an unpublished essay from February 1949 entitled The Essence of the Democratic Idea, he suggests some biological definitions of central democratic concepts. As for “liberty” he states that this is “the chance offered to every man […] of ‘transhumanising’ himself by developing his potentialities to the fullest extent” (Teilhard de Chardin 1964 [1949], 241).
Huxley (1894-1963), was his brother. Their lesser-known half-brother Andrew Huxley (1917-2012) won the Noble Prize in Physiology or Medicine. Julian Huxley was not only the first director-general of the UNESCO but also president of the British Eugenics Society. In 1957, he coined the term “transhumanism” in *New Bottles for New Wine*, where he maintains:

“The human species can, if it wishes, transcend itself – not just sporadically, an individual here in one way, an individual there in another way, but in its entirety, as humanity. We need a name for this new belief. Perhaps *transhumanism* will serve: man remaining man, but transcending himself, by realizing new possibilities of and for his human nature.

‘I believe in transhumanism’: once there are enough people who can truly say that, the human species will be on the threshold of a new kind of existence, as different from ours as ours is from that of Peking man. It will at last be consciously fulfilling its real destiny” (Huxley 1957, 17).

The meaning of “transhumanism”, however, has changed after Huxley. While he still believed that “man” will be “remaining man” and associated transhumanism with “creating a more favorable social environment” as well as “techniques of spiritual development” (ibid., 16-17), “transhumanism” soon became the keyword for the transgression of human’s biological boundaries by means of technologies.

The futurist Fereidoun M. Esfandiary (1930-2000), who later changed his name to FM-2030, is often said to have introduced the term “transhuman” in its current sense. During the mid-1960s, while he was teaching at the New School for Social Research in New York, he founded a futurist group, called the Up-Wingers and popularized speculative ideas about future human conditions (see Hughes 2004, 161). While FM-2030 seems to have used the term at least since the 1970s (see Esfandiary 1974), his non-academic book *Are You Transhuman?* (1989) explicitly addresses transhumanist ideas in greater length. Unlike Huxley, FM-2030 believed that the “most urgent problem facing us is not social – economic – political” (ibid., 161) but rather the brute fact of our biological limitations, namely human mortality. FM-2030 predicted that by the end of the 20th Century “monumental breakthroughs” would fix this flaw and transform the human species. Transhumans are “the earliest manifestations of new evolutionary beings”, playing a “bridging role in evolution” (ibid., 205). The “transhuman” is an abbreviation for transitional human, the link between the human and posthuman.

Today FM-2030 is regarded as a forerunner of contemporary transhumanism. He was particularly influential for the American wing of contemporary

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5 Some sources wrongly date the first use of the term “transhumanism” to Julian Huxley’s *Religion without Revelation* (1927).
transhumanism, including Natasha Vita-More (born as Nancie Clark), who drafted a *Transhuman Manifesto* in 1983 (see More 2013). Nevertheless, in comparison to current transhumanist visions, FM-2030’s depiction of the transhuman conditions seems rather odd: His transhumanist checklist includes factors such as having a pacemaker, having acted as a surrogate mother, or having died and being resuscitated (see ibid., 202-203). FM-2030 hoped for his own resuscitation: his body has been cryogenically preserved after his death in 2000, thirty years before his hoped-for 100th birthday.

Perhaps the best known figure speculating about the possibilities of cryonics is Robert Ettinger. He is frequently regarded as another pioneer of the transhumanist movement. In particular in *Man into Superman* (1972), he emphasizes the role of cryonics for transhumanity. Since cryonic freezing might be the only chance for most living beings to benefit from future transhuman technologies, the question of longevity is of central importance for most transhumanists. It is no surprise that a prominent figure of the contemporary transhumanist movement, Max More (born as Max O’Connor), husband of Natasha Vita-More, is director of one of the biggest cryonics organizations, the Alcor Life Extension Foundation. Furthermore, it is sometimes maintained, notably by the author himself, that Max More introduces the “-ism” into transhumanism and thus coined the name of the current movement.6

Most recent technological advances of the 1980s, and the increasing relevance of science fiction in mainstream culture brought about a broader interest in reflections on the technological future of humanity. Before the hype concerning gene technologies of the recent two decades, the techno-futurist discourse during this time was particularly interested in artificial intelligence, robotics, and nanotechnology. Seminal works of this time period include Marvin Minsky’s *The Society of Mind* (1986), Eric Drexler’s *Engines of Creation* (1986), Hans Moravec’s *Mind Children* (1988), and Ray Kurzweil’s *The Age of Intelligent Machines* (1990) just to name a few. While their work does not yet have the conceptual framework of current transhumanism, they reflected on future impacts of possible technologies and were a common source of inspiration for the current generation of transhumanists.

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6 See, e.g., Humanity+ (n.d.) and Bostrom (2005). More claims to have provided the first definition of transhumanism in the current sense in his 1990 article *Transhumanism: Toward a Futurist Philosophy*. There he describes transhumanism as: “Philosophies of life […] that seek the continuation and acceleration of the evolution of intelligent life beyond its currently human form and human limitations by means of science and technology, guided by life-promoting principles and values” (as cited in More 2013, 3).
Only when the internet established a broader world wide connectivity, transhumanism as a movement gained momentum. During the 1990s various institutions and local groups were founded and contributed to the dissemination of transhumanist ideas. The World Transhumanist Association (WTA) is particularly well known, also for providing a widely recognized definition of transhumanism, in the Transhumanist FAQ, firstly drafted in 1998. Even though this definition has been dropped in the recent version (3.0) of the FAQ, it still sums up the core elements of transhumanism. There transhumanism is defined as:

“The intellectual and cultural movement that affirms the possibility and desirability of fundamentally improving the human condition through applied reason, especially by developing and making widely available technologies to eliminate aging and to greatly enhance human intellectual, physical, and psychological capacities” (Humanity+ n.d.).

Transhumanism today is a slogan for a variety of cultural, political, philosophical or digital movement, promoting techno-futuristic visions about the transgression of human biology. While transhumanism cannot be identified with a single movement or set ideas, some transhumanists are organized in the non-profit organization Humanity+ (H+), which popularizes transhumanist ideas. Current chair of H+ is Natasha Vita-More. The organization emerged out the World Transhumanist Association (WTA) and the Extropy Institute (see Humanity+ n.d.). The Extropy Institute was founded in the early 1990s by Max More and Tom Morrow. Both edited a journal of transhumanist ideas called Extropy together since 1988.

Nick Bostrom and David Pearce founded the WTA in 1998 (see Bostrom 2005, 12). Before Bostrom turned away from the mainstream transhumanist movement in recent years, he was the leading academic voice of transhumanism of the previous decade. In his role as director of the Future of Humanity Institute at the University of Oxford he made transhumanism accessible for a broader academic audience. Together with James Hughes, Bostrom also founded the Institute for Ethics & Emerging Technologies (IEET) in 2004. Today the IEET is one of the most important transhumanist platforms, promoting a liberal-democratic form of transhumanism, which they call technoprogressivism (see Hughes 2004). The IEET also publishes a peer-reviewed online journal, the Journal of Evolution and Technology (formally known as Journal of Transhumanism), which is one of the most prominent academic organs for transhumanist ideas.

Apart from H+ there are a number of other institutions which are associated with transhumanist ideas (see Tirosh-Samuelson 2011, 52), including the Machine Intelligence Research Institute (formally know as Singularity Institute), the Foresight Institute, or the Beyond Humanism Network. The Mormon Trans-
humanist Association, which is affiliated to Humanity+, is the rare instance of a religious foundation which is supporting transhumanism.

Transhumanist ideas are also an issue of growing importance in academic biomedical ethics. Quite a few liberal bioethicists, often with sympathies for utilitarian ethics, sometimes referred to as bioliberals, share many of transhumanists’ aspirations. During the previous two decades an increasing amount of literature has been concerned with the ethical and legal questions of non-therapeutic uses of biomedical technologies. This includes questions like healthy patients using psychopharmacological drugs to increase or maintain cognitive functions or parents selecting their offspring for certain genetic traits. This so-called “human enhancement debate” bears similarities to transhumanist discourses (see, e.g., Savulescu/ Bostrom 2010). Even though the radical transformation of humanity is not the primary focus of all bioliberals (see, e.g., Agar 2010), some openly embrace the use of cutting-edge enhancement technologies and even regard their use as moral duty (see, e.g., Harris 2007).

While transhumanists as well as authors being associated with transhumanist ideas are not a homogenous group, they all share the belief in the desirability of technologically supported human enhancement procedures. Transhumanism, as we have seen already, owes its name to the fact that it affirms human enhancements technologies, aiming for trans- and finally posthumanity. However, in recent years the motif of the transhuman or posthuman has more and more disappeared from the transhumanist agenda, a trend which might be related to the rebranding of the WTA to Humanity+.

Regardless of the labeling, in current discourses the aspiration stays the same. Based on a neo-Darwinian worldview, it is upheld that humans should take evolution into their own hands and undertake broad-scale attempts to incorporate technologies into their lives. These projects aim for a radical increase of bodily functions (e.g. healthspan, longevity), cognitive and emotional capacities (e.g. intellect, memory), physical traits (strength, beauty), and behavior (e.g. morality). On the basis of the affirmation of specific traits, there is the promise that technologies promote the common good and individual happiness. For realizing these aims, transhumanists have a firm confidence in scientific progress. Transhumanism is not limited to specific technologies but embraces all kinds of means to realize their visions, including established ones like education and vaccinations. Their primary focus today is on emerging and converging technologies, such as nanotechnology, biotechnologies and means of artificial reproduction, information technologies and cognitive sciences (see Roco/ Bainbridge 2003).
**Posthumanism**

Transhumanism can be described as a techno-optimist discourse. Ideas, concepts and reflections associated with transhumanism are brought forward by philosophers – mainly from the analytic and utilitarian tradition –, bioliberal thinkers, bioethicist, engineers, computer scientists as well as futurists. It has been shown, that advocates of transhumanism are sometimes organized in institutions, which provide the movement with a certain political leverage. By contrast, it is difficult to identify a coherent posthumanist movement. We rather see disagreement concerning history, concepts as well as objectives of posthumanism.

While it was possible to identify historical roots of transhumanism, it is much more difficult to present a coherent history of these set of ideas that are associated with posthumanism. It has sometimes been argued that the “history of posthumanism has no obvious beginning, middle or end point in philosophical thought” (Miah 2008, 89). By contrast, Stefan Herbrechter (2013, 31-33) suggests that posthumanism is a reaction to Nietzsche’s revaluation of values and Neil Badmington (2000, 4-7) suggests Marx’s rejection of a natural human essence outside social relations and Freud’s discovery of the power of unconscious forces as beginning of posthumanism. Pramod K. Nayar (2014, 11-34) finds the origin of posthumanism in three recent critiques of humanism: Foucauldian poststructuralism, feminism, and technoscience studies.

Whereas there is evidently a significant amount of disagreement about the origins of posthumanism, most analysis locates its origin in a different context than transhumanism. Posthumanism is associated with postmodern and continental philosophy, science and technology studies, cultural studies, literary theory and criticism, poststructuralism, feminism, critical theory and postcolonial studies. In these contexts “posthumanism” serves as an umbrella term for ideas that explain, promote or deal with the crisis of humanism. So far, however, no common name for these critical discourses has been established. Sometimes “posthumanism” is used in a broad sense, encompassing transhumanism as a form of *technological* posthumanism, too (see, e.g., Miah 2008). Then specifications, such as *critical* posthumanism are used to distinguish those critical discourses from techno-utopian discourses (see, e.g., Braidotti 2013; Herbrechter 2013; Nayar 2014). Sometimes a difference is drawn between *cultural* and *philosophical* posthumanism (see, e.g., Miah 2008; Tirosh-Samuelson in this volume), highlighting different disciplines where posthumanist thinking is an issue. The concept “posthuman studies” might be even more promising to refer to a discipline which deals with post- and transhumanist questions, as the concept

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7 Different histories and genealogies of posthumanism can be found in Herbrechter (2013, 31-73), Nayar (2014, 11-34), and Wolfe (2010, xi-xxxiv).
“posthuman” is employed in both traditions, even though the meaning of this term is employed in different ways. Thereby, the word “posthuman” serves in an integrative way. By being concerned with it’s meaning, members of both movements step outside of the limited borders of their own discourses and get acquainted with different perspectives.

While there are different concepts of “posthumanism” and the “posthuman” in a variety of contexts, it is widely agreed that the term “posthumanism” has been coined by postmodern philosopher Ihab Hassan in 1977. In his essay *Prometheus as Performer: Towards a Posthumanist Culture*, based on a presentation delivered for a symposium on postmodern performance in 1976, Hassan talks about this “dubious neologism”, as he puts it, whereby he maintains:

“We need first to understand that the human form – including human desire and all its external representations – may be changing radically, and thus must be re-visioned. We need to understand that five hundred years of humanism may be coming to an end, as humanism transforms itself into something that we must helplessly call posthumanism” (Hassan 1977, 843).

This transformation becomes evident when we consider experiences of journeys through space, artificial intelligence and “those Bionic Women from the German Democratic Republic” at the Olympic Games (ibid., 846). Nevertheless, Hassan’s announcement of posthumanism has little to do with the posthuman in transhumanism. Similar to Foucault’s (2002 [1966]) proclaimed “end of man”, posthumanism does not mean “the literal end of man but the end of a particular image of us” (Hassan 1977, 845). In other words, for these theorists, our biological nature may remain unchanged, but the self-concept of the human changes, in particular when we consider the integration of technology in our life.

This aspect has been the source of conceptual confusions concerning the relationship between transhumanism and posthumanism. This confusion was also intensified by the fact that leading proponents of posthumanism, Donna Haraway and N. Katherine Hayles present metaphors of the “cyborg” and the “posthuman”, which resemble concepts that can also be found in transhumanism. In her seminal work *A Cyborg Manifesto* (1991), firstly drafted during the mid-1980s, Haraway introduces the cyborg as “a matter of fiction and lived experience that changes what counts as women’s experience in the late twentieth century” (Haraway 1991, 149). She employs the metaphor of the cyborg to question persisting binaries in the Western tradition. Our high-tech culture challenges dualisms such as mind/body, animal/human, organism/machine, culture/nature, male/female etc., and “ironically” from our “fusions with animals

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Wolfe (2010, xii) presents an alternative genealogy and points to the Macy conferences on cybernetics from 1946-1953.
and machines” we can learn “how not to be Man, the embodiment of Western logos” (ibid., 173).

Another landmark posthumanist work is N. Katherine Hayles’ How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics (1999). Hayles makes clear that the posthuman is a construction just like the human is and also that a “biologically unaltered Homo sapiens counts as posthuman“ (ibid., 4). There again, the “posthuman” does not mean the end of humanity. Instead, it signals…

“[…] the end of a certain conception of the human, a conception that may have applied, at best, to that fraction of humanity who had the wealth, power, and leisure to conceptualize themselves as autonomous beings exercising their will through individual agency and choice” (Hayles 1999, 286).

For Hayles it is not the question “whether we will become posthuman”, because “posthumanity is already here”. The question is, “what kind of posthumans we will be” (ibid., 246). While she has sympathies with the deconstruction of the liberal humanist subject in the technological age, she rejects transhumanist “fantasies of unlimited power and disembodied immortality” (ibid., 5), which she identifies with Moravec (1988) in particular. At best we can resist the temptation of post-biological phantasies and “put back into the picture the flesh that continues to be erased in contemporary discussions about cybernetic subjects” (Hayles 1999, 5). At worst we will bring about a culture “inhabited by posthumans who regard their bodies as fashion accessories rather than the ground for their being” (ibid.).

Even though, it is difficult to ascribe a common position to Haraway, Hayles and other posthumanist thinkers, it can be stressed that posthumanists reject the humanist belief that “man is the measure of all things” and that a dualist account of human beings is an appropriate starting point for further academic investigations. According to posthumanists, humanism has lost its credibility and the “crisis in humanism is happening everywhere”, as Badmington (2000, 9) points out. Posthumanism, however, is not only a critical enterprise, but also entails positive consequences (see Braidotti 2013, 51). There are several emancipatory impulses, and political standpoints, which can clearly be associated with posthumanism, e.g. feminist positions or the attempt to transcend anthropocentric views or speciesism. Still, in most cases, the normative dimension of posthumanism is being stressed in a critical manner rather than in an explicit affirmative one, which is a further central difference from the transhumanist approach that is usually associated with an immediate and explicit normative standpoint.
Introducing Post- and Transhumanism

About this Volume

Freeing human beings is the main objective of transhumanism and posthumanism. Transhumanism aims at liberating humans from their biological limitation. As part of this enterprise transhumanists might partly reinstall humanist concepts. Posthumanism, by contrast, can be identified with a critical approach that hopes to liberate humans from the harmful effects of the established humanist paradigm by debunking its false assumptions. While both traditions celebrate the “end of human beings” and reconsider and reinterpret what it means to be human, this happens on the basis of a different theoretical framework. While in some sense transhumanism can be seen as an intensification of humanism (see Wolfe 2010, xv), posthumanism can be analyzed as a criticism of humanism. Yet, both views have in common that they regard the humanist “human” as outdated, be it in physiological or conceptual terms. Hence, transhumanism as well as posthumanism try to move beyond humanism.

The relationship between both approaches, however, is intricate and deserves much further attention. We certainly do not do justice to both, if we weave these currents together, without acknowledging their direction of thrust. At the same time, too often a sharp line between transhumanism and posthumanism is drawn. Proponents of both movements are particularly eager to dissociate themselves from each other. The Transhumanist FAQ, for instance, suggests that posthumanism contributes to the “corruption of the original meaning” of the term “posthuman” (Humanity+ n.d.). Posthumanist authors such as Hayles (2011) recently confirmed their rejection of transhumanism and Haraway wishes to distance herself from the “blissed out […] transhumanist techno-enhancement” (Gane/ Haraway 2006, 140). Cary Wolfe, in his introduction to posthumanism, even argues that his version of “posthumanism is the opposite of transhumanism” (Wolfe 2010, xv). Yet, this collection might also reveal that the differences between these two approaches are less significant than the above comments seem to suggest. It might be the case that mutual misunderstandings are related to a difference of style, which is being used in both traditions. Posthumanists employ a more metaphorical, artistic, dialectical and literary style, while transhumanists are much more closely associated with a linear, analytic and pragmatic way of thinking and expressing themselves.

As a matter of fact, far too little attention has been paid, to the connecting moments of both movements. While a remarkable and growing body of work has recently analyzed transhumanism as well as posthumanism, no study has

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juxtaposed both with regard to common foundations, topics, and sources of influences.\textsuperscript{11} This volume seeks to remedy this shortcoming by exploring the connecting and diverging factors of transhumanism and posthumanism and by investigating how both contribute to the reconsideration of human conditions in the technological age.

Confessions

In \textit{Pedigrees} Stefan Lorenz Sorgner provides a general philosophical map of both post- as well as transhumanism. Hereby, he relates the philosophical foundations of these movements to the ones from modernity and postmodernity. The article refers to selected strengths and weaknesses of both approaches and explains in what way they can benefit from each other, which promotes thinking in between (meta) both approaches: metahumanism. Thereby, problems concerning inappropriate ways of self-understanding get revealed, too. By recognizing the challenges related to the various approaches, the philosophical traces of the pedigrees of post- and transhumanism become clearer as well as the potential to benefit from each other due to the fact that both movements have more in common than is often being acknowledged.

In \textit{Religion} Hava Tirosh-Samuelson investigates the role of religious beliefs in post- and transhumanism. After providing an in-depth analysis of different forms of philosophical, cultural, and technological posthumanisms, she turns to the role of religion in these currents. While Derrida affirms a negative theology, a widespread suspicion towards religion has to be noticed according to the author in posthumanist thinking, which is partly due to its Nietzschean roots. While transhumanists regard themselves as a secular movement and in opposition to religious beliefs, too, Tirosh-Samuelson points to the religious roots of transhumanism, in particular in the thinking of Julian Huxley. She argues, that there is actually no conflict between transhumanism and traditional religions. Some religious movements even endorse transhumanist ideas and forms of human enhancement. Furthermore, she argues that transhumanism shares many elements of religious thinking, e.g. eschatological concepts such as the Singularity. According to Tirosh-Samuelson, it might even be beneficial for transhumanists to define themselves as religious.


\textsuperscript{11} A recent exception is Sharon (2014), who provides a systematic analysis of different types of discourses on trans- and posthumanism.
It is no surprise that the mythological figure of Prometheus is a recurring motif in transhumanist and posthumanist discourses. The Titan helped in the creation of mankind by bringing them fire and was eventually punished severely by Zeus for his deeds. In *Prometheus* Trijsje Franssen analyses how the ambiguity of this myth manifests itself in contemporary receptions. She stresses that for transhumanists Prometheus is a symbol of progress and expresses the will to evolve and overcome limitations, whereby he does not only manifest the characteristic of becoming better but also expresses the humanist roots of transhumanism. At the same time, this celebration of a Promethean drive to mastery is supposed to be a target of the critics of transhumanism. A different aspect of Prometheus is being received by posthumanists who not only emphasize the hubris associated with Prometheus, but also employ the myth to reject humanism and destruct its believe in anthropocentrism and human dichotomies, as Franssen explains further.

Criticisms of humanism have most prominently been expressed by German philosopher Friedrich Nietzsche. His diagnoses of Western culture as well as his call for human self-overcoming makes him a prominent ancestor for post- and transhumanist reflections, as Yunus Tuncel points out in his article *Nietzsche*. By rejecting humanist ideals such as human rationality, subjectivity, and consciousness, Nietzsche has been a major source of inspiration for the postmodern philosophical tradition (e.g. Deleuze and Foucault) that influences posthumanism as well as contemporary posthumanists (e.g. Hayles). In contrast to this tradition, Tuncel points out that many transhumanists are reluctant to be associated with Nietzsche’s ideas, in particular his vision of the overhuman (*Übermensch*) as well as his politics. While Nietzsche defends an anti-liberal politics, transhumanists frequently stress their liberal (sometime libertarian) roots. Nevertheless, Tuncel sees some striking parallels between Nietzsche and transhumanism. Even though Nietzsche would have been critical with transhumanist beliefs in scientific objectivity and techno-progressivism, Tuncel argues that both appreciate a similar Renaissance ideal when it comes to questions of human self-overcoming.

**Lands of Cockaygne**

In his article *Utopia* Michael Hauskeller deals with utopian dimensions of trans- and posthumanism. He argues that transhumanism in particular has a distinguished utopian outlook and expresses a far-reaching enthusiasm about a technologically enhanced future. Its faith in posthumanity, where our descendants would eventually find never-ending bliss or even salvation, resembles well know motifs from the utopian tradition. In this regard Hauskeller sees transhumanism’s roots in Renaissance humanism, above all, in Pico’s idea that humans
have no fixed nature but the unique capacity to shape themselves and realize a Godlike potential. By contrast posthumanism, while rejecting techno-utopianism, still welcomes the incorporation of technologies in our everyday life, he stresses, as technologies help undermine structures of domination. Thus technology may support the posthumanist liberationist visions of a redistribution of power, which in itself is an idea that has utopian traits as Hauskeller argues.

Among the most prominent dystopias in technological discourses is that of *Brave New World*. This motif is based on Aldous Huxley’s novel with the same title, which Curtis D. Carbonell interprets in his article with regard to post- and transhumanism. It is no surprise that the infamous “brave-new-world”-argument is a common reference for critics of transhumanism, who see the novel as a prediction for the future of mankind. Transhumanists, by contrast, stress a different reading of the novel, according to which Huxley’s work is rather a warning-sign than a depiction of a transhuman future. Carbonell, while having little sympathy for the misuse of *Brave New World* by “bioluddites”, presents an interpretation of the novel as a transhumanist critique. For him, the novel does not only illustrate the dangers of biotechnologies but also admits the need for advances by a humanistic use of science and technology. Concerning posthumanist discourses, it has to be noted that *Brave New World* did not get much attention so far. Carbonell, however, shows that in particular in Adorno we find an interpretation according to which the novel presents the dehumanizing processes of Americanization. Carbonell stresses that this reading reveals post- and antihumanist elements in *Brave New World*.

Many transhumanists see aging as a disease and have the goal to promote a health span extension, which lies at the top of their list of priorities. Sascha Dickel and Andreas Frewer discuss this topic in the chapter *Life Extension*. By considering different suggested methods of life extension they portray this debate as yet another instance of a familiar utopianism, updated with a particular technological emphasis. According to the authors, discourses on technological life extension or even immortality are characterized by science fiction fantasies and belief in fringe science. Nevertheless, these debates are vigorous, because here central characteristics of modernity, such as individuality, never-ending improvement, and progress are exaggerated. These promises of modernity are responsible for the attraction of transhumanism, too, as Dickel and Frewer argue. By contrast, the cultural framework of modernity has been critically examined by posthumanism. By incorporating posthumanist’s perspectives, both authors point towards a “speculative posthumanism”, which draws some transhumanist visions of life extension into question.
**Neo-Socratic Reflections**

In the article *Politics*, James Hughes investigates in social and political dimensions of the debates and shows transhumanists’ commitment to individual liberty, together with their agreement on techno-optimism and a non-anthropocentric personhood. Apart from these common thoughts in transhumanism, based on a number of surveys that Hughes conducted, he shows the plurality of political views in the transhumanist movement. His remarks also make clear that contemporary transhumanism is mainly split into two camps: libertarians and left-leaning transhumanists. This plurality of positions becomes even clearer considering the great variety of posthumanist thinkers, to which Hughes ascribes a political diffidence. Still some posthumanists are seen as united in their rejection of transhumanists’ position on the question of moral status and citizenship as reproducing humanist prejudices concerning human superiority. Hughes concludes that in particular in the current transition to a post-gender society transhumanists and posthumanists can benefit from each other.

General questions of norms and values in post- and transhumanism are being discussed by Robert Ranisch in the chapter *Morality*. By identifying ten elements of transhumanist morality, he points to a particular tension between their commitment to morphological and reproductive freedom on the one hand, and the transhumanist ideal of human perfection on the other hand. According to the author, it is necessary to dissolve this tension in order not to legitimize authoritarian politics or eugenics. By discussing transhumanist ideas of enhancing morality and the moral status of persons, political and moral questions of these attempts are being analyzed. The possibility of a superior moral and legal status of enhanced persons, i.e. post-persons, is being considered as a specific practical and theoretical challenge for transhumanists. Ranisch argues that posthumanist’s criticism of human exceptionalism, which he sees as central to the humanistic framework of transhumanism, could contribute to resolve this issue. For the time being, however, he holds that most posthumanist authors have failed to bring forward a distinguished normative agenda that could help solving moral questions concerning the use of new technologies.

**Ontologies of Becoming**

Enlightenment humanism is characterized by a dualistic ontology, which is still influential in contemporary Western thinking and perpetuated in social and legal definitions of the “human”. In the chapter *Ontology* Thomas D. Philbeck deals with transhumanist and posthumanist attitudes towards these dominating dualisms as well as their own (implicit) ontological frameworks. While both movements consider the techno-human integration and human dependence on tech-
nology, their ontologies are quite different. According to the author, transhumanism embraces a humanist metaphysics and the Enlightenment belief in rational progress. Transhumanist dualism becomes apparent when prominent visions such as mind uploading are being taken into consideration, i.e. the separation of the mind from the body, which, for Philbeck, reaffirms the dualistic ontological framework of humanism. By contrast, posthumanism actively tries to overcome the predominant dualistic paradigm and seeks for a new ontological framework. Nevertheless, Philbeck regards both movements as unsatisfactory with regard to their ontological reflections. In this context, it must be noted that the author refers to a posthumanist understanding of the posthuman, which differs from the use of the concept in the rest of the collection.

Ontological questions are also analyzed by Martin G. Weiss in the chapter *Nature*. By discussing Heidegger and Agamben, two authors whom he sees as particularly influential for contemporary posthumanist philosophies, Weiss presents their critique of traditional definitions of human nature. After analyzing how both philosophers scrutinize traditional anthropologies and beliefs concerning the essence of human nature, Weiss exposes how transhumanist authors challenge the biological side of human nature. Manipulation and enhancement of human nature, which so far has been deemed to be unchangeable, are seen as liberation and emancipation from our current biological constraints. In this regard Weiss sees transhumanism as confirming the humanist paradigms, which sees self-perfection as an essential characteristic of human nature. This view has been attacked by bioconservatives, who regard our common nature as the basis for human dignity, rights and equality. Since manipulation of human nature threatens our nature, from a bioconservatives perspective, human enhancement technologies need to be banned.

A rigid distinction between post- and transhumanism is being revealed in the chapter *Evolution* by Steve Fuller. He presents Peter Singer as representative of posthumanist thinking on the topic of evolution, and Ray Kurzweil as transhumanist protagonist. Fuller analyzes both of their responses to four central questions: 1. What is their attitude towards humanism? 2. What is the source of conflict between science and religion? 3. What is the meaning of human beings in the process of evolution? 4. Is there a normatively desirable intentional relationship between a successor species and their ancestors? Fuller reveals that post- and transhumanists put forward radically different answers to all of these four questions. He himself is in broad agreement with transhumanist perspectives, but not with posthumanist ones.

In the chapter *The Body* Francesca Ferrando focuses on the shifting ontological and epistemological perceptions of the “human” as an embodied being in the technological age. She reflects on the construction of the “human” by draw-
Introducing Post- and Transhumanism

In her work, the author highlights the importance of recognizing and denying human status, such as the concept of the “human” in Nazi Germany. In the Western tradition, the “human” as well as the human body have been white and male, she argues. Posthumanism provides a radical deconstruction of the “human”, and considers alternative forms of embodiment. This includes the human extension into the digital realm as well as a fusion with technologies. Transhumanism is interested in these alternative forms of embodiment, too. According to Ferrando, however, transhumanists lack a critical reflection on historical configurations of the human body and see it as a mere “outfit”. Consequently, transhumanism is supposed to be more interested in the radical change of this outfit in accordance to individual desire rather than understanding the embodied (post)human as situated in the world and as a result of social-political interactions.

Paragone of the Arts

The fairly new artistic field of Bioart is being dealt with in an article with the same title by Andy Miah. He both presents works of leading protagonists in the field like Stelarc, Kac, Damien Hirst or Bill Viola as well as tackles highly challenging issues such as a definition of the term bioart, reasons for rejecting the term and various ways of how works of bioart can be interpreted both from a trans- as well as posthumanist perspective. Kac’s fluorescent bunny represents a particularly helpful case, at which both trans- as well as posthumanists elements of bioart can be explained, from Miah’s perspective, because it disrupts biological boundaries but at the same time locates the potential of genetic alteration technologies in a social context.

A related concept to that of bioart is the one of New Media Art. In an article entitled such, Evi Sampanikou, is concerned both with the genealogy of new media arts as well as with some current trends and their relationship to the various beyond humanism movements. By drawing upon historical developments, she describes the heritage of conceptual art within posthumanist works, whereby she focuses on the works of Beuys, Nam June Paik, Bill Viola and Shirin Neshat and William Kentridge. In this context, she also analyses the relevance of philosophical and theoretical reflections for the shifts which had taken place. Concerning transhumanist works, Stelarc, Orlan, Patricia Piccinini and Eduardo Kac are being recognized in particular.

In the chapter Literature Marcus Rockoff analyzes how themes of post- and transhumanist thinking can be found in literature. By focusing on transhumanism, he shows which traces of this paradigm can be found in selected pieces of works. For this sake the author distinguishes three classes of references in litera-
ture: 1. References to technologies that are central for the transhumanist project (e.g. Gibson’s *Neuromancer*). 2. References to transhumanist motifs and themes (e.g. Shelley’s *Frankenstein*). 3. Explicit references to the transhumanist movement (e.g. Brown’s *Inferno*). While transhumanists as well as its critics frequently try to find support for their positions in works of literature, Rockoff expresses doubt whether this attempt could be successful. He rather stresses the plurality of plausible interpretations, which could support even contradicting theories. The author finally reveals the importance of different interpretations, whereby depending on the reading, a work could also be seen as portraying both transhumanist and posthumanist insights (e.g. Houellebecq’s *The Elementary Particles*).

The genre of *Science Fiction Literature* is being considered by Domna Pas-tourmatzi. It is most probably the oldest genre in which post- and transhumanist issues have been described, interpreted and developed. A hermeneutic analysis of theoretical (from Haraway and Hayles to Dvorsky and Young) and practical (from the use of science fiction to the trans- and the posthuman condition in science fiction) issues of this topic provides the outline of her detailed insights concerning specific issues. Her description of some recent historical developments in the genre (in particular the previous 40 years) permanently recognizes the relevance of intellectual reflections from various traditions. Continental thinkers with posthumanist associations (Jean Baudrillard, Gilles Deleuze, Rosi Braidotti) are being referred to in the same way as thinkers who in some way are being linked to transhumanist thinking (Aubrey de Grey, John Harris).

Well known to a wider audience are post- and transhumanist issues in the *Movies*. Dònal P. O’Mathúna, is concerned with prominent beyond humanist themes in this artistic domain. The topics of understandings of technologies (*Star Trek*), anthropocentrism (*Blade Runner Bicentennial Man, I, Robot*), problems related to technologies (*Metropolis*), controlling evolution (*Dr. Jeckel and Mr. Hyde, I am Legend, 2001: A Space Odyssee, Avatar*), injustice (*The Time Machine, Brave New World, Gattaca*) and embodiment (*Surrogates, Vanilla Sky*) are focused on in particular such that the reader becomes familiar with some of the most central beyond humanism themes. The article makes clear that even though the amount of movies with both post- as well as transhumanist themes is enormous, it is quite challenging to identify specific movies as post- or transhumanist ones.

In contrast to the movies, the field of *Music* is rarely being considered when post- and transhumanist issues are being analyzed, even though these themes are of central relevance for many musically relevant perspectives, as Stefan Lorenz Sorgner shows. Thereby, he explains how such issues turn up in musical and operatic works (e.g. by Michael Nyman, Philip Glass, Richard Wagner or Sven
Helbig), how technologies are being used for compositional purposes (e.g. *The Eyeborg* by Neil Harbisson), how traditional boundaries between composing, and performing get blurred (e.g. Jaime del Val), and why and in what way emerging technologies get used within musical pieces (e.g. Kraftwerk or Björk). In all the various cases the ontological and ethical challenges at issue get tackled.

**Bibliography**


