16.

Monster Anthropologies and Technology: Machines, Cyborgs and other Techno-Anthropological Tools

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Abstract

Monsters are not confined to the realm of fiction and fantasy; there are also real technological "monsters", and they play a role in how we deal with the new and with others in our culture. Moreover, as frightening, fascinating, and confusing others, monsters are not only a threat and a problem but have a far more constructive role than usually assumed: they help us to explore and cross borders, probe the darkness of the unknown, and both confirm and subvert the normal and establish ontological and political structures. In the drama of sameness and difference, monsters play on both sides and thus contribute to the ongoing making and breaking of cultures, making and questioning the lines that define it. There is a dynamics of subversion and containment. Engaging with monster theory and relating it to thinking about technology, this chapter argues that Western philosophical anthropology depends on monsters and other hybrid entities to define itself, and shows that these "monster anthropologies" also have a technological face with human-like automata, machines and cyborgs. It argues that these "negative anthropologies", "techno-anthropologies", and other purifications of the human are not only "cultural" or fictional but have a real and material side, are normative and evaluative, for instance in politics and in the humanism/posthumanism debate, and are indispensable for thinking about what it means to be human in a technological age. For this purpose, we need not only discourse but also material-technological practices and artistic-scientific experiments. But if we tame and domesticate our (techno-)monsters, do we do violence to them, is something left out? Can we get beyond modern Western thinking, which relies on monster machines to define itself? Can art and non-Western culture offer us different

ways of coping with being human? And are *we* monsters, posthuman hybrids of organisms and machine cyborgs?

Keywords: Monsters; anthropology; technology; machines; cyborgs; robots; techno-anthropology; negative anthropology; posthumanism; alterity; cyborgs

16.1 Introduction

At first sight, monsters have little to do with technology. They are usually seen as frightening imaginary creatures that dwell in the realm of fantasy and fiction. They belong to "culture". Technology, by contrast, is seen as belonging to the real and material realm, such as the world of work, industry, and day-to-day life and business. Technology is part of economy; of how we deal with "nature", and of daily, ordinary reality. Monsters live in tales; we live in the real world.

When we look at how people respond to new technologies, however, a rather different picture emerges. In our fear and fascination with new technologies, "monster" and the "monstrous" are often used as metaphors. For instance, genetic modification of plants, animals, or – o horror – *humans*, is seen as monstrous. Human-like robots are experienced as monsters. And so-called transhumanists who attempt to "enhance" themselves by merging themselves with technology – who try to become cyborgs – are seen as monsters. How can we make sense of this? What does it tell us about monsters and their role in our culture? And what does it tell us about the way we think about technology, humans, and all kinds of others?

In this chapter, I reflect on the cultural and philosophical-anthropological role of monsters, in particular, technological monsters. After introducing technological monsters and responding to existing monster theory, I argue that all kinds of monsters, including technological ones, are not only a "problem" but have a far more constructive role in cultures: they are used and are indispensable in the making of cultures and in thinking about what it means to be human. I show that machines, cyborgs, and other techno-anthropological tools are used to define what the human is, and that this exercise is not merely a matter of "cultural discourse" and textual interpretation but also includes, and should include, technological-material and artistic practices. I also critically reflect on how we do this in modernity – in particular what form this takes in the modern "West" (we use monster machines) – and ask if there may be alternative ways of coping with being human. In the course of my discussion, I also take into account thinking about (and the concept of) alterity. At the end I ask what might get lost if we tame the monster (perhaps there is something problematic about monster domestication) and if there is a sense in which humans are monsters: posthuman hybrids of organisms and machines.

16.2 Technological monsters as a problem: The fearful and fascinating crossing of boundaries and categories

Monsters radiate a lot of meanings that point in all kinds of directions. These meanings leave the realm of fiction and wander into what are usually considered to be "real" issues and domains, ranging from thinking about capitalism to thinking about genetically modified organisms. Monsters play an important role in culture, providing meaning and metaphors to understand ourselves and our world. The history of culture, therefore, is also a history of monsters at the same time. Asma (2009) gives some examples of historical monsters: ancient (griffins, hermaphrodites, hydras, centaurs, Cyclopes), medieval (demons, dragons, ghosts, golems, witches), and modern (conjoined twins, microcephalics, craniofacial anomalies, psychopaths, terrorists). Indeed, each time has "their" monsters (Dixon 2008, 672).

When it comes to thinking about *technology*, monsters also play a crucial role. A very influential myth in this domain, at least in the modern West, is the *Frankenstein* story. Influenced by Gothic Romanticism and by scientific experiments of her day (e.g. galvanism), Shelley wrote *Frankenstein* (1818): the story of a scientist who creates a "monster" – constructs a body out of lifeless body parts, life created from the lifeless – and then flees from it. The "Creature" then becomes malicious and turns against him. The story is often interpreted as a warning against technology going out of control. Technologies, especially technologies such as genetics and robots and artificial intelligence, are thus interpreted as monstrous, something to be feared. The monster and its creator are blamed for their *hybris*, for "playing God". Moreover, the story clearly explores the boundary between human and non-human, life and lifeless – "monstrous" crossovers.

This monster narrative and these monster meanings live on today in contemporary culture, for instance, science-fiction films such as *Ex Machina*, *Ghost in the Shell*, and *Blade Runner*. But they are also relevant to how people respond to new science and technology. For example, if today surgeons make plans for head transplants (or body transplants, depending on how you look at it),[1] they are accused of playing Dr. Frankenstein and the result – a head of one person attached to the body of another person – may be seen as monstrous. But there are also slightly less gothic examples. Genetics (e.g. genetically modified organisms), bio-engineering (Midgley 2000, 10), "Frankenstein foods" (Botting 2003, 342), and so on are seen as monstrous, but also human-like robots, cyborgs

[1] See for instance surgeon Canavero's plan to do a human head transplant https://www.theguardian.com/science/2015/oct/03/will-first-human-head-transplant-happen-in-2017

etc. receive this response. Combinations of humans and machines are seen as monstrous. Autonomous robots and artificial intelligences are feared for becoming monsters that "take over" or that cross the human/non-human boundary. Thus, not only the life sciences but also computer science and engineering are accused of creating monsters.

However, the emotional-hermeneutic impact of the Frankenstein story is also much wider; it also goes beyond fear to *fascination*. Botting (2003) has argued, Frankenstein myth continues to inform fascinations with science – and indeed science itself. For instance, contemporary genetics can be interpreted as attempts to discover the secret of life and create new, artificial life. It seems that such an aim is straightforwardly Frankensteinian: to infuse dead matter with the spark of life.

Sometimes monsters are intentionally created, by some scientists perhaps, but also and especially by artists, for example in bioArt (Dixon, 2008). Art can make visible the monsters and hybrids that already exist or even create new ones. In this sense, there are indeed "Dr. Frankensteins" at work. But here a merger of art and science is seen as something positive, as work that contributes to understanding our monsters and explicitly creating them, rather than keeping them at a distance.

For some, however, the meeting of art and science remains fearsome, if not monstrous. At the turn of the millennium, Virilio suggested in *Art and Fear* (2000) that, on the one hand, art increasingly uses technological means (he mentions the information revolution and the 'virtual cyberworld,' 95-96) and, on the other hand, science in the form of genetic engineering becomes a kind of art. As genetics becomes creation, it becomes culture, and technoscience becomes theatre. According to Virilio, genetics is a new kind of horrific expressionism: the "expressionism of a MONSTER, born of the labour of a science deliberately deprived of a conscience" (Virillio 200, 50).

Thus, for Virilio the combination art and science, one that creates the transhuman, leads to horrors. It is the road to Auschwitz, to Mengele, to eugenics. He sees a sick world, ruled by biology demiurges – by monsters.

Yet this merger of art and science is not new. During the 19th and 20th century, art and science have been closer than is usually assumed; it is worth further considering those meetings of art and science, and explore what it means for understanding (our relation to) technology today. For a start, the Frankenstein myth itself shows brilliantly how, at that time, art and science were not opposed. Botting writes:

> Imagination and science, romance and reality, art and experimentation, are not simply opposed in the novel. The division of faculties between arts and sciences has yet to occur. Poets, like Shelley's husband, Percy, dabbled in experimentation and scientific theory. (Botting 2003, 339)

Indeed, this mixture of art and science did not only happen in fiction. As I also show in my book *New Romantic Cyborgs* (2017), at the time, there was a "Romantic science" that combined a Romantic imagination with practical, experimental science. There was a fascination with electricity and generating new life. Frankenstein's monster was a Romantic monster, created in the imagination but rooted in real Romantic science. (Botting [2003] goes even as far as to blame art, not science, for creating the monster [340].)

As said previously, the usual response to the myth is to blame the monster, which has gone out of control. The message is that one should be cautious: one should not "play God" and one should not create technology that one can no longer master. But on a careful reading of the story, one should also blame the creator for not taking responsibility, for abandoning the monster. This is an important lesson for the philosophy of technology: the designer should take responsibility for her creations. Today this is recognized in the philosophy of technology, at least since the work by Winner (1997): abandoning the monster is a flight from responsibility (Winner 1997, 309). He argues that people release technology into the world with cavalier disregard for consequences' and 'with no attention to the ways in which these "tools" unexpectedly rearrange their lives'. They participate in 'megatechnical systems far beyond their comprehension or control' and passively accept technologies (Winner 1997, 314).

However, the monster is not only monstrous because it is out of control. What is so monstrous and fearful has to do with something else, something that penetrates deeper into our culture. Here a philosophical perspective helps to better understand the nature of the monstrous: the monster rises when there are phenomena that do not fit our categories. This is what frightens us so much; at the same time, it also explains our fascination. This is what is at stake in Frankenstein and "Frankensteinian" genetics, where the dead/alive border is crossed. This is what is at stake in the robotics and AI that creates cyborgs and other illegitimate mergers of humans and machines. To better understand this, let us turn to philosophy and cultural anthropology.

Derrida (1992) has argued that monsters refuse to fit. Monsters make us aware of what is normal; they remind us what the norm is. As "disturbing hybrids", they refuse to participate in the "order of things" (Cohen 1996, 6). Kristeva (1982) has argued that abjection, which arguably we feel when we are confronted with a monster, is the result of a threatened breakdown of meaning, caused by the loss of distinction between subject and object, and self and other. The monster, as abject, draws us towards a place where "meaning collapses" (Kristeva 1982, 2). Abjection is caused by that what does not respect borders, by the "in-between" and the "ambiguous" (Kristeva 1982, 4). Thus, feeling disgusted, for instance, is not only a kind of moral judgment,

as Midgley (2000) suggests; it may also signal the threat of the collapse of ontological order. Its meaning and significance are closer to Midgley's interpretation of traditional myths: "Traditional mixed monsters--minotaurs, chimeras, lamias, gorgons--stand for a deep and threatening disorder, something not just confusing but dreadful and invasive." (Midgley 2000, 10).

This is also how we can interpret monstrous technology. If we think that genetic modification of humans or head transplants are monstrous, it is because we have difficulties in categorizing and giving meaning to crossings of borders and categories. In our order of things, there were clear distinctions between the living and the dead and between the natural and the artificial. These new developments in the biosciences and medicine threaten and shatter that order and these distinctions.

Similarly, information technology also "produces" monsters and has difficulties dealing with ambiguity, with people that do not fit its categories and procedures. If someone makes herself into a cyborg by modifying her body with technological apparatus, the line natural/artificial is crossed. If a robot were to become very human-like or if a human were to get a robot body, it would make us question the human/non-human border and, again, the dead/alive or material/cultural categories. We have difficulties giving meaning to these new phenomena since they do not fit the ontological order we assumed.

At the same time, this ontological order is also a social and political one. Monsters are also, literally, abnormal: they deviate from the norm. Some people are stigmatized and marked as monstrous, such as immigrants or refugees (see also Castro Verala's contribution in this volume.) Technology can play a crucial role in this making of social and political monsters. Murray (2007) has argued that biometric technology, while pretending to be neutral, involves all kinds of biases and presupposes a "normal" body. She writes: "Biometric technology claims to be able to determine who someone "is" based on the appearance and measurement of his/her body parts." (Murray 2007, 353) But these technologies and procedures monsters, foreign and perhaps dangerous others (I will say more about otherness in next section), who are not "normal" according to the algorithm or whose bodies cannot even be "read", are illegible:

> Biometric technology is a visualizing technology, transcoding one's body into an image consisting of a binary digital code, and it is designed to flag particular users as dangerous; it predicts and assesses risk, and it does so through the measurement of a user's body part. Biometric technology, as is made clear through the illegible body, is gauged in the West for an image of normativity as a white, white-collar male; it delegates as "Other" those who do not meet this image. (Murray 2007, 354)

Here technology is used in a way that sorts people: the biometric household involves social sorting. Some fit, others not. People are sorted into categories, into the social order. But some bodies resist digital identification (Murray 2007, 356); they cannot (entirely) be translated into computer code. The technologies thus "produce as monstrous those bodies "Othered" by idealized, wealthy, young, white, male bodies" (Murray 2007, 360). These people are neither citizens nor non-citizens since they are illegible. They are what one could call "no-body". Moreover, as Murray also shows, at border controls, some people with higher socioeconomic status have a fast track, while others have to undergo more screening. Some bodies and some people move faster through the globalized world than others, and it is the technologies that contribute to this sorting, or more: make this sorting possible. There are "normal" people and "abnormal" people, "monsters".

Yet our response to monsters is not only one of fear and fascination; as Smits (2006) has argued, we also try to expel the monster, and if that does not work we try to *tame* it, we try to fit it. We try to force the monsters into our categories, ontologically but – heeding Murray's analysis – also politically: we try to force people that do not fit the standards of normality into the normal. This also happens to technological monsters. For example, we try to say that a humanoid robot is *a mere machine* (we force it into the categories of artefacts and objects) or that a genetically or technologically modified human *is still a human* (we force it into the categories of humans and subjects). We usually try to keep up the ontological and political order. Let us further explore a more cultural-anthropological take on this.

Douglas (1966) has argued that ideas about impurity and danger are applied to phenomena that do not fit into cultural categories. There is a cultural order, and that order is also normative: what does not fit into it is "impure", out of place, unnatural, etc. – in other words: it is a monster. Smits (2006) has usefully applied this idea to new technologies, which are at first monstrous: "New technologies are sometimes deeply ambivalent, bringing together, as they do, cultural categories assumed to be mutually exclusive." (Smits 2006, 499) Hence first there is fear and fascination. But then, if it turns out that the monster cannot be expelled, people try to domesticate it: to fit it, to adapt to it, to make it part of the cultural and societal order. Perhaps they even embrace it. Indeed, the most radical strategy, perhaps, is what Smits calls assimilation: "monster assimilation refers to a strategy of adapting not only the monster but also the cultural categories by which it is judged" (Smits 2006, 501). Here the cultural categories themselves are adapted. Smits gives the example of brain death, a new notion made possible by new technologies. A new definition was necessary after new technologies that keep someone "alive", and new transplantation techniques emerged.

To conclude, monsters are not culturally or normatively neutral: as they make us question our categories and distinctions, they deeply "touch" our culture and our thinking, and they are literally normative in that they define the "normal", the "natural", etc. They can even *change* the ontological and social order. Therefore, Smits calls for "monster ethics" (Smits, 2006, 500). However, in Smits approach, monsters are still mainly seen as a *problem*. In the next section I stress the *constructive* role of monsters in our culture and in defining the human. I also ask what might be lost when we tame (e.g. assimilate, adapt to) the monster – if it can be assimilated and domesticated at all – and ask whether *we* are monsters.

16.3 The constructive role of monsters in cultures and in defining the human: Monster machines and the negative anthropology of non-machines in Western modernity

Monsters do not only cross the line; they also help us to draw the line, establish the very categories they question, threaten, and damage. For example, discussions about genetically modified organisms or robots do not only question but also reinforce the natural/artificial boundary, as they make us aware of how culturally important and normatively significant these boundaries are for us, moderns. Often the monster becomes tame, and then the cultural-ontological and political order is reinforced and confirmed, rather than destroyed. What does not kill the order makes it stronger. Thus, on the one hand, monsters subvert existing ontological and political orders; on the other hand their integration and normalization lead to a consolidation of those orders. There is a dynamics of subversion and containment.

Yet monsters often refuse to be domesticated (Dixon 2008, 672), and it is questionable if they can be assimilated at all. As Kristeva writes on horror at the beginning of her book:

> There looms, within abjection, one of those violent, dark revolts of being, directed against a threat that seems to emanate from an exorbitant outside or inside, ejected beyond the scope of the possible, the tolerable, the thinkable. It lies there, quite close, but it cannot be assimilated. (Kristeva 1982, 1)

Perhaps the truly or radical monstrous cannot be assimilated or *should* not be assimilated; it remains intolerable and abject, it cannot be contained. Monsters can play this role because they are "others", also in relation to the human. They are great anthropological tools to define the human – by means of defining the non-human. Let me unpack this claim: first, I discuss monsters in the light of the concept of alterity; then I introduce the concept of negative anthropology and show the constructive role of monster machines.

Alterity is a concept that refers to "otherness". It usually is traced back to its roots in the philosophy of Levinas (1961, 1995) who argued that humans have a radical difference. But the term can and has also been applied to animals (e.g. Coeckelbergh and Gunkel, 2014) and even to technology: Ihde (1990) identified human-technology relations in which robots, for instance, play the role of quasi-others (Ihde 1009, 97). The ethical point of using the concept of alterity is that if we stress only sameness, we violate the difference of the other (for Levinas: the Other). Instead of regarding others as "same", we should respond to their face and appeal to our responsibility, understood as what one could call *response*-ability.

Monsters, we could infer, are fearful and problematic because they are "other". Monsters symbolize and embody difference. If we try to tame them, we might lose that difference. This may be ethically and politically problematic. Moreover, if we domesticate them, we might lose something we actually need. Perhaps monsters can play a more constructive role. Let us first consider the otherness of monsters, and relate it back to what has been said about the threat to ontological categories and social-political order.

Socially and politically, when we see others as "monsters", we project our fears onto them, and we refuse to recognize the stranger as singular other (Kearney 2002, 5). Thus, such efforts of domestication are ethically and politically problematic. Monsters are "difference made flesh" as they "function as dialectical Other" and are "an incorporation of the outside" (Cohen 1996, 7). The difference can be cultural, political, racial, sexual, etc. For instance, foreigners and indigenous people have been framed as monstrous, and women have sometimes been depicted (literally, but also for instance in Aristotle) as the monstrous other (Gear, 2001). Thus, monsters embody difference. But at the same time monsters confirm the norm, the sameness etc. In that sense, they play on both sides. Furthermore, what is considered "monstrous" or "normal" can change. For instance, Midgley (2000) gives the examples of cruel punishments and abuse of animals: whereas first they were considered "normal", today they are often considered "monstrous" (Midgley 2000, 10).

Moreover, monsters, understood as others, "reveal the undecidable character of many of our neat divisions and orders" and "signal a perplexing experience of otherness which is 'awe-ful'" (Kearney 2002, 121). Monsters signal what cannot be charted, places where dragons reside, mysterious places. But monsters are also within us…; we are not at home with ourselves (Kearney 2002, 50). Kristeva (1982) also finds the abject within (Kristeva 1982, 5); in the end, the monster, the radically unfamiliar, is not only "out there" but is (also and at the same time) to be found in the self. On the one hand, monsters represent what is exiled from the self: on the other hand, the self itself is at least partly monstrous.

However, most accounts of otherness tend to follow Levinas in assuming and defending the *absolute* otherness of the other. As we have seen, for Kristeva, the abject is the *radical* unfamiliar. But if we cannot recognize any sameness in the other, this seems to be equally problematic: then the monster is so "other" that it is entirely out of reach of any efforts of meaningfully and ethically dealing with it. One may even wonder, in that case, if the monster is still monstrous and if there is still any border at all. Then perhaps what we need in monster ethics, is not complete alterity but a more dialectical or in any case a more nuanced view. We need some way of understanding and deciding vis-à-vis the monster, some conceptual and ethical-political interface. Kearney (2002), for instance, criticizes absolute or inflated ideas of otherness in Levinas, Derrida, etc. for leaving us unable to act and judge; instead he defends a diacritical hermeneutics that "ensures that the other does not collapse into sameness or exile itself into some inaccessible alterity; hermeneutics keeps in contact with the other" (Kearney 2002, 81). This is a good argument for not regarding monsters – including technological monsters – as totally and absolutely "other", while at the same time trying to respect its difference and the hermeneutic and ethical-political challenge it poses. However, to develop this approach here would lead to far from the main aim of this chapter. An important conclusion at this point is the insight that monsters are "other", but perhaps not completely other. This is helpful to know since this might be necessary for monsters to play the more constructive role I will discuss now.

First, if we look at how monsters are studied in *cultural anthropology*, we can discern not only the role of threatening but also a role of constructing – including constructing the human. Cultural anthropology shows how historically foreign cultures and people were understood by "us" (the "West", "civilization") as monstrous: people outside "civilization" were seen as barbarians, savages. (In the past, cultural anthropology even helped construct this view of indigenous societies as barbarians.) The other was thus used to define oneself. They indeed embodied and incorporated the "outside", the "other".

Furthermore, cultural anthropology also offers studies of monsters in the myths of indigenous societies. Every society has "their" monsters in their stories (Gilmore, 2002). Note that these monsters are not always seen as merely negative or even evil; sometimes they are also experienced and constructed as rather seductive and fascinating, even if they are meant to threaten (and teach us a lesson). We have our own myths in "the West", and in these myths, there are also monsters. In modernity, our myths typically include machines. This brings me to the next point.

Second, if we look at *philosophical anthropology*, then monsters also play a role – perhaps a rather unexpected role. In thinking about the human and in

defining the human, monsters show what the human is *not*. As such, monsters help us to define the human. For instance, we are *not* gods, and we are *not* zombies. This is also the case for techno monsters such as machines and cyborgs: it is said that we are not machines. The monster is thus the negative of the human. Let me develop this point.

What happens here is part of a more general process in Western cultures: we tend to employ what I have called 'negative anthropologies' (e.g. Coeckelbergh, 2014). Western philosophical anthropology has proceeded via a *via negativa*: we have defined the human by saying what the human is not. What the human "is" has been constructed by using various non-humans: fictional and real animals, machines, and other "others" and negatives of the human. We need others, *non-humans* to define ourselves. For instance, humans have been defined as non-gods, non-angels, non-animals, non-wolves, and indeed … non-monsters. In modernity, this negative anthropology has taken a particular form, which gives a central role to technology, in particular *machines*: we are *non-machines*. This already started with Descartes and his negative machine anthropology.

In his *Discourse on Method* (1637), Descartes uses machines as the negative other of the human. Machines do not appear accidentally in the text; they are central to his anthropology. He uses them to draw the line around the human. He argued that machines can utter words but that they cannot arrange speech "in various ways, in order to respond appropriately to everything that may be said in its presence" (Descartes 1637, 38). The human is the negative of the machine: humans can respond appropriately to what is being said, they respond in a "non-machine"-like way. The machine is the negative of the human, and the human is the negative of the machine.

Note that, heeding our discussion of otherness and monsters, it is necessary that the machine-monster or other monster is indeed an "other", but in order for it to play its constructive role there also needs to be some sameness. The machine, for instance, needs to be a bit similar to the human for it to be a constructive other and a constructive monster in the construction of the human.[2]

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[2] Consider also the concept of the 'uncanny valley' in robotics: in order for a robot (or, we may add, any other non-human) to be uncanny, it needs to be different from a human, of course, but at the same time similar enough. For instance, a corpse is similar (it is a human body, human form) but different (the human is dead), and this makes possible our response that it is uncanny. And humanoid robots are only uncanny, fearful, and indeed "monstrous" if they are experienced as something/someone in-between machine and human. As said, monsters cross boundaries; in this crossing and ambiguity lies their monstrosity.

Today computers, robots, AIs, etc. are used as the negative of the human. They are the new non-human monsters that are used to define us. They continue the *machine* monster anthropology of the West. As non-humans and others (which, as said, nevertheless have some sameness), they help us to construct the human. And they are not only fictional; instead, there are very real material-anthropological exercises in the lab and the artist's studio. The non-human is being built, and there is a lot of work and funding going into it. They are engineered to be quasi-human in order to play the role of the new non-human monster. They are used to show and co-constitute the human difference.

Indeed, this techno-anthropology is not just a "cultural" matter but involves technological and material practices, not only at the desk of the writer but also in the workshop of the engineer and the artist. If we want to explore new anthropologies at all, therefore, we should also consider technological innovation and art. This includes technology and art aimed at the so-called *posthuman*. The monstrous is not only roaming in our own self; perhaps it is also part of the human.

16.4 Beyond modern negative machine techno-anthropologies, or the posthuman challenge: We are monsters

If we want to think beyond the modern machine anthropologies, which define the human as the negative of the machine, what resources do we have? We can explore less dualistic anthropologies by means of art, by looking at "other" cultures, and/or by considering posthumanist anthropologies, which perhaps do not go beyond machine thinking, but at least beyond Cartesian negative anthropology. Here the human is no longer the non-machine; the human-machine border is transgressed. Let me explain the challenge and innovation of this idea, in particular with regard to monster thinking.

For many authors, including Smits, monsters are mainly other, are outside, etc. – and then they have to be tamed or assimilated, or it turns out impossible to do so. But there is a sense in which *we* are monsters and hybrids, with "we" understood as "self" but also as "human". As we have seen, the so-called "other" also constitutes the self, and that means that I am also monstrous. But this can also be applied to thinking about the human: the other and the monster we have used to define the human (in a negative way, as the negative of the other, the negative of the monster), is "closer" than we think: it is actually already part of the human, of what the human is. This way of seeing ourselves goes beyond dualism.

A first step to break dualism is always inversion: we can say that we are the other, the monster. For instance, to say that *humans are machines* cuts through human-machine dualism and questions the Cartesian negative

anthropology that sees us as the negative of machines. (Similarly, we can say that "we" are also animals, women, etc. – using whatever others and monsters we have used in the past, but now in a new way.) This inversion is monstrous, of course, as it radically calls into question the very distinctions and categories of the philosophical-anthropological order we have set up. It is an attempt to change that order; it is revolutionary.

In sociology, Law (1991) has argued that we are part-machine (Law 1991, 17). The line between humans and machines is variable. There are no clear dividing lines in the order of things. We are a place where incompatibilities come together (Law 1991, 19). And for Law, this is not only problematic; monsters can also be hopeful (Law 1991, 17-18). Indeed, in this kind of thinking we should be tolerant towards monsters and hybrids, if not positive, since they liberate us from the old order of things. Or more precisely: they liberate us from a misleading conception we have of that order and of ourselves. Perhaps *we have never been modern* and always existed and lived in a way that cuts through the modern dualisms, as Latour (1993) argued. Moreover, this kind of view also opens up more variety and plurality, especially if we consider the radical relationality of the human (see also below). As cyborgs we are members of many worlds and networks, and cyborgs subvert the standardized: if "humans and machines are intermingled" (Star 1991, 43) then reified boundaries break down.

This point can also be put in the language of monsters. Lestel (2012) has argued that humans do not only love monsters – we are a species that loves monsters – but that monstrosity is a characteristic of human beings. We are Darwinian and are part of a global ecosystem, and this makes *homo sapiens* a "monster animal" (Lestel 2012, 259). It does not "play the species game" (Lestel 2012, 260). And since *Frankenstein*, and probably already since the Minotaur (which, however, was still *born* rather than created), the biological, cultural, and artificial hybridize. Lestel sees the creation of the posthuman as an attempt to go beyond evolution (Lestel 2012, 261). This is monstrous, but if indeed we have always been monster animals, it is merely *a new kind of monstrosity*. The biological becomes contaminated by the technological (Lestel 2012, 262). Organ transplants are "a triumph of the monstrous" (Lestel 2012, 263) and the development leads to the cyborg. We love monsters since we are monsters and since they are our future: "We love monsters not only on account of the fact that we are Darwinian monsters, but also because monstrosity is our future and we are, simply, condemned to loving monsters" (Lestel 2012, 267).

Such a "cyborg" and "monster" view is in line with posthumanist views of the human and contemporary views of human-technology relations that see humans as hybrid and technological beings. Haraway (2000, 2008) sees the

cyborg – a hybrid of machine and organism - as a fictional creature, but she also discerns the cyborgs in science and modern medicine. For Haraway, such hybrids are not a problem; on the contrary, they are the protagonists of her posthuman myth. We are all cyborgs (Haraway 2000, 292). She writes:

> By the late twentieth century, our time, a mythic time, we are all chimeras, theorized and fabricated hybrids of machine and organism. In short, we are cyborgs. The cyborg is our ontology; it gives us our politics. The cyborg is a condensed image of both imagination and material reality, the two joined centres structuring any possibility of historical transformation. … This chapter is an argument for pleasure in the confusion of boundaries and for responsibility in their construction. It is also an effort to contribute to socialist-feminist culture and theory in a postmodernist, non-naturalist mode. (Haraway 2000, 292)

Thus, the confusion of boundaries – typical for the monstrous – is for Haraway pleasurable and transformative. Her posthumanism is monstrous, and she invites us to love the monster. And this view also illustrates again that monsters are normative and evaluative: they project a view of how the human *should* be (understood). Similarly, Latour (1993) has argued for recognizing hybridity. Whereas modernity usually sharply distinguishes between the natural and the social-cultural, for Latour we have never been modern: our world is full of hybrids.

As Smit (2006) also recognizes, Haraway's cyborgs and Latour's hybrids are a kind of monsters: "Like monsters, cyborgs represent tension-filled mixtures of organisms and machine, or of the human and the animal" (Smit 2006, 502). Haraway embraced the monster. Latour's relation to hybrids is less clear, perhaps he recognizes them but seems to want to limit their number. But in any case, we have views here of the human and of human culture in which the monstrous is recognized as part of the human, rather than banned to the non-human or to Otherness, to the land of alterity. While attention to monsters in technological practices (and elsewhere) can help us to become more sensitive to difference, as the biometric technologies example showed, there is also a sense in which all humans are the same; this is so not because they share an essence but because of their relational nature: what they are as persons and as humans is constituted by what and whom they are related to. Their existence and selves are strongly entangled with others, with their technologies, and with their environment.

It is a view that leads to what we could call a far more *relational*, and certainly less dualist anthropology than the Cartesian one. In posthumanism understood as a relational view, I am constituted by the others and the relations I have to these others, and neither do "they" have absolute alterity and difference, nor do "I" or "we" have absolute sameness and identity. A relational view even cuts through the alterity/sameness and identity/difference dichotomies. And in the

end, it shows that we are monsters and need our monsters in order to be the humans and selves that we are.

This takes us far beyond Smits's strategies of taming and assimilation. It invites us to reflect not only about what it would mean to give more respect to the wildness of the monster (to have it retain some of its alterity, not to tame it completely), but also what it would mean to recognize the monster in ourselves and to cope with the monstrosity of the human, understood in terms of post-humanity and the relationality.

16.5 Conclusion

For thinking about technology, we may conclude that the Frankenstein story teaches us not only that responsibility for technology is also with the designer; it also reminds us of the cultural and anthropological roles of technology and their philosophical significance. Technology is more than an instrument that is meant to do what it is supposed to do, in the sense that it has unintended consequences, *but also* that it is culturally meaningful and *functions as an anthropological tool*. There are techno-anthropological exercises that define the human by means of technological and other monsters. This does not only happen in fiction and the study room of the philosopher or literary critic, but also in the lab of the scientist, the workshop of the engineer, and the studio of the artist.

For thinking about cultures, this means that monsters are not only a problem, but also play a constructive role. They challenge and corrode our established concepts, lines, categories, and order; but at the same time, they also help to construct it. When in modernity we try to tame our monsters, then, we might lose some of the very building blocks of our world order.

For thinking about humans, it turns out that *we are made by monsters* and other others, and that perhaps we are monsters ourselves. Indeed, if our modern Cartesian way of defining the human with its focus on machines as the negative is problematic, then we can now discern a view that respects hybridity, alterity, and indeed monstrosity, which is then seen as something that is not only problematic but also something we *need*.

Perhaps we can also learn from other cultures to get beyond our thinking about humans as the negative of machine monsters. There may be different ways of coping with being human: different myths, different technological practices, and different art. Other cultures may also have a different relation to their monsters. Further research needs to go into building bridges and dialogues between different cultures and their monsters, and into new and better anthropologies – monster anthropologies and others.

For thinking about alterity, the present text stresses that we should also consider *technological* others, also include monsters. Alterity is not just about humans or animals (Coeckelbergh and Gunkel, 2014) but also technology. Alterity is not only cultural; it is also in the material; or rather, as being something monstrous itself, it crosses these borders. Moreover, I have suggested that we can think beyond the alterity/sameness dichotomy. This could also be beneficial for developing a more comprehensive account of how we use monsters constructively, relying on their difference *and* sameness. Monsters can only play this constructive role, it seems, if they are what we could call *similar others.*

For thinking about monsters, finally, this chapter evokes a wide and rich field of interpretation that sheds some light on how we cope with new technologies, on our relation to technology, and how we think about what it means to be human. The latter turns out to always involve thinking about and shaping our relation to technology. We construct and use technological tools to shape the human; what the human "is", is shaped by our tools and by the other monsters to which we are related. And if posthumanists are right, we are both human and technological. Then we are monsters.

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