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Drees, W.B.

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Humans, Humanities and Humanism in an Age of Technology

Willem B. Drees¹

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Harry Potter's world as described by J.K. Rowling in a series of books for children is not the world of us, ordinary humans.² Owls delivering letters overnight would be handy. Howling letters that criticize their recipients in public might be embarrassing. In the Harry Potter books, some humans cross species boundaries when they transform themselves into dogs, rats, cats and other animals. There is a map that shows in real time where in Hogwarts everyone is. We poor muggles have to be satisfied with the world of Dudley Dursley, haven't we?

Do we? Upon closer inspection, our world has as much magic as Harry's. No owls delivering spoken letters, but small objects called 'telephones' allow us to talk with loved ones thousands of miles away. Spoken e-mails may well be next year's novelties. We scan brains and can intentionally change our mood pharmacologically. Crossing species boundaries by surgically integrating 'spare parts' from pigs into humans, xenotransplantation, is on the horizon (though the pigs don't consider them spare parts). A map that shows in real time the whereabouts of our children may be expected soon. Virtual reality is a reality. Civil engineering, medical technology, pharmacology, the World Wide Web: we live with inventions that have changed our world.

These developments are changing ourselves as well, our culture, our identity, our hopes and nightmares. Life's challenges are approached in a technological mood, as problems to be solved. But we are ambivalent about technology; will it be the end of human creativity and freedom? In this chapter, I will reflect on technological culture, on humans in an age of technology, and on the humanities, the academic disciplines that consider human

¹ I am grateful to Anthony Pinn and colleagues of the Institute for Humanist Studies for inviting me to a symposium on humanism and technology at Rice University, Houston, November 14-16 2014. The research project "What Can the Humanities Contribute to our Practical Self-Understanding?" funded by the Netherlands Organization for Scientific Research, NWO, has been a fertile context for the development of ideas presented here. Various elements in this contribution build upon earlier work of mine, especially on technology as culture ("Religion in an Age of Technology", *Zygon: Journal of Religion and Science* 37 (2002): 597-604; "Playing God? Yes!" Religion in the Light of Technology", *Zygon: Journal of Religion and Science* 37 (2002): 643-654); the character of the humanities (*Naked Ape or Techno Sapiens? The Relevance of Human humanities*, inaugural address, Tilburg University, 2005; http://www.drees.nl/wp-content/uploads/2015/01/150008_oratie_prof_Drees_web.pdf), and on religious and non-religious views of life (*Religion and Science in Context: A Guide to the Debates* (London: Routledge, 2010), chapter 4).

² Seven volumes, beginning with J.K. Rowling, *Harry Potter and the Sorcerer's Stone* (New York: Scholastic Press, 1998), and ending with J.K. Rowling, *Harry Potter and the Deathly Hallows* (London: Bloomsbury, 2007).

self-expressions in our time. In this context, I will argue that in a humanist orientation technology and morality should be thought together, to serve the human potential for action.

A Technological Culture

Before we come to reflect upon human self-understanding and the humanities in an age of technology, let us reflect briefly upon technology. Technology is not just tools, gadgets and machines. We live in a technological culture.

Dimensions of technology

When speaking about technology, most people at first refer to *devices* such as the telephone, the car, and the refrigerator. We live with technological artefacts. These devices cannot function without *infrastructure*. Think of the telephone network, electricity, and gas stations, and behind those, more infrastructure: refineries, ships and pipe lines, oil wells. There the sequence ends, as the oil deep down in the ground is not itself a product of human technological activity.

‘Devices’ and ‘infrastructure’ are the material manifestation of technology, but infrastructure is also organization. Technology is a *social system*, for the kind of actions it requires and for the services it provides. And technology depends on *skills*, and thus on educational systems. Highly technical medical disciplines such as surgery are certainly also about technical skills of the humans involved, but skills are involved for ordinary people as well; driving a car is a technical skill. The need for proper skills shows up clearly when young children teach their parents how to use a smart phone; the young ones are technologically native, having learned the skills just like they learned walking, whereas many older persons have to acquire relevant skills by instruction and effort.

So far, I have referred to two ‘layers’ of technology: its material manifestations in devices and infrastructure, and its social dimension as organization and skills. There is a third layer: We can also consider particular *attitudes* ‘technological’. It refers to a way of life in which a problem, whether a leaking roof, illness, or miscommunication, is not accepted as a fact of life, but rather seen as a problem to be addressed. An activist attitude, sitting down to analyze a problem in order to solve it by practical means, is part of our lives. This is to us so self-evident, that we may find it hard to understand cultures in which a tragic or fatalistic attitude is more common. The ‘technological attitude’ brings us to a major existential question: How do we see human action in relation to the wider understanding of reality? When do we accept our fate and our limitations? When do we seek to change the situation?

We live in a *technological culture*. Technology is not a separate segment of our lives, but it pervades and shapes our lives, it is the world in which we live. Antibiotics and sewage systems changed the sense of vulnerability, reducing in the Western world significantly the number of parents who had to bury their own infants. Oral contraceptives changed relations between men and women and between parents and their children. The philosopher Albert

Borgmann offered a pessimistic view, as new technologies undermine communal life and individual effort.³ Thanks to the refrigerator and the microwave we can eat whenever it suits us, individually, and each according to his or her taste, and thus the common meal as a major characteristic of the day has lost significance. Central heating has made the common room with the fireplace less important; we can each spend our time in our own rooms in the way we like. Music is available without effort on my side. Technology, as Borgmann sees it, fosters individualism. I think his view is more techno-pessimistic than warranted. Technologies transform culture and social life, but do not necessarily undermine it.

A Brief History of Technology as Cultural History

That technology and culture are intertwined can be made clear by considering the history of technology as cultural history, and not just as a history of inventions.⁴

Tool making and the ability to maintain, and use fire intentionally is tied up with the emergence of our own species, including its social structures. More recently, some 1500 years BCE, the transition from copper to iron changed social structures, since copper had been relatively rare and thereby created an elite, whereas iron ore was widely available and thus more democratic, but at the same time more demanding in handling; the transition strengthened the emerging division of labor as blacksmiths were needed. Agricultural technologies such as the domestication of animals, the improvement of wheat and other crops, and much later of farming tools such as the plow allowed again and again a greater production with less workers, thus creating the opportunity for the rise of cities in northern Europe in the early centuries of the 2d millennium.⁵

In more recent European history, accurate time keeping and the invention of the printing press may have been major factors in the transition from the medieval to the modern period. It has been argued, with some right, that the Protestant Reformation was a consequence of the printing press. New labor relations arose due to technology. A good example is the shift from home production of textiles to factories when they shifted from waterpower with locations spread out along the river, to coal as the source of energy factories concentrated close to the coalfields. In the absence of affordable passenger transport, workers had to live nearby, in houses they had to rent from their masters. Thus,

³ Albert Borgmann in his *Technology and the Character of Contemporary Life* (Chicago: University of Chicago Press, 1984).

⁴ Jared Diamond, *Guns, Germs and Steel: The Fate of Human Societies* (London: Random House, 1998); Ian McNeil, ed., *An Encyclopedia of the History of Technology* (London: Routledge, 1990).

⁵ Lynn White, Jr., *Medieval Technology and Social Change* (Oxford: Oxford University Press, 1962), especially chapter 2; recent quantitative research by Christian Skovsgaard, Ph.D. candidate at the University of Southern Denmark with his supervisors Thomas Barnebeck Andersen and Peter Sandholt Jensen; see Christian Skovsgaard, *The Heavy Plough and the European Agricultural Revolution of the Middle Ages. Evidence from a Historical Experiment* (2013);

<https://docs.google.com/viewer?a=v&pid=sites&srcid=ZGVmYXVsdGRvbWFpbnxjaHJpc3RpYW5za292c2dhYXJkY3Z8Z3g6NDRINDU0ZjdHM2ZzhNmMyYQ>, accessed June 2 2015.

we see the rise of major industrial cities, with social arrangements such as regular working hours and other forms of standardization.

The steam machine was followed by the freedom of internal combustion. What the car has done to social relations is enormous: separating for commuters the spheres of home and work, while diminishing the possibility for children to play safely outside. Controlling electricity in the late 19th century with subsequent developments in the 20th century (electrical light, telephone, radio & TV, computers and the internet) added to the enormous cultural transformations of our time. As just one indication of how fast the developments are going: the very first 'www'-type communication took place between two computers at CERN in Geneva on Christmas Day of 1990.⁶

Some have suggested that the internet has created 'cyberspace', a new domain, free floating and remote from traditional human activities, as if we are starting all over with a new reality. This language was severely criticized by Michael Dertouzos in an essay in 1981:⁷

The press and most soothsayers tell us we must prepare ourselves to enter Cyberspace – a gleaming otherworld with new rules and majestic gadgets, full of virtual reality, intelligent agents, multimedia, and much more. Baloney! The Industrial Revolution didn't take us into 'Motorspace'. It brought motors into our lives as refrigerators that preserved our food and cars that transported us – creations that served human needs. Yes, there will be new gadgets, which will be fun to use. But the point is that the Information Marketplace will bring useful information technologies into our lives, not propel us into some science fiction universe.

Technology does not create a different world, but it has made our world different, and will continue to transform our culture.

Human Self-Understanding in an Age of Technology

Technology is more than a tool: We are *artificial by nature*, to use a phrase by Helmuth Plessner.⁸ We use technological images to speak about ourselves and our experiences. Who has never been 'under stress', feeling 'huge pressure'? Do you occasionally need 'to blow off steam'? These are images from the steam age. Though in Christianity, humans are considered to be 'in God's image', we speak of ourselves with images of machines. This is not exclusive for the steam age. The early radio technology left its own traces in our language - we need 'to tune in' –, and computers and the net are modifying our vocabulary

⁶ Tim Berners Lee, *Weaving the Web: The Original Design and Ultimate Destiny of the World Wide Web* (New York: HarperCollins, 2000), 30.

⁷ Incorporated in Michael I. Dertouzos, *What Will Be: How the New World of Information Will Change our Lives* (New York: HarperEdge, 1997), 11.

⁸ Jos De Mul, *Kunstmatig van nature: Onderweg naar homo sapiens 3.0* (Stichting maand van de Filosofie, 2014).

and self-understandings right now. Though these may seem just figures of speech, those technological models do make us focus on particular features of human existence.

Outsourcing human capacities

Not only has our self-image and self-understanding been influenced by technology, but so have our lives. We have outsourced aspects of human existence, and in doing so our understanding of humanity has changed.⁹

With *tools* we still had to provide power, but could do things that we would not be able to do with our bare hands. Rather than an immediate relation between action and result, there is an intermediary tool, such as the hammer. But still, action follows a fairly direct sequence: the human wields the hammer; the hammer hits the nail. Aside of tools, we also see the development of instruments of observation, such as the telescope and microscope, that have extended our observational abilities, especially since the 17th century. Tools extend our limbs and organs.

Harnessing sources of power, whether those of wind, water and animals, or those of steam engines and internal combustion, has allowed us to let *machines* do substantial physical labor. Machines need human control, partially realized via feedback loops, such as the thermostat to control temperature. Rather than approaching causality in term of impact, we have come to see processes as subject to laws, stable relations that explain under which conditions a phenomenon occurs. The Industrial Age of the 18th and 19th century coincided with the rise of modern science, understanding reality as lawful. What in an earlier stage was left implicit as knowledge of skilled persons, has now been analyzed so that it could be implemented in a process done by machines and workers. Production is depersonalized, relative to the earlier stage which still is more typical of artistic production.

While the Industrial Age outsourced power, modern information technologies have allowed us to move further in objectifying and outsourcing processes previously considered typically human. Chess may be a typical example, symbolized by the 1997 match of world champion Gary Kasparov and Deep Blue II, won by the computer, or rather, by the human team that developed the computer. Other tasks such as face recognition and automatic translation turned out to be much harder to handle, as there is more ambiguity and context dependence in language and social interactions, but technology has become better at such tasks in recent years. The variation and confusion that can be handled automatically has increased, as analytical skills and learning abilities have been objectified too. Thus, what used to be 'typically human' is gradually objectified and outsourced, and thereby modified, extended and improved.

Playing God? Human powers and responsibility

⁹ Maarten Coolen, *De machine voorbij: Over het zelfbegrip van de mens in het tijdperk van de informatietechniek* (Meppel: Boom, 1992).

We are not merely shaped by technology; we are its creators as well. The powers we have acquired may give rise to an unnerving question: Are we overstepping a boundary? Are we 'playing God?'

The 'playing God' metaphor may be used in two different contexts. The traditional meaning can be illustrated by concerns we may have about the death penalty: Are we allowed to decide on issues of life and death? There is no doubt that we have the power to can kill someone; the grave question is whether we should use our powers.

The question whether we overstep a boundary arises also when we acquire new powers, for instance in selecting embryos and modifying genes. When humans act, we can distinguish schematically between an action and the circumstances, the conditions under which one acts. Raising children is a human responsibility, involving many actions, but their genetic make-up is a given. However, with the acquisition of new powers elements that were 'fate', may now be modified intentionally. Issues now come within our domain of responsibility that used to be non-moral; never before was it up to us to make such decisions, for instance about the genetic make-up of the next generation. Thus, we may need to reconstruct our criteria for morally acceptable actions. Nervousness about 'playing God' may well be about moral, political and legal issues that were never on the table before, and thus about issues that we do not have experience with.¹⁰

Humans result from a lengthy co-evolution of biology and culture¹¹, a culture that has become deeply technological. Thus, for humans living with a shifting boundary is nothing new. Living with structural change is a feature of the human condition; it is part of the spiral of being both products and actors.

Ambivalence: Heading for Complete Control?

People are ambivalent about new technologies. A recent dystopian novel is *The Circle* by Dave Eggers.¹² A young woman lands her dream job at 'The Circle', the world's most powerful Silicon Valley internet company. The company seeks to use all the data it collects for good causes, for instance to return abducted children to their parents by tracing children continuously. One quiet evening the woman takes a kayak out onto the Bay, she sees seals and enjoys the quietness of the night. In the world of massive data this escape does not go unnoticed. The next day, she is called to see her boss. He makes clear that she should not have kept this experience to herself; handicapped persons might have enjoyed sharing her experience. One of the slogans of the company (clearly reminiscent of Orwell's *1984*) becomes PRIVACY IS THEFT. An interesting use of language. The young woman goes "fully transparent", meaning that she wears audio and video equipment continuously, accessible continuously online, so that people can follow her activities via the web. Thousands do –

¹⁰ Ronald Dworkin, *Sovereign Virtue: The Theory and Practice of Inequality* (Cambridge, MA: Harvard University Press, 2000), 442-446.

¹¹ Terrence Deacon, *The Symbolic Species: The Co-Evolution of Language and the Human Brain* (New York: Norton, 1997).

¹² Dave Eggers, *The Circle* (New York: Random House, 2013).

and later millions. Politicians come under pressure to go fully transparent too, so that no back room deals can be made anymore. Soon all information will become readily available to all; everything will be transparent, lying becomes impossible and crimes will always be resolved; 'transparency' will make for a 'perfect' world.

The novel suggests that we may come full circle; everything is about to become data, and thereby our lives will be transformed further. In the words of the novel, "the circle will close." Despite this pronouncement, the circle will not close and cannot close. The company itself is not fully transparent, and it cannot be. The computers where all the data are stored are hidden in the basements. A map of reality that would be as complete as reality itself cannot exist, as part of the reality the map intends to depict in full detail is the map itself. This realization brings one to the classic trick with images called the 'Droste effect', named after the image on the packaging of the Dutch Droste brand cocoa powder: a nurse holding a tray with a box of Droste Cocoa, on which one sees depicted a nurse holding a tray on which a box of Droste Cocoa, and so on.

We may enjoy technology, a fruit of our own creativity. We may fear some technological developments as well, or at least must raise critical questions, as to who profits and who suffers from adverse consequences. And even though technology will allow for extensive forms of data collection and surveillance, it will be impossible, again and again, 'to close the circle', and I am grateful for that. I believe in the human potential for creativity and wisdom, precisely because of the possibility of self-reflection, of a circularity that takes the form of a spiral rather than a closed circle.

Humanities in a Technological Age

Humans can be approached in multiple ways. Humans are *products* of biological evolution and historical development. Humans are *actors* and not merely products. And humans are *self-reflective*, they think about their world and their own actions, and about their own thinking about their world and actions. Self-reflection is characteristic of those academic disciplines that are called 'the humanities'. How to understand these in the context of technological culture?

Humanities: An odd plural

The umbrella term 'the humanities' covers a variety of disciplines. The term 'humanities' appears to be a plural. But the singular 'humanity' does not refer to a discipline, but refers to a collective, humans, the human species, or human nature. 'Humanity' might also signal a moral or aesthetic norm, when the term stands for 'being civilized' or when one speaks of crimes against humanity. We will come back to the normative dimension later, but first, let us focus on the humanities as the study of humans by humans.

A novel is an example of human self-expression. In literary studies, a humanities discipline, the novel may become an object of study. Generally, if humans are characterized

by self-understanding and self-expression, the humanities are the scholarly study of such self-understandings and their expressions. Thus, I offer as a brief tentative definition: Humanities are academic disciplines seeking *understanding of human self-understandings*. One might say this also about behavioral sciences, such as psychology. However, there the focus is on behavior and common patterns, rather than on self-expression and self-understanding.

Humanities are thus a *second-order* project, reflecting on human self-reflection and self-expression. The humanities even include a third-order project, when philosophers seek to understand the humanities, that is, seek understanding of the understanding of human self-understanding.

However, the distinction of levels is not as clean as suggested. The reflection on human self-understanding is itself also an example of human self-understanding, and its expression. Just as in technology, where technology makes further technology possible, so too for humanities: reflection on human self-understanding and self-expression develops and enriches human self-understanding.

When we express ourselves, we do so as insiders – people belonging to a particular linguistic and cultural community. As such, we are actors, and have the vocabulary that belongs to this perspective. But we may also reflect upon the expressions of others, as outsiders relative to that community, using analytic concepts that may not be familiar to the insiders, and to them occasionally might even be odd or offensive.¹³ Things get messy, however, as those presenting themselves as outsiders are also insiders to other communities, and thus bring with them their own preferences and biases.

Diversity within the Humanities and Analogies with Technology

Let me characterize four types of knowledge and scholarship in the humanities, and relate these to technology. The first two are both examples of an outsider perspective; the first of these emphasizing diversity, while the second perspective gives primacy to commonalities.

Humanities provide us with knowledge of *particulars*. There are many languages, histories, religious and cultural traditions, ritual practices and literatures to be studied. These can be studied in detail and in depth, understanding a specific practice in its historical development and contemporary context, in interaction with competing practices. The study of humans in their diversity needs to draw on various disciplines and tools. Linguists may use a phonetic script to represent the way a particular language is spoken; such a script typically is the tool of an outsider. But one needs to approximate the insider perspective, the way language is spoken and used. The scholarly interest regards what words or practices mean to the humans studied, not in whether the researcher shares those beliefs or values. Thus, in religious studies one can study a group with beliefs one does not share, but still seek to

¹³ Russell T. McCutcheon, ed., *The Insider-Outsider problem in the Study of religion: A Reader* (London: Cassell, 1999).

come to a fair understanding of what those beliefs and rituals mean to those involved. The anthropologist Clifford Geertz may be regarded as an example of a scholar who sought to offer respectful and adequate descriptions of the insider's experience.¹⁴

Just as cultural particulars studied by the humanities are context specific, so too for technologies. In some countries one has to drive on the left; in others on the right. Those are contingent accidents of history. Outlets for electricity come worldwide in various variants. Some variation is arbitrary; some may reflect political and socio-economic power relations; other variation may be rooted deeply in culture or ecology – differences in the design of houses, for instance.

Our technological age seems to work against cultural and technological diversity. Globalization, worldwide movements of goods, people and ideas, make particular inventions or expressions available in quite different contexts. However, global trends are appropriated differently in different local contexts. This phenomenon has been caught in the neologism 'glocalization'. If one looks up 'glocalization' in Wikipedia, it is mostly about marketing, adapting global brands and products to local preferences in order to be more successful commercially. That is, in my opinion, too much as if a global product is exported. However, that global product itself is thereby transformed; one starts to realize that the 'global' version only exist as particular forms.

Humanities are not only about particulars, but also seek to uncover *patterns*. With all the diversity among humans, there are also similarities. Patterns may arise due to a shared history or be the result of convergence. Just as biologists studying the multitude of life forms also seek to find underlying similarities and mechanisms, so too do scholars in the humanities. In a recent study on the history of the humanities, Rens Bod presents the humanities as similar to the natural sciences, and in many areas preceding the natural sciences in discovering patterns and systematic approaches, e.g. in grammar, in philology (the reconstruction of texts), in musical theory, in logic, and in many other practices.¹⁵ Bod thus presents the humanities as sciences, searching for general laws based on sophisticated observations. In such research, the outsider perspective is dominant. In seeking patterns, there is less focus on what the specific texts, objects and practices mean to the people involved, as specific meanings tend to be diverse.

One might think of the relationship between science and technology as similar to the relationship between the interest in general patterns and particularities in the humanities. The natural sciences seek to understand reality with the help of general laws and mathematical models, while technologies embody particular realizations of general possibilities. However, technology is not just the analogue of particulars; it is also a major tool to articulate general patterns. Studying the successes and difficulties of automatic

¹⁴ Clifford Geertz, *The Interpretation of Cultures* (New York: Basic Books, 1966).

¹⁵ Rens Bod, *A New History of the Humanities: The Search for Principles and Patterns from Antiquity to the Present* (Oxford: Oxford University Press, 2013).

translation, to use an example of advanced technology, is also a way to study fundamental characteristics of human language and language use.

We ourselves are humans. This gives rise to a complexity that is particular to the humanities. We are not just studying others; we ourselves are part of the larger picture. This makes the pursuit different from studying microbes, plants, or extraterrestrials. Given this circularity of studying ourselves, two further types of scholarship in the *human humanities* arise.

Scholarship in the humanities may aspire to be *a dialogue, a quest to understand the self-understanding of another person or community*. Not only do we seek knowledge about others in their specificity. Even when they have a language that is unfamiliar or practices and beliefs that seem strange to us, they are fellow humans, and we might therefore learn something relevant for ourselves as well. Or at least, we owe it to them as humans to try to understand their motives, the way the world appears to them. To say that ‘we owe it to them’ is a moral conviction, one that resonates with the moral connotations of ‘humanity’. How might we come to see the world if we came to share their perspective? In *To kill a mocking bird*, a novel on racism in the southern United States in the early 20th century, a father tells his daughter: “First of all, if you can learn a simple trick, Scout, you’ll get along a lot better with all kinds of folk. You never really understand a person until you consider things from his point of view — until you climb into his skin and walk around in it.” (Lee 1960, 32)

Technology, as material objects and the social system that allows us to become users of those objects, has a similar engagement with people – the persons that are the intended users of a technology. Technology is not just about making the best gadget; it is about relating to other humans such that the technology fits in their way of living and is appreciated as enriching it. Studies about technology, and of the resistance to technologies, have made clear that the human as an actor, a subject with fears and hopes, ideals and interests, is decisive for success or failure. Unlike the natural sciences in their ‘objective’ aspirations, technology, thus, might also be seen as a dialogue with humans as actors.

Reflexivity in the humanities goes beyond the dialogue with others. We may reflect on reasoning: How do people argue? How do I argue? What are sound arguments? What are criteria for soundness? And similarly about value: How do I decide what to do? What are criteria for sound moral deliberation? What is the status of moral claims? There are methodological and meta-ethical questions, about the conditions for life, knowledge and action. We have a way in which we understand our own existence and obligations, a ‘practical self-understanding’, but this practical self-understanding may itself be the object of further reflection. Such reflection is typical of philosophy but arises in all forms of scholarship, and deserves to be taken seriously as part of human self-understanding.

Technology too has this reflexive dimension. In outsourcing human abilities, we also reflect upon our own abilities, those that can be outsourced, and those that remain with us.

Technology provides models, but also sets standards, norms for behavior – standards that may be disputed, and thus are again and again calling for further reflection.

A Reflexive Spiral: Human Humanities Beyond Usefulness

Humans are interestingly diverse, self-reflective and expressive, especially in language. With our reflective and analytical capacities, we also reflect upon humans – ourselves and others, individually and collectively, familiar and strange. This human self-reflection may take the form of curiosity about particular languages, histories, cultures and religions. It may stimulate us to seek patterns across different forms of human behavior. And, thinking of the moral connotation of ‘humanity’, self-understanding as humans brings with it the obligation to seek to understand the other, to engage in dialogue across cultural distances of various kinds. Thus, engaging in a humane study of humans is human.

Some would prefer to see more pragmatic arguments. The humanities can be usefulness, economically. At least, some elements of the humanities. In the Netherlands, we need people who speak fluent German, the language of our most important neighbor and trading partner, but would this justify the study of medieval Middle High German or of German idealist poetry? We need teachers who can train people to analyze well and express themselves clearly and eloquently, but they do not need to turn all civilized speakers into linguists. Thus, an advocate of usefulness might argue, we could limit our work to instrumental purposes – training teachers who are competent enough to teach.

However, being humans, our work resists narrow constraints. Someone learning German might notice similarities to Frisian, Dutch and English – and thus raise questions about the historical development of these languages. Training people to analyze well raises questions about methods and criteria, and thus questions of a more academic nature. If we want to train good teachers, they will need to acquire a broader basis than the immediate knowledge they need to have at their disposal in everyday teaching practice. In their training, they not only need to acquire professional skills, but also broader academic habitus and skills. This not only applies to teachers, but equally to those working on intercultural understanding, on heritage, on libraries and the data-driven society, and much else. Furthermore, students need more than the professional skills for today because the world is changing rapidly; they will need to be prepared for positions that do not exist yet.

Human humanities, the human study of human self-understanding, are thus indispensable for humans and necessary for the good of complex and quickly changing society, as professional roles require deeper scholarship. Teaching requires exploration, as an attitude that is being taught and as input for teaching. It is in the nature of humans as self-reflective beings that they reflect on their self-understandings; this justifies the humanities “for its own sake”.¹⁶ It is our nature to be reflective; we not only communicate but reflect on communication. We not only have a culture, we are revising and creating

¹⁶ The value of the humanities ‘for its own sake’ was argued for by Helen Small in *The Value of the Humanities* (Oxford: Oxford University Press, 2013), though drawing on rather different disciplines such as history and literary studies.

culture. Not all reflection is academic, of course, but the study of humans is one of the most human things to do. We should not want to do without.

So too, in my opinion, for technology. Much of technology is developed because it is immediately useful, but usefulness is not defining the limits of technology. We humans are exploring the world, and possible ways of being in the world. Technology is a major manifestation of this explorative human and humane attitude.

Actors: Humanism in an Age of Technology

In the preceding pages, I have offered reflections on humans, and especially on technology as a major manifestation of human activity in the world and on the humanities as those academic disciplines within which humans study human self-expression and self-understanding. We now come to humanism, which I understand as a human existential orientation serving roles similar to religious orientations, even though with a different ontology and thus, often, a different view of sources of authority.

Before there was humanism, as an explicitly articulated existential orientation, there were religions. Clifford Geertz was an anthropologist who offered an understanding of religion that focuses on the way symbols and rituals function. He observed that “Sacred symbols function to synthesize a people’s ethos – the tone, character, and quality of their life, its moral and aesthetic style and mood – and their world-view – the picture they have of the way things in their sheer actuality are, their most comprehensive ideas of order”.¹⁷ This insight regarding the role of symbols in synthesizing an ethos and worldview brought him to an oft-quoted definition¹⁸:

A religion is (1) a system of symbols which acts to (2) establish powerful, pervasive, and long-lasting moods and motivations in men by (3) formulating conceptions of a general order of existence and (4) clothing these conceptions in such an aura of factuality that (5) the moods and motivations seem uniquely realistic.

In line with this definition, I think any existentially significant view of life, including humanism, might be seen as an effort to hold together a worldview and an ethos, that is, combines conceptions of the way things are and a normative and aesthetic evaluation, motivating us to act accordingly. Earlier I briefly mentioned that the word ‘humanity’ has two connotations, a descriptive one referring to the human species, and a normative one, presenting us with a civilized way of life. In analysis, these two may be distinguished. In human lives, such descriptive and normative elements may well be intertwined.

¹⁷ Clifford Geertz, *The Interpretation of Cultures*, 89.

¹⁸ Geertz, *The Interpretation of Cultures*, 90.

As I understand modern humanism, and prefer it to be, it is a view of life that appreciates the natural sciences as the primary source of insight about the way the world is. The sciences provide a multi-layered understanding of existence, from domains described by physics (e.g. atoms) via chemistry up to the complexity we encounter in biology and the neurosciences. With respect to our understanding of existence, there is no other source of insight, such as 'revelation' might be.

Humanism is a view that values in particular the complex possibilities that have arisen in this evolving reality with the emergence of humans – beings who can reflect upon the world and their own lives within the world, and act in a way informed by their reflections. Such a humanism is morally engaged. Individual humanists may justify particular moral values in different ways, some more in the way of Immanuel Kant (seeking principles that have universal validity), others more consequentialist (such as the utilitarian John Stuart Mill), weighing the outcomes for all. Whatever the particular way of grounding moral judgement, humanists should recognize the distinction between facts and values, and thus the possibility that one might criticize 'the way things are' as not being 'the way things should be'.

If so, humanists should appreciate technology, also in the way it opens up new possibilities. Overstepping a boundary by changing features of reality that were beyond human control before, is human. It may be considered 'playing God', but if there is no God who has set those boundaries, the new possibilities are in principle legitimate. Of course, one need not embrace each individual technology, and may well be critical of social consequences of technology as its use may affirm existing power relations and increase surveillance. One may demand fairness in access, profit and the distribution of risks. However, the technological orientation – seeking to solve problems when there is a gap between how things are and how they might be – is one that fits the general orientation.

This may seem trivial, and perhaps it is. However, well-intending humans may also be so overwhelmed by modern technology, by the speed of change in our time, by concerns about ecological and social consequences, that they revert to an utopian ideal of existence that seems to pre-date modern technology – whether it is the pastoral life of earlier times or the lives of the urban civilized elite with their books and music in the salons in the 18th and 19th century.

Technology may overwhelm us. It may seem an autonomous power that is in the hands of big companies who 'own' creative inventors, as in the fictitious example of *The Circle* mentioned earlier. But even in the context of such a technological dystopia¹⁹, there is the possibility of autonomy, of humans being actors who take responsibility for their own actions. We are technological beings, precisely because technology is not merely our environment. In adopting technology and adapting it, we humans are actors.

¹⁹ Hans Achterhuis, *De erfenis van de utopie* (Amsterdam: Boom, 1998).

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