

PETER - PAUL VERBEEK  
Beyond the Human Eye  
Technological Mediation and  
Posthuman Visions

In myriad ways, human vision is mediated by technological devices. Televisions, camera's, computer screens, spectacles, car windows – in virtually all situations of our daily lives, technological artifacts mediate the ways we perceive reality. What does this imply for 'the human condition' – the state of being of people living in this technological culture? What kind of subject emerges from these technological mediations? And how do the visual arts help to produce and understand these subjects?

In this short essay, I will elaborate three approaches to these questions: one 'modern', another 'postmodern' and the last one 'posthuman'. These approaches have strongly differing analyses of the relations between human beings, mediating technologies, and reality. I will argue that contemporary forms of art take us to the limits of what can be called 'human'. After having helped us to exercise mediated visions, we might be entering a period in which art helps us to exercise posthuman vision.

1. TECHNOLOGICAL MEDIATION

How to analyze the phenomenon of technological mediation? Don Ihde's phenomenological approach of technology offers a valuable framework here. In his analysis, he understands technological mediation as the role technology plays in the relation between human beings and their world. Ihde discerns several relationships human beings can have with technological artifacts. Firstly, technologies can be 'embodied' by their users, making it possible that a relationship comes about between humans and their world. This 'embodiment relation', for instance, occurs when looking through a pair of glasses; the artifact is not noticed explicitly but yet it co-shapes our relationship with our environment. Technological artifacts are 'incorporated' here, as it were: they become extensions of the human body. Secondly, technologies can be the terminus of our experience. This 'alterity relation' occurs when interacting with a device as if it were another living being, as is the case when buying a train ticket at an automatic ticket dispenser. A third human-technology relation finds itself 'in between' embodiment and alterity: the 'hermeneutic relation', in which technologies provide representations of reality, which need to be interpreted by humans in order to constitute a 'perception'. A good example here is the thermometer, which does not give human beings an actual experience of heat or cold, but delivers a value which needs to be 'read' in order to tell something about temperature. And, finally, in the fourth human-technology relation Ihde distinguishes, technologies play a role at the background of our experience, creating a context for our perceptions. An example of this 'background relation' is the lighting and heating in a room, the buzz of the computer and the switching on and off of the refrigerator, et cetera. These four human-technology relationships, on the basis of which technologies play their mediating roles, are indicated schematically below.

embodiment relation	(human – technology) ⇔ world
hermeneutic relation	human ⇔ (technology – world)
alterity relation	human ⇔ technology (- world)
background relation	human (- technology – world)

Figure 1: Human-technology relationships (after Ihde, 1990)

During the past centuries, artists have been investigating this phenomenon of technological mediation and explored the ways in which it constitutes the ‘objectivity’ of reality and the ‘subjectivity’ of the perceiver. In what follows below, I will discuss three philosophical and artistic approaches to the phenomenon of technological mediation: modernism, postmodernism, and posthumanism. From a modernist point of view, technological mediation can simply be conceived as a way to establish ‘contact’ between humans and reality, enabling human beings to observe the world and acquire accurate knowledge of it. From a postmodern perspective, mediation can be seen as an event in which competing perspectives are disclosed simultaneously, constituting the human perceiver not as a neutral observer but as an active editor of reality. And from a posthumanist perspective, to conclude, it will become possible to explore the very intentionality of mediating technologies themselves, in relation to human intentionality.

## 2. MODERN VISIONS

A modernist interpretation of technological mediation takes as its starting point the separation of subject and object. In this view, subject and object have a fixed identity and a separate existence. This only leaves room to approach the mediating role of technology as determining how the objects can be present to the subject, and how the subject can be present in the ‘objective’ world. Mediation does not affect subjectivity and objectivity themselves in this perspective, but only concerns the relation between both. Don Ihde’s illuminating analysis in this volume of the role of the camera obscura in Renaissance art illustrates this position perfectly. Renaissance art is well-known for its ‘realism:’ its adequate and accurate representations of reality. At the same time, these representations are supposed to have been made by autonomous individuals, who possess the skills and ability to produce these impressively realistic works of art. When David Hockney reminds us that many Renaissance paintings were actually produced with the help of the camera obscura, he reinforces not only the importance of realism in Renaissance art (as provided by the camera), but also of the autonomy of the subject. The fact that using the camera obscura is seen as a form of ‘cheating’, debunking what was seen as an autonomous expression of individual genius to simply ‘drawing by the lines,’ reveals the modernist occupation with the authenticity of the subject: it needs to be ‘genuine’ or ‘pure,’ which means that it should not be augmented or ‘polluted’ by technological instruments.

Hockney's debunking of Renaissance art shows how much irony there is in this modernist interpretation of mediation. The modernist focus on the objectivity of its knowledge and the autonomy of its subjects, after all, fails to see how its objectivism and subjectivism are themselves products of technological mediation, rather than being a 'natural' state of being. As Ihde argues in line with Panofsky, the Renaissance – the dawn of modernism – was “embodied through technologies, with the camera obscura being one favorite optical toy”. Only after the introduction of the camera it became possible to produce 'realistic' depictions of reality on a screen and to understand human beings in terms of autonomous subjects, having a separate existence from the world of objects.

The modernist claim of objectivity needs to be seen in the light of the production of 'automatically-reduced-to-Renaissance perspective' images by the camera obscura. Linear perspective should not be seen as the one best way to draw a realistic image, but as a technically produced disclosure of reality. The camera obscura made available images of reality in linear perspective formatting, and this thoroughly mediated representation of reality got to be seen as coming closest to 'the real thing'. Therefore, rather than viewing Renaissance art in terms of 'realism,' as a long-awaited technique to produce adequate representations of reality, it should be seen as a form of exercising the new visual regime imposed by the camera obscura, a way to explore a new technologically mediated manifestation of reality.

The camera obscura did not only produce a new form of objectivity, though, but also a new form of subjectivity. The subject is approached as isolated from the objects in the world; it can only relate to representations. In this way the camera obscura served as a model for understanding the human subject: a 'dark room' in which representations were generated of an external world. A modernist reading of the phenomenon of technological mediation, therefore, cannot do. As soon as it becomes clear that subjectivism and objectivism are themselves products of technological mediation, the modern isolation of subjects and objects loses its status as an unshakable basis. But how to get beyond this modernist interpretation?

### 3. POSTMODERN VISIONS

In his contribution to this volume, Don Ihde also elaborates a 'postmodern' approach to technological mediation. He explains how contemporary imaging technologies excavate realist interpretations of mediation as producing one-on-one depictions of reality. Contemporary technologies like radio telescopes make visible realities to us that cannot be perceived without these mediations. That is to say: the realities revealed by these mediating technologies do not have an equivalent to the naked eye. Such technologies necessarily need to translate what they 'perceive' to something that can be perceived by human beings. In many cases, even multiple translation technologies are used at once; medical diagnostics, for instance, often make use of ultrasound, CT scanning and MRI scanning at the same time. The concept of realism does not make sense here, because the 'original'

which has to be represented cannot be known directly at all, but only through mediation. What 'reality' is, is co-shaped by the instruments with which it is perceived.

While reality is constituted here as context-dependent, the subject is constituted as 'edifying:' it needs to construct its reality on the basis of the fragments that are given to it. Rather than a heroic individual locked up in a dark room to study depictions of reality, the postmodern subject resembles the movie director, sitting behind a wall of screens and constructing a contingent reality from the many perspectives that are at his or her disposal. This view of mediation can be called 'postmodern,' since it connects to the postmodern focus on the role of contexts and frames of reference in the coming about of 'meaning,' 'truth,' and 'reality.' With one major difference, that is: human interpretations of reality are not to be understood in terms of textual and linguistic structures only, as is the predominant approach in postmodern thinking but also as mediated by artifacts.

This approach to mediation requires an entirely different reading of the phenomenological human-technology-world scheme. Humans, technologies, and the world to which humans are related via technologies can no longer be seen here as fixed entities around which relations emerge. Rather, in these human-world relationships, both the objectivity of the world and the subjectivity of those who are experiencing and existing in it are constituted. Our world needs to be understood as 'interpreted reality,' and our existence as 'situated subjectivity.' What the world 'is' and what subjects 'are,' arises from the interplay between humans and reality, as it is mediated by technology. Technologies help to constitute the relationships between humans and reality by shaping people's perceptions and interpretations on the one hand and their actions and forms of engagement with reality on the other. In this slightly modified version of phenomenology, humans and world, or subject and object, do not have fixed essences. They 'exist,' and their existence gets dressed with temporary essences in the process of mediation. Entities do not have one single essence; what is essential about them, depends on the context in which they find themselves and on the relations they have with other – human and nonhuman – entities. This reading of mediation is therefore beyond realism and the autonomy of the subject.

4. POSTHUMAN VISIONS Yet, the question remains to what extent this postmodern approach to technological mediation is able to explain all roles that contemporary mediating technologies can play. The works of artists like De Realisten, Wouter Hooijmans, and Esther Polak, which are discussed elsewhere in this book more extensively, strike new dimensions of perception, which cannot be adequately dealt with from a postmodern point of view. These artworks explore new regimes of perception, by experimenting with new forms of mediation. They embody a play with intentionality, in which they explicitly explore and demonstrate the intentionalities of technological artifacts as opposed to human intentionality. Rather than putting these intentionalities in the service of human relations to the world – as is the case in what Don Ihde

calls 'hermeneutic relations,' where technologies produce representations of reality that need to be interpreted by humans in order to constitute a 'perception' – they explore technological intentionalities as relevant in themselves.

While in a modernist approach mediating technologies can only play a neutral role, simply generating adequate representations of reality for human observers, and in a postmodern approach technologies are seen as active generators of representations of reality, which need to be 'read' and 'edited' by human perceivers, here we face a 'posthumanist' approach of technological mediation. Technologies give their own intentionalities a central place here, without putting it in the service of producing contingent representations of reality as input for the 'compound eye' of humans. For however much postmodernism undermines the autonomy of the subject, it still remains a human-centered approach, approaching humans as the ultimate source of contingent and constructed interpretations of realities.

The artworks of De Realisten, Wouter Hooijmans, and Esther Polak show in intriguing ways how this 'humanist' bias in postmodernism can be overcome. The intentionality deployed by these works of art can be called 'posthumanist', in the sense that they involve perceptions that no human being could ever have, of a world that has no equivalent in the human experiential world. These artworks show several ways in which nonhuman observers can experience reality: they involve 'artifactual intentionalities' rather than 'human intentionalities stretched over technological artifacts'. Each of these works therefore embodies a different way of decentering the human subject.

## AUGMENTED INTENTIONALITY

The night photographs of Wouter Hooijmans embody the 'mildest' form of posthumanism. Hooijmans makes landscape photographs using shutter times of several hours, which allows him to make use of starlight for exposing his pictures. This has stunning effects. All short incidents, like animals walking through the image, movements of the leaves on a tree, ripples of the water in a lake, become irrelevant. Only things that last make it to the picture. Hooijmans's photographs reveal the world as it would look if we would not need to blink our eyes – a serenity which creates an immediate association with the timelessness of death: beyond the realm of human beings. In a sense, Hooijmans's pictures can be said to embody Husserl's method of 'essential intuition.' This particular philosophical method consisted of imaginatively transforming a phenomenon in various ways so as to determine which aspects are essential to it and which not. We can, for instance, imagine dogs with stripes and spots, with short ears and long ears, with pointed and flat noses, but never with wings or gills, and in this way we can arrive at a general idea of 'dog.' For Husserl, this 'essence' can never be found in the world itself, but is a pure idea; yet Hooijmans's images seem to come close to a depiction of the 'essence' of landscape obtained by eliminating all irrelevant variations of it.

What Hooijmans's photographs accomplish, is an extreme mechanical amplification of some aspects of the intentionality of the human vision.

Contrary to the most common use of the photo camera, Hooijmans does not create instantaneous exposures, but rather 'sustained exposures'. His photographs blend together an infinite number of visual impressions into one single representation of the world, which the human eye could never produce itself. We could call this nonhuman form of intentionality 'augmented intentionality', since it consists in an artificially magnified and expanded form of human intentionality.

#### CONSTRUCTIVE INTENTIONALITY

The stereophotographic work of De Realisten ('The Realists') embodies a different form of 'posthumanist intentionality.' As a part of their work, De Realisten have been making stereographic photographs of several sets of identically shaped objects, made out of different and non-blending materials – e.g. wood and bronze. Looking at these photographs with the help of 3d equipment, one is confronted with highly realistic, three-dimensional representations of a reality which cannot exist in everyday experience. These photographs do not represent reality, but generate a new reality in the act of looking at them. They make visible objects that can only exist in this virtual way: three-dimensional, photorealistic 'representations' of amalgams which have no 'original' counterpart in everyday reality.

The 'intentionality' De Realisten gave to their stereographic camera is therefore not directed at making visible an existing reality but at constructing a new reality. Therefore, the posthumanist intentionality involved here can be called 'constructive intentionality.'

For an adequate analysis of these two intentionalities in terms of Don Ihde's framework, the human-technology-world scheme needs to be augmented. For what we are primarily witnessing in the phenomena of augmented and constructive intentionality, is a technology-world relation, rather than a human-world relation mediated by technology. This implies that there is a double intentionality involved here; one of technology toward 'its' world, and one of human beings toward the result of this technological intentionality. Humans are directed at the ways in which a technology is directed at the world.

This gives the following scheme:

##### Posthuman vision, variant 1:

human ⇒ (technology ⇒ world)

#### REFLEXIVE INTENTIONALITY

A third posthumanist form of mediation is presented by Esther Polak's intriguing project 'Drawing with GPS,' in which she makes technologies perceive the ways in which human beings perceive the world – and ultimately makes these 'technological perceptions' perceptible to human beings. She asked several people in Amsterdam to carry a GPS device with them for some time, which enabled her set down the movements of these people on a map of the city. Every person participating in the project thus drew his or her own 'map of Amsterdam.' Once confronted with these graphical

representations of the way in which the GPS system had perceived their movements, the participants in the project often indicated that these representations gave them a renewed experience of what they had been doing and seeing, and sometimes even revealed aspects of their dealings that were new to them.

This artwork stages a situation in which human beings are experiencing their world, while a technological device perceives these experiences, which will ultimately allow the people involved to experience these technological experiences of their own experiences. This implies that there is a triple intentionality involved here; a third intentionality is added to the double intentionality involved in the first variant of posthumanist vision. This third intentionality – the human experience of the world – is ‘posthumanistically experienced’ by a technological device, and then represented in an experiential way to the person who had the initial experience.

This intentionality can be called reflexive intentionality: technology is directed at the ways in which humans are directed at reality, in order to let human beings experience themselves as experienter. In Ihde’s terms, the schematic structure of this reflexive intentionality is:

human  $\Rightarrow$  (technology  $\Rightarrow$  [human  $\Rightarrow$  world]). The posthumanist dimension in this situation is the technological experience of human experience:

Posthuman vision, variant 2:

technology  $\Rightarrow$  (human  $\Rightarrow$  world)

Ecce homo posthumanus. By revealing several ‘posthumanist’ forms of intentionality, these works of art show us a glimpse of the new human condition, which gets ever more manifest. The lifeworld of human beings is becoming crowded with devices that have intentionalities of their own and that constantly help to shape our experiences and dealings with the world. Philosophical reflection is not enough to explore and understand this new ‘posthuman condition.’ It is the artists who show us the way, experimenting with what is going on and confronting us with this in an experiential rather than a discursive way.

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