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# **Exploring the Saving Power: Investigating Whether Virtual- and Augmented Reality Can Escape the Technological Gestell of Heidegger**

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# Table of Contents

<b>Introduction</b> .....	3
<b>Chapter 1: The Question Concerning Technology</b> .....	5
<b>1.1 The Essence of Technology</b> .....	5
<b>1.2 Techne</b> .....	7
<b>1.3 Gestell</b> .....	8
<b>1.4 The Saving Power</b> .....	9
<b>1.5 Poetry</b> .....	10
<b>1.6 Contemporary critique</b> .....	12
<b>Chapter 2: VR &amp; AR as Pharmakon</b> .....	15
<b>2.1 Pharmakon</b> .....	15
<b>2.2 Virtual Reality</b> .....	16
<b>2.3 Augmented Reality</b> .....	19
<b>2.4 VR and AR as Pharmakon</b> .....	21
<b>Conclusion</b> .....	23
<b>Bibliography</b> .....	25

## Introduction

*“But where danger is, grows  
The saving power also”.*<sup>1</sup>

Martin Heidegger shows in his essay *The Question Concerning Technology* (1954) that there lies a great danger in technology, namely that people view nature, and other people as mere resources, ready to be exploited at any time. However, paradoxically, for him, it is in this danger that lies the potentiality of saving us from the technological, and instrumental view of nature. If we understand and reflect on our relationship with technology, we can develop a new orientation which opens up other ways in which we view the world and how the world reveals itself to us. Since we cannot simply escape technology, are there technologies that can make us rethink our relationship with the world?

Heidegger has had a long-lasting and impactful influence on philosophy. His ideas are still the subject of many debates in different disciplines.<sup>2</sup> It is interesting to examine his essay because of the impact technology has on our lives. It influences our modes of Being as it guides our experiences, changes the way we think, and how we view the world. Since Virtual Reality (VR) and Augmented Reality (AR) become more and more important, and they represent and even enhance the reality of users, it is important to know whether they offer other possibilities for our relationship with technology. Maybe they hold the possibility of showing the world differently than the dominant, instrumental view. This will not be a mere theoretical essay, but also holds practical implications in the way we design, develop, and use VR and AR.

In what follows, I shall investigate whether VR and AR have the potentiality of seeing the external world in a different way than Heidegger’s concept of enframing. By using the concept of *Pharmakon*, derived from Derrida’s book *Plato’s Pharmacy* (1981) I will establish that these technologies are both a cure and a poison. Most importantly, I will show that, although VR and AR will never fully escape our technological *Gestell*, Augmented

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<sup>1</sup> Martin Heidegger, *The Question Concerning Technology and Other Essays*, trans. William Lovitt (New York: Garland Publishing, 1977), 34.

<sup>2</sup> “Martin Heidegger,” Stanford Encyclopedia of Philosophy, accessed March 15, 2023, <https://plato.stanford.edu/entries/heidegger/>.

Reality (AR) has the potential to make us rethink our relationship with the world, while Virtual Reality (VR) does not have this potential.

Commercial technologies are mostly designed by businesses with a focus on practicality and efficiency to generate a profit. They do not focus on the poetic or artistic experiences that human beings can have. Since this thesis investigates whether VR and AR can escape the instrumental view of the world, it will raise important questions for businesses and students of Business Administration about how we should think philosophically about business itself. For example, if there are technologies that escape our instrumental view, can businesses also focus on other products that enhance poetic experiences? How can businesses market such products without a mere focus on profit and efficiency? Are we in need of doing business in another way? Can we escape our dominant, instrumental way of doing business?

In chapter one, I am going to zoom in on Heidegger's essay *The Question Concerning Technology* (1954) and look what Heidegger meant with his essay. More specifically, I am going to zoom in on the danger of technology, and the solution for this danger. Thereafter, I am going to focus on the contemporary critique on Heidegger's philosophy of technology to detect flaws in his thinking. After that, in chapter two, I am going to introduce the concept of Pharmakon to show that technology can be both a poison and cure for our existence. Then, I will apply this concept to VR and AR to investigate whether they hold in themselves a different way of revealing than our technological *Gestell*. After doing so, I will derive my conclusion for this thesis.

# Chapter 1: The Question Concerning Technology

## 1.1 The Essence of Technology

Heidegger wrote *The Question Concerning Technology* (1954) because of the impact modern technology had on human existence. He believed that technology changed the way of our thinking which leads to a domination of nature, and other human beings. Rather than seeing technology as a mere instrument, Heidegger looked at it as a way of understanding ourselves, and the world around us. With his essay, Heidegger investigates technology in order to prepare us for a free relationship to it.<sup>3</sup> Technology has changed what it means to be a human being, which has a severe impact on our lives. For Heidegger, the problem is not technology itself, but the way we view technology and the world around us. We gained problems, caused by technology, that cannot simply be solved with the help of technology. Moreover, these problems are also not solved when we simply escape technology. By simply affirming or denying technology, we remain unfree and bound to technology.<sup>4</sup> In contrast, to gain a free relationship we must know the essence of technology.

According to ancient doctrine, the essence of something is considered as what that thing is.<sup>5</sup> Generally, there exist two general conceptions throughout history about technology. Technology is either considered as a means to an end, i.e. the instrumental definition, or as a human activity, i.e. the anthropological definition. These definitions are correct since they refer to the use of technology to achieve specific tasks. However, they are not true since they do not entail the essence of technology itself. Moreover, if we see technology just as a mere thing with properties, then we will not derive the essence of it.<sup>6</sup> Therefore, Heidegger argues that the essence of technology is not anything technological. If you say the essence of technology lies in the fact that it is a tool or an instrument, then these definitions capture only a single aspect about technology and, thus, miss the deeper meaning behind it. They do not

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<sup>3</sup> Heidegger, *The Question*, 3.

<sup>4</sup> Heidegger, *The Question*, 4.

<sup>5</sup> Heidegger, *The Question*, 4.

<sup>6</sup> Ernst Cassirer, "Form and Technology," in *Ernst Cassirer on Form and Technology: Contemporary Readings*, ed. A.S. Hoel and I. Folkvord (Basingstoke: Palgrave Macmillan, 2012), 32.

show how technology is a form of revealing of different kinds of entities.<sup>7</sup> Moreover, these conceptions do not help us to gain a free relationship to it while our thoughts about technology are, in fact, influenced by this definition. For example, when we are afraid that technology becomes out of our control, we want to do everything in our power to control it.<sup>8</sup> So, to gain more knowledge about this current relationship between humans and technology, we must know what lies behind the instrumental, which Heidegger traces back to the concept of causality. Heidegger explores the concept of causality by exploring the four causes according to the traditional view of causality. However, he questions this conception and investigates what we really mean with the word ‘cause’, which he traces back to the Latin word *causa*, meaning ‘to fall’. Heidegger notes that *causa* is “*that which brings it about that something falls out as a result in such and such a way.*”<sup>9</sup> He contrasts this with the Greek word for cause: *aition*, meaning ‘*that which is indebted for something else*’.<sup>10</sup> Heidegger emphasises the differences between these two conceptions by using an example of communion chalice. The Latin conception focuses on the mastery of the material by the craftsman, while the Greek conception shifts its attention to the material and form that are responsible for making the chalice, in fact, a chalice. Here, the silversmith does not only master the material in the conception, but he also brings the ‘chaliceseness’, the different potentialities of silver and the form of the chalice together.

In the text, Heidegger often traces terms back to their earlier, fundamental conceptions, coming from the ancient Greeks. He thought that people in the West have neglected the most basic, and real ideas from those times.<sup>11</sup> Think, for example, of the concept of ‘being responsible’. In the modern West, this term is often looked at as something moralistic. Heidegger wants us to look at the concept in a different way, so he traces the term ‘being responsible’ back to the Greek notion *aitia*.<sup>12</sup> This has a broader meaning: it reveals something that was before concealed. The four causes in the chalice all are responsible for bringing the chalice into time and space. They bring the chalice in appearance from concealment to unconcealment. Then, Heidegger shifts his attention to the Greek word for

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<sup>7</sup> Mark Blitz, “Understanding Heidegger on Technology,” accessed March 25, 2023, <https://www.thenewatlantis.com/publications/understanding-heidegger-on-technology>.

<sup>8</sup> Heidegger, *The Question*, 5.

<sup>9</sup> Heidegger, *The Question*, 7.

<sup>10</sup> Heidegger, *The Question*, 7.

<sup>11</sup> “Today we are too easily inclined,” University of Hawaii System, accessed March 27, 2023, <https://www.english.hawaii.edu/criticalink/heidegger/guide3.html>

<sup>12</sup> Heidegger, *The Question*, 10.

poetry, which goes hand-in-hand with *aitia*, namely: *poiesis*, meaning ‘bringing forth’.<sup>13</sup> For Heidegger, there are two types of ‘bringing forth’. The first one is the aforementioned *poiesis*, where someone brings something forth into existence by production. For example, a poet produces a poem, and a painter makes shadows in his painting. The second type of ‘bringing forth’ is *physis*, which is a bringing forth that happens in nature. They both have the same in common, namely that they bring something out of concealment into unconcealment.<sup>14</sup> By bringing everything together, the silversmith and all other entities involved are responsible in revealing the chalice so that it comes into being: they bring forth something from concealment into unconcealment. This bringing-forth is a joint process in the form of leading-forth to which the different causes are indebted.<sup>15</sup> This brings Heidegger to the Greek word for revealing, which is *aletheia*. This is also the same Greek word for ‘truth’.

## 1.2 *Techne*

Heidegger now shifts his attention to technology. The word comes from the Greek word *technikon*, which belongs to *techne*.<sup>16</sup> The word *techne* can be understood in two different ways. Firstly, it can be thought of as a technique in manufacturing and the arts. Here, it is part of *poiesis*. However, *techne* has also been connected with the word *episteme* where it means ‘knowing’, or ‘know-how’. Heidegger argues that, if we see technology as a concept that derives from *techne*, that the essence of technology will lie in its revealing, and not in the instrumental definition mentioned before, i.e. as a means to an end.<sup>17</sup> It has a much broader meaning. However, is Heidegger correct to apply the Greek concepts of technology to the modern technology of his age? Does it not differ immensely? The difference between ancient *techne* and modern technology lies in the fact that ancient *techne* discloses the world while modern technology enframes the world. Think, as an example of ancient *techne*, of a carpenter that makes a chair: he takes the wood from nature, but when the chair is done, it retains its natural characteristics so that it is ready to be decomposed back into nature. The chair is a scene of disclosure for the revealing of nature.<sup>18</sup> Instead, modern technology also has a way of revealing, but it is a revealing of a different kind. It is not *poiesis*. Instead, it is a

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<sup>13</sup> Heidegger, *The Question*, 10.

<sup>14</sup> Heidegger, *The Question*, 11.

<sup>15</sup> William Lovitt, “A Gespräch with Heidegger on Technology,” *Man and World* 6, no.1 (February 1977): 46.

<sup>16</sup> Heidegger, *The Question*, 12.

<sup>17</sup> Heidegger, *The Question*, 3.

<sup>18</sup> David Edward Tabachnick, “The Tragic Double Bind of Heidegger’s *Techne*,” *PhaenEx* 1, no.2 (Fall/winter 2006): 101.

way of challenging (*herausfordern*) upon nature.<sup>19</sup> It is not working with nature, but more a using of nature for your own good - or detriment -. By doing so, human beings can extract and later store energy from nature. This is in contrast with the windmill, which is representative of pre-modern technology. It gains energy from the wind and uses this energy for something else. But, in contrast to a hydroelectric power plant, the purpose of the windmill is not to unlock the energy of the wind in order to store it.<sup>20</sup> So, now we have two conceptions of revealing. First, the poetic conception of revealing, i.e. *poiesis*. Secondly, is the revealing that occurs in modern technology. To further explain this kind of revealing, Heidegger introduces the concept of ‘standing reserve’ (*Bestand*).<sup>21</sup> Because of the technological way of thinking, human beings see the world as a mere resource that is available to us. A standing-reserve is characterised by its reducibility in two ways. Firstly, they are easily available and can easily be ordered. Secondly, the objects are also easily replaceable, and interchangeable with other objects.<sup>22</sup> However, it does not only apply to objects, since human beings themselves can become standing-reserves too. This is, for example, seen in almost every business relationship. Think of the paper industry. The forester is dependent on the demand of cellulose of the producer, which is challenged forth by the demand of paper that are sold as magazines so that the people who read it are looked upon as resources of profit.<sup>23</sup> Think also of the term ‘human resources’, which has become a common phrase nowadays. Does it not put human beings in the same category as raw materials?

### 1.3 Gestell

Generally, nature will reveal itself to us in its own turns. What lies behind the essence of modern technology is the tendency of human beings to put everything into calculable, and controllable categories of understanding. Heidegger calls this challenging claim where people order the revealing of nature as standing reserve: enframing (*Gestell*).<sup>24</sup> The German word *Gestell*, commonly means framework. Thus, *Gestell* is the instrumental framework that lies behind the essence of technology. So, the essence of, for example, a telephone is not anything technological. The essence lies in the fact that we view nature, which includes other people,

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<sup>19</sup> Heidegger, *The Question*, 14.

<sup>20</sup> Heidegger, *The Question*, 14.

<sup>21</sup> Heidegger, *The Question*, 17.

<sup>22</sup> David I. Waddington, “A Field Guide to Heidegger: Understanding ‘The Question Concerning Technology’,” *Educational Philosophy and Theory* 37, no. 4 (January 2005): 569.

<sup>23</sup> Heidegger, *The Question*, 18.

<sup>24</sup> Heidegger, *The Question*, 19.



as a standing-reserve for the production of this telephone in order to make a profit. We use technology to transform nature into a standing reserve, and assuming that this is a mode of revealing, technology makes nature reveal, but not in its own terms. To clarify Heidegger's conception of *Gestell*, one must look at his conception of 'they' in Being and time. We enjoy ourselves, read, judge, see the way *they* (the other people) do.<sup>25</sup> Because human beings live in society, we are lost in 'the they'. It is essentially a dominant consciousness. Nobody is responsible for this, it is just a consequence of our existence.<sup>26</sup> It is important to know that, for Heidegger, Being is thought of as *energia*, and not as a substance.<sup>27</sup> Being comes to us, and reveals itself to us in different ways and, over time, the dominant way that Being reveals itself has become *Gestell*.<sup>28</sup> This enframing drives a way of thinking which also encompasses our modern science and physics, but the world still reveals itself to us while we experience it. We are no longer in control of technology, but the technological way of thinking controls us. Since the world is still revealed to us, we can change our orientation with the world and come back to the purpose of his essay: to gain a 'free relationship to technology'. According to Heidegger, we can do two things. First, we can go on with our current relationship to technology and experience the danger of modern technology. Secondly, we can re-orientate our relationship to technology. Here, we must rethink how the world reveals itself to us, and not just see the world as a standing reserve.

#### 1.4 The Saving Power

"*But where danger is, grows the saving power also*".<sup>29</sup> In this passage, Heidegger turns to the words of the German poet Hölderlin. In the danger of enframing also lies the potentiality of saving us from that danger. For Heidegger, 'to save' does not mean something like 'to rescue', but that something is 'reunited with its essence.'<sup>30</sup> Heidegger goes back to the meaning of the word 'essence'. While the traditional understanding of the word means 'what something is', for Plato and Aristotle it is 'what remains permanently'. So, it is what 'endures'. Heidegger turns to Goethe who connects the words *gewähren*, which means 'to

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<sup>25</sup> Martin Heidegger, *Being and Time*, trans. J. Stambaugh (Albany: SUNY Press, 1996), 119.

<sup>26</sup> Waddington, "Field Guide," 576.

<sup>27</sup> Otto Pöggeler, "Does the Saving Power also grow? Heidegger's last paths," in *Critical Heidegger*, e.d. C. McCann (London: Routledge 1996), 208.

<sup>28</sup> Waddington, "Field Guide," 576.

<sup>29</sup> Heidegger, *The Question*, 34.

<sup>30</sup> Mahon O'Brien, "Commentary on Heidegger's 'The Question Concerning Technology'," *IWM Junior Visiting Fellows' Conferences* 16, no. 1 (Winter 2003): 32.

grant', with the word *fortwähren*, which means 'to endure permanently'.<sup>31</sup> So, Heidegger takes the traditional concept of enduring and adds the concept of granting to his model of the notion of essence. The world reveals us in a particular manner. We respond to it by enframing, which is at the one hand a danger because we see the world around us as a mere standing-reserve. However, here lies also the opportunity to rethink this relationship and see the revealing more as a granting of the world. For Heidegger, we are 'Shepherds of Being' that have the power to reveal the world in particular ways.<sup>32</sup> We must come to the realisation that we have a choice: rather than challenging-forth we can bring-forth.<sup>33</sup> For the solution of this danger, Heidegger turns to an alternative way of revealing that is not busy with analysing and controlling nature: art, and especially poetry. For the ancient Greeks, art (*techne*) was a fundamental part of society. Art works did not exist to be enjoyed aesthetically, but it was a revealing that brought forth and hither so that it belonged to *poiesis*.<sup>34</sup> Nowadays, art is no longer a driving force of society in such a way. However, when another poetic or artistic orientation of the world would be adopted, there would open up a different mode of Being. For example, a poet makes an interpretation of the world as how the world reveals itself to him. He does not try to control or change nature. He simply takes the way nature reveals itself from concealment to unconcealment in its true form (*aletheia*). So, to open up a free relationship to technology we must rethink our orientation to technology and the world. This must be done by adopting a poetic, artistic view of the world, instead of the instrumental, calculative manner. Only then, we are able to save ourselves and the world around us from the danger of enframing.

### 1.5 Poetry

The solution of Heidegger may seem vague and ambiguous. How can you adopt another framework of viewing the world around you? And is it something individual or must it be done collectively? Therefore, it is important to zoom in on how he thinks that poetry (and art) can change the way we experience the world around us. Heidegger makes a sharp distinction between scientific study and thinking. According to him, the characteristic of contemporary science is the fact that the method of science prevails over science itself. However, thinking,

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<sup>31</sup> Heidegger, *The Question*, 29-31.

<sup>32</sup> Edward Ballard, "Heidegger's View and Evaluation of Nature and Natural Science, in *Heidegger and the Path of Thinking*, e.d. J. Sallis (Pittsburgh: Duquesne University Press, 1971): 60.

<sup>33</sup> Waddington, "Field Guide," 570.

<sup>34</sup> Heidegger, *The Question*, 34.

unlike science, is not ruled by a method or a theme. Moreover, if one thinks about the nature of language, then one goes in a path where method is not prevailing, which is thought.<sup>35</sup> So, if one wants to experience thinking, one has to withhold from scientific method. For Heidegger, this can be found in poetry. Listening and reading to extraordinary poetry, and to engage with the language, experiences, and ideas of the poem, can lead to a new perspective and new language, if one engages with it with thought and an open mind.<sup>36</sup> However, this is not so much about poetry as a genre, but more about ‘poeticity’: the quality of the use of language in general.<sup>37</sup> The rise of technology, which enhances calculative thinking, discards poetry, and thus thinking. So, if we want to save ourselves from the danger of technology, we must make room for poetry. For Heidegger, the place for poetry must be in the realm of thinking, which does not lay in scientific method. This can be hard, since it goes hand-in-hand with our contemporary time. One must, therefore, make a stance against dominating views, and rebel against contemporary society. This also means that one must reject the current, dominant view towards language. We must develop a new position towards language that does not view it as a mere way of profane, and instrumental communication. It is through language that we can encounter the essence of Being.<sup>38</sup>

*The human being "has the word"; it is the way he makes known to himself his being, and the way in which he sees himself placed in the midst of beings as a whole. To be empowered with language --; language, however, not merely as a means of asserting and communicating, which indeed it also is, but language as that wherein the openness and conversance of world first of all bursts forth and is. Language, therefore, originally and authentically occurs in poetry... -- however, not poetry in the sense of the work of writers, but poetry as the proclamation of world in the invocation of god. But nowadays we see language primarily from the point of view of what we call conversation and chitchat; conventional philology is in accord with this.*<sup>39</sup>

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<sup>35</sup> Haim Gordon, "Heidegger on poetry and thinking: Some educational implications," *The Paideia Archive: Twentieth World Congress of Philosophy* 6, no.1 (1998): 110.

<sup>36</sup> Gordon, "Heidegger on poetry," 117.

<sup>37</sup> András Sándor, "Poeticity," *Poetics* 18, no.2 (June 1989): 299.

<sup>38</sup> Gordon, "Heidegger on poetry," 115-116.

<sup>39</sup> Martin Heidegger, *Aristotle's Metaphysics*, trans. Walter Brogan and Peter Warnek (Bloomington, Ind.: Indiana University Press, 1995), 109.

## 1.6 Contemporary critique

To examine whether Heidegger's thinking is still applicable today, we must focus on the contemporary critique on his philosophy of technology. Heidegger shifts his attention not to different technologies, but to the way we think about nature because of technology. However, this view can become too problematic. In his lecture called *Das- Ge-Stell* (1949)<sup>40</sup>, Heidegger said: "*Farming is now a motorised food industry, in essence the same as the fabrication of corpses in gas chambers and extermination camps, the same as the blockade and starving of the peasantry, the same as the fabrication of the hydrogen bomb.*"<sup>41</sup> For Heidegger, every technology has the same essence, and by evaluating every technology through this enframing, he compares concentration camps with the farming industry. Here, he fails to make important distinctions between the consequences of different technologies.<sup>42</sup> It is clear that the concentration camps were more horrifying than, for example, a radio. Therefore, he lays down the horrors of the extermination camps and overlooks the fact that technologies can have enormous differences in their consequences.

Although Heidegger's concept of enframing may be useful for describing technology, it is limited in its scope for addressing all technologies. On the contrary, it is only useful for some technologies. His view is only focused on a particular mode of technology that reveals the world as a mere resource, ready to be taken at all times. Are there not technologies that have different effects? Think, for instance, of music. This can be seen as a mode of creativity or as a way of expressing yourself. This brings a different perspective as seeing the world through the technological *Gestell*.<sup>43</sup> Therefore, for Don Ihde, a post phenomenological approach to technology is needed. Here, the role of the individual is central. We are not separated from technology. Instead, we are intertwined with it. Technology guides and shapes our experiences. It ultimately also constitutes the way we understand the world. An important aspect of modern technology is its 'multistability.' A technology can have a lot of different meanings for a lot of different people. These meanings can differ between, and even within,

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<sup>40</sup> Rüdiger Safranski, *Martin Heidegger: Between Good and Evil* (Cambridge, MA: Harvard University Press, 1999), 391.

<sup>41</sup> Peter E. Gordon, "Heidegger & the Gas Chambers," accessed April 14, 2023, <https://www.nybooks.com/articles/2014/12/04/heidegger-and-gas-chambers/>.

<sup>42</sup> Waddington, "Field Guide," 577.

<sup>43</sup> Dimitri Ginev, "Review," review of Heidegger's Technologies: Phenomenological Perspectives, by Don Ihde, *Notre Dame Philosophical Reviews*, February 6, 2010.

groups.<sup>44</sup> Think, for example, of an iPhone. For some it is just a mere communication tool, while for others it is a status symbol. These differences can be seen fundamentally throughout all different technologies. Only when we acknowledge these differences, can we develop a critical and understanding approach to technology.

Heidegger's philosophy of technology can also be considered as anthropocentric. His whole analysis is centred on the relationship of human beings with technology and what the consequences of technology are on the existence of human beings. Therefore, he fails to consider the impact on non-human beings, or the ecological environment at all. If everything in the world is reduced as a standing-reserve for human beings, then human beings are at the centre of the analysis. It fails to recognize the value and importance of the natural world, that stands independent of the perception of human beings.

There is one sharp contrast that Heidegger makes in technology: that of modern- and premodern technology. According to him, modern technology is characterised by a form of enframing where everybody sees the world as a mere resource, ready to be exploited. It is a challenging of nature. Instead, ancient technology, like a chair, was a disclosure of nature.<sup>45</sup> However, this view romanticises the times before our modern world. Here, Heidegger does not acknowledge how modern technology transformed the nature of work. The rise of modern technology has led to the fact that people do not have to use their own knowledge anymore. It has been transferred to machines and other technology, who can perform the tasks more efficiently. This, in turn, leads to a situation where people are alienated from their work: they are just mere modes in the system of capitalism. This is what Bernard Stiegler calls the 'proletarianization of the spirit'.<sup>46</sup> People are at a distance from their work, which leads to a lack of meaning in their life. Stiegler's solution for this problem is not to reject modern technology, but to incorporate modern technology in ways that people have more control over their own work. Here, modern technology empowers the workforce. This could be done by developing technologies that help people share and develop their knowledge. Such developments are specifically seen in open-source platforms and software, e.g. Wikipedia.<sup>47</sup>

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<sup>44</sup> "Multistability," University of Minnesota, accessed April 24, 2023, <https://manifold.umn.edu/read/callous-objects/section/dbe2984c-2a37-47cc-9baf-c005f4526dc4>.

<sup>45</sup> Tabachnik, "Double Bind," 101.

<sup>46</sup> Bernard Stiegler and Daniel Ross, *Theory After 'Theory'* (London: Routledge, 2011), 296.

<sup>47</sup> Bernard Stiegler, "Heidegger and the Question of the Technological," in *The Cambridge Companion to Heidegger*, ed. Charles Guignon (Cambridge, UK: Cambridge University Press, 1993), 309-325.

Modern technology, which is characterised by its media, reduces people to mere consumers. We are fed with different needs and desires, while we do not come up with them ourselves. Take, for example, a highway. A person who drives takes the route from his map, while the towns and the nature around him are just obstacles. Signs, posters, radio, and advertisements tell him what to think, and do. He has stopped thinking, others have done it for him.<sup>48</sup> However, because of this, we are not able to generate our own sensibilities. We become observers, and absorbers, of pre-made experiences, which leads to a situation where we cannot tell what is authentic. Thus, we also become alienated from the world around us, and are unable to develop empathy for others. We are closed in our own world, which is a world that the media reveals to us. This leads to more fragmentation in our world, as people are more and more believing their own truths. We must therefore rethink our relationship with technology, with a focus on creativity and the importance of our own existence.<sup>49</sup>

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<sup>48</sup> Herbert Marcuse, "Some social implications of modern technology," *Zeitschrift für Sozialforschung* 9, no.3 (1941): 143.

<sup>49</sup> Bernard Stiegler, *Technics and Time, 2: Disorientation*, trans. Stephen Barker (Stanford, CA: Stanford University Press, 2009), 123-142.

## Chapter 2: VR & AR as Pharmakon

### 2.1 Pharmakon

The concept of *pharmakon* is explored by Jacques Derrida in his *Plato's Pharmacy* (1981).<sup>50</sup> Here, he examines Plato's dialogue *The Phaedrus*, where Socrates philosophises about the invention of writing of the Egyptian God Theuth, who presents this new creation to Thamus, the king of Egypt. Thamus considers writing to be a successful way of preserving knowledge. However, he argues that it is also a bad replacement for memory and speech, because it will make the people forgetful. It only preserves as external knowledge, not as knowledge within a human being. For Derrida, there exists a tension in this passage. On the one hand, there is the ideal form of communication of speech, while, on the other hand, writing is necessary for communicating ideas to the world. In the *Phaedrus*, Socrates also draws a comparison between writing and a drug that has both the ability to poison and cure. This is the *pharmakon*. It can cure the fact that we forget certain things by providing an external memory. However, it can be a poison in the fact that we will solely rely on this external knowledge.

The concept of *pharmakon* can be applied to the concept of technology. In our current age, we need technology to function in the world. It does not necessarily have to be negative. Look, for example, at the starvation rates. Modern technology prevented the starvation of many human beings.<sup>51</sup> However, without modern technology, there would not have existed so many people at all. This also means that there would not be millions of starving human beings in the first place. This is just one example that portrays technology as both a cure and a poison. It is important to know that, if we accept that we are technological ourselves, and we need technology, then there is no escaping technology. On the one hand we are directed by technology: it guides our actions and behaviour. On the other hand, we can design technology exactly in the way we want. So, if we cannot escape technology, and are able to design our technologies the way we want, then it may look like the path to liberation is made free.<sup>52</sup> But is this correct?

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<sup>50</sup> Jacques Derrida, "Plato's Pharmacy," in *Dissemination*, trans. Barbara Johnson (Chicago, University of Chicago Press, 1981): 63–171.

<sup>51</sup> Richard Rorty, "Overcoming the Tradition: Heidegger and Dewey," *Review of Metaphysics* 30, no.2 (1977): 302.

<sup>52</sup> Andrew Feenberg, "Heidegger, Marcuse and the philosophy of technology," accessed April 26, 2023, <https://ap.lc/Ktp4x>

It is simple to say that all of technology is just a challenging of nature since it also is an application of theoretical knowledge of nature. In today's time, we form a unity with technology: it satisfies our needs, and we need it to function in the world. Technology in itself is therefore not dangerous, but it is important to underline that our behaviour has implications. The danger lies in how we view the world, technology, and the people around us. We can distinguish two types of technology: appropriate or inappropriate. The goal of appropriate technology is to enhance people, cultural and ecological integrity. Its purpose is to transform the relationship with technology so that real values are added to the life of human beings. Appropriate technology opens up the possibility to understand and appreciate the world. It makes people interact freely with each other, so they maximise the realisation of reciprocal values.<sup>53</sup> It does not consider nature, or other human beings, as a standing reserve. In this type of technology lies the potentiality of saving us from seeing nature as a mere standing reserve and thus rewire the way we think about the world. But even in such a type of technology, there lies a *pharmakon* as well. First, it is exactly what Heidegger would oppose. To design technology in any way would be poisonous since technology would still dictate the way we perceive the world, our relationship with technology, and the way we live in the world. Moreover, if the one who designed and developed the technology has an enframing view of the world, it would be difficult to escape the technological *Gestell*. But secondly, if technology is designed in such a way that it makes us rethink our relationship with the world (and technology) in another manner as *Gestell*, then here lies the potentiality of saving us from the great danger of technology, i.e. the cure. We cannot simply get rid of technology if we want to escape our technological *Gestell*. So, if we must use it, then it is in the design that can change how we can view the world and the people around us. What are the technologies that make us rethink the essence of technology? What makes us rewire the way we think about the world around us?

## 2.2 Virtual Reality

In our modern world, we increasingly communicate through technology, with the help of interfaces. Technology represents the world to us, revealing it in a specific way. For a representation, we need something that can recreate the real situation. This is done by a

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<sup>53</sup> Stephen Chukwujekwu and Benjamin Ewulu, "A Critique on Martin Heidegger's Philosophy of Technology: Towards the Need for Appropriate Technology, *Nnadiabube Journal of Philosophy* 4, no.1 (2020): 58.



medium that stands in the middle of the subject and the external world, making an abstraction when representing the world. Every abstraction differs in the degree of transparency, i.e. how much the abstraction corresponds to reality.<sup>54</sup> Since digital technology is part of the world, and we are technological ourselves, human beings nowadays live between two realms: the physical environment and cyberspace. We use technology and live in the external world, but there is a great distinction between the two, leaving a distribution of information in the world of atoms and digital bits. To bridge this gap that exists between the external world and cyberspace, Hiroshi Ishii makes use of the concept of ‘Tangible Bits’. Here, digital information is made tangible, so that we can interact with computers the same way as with the physical world. Ways to turn matter into an interface between human beings and digital information are sought.<sup>55</sup> Virtual Reality (VR) aims to bridge this gap between digital bits and atoms. It makes people interact with an artificial three-dimensional environment with the use of computer modelling and simulation. A standard VR setting consists of a user wearing a helmet with a screen who sees a simulated environment, which creates an illusion of ‘being there’.<sup>56</sup> VR tries to touch upon a complete representation of reality where it does not want that the users feel like it is an abstraction anymore, but, rather, that it looks like complete transparency. This abstraction may not be true, creating an illusion, where the brain is tricked that it is in the presence of the real world, while being in the world of bits.<sup>57</sup> But how to deal with such an illusion? Does it distance us more from reality? Or can it make us rethink how we view other people and the world around us?

To investigate this, we must focus on the essence of VR. It is a human activity indeed, and like other technologies, it is a means to fulfil some end. This definition is correct, but not true. It is also a way of revealing the external world, but in a way of abstracting. The essence of VR is abstraction in the mode of transparency.<sup>58</sup> It is in our nature to abstract things: we see images and interpret them. For Heidegger, this happens through enframing. With virtual reality, we abstract reality, and show it digitally. It is shown as reality, but it is no reality at

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<sup>54</sup> “On Mediums of Abstraction and Transparency,” Matrise, accessed May 5, 2023,

<https://www.matrise.no/2018/06/on-mediums-of-abstraction-and-transparency-virtual-reality/>

<sup>55</sup> Hiroshi Ishii and Brygg Ulmer, “Tangible Bits: Towards Seamless Interfaces between People, Bits and Atoms,” *Proceedings of the ACM SIGCHI Conference on Human factors in computing systems* (March 1997): 235.

<sup>56</sup> “Entertainment,” Britannica, accessed May 5, 2023, <https://www.britannica.com/technology/virtual-reality/Entertainment>

<sup>57</sup> Matrise, “On Mediums of Abstraction and Transparency.”

<sup>58</sup> “The Mind as Medium,” Matrise, accessed May 5, 2023, <https://www.matrise.no/2018/06/the-mind-as-medium-virtual-reality-metaphysics/>

all. It blocks a natural revealing of reality.<sup>59</sup> It looks like VR falls thus in the same trap as other technologies. We use technology to create a simulated, technological reality. It can come close to absolute reality, but it is just an abstraction. It creates an illusion of being there, and that we can control the world around us with technology. Therefore, such an abstraction will not lead us out of our enframing way of viewing the world. The attempt to bring the physical and digital world together, is no way of escaping our technological *Gestell*.

Maybe there is hope in the danger. The difference could be made possible in the design of technology. To rethink our relationship with the world and people around us we must rethink our design of technology. I would opt for a technology that drives from curiosity and focuses on delight, surprise and beauty. This would be called romantic technologies.<sup>60</sup> Such technologies must focus on another way of revealing than *Gestell*. To rewire our thinking, it must not have the possibility to be in an enframing framework itself. Therefore, it must be designed in such a way that there is no dominant way of revealing something as standing reserve. There exist many examples of VR design that might escape the technological *Gestell*. This can, for example, be seen in virtual restorative nature experiences. Virtual nature environments that create an immersive experience for users cause several benefits, such as the reduction of stress, pain, blood pressure, and heart rate. Moreover, it also increases positive affect, vitality, restoration, and has beneficial effects on the well-being of patients that undergo cancer treatment.<sup>61</sup> VR can also be implemented in the entertainment industry. People can visit concerts virtually, it is used in theme parks, cinemas, and video games to enhance the interactive experience of people. It also can improve the design experience in art and improve the design process.<sup>62</sup> It can make art forms more vivid, intuitive, and colourful, while bringing an experience that brings the art works and people together.<sup>63</sup> However, this interaction takes place virtually with a medium, i.e. a machine, and not directly with other people.

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<sup>59</sup> Matrise, "The Mind as Medium."

<sup>60</sup> Tim Leberecht, "In Praise of Poetic Technology," accessed May 5, 2023, <http://timleberecht.com/article/the-hidden-poetry-of-the-internet/>

<sup>61</sup> "Into the wild ... or not," Frontiers, accessed May 5, 2023, <https://www.frontiersin.org/articles/10.3389/frvir.2022.952073/full>

<sup>62</sup> Jun Qian, "Application of VR in Art Design," *Journal of Physics* 1533, no.1 (2020): 5.

<sup>63</sup> Yu Qin and Xiaojuan Liu, "Application of VR Technology in Art Design," *Cultural and Social Sciences* 311, no.1 (2019): 392.

So, do these examples really escape the danger of technology? I would argue that VR, by simulating reality, distances human beings from reality. By creating a technological representation of reality, VR adds a layer that exists below the real world. This sub reality mimics the real world. Therefore, the people that experience a virtual reality, are a step further away from living an authentic life. VR replaces the real world with a virtual construct, and since it is only a representation of the world, it reveals the world as a calculable, and controllable object. So, it does not change the way we think about the world and, thus, it would not escape our technological *Gestell*.

### 2.3 Augmented Reality

But what if we focus our attention on a technology that enriches the physical world with more information? Let us now look at another technology, which becomes more prominent as time passes by, namely augmented reality (AR). In this terminology, a clock could also fall under this technology. It constitutes the passing of time and time in itself in a specific way. All kinds of things are happening, but the watch augments this reality by the knowledge that something happens at a specific duration or happens at a specific time. The technology reveals more information about the physical world that otherwise remained concealed. So, can we categorise this technology as AR? The difference between AR and, for example, a watch lies in how and to whom this information is displayed. AR lets you see the external world with additional digital images.<sup>64</sup> In contrast, a clock does not display this information digitally. However, does a smartwatch then fall under AR since it only entails digital images? I would argue that here also lies a difference. In AR, a new layer of information is added that is invisible to others, but that exists as an additional layer of information onto the reality of the subject.<sup>65</sup> Moreover, this layer is computer generated and overlays content onto the real world. While the information on a smartwatch is also computer generated, it does not overlay virtual information onto the real world. A smartwatch, a clock, or a navigation system, just like AR, enhance the subject's experience of the real world, but they do not overlay the virtual world onto the real world through a device. This can be explained by a navigation system. It gives information and guidance to reach a specific location. Usually, it is completely digital and tries to enhance the reality of the subjects. However, it is not AR

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<sup>64</sup> "Understanding virtual reality and augmented reality," GCF Global, accessed May 5, 2023, <https://edu.gcfglobal.org/en/thenow/understanding-virtual-reality-and-augmented-reality/1/#>

<sup>65</sup> Thomas K. Metzinger, "Why is Virtual Reality Interesting for Philosophers?," accessed May 5, 2023, <https://www.frontiersin.org/articles/10.3389/frobt.2018.00101/full>

because there is no overlapping of virtual elements onto the external world displayed through a device. To become AR, it would have to incorporate elements that would do so, like overlying route information onto a live camera view. An example would be Live View on Google Maps. Here, users can use the camera on their phone and point it to elements on the external world (buildings, roads, signs, etc.). Information will then pop up on your phone. You can also use it as a navigation system. Here, you will see the external world on your phone, with overlapping elements of the route to your destination.<sup>66</sup>

So, in contrast with VR, AR is used in the real-world whereas VR is completely virtual. People that use AR can control how they behave in the physical world, while people that use VR are controlled by the digital system. People that use AR only need a smartphone to operate. People that use VR need more complex technology. Think, for example, of sensors, a headset, and controllers. Moreover, VR only tries to improve a digital representation, while AR tries to improve the physical and the virtual world.<sup>67</sup> Where VR is just a representation in the form of an abstraction, AR is an enhancement of information in the form of alteration. It tries to bring the physical and digital world together and enhance the experience of human beings.

One application of AR is the enhancement of a shopping experience. Think here, for example, of Google Lens. It enriches the shopping experience of customers by providing information about an object. The customer only has to open the application, and thereafter aim it at the object.<sup>68</sup> This leads to an enframing way of viewing the world. But AR can also change the way we view particular objects in the physical world. Think, for instance, of the Rhine. With AR there are several options to provide additional information about the Rhine. It can, indeed, be seen as a hydroelectric power source. But what if you use AR when you focus on the Rhine, and it shows the poem of Friedrich Hölderlin? Or what if it shows the relations of the water, providing the origin and different applications of it. Does it not change our relationship with the Rhine? And if such an orientation is programmed to other objects, to not be seen as merely standing-reserves, but to reveal them in a poetic manner, i.e. not in the

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<sup>66</sup> “Use Live View on Google Maps,” Google, accessed May 5, 2023,

<https://support.google.com/maps/answer/9332056?hl=en&co=GENIE.Platform%3DAndroid>

<sup>67</sup> “What’s the Difference Between AR and VR?,” Tulane University, accessed May 16, 2023,

[https://sopa.tulane.edu/blog/whats-difference-between-ar-and-](https://sopa.tulane.edu/blog/whats-difference-between-ar-and-vr#:~:text=AR%20uses%20a%20real%2Dworld,only%20enhances%20a%20fictional%20reality)

[vr#:~:text=AR%20uses%20a%20real%2Dworld,only%20enhances%20a%20fictional%20reality](https://sopa.tulane.edu/blog/whats-difference-between-ar-and-vr#:~:text=AR%20uses%20a%20real%2Dworld,only%20enhances%20a%20fictional%20reality)

<sup>68</sup> “What is Augmented Reality?,” Oberlo, accessed May 5, 2023, <https://www.oberlo.com/blog/augmented-reality-apps>

technological framework of *Gestell*. Can we then not use AR to escape the danger of modern technology?

AR has many applications. But it is interesting to see how it is used in art. In Muséum national d'Histoire naturelle, visitors can experience extinct animals with the help of AR.<sup>69</sup> With the help of QR codes, more museums make their art available outside their own buildings.<sup>70</sup> The National Museum of Natural History developed the app 'Skin and Bones' to show how different animal species would have looked and moved when they were still alive.<sup>71</sup> A possible danger for AR is that people become immersed in their phones, that would lead to an isolating experience. However, it leads to the exact opposite: people engage in the technology together. In museums, the people actually discuss together what they see, while sharing screens. Moreover, it also has the potential that strangers talk to each other.<sup>72</sup>

Augmented reality thus differs from virtual reality in the fact that it does not represent the physical world in a virtual environment. In contrast, augmented reality enhances the experience of the physical world by adding more information to the user. Therefore, it is in the design of this technology that we can choose what type of information we want to enhance. If we see an object, AR can make us see it as an object, ready for us to be taken and exploited. This can be done, by showing prices, characteristics, and other information that reduces something as a mere instrument. However, if AR is designed in such a way, that makes the world reveal in another manner, e.g. in a poetic manner, then AR can help us rethink our relationship with the world and thus save us from the danger of technology.

## 2.4 VR and AR as Pharmakon

For now, I have established that both VR and AR can have a positive contribution to the world. If both technologies are analysed in terms of being a *pharmakon* one can see if and for what aspects, they are both a poison and a cure. VR is a poison in the fact that it reduces the

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<sup>69</sup> "Experience," Muséum national d'Histoire naturelle, accessed May 7, 2023, <https://www.mnhn.fr/fr/experiences/revivre-les-animaux-disparus-en-realite-augmentee>

<sup>70</sup> "QR codes are experiencing a resurgence but how can they benefit museums?," Museumnext, accessed May 7, 2023, <https://www.museumnext.com/article/qr-codes-are-experiencing-a-resurgence-but-how-can-they-benefit-museums/>

<sup>71</sup> "Bone Hall," National Museum of Natural History, accessed May 7, 2023, <https://naturalhistory.si.edu/exhibits/bone-hall>

<sup>72</sup> "How Museums are using Augmented Reality," Museumnext, accessed May 7, 2023, <https://www.museumnext.com/article/how-museums-are-using-augmented-reality/>

external world to a calculable and controllable, digital representation. This simulation is exactly what Heidegger opposes: it is an instrumentalization of reality. The cure of VR lies in the amount of good it can bring to the world. However, it would be difficult to escape our instrumental thinking with VR. With AR, users experience the real world, with overlapping digital elements. The danger of AR lies in the fact that, here, one tends to fall in the framework of technological thinking. When designing the technology, it is easy to use it for commercial purposes, leading to a contemporary *Gestell*. However, AR is an enhanced experience of reality, and it is also in the design of this technology that lies the potentiality of bringing another experience than in terms of the technological *Gestell*. For instance, by showing additional information in a poetic manner, it can make us rethink the relationship we have with the world around us.

AR can enable a poetic conception, but also has the danger that we fall back in instrumental thinking. It is important for businesses and students of Business Administration to understand the danger of technology, so they do not fall back in a mere instrumental view of the world. To avoid this, the sole driving force of business decisions should not be the pursuit of efficiency and profit. Instead, businesses must focus on creating poetic conceptions, which also provides several benefits. Since such conceptions provide meaningful and immersive experiences, they can increase brand loyalty.<sup>73</sup> This can also improve the long-term sustainability of businesses. Moreover, when the attention shifts from mere profit and functionality, there can arise new ideas that differ from the traditional norms of business, which increases creativity and innovation. Also, since companies need more input from different disciplines, they need an interdisciplinary approach. This can give rise to more collaborations between business, humanities, and arts.

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<sup>73</sup> “Immersive experiences are driving customer loyalty,” VentureBeat, accessed July 20, 2023, <https://venturebeat.com/commerce/how-immersive-experiences-are-driving-customer-loyalty/>

## Conclusion

The concept of *Gestell* shows that we view the world in a controllable, and calculable way. Nature, and other people become mere resources, ready to be used for our own good. By applying the concept of *Pharmakon* I have established that technology can be both a poison, and a cure for our existence. For example, the rise of modern technology prevented the starvation of many people, but also contributed to overpopulation. So, without technology, there would never have been so many people that would suffer from starvation at all. I have focussed on two types of technology that represent or enhance the real world: VR and AR. While VR can provide immersive experiences, it also creates a simulated reality that distances people from authentic experiences. Since VR is a mere digital representation, it shows that the world is controllable, and analysable. Therefore, it represents our technological *Gestell*, and it reinforces that we see the world, and people in a controllable and calculable way. On the other hand, I have established that AR enriches the physical world by overlying additional digital information over the real world. The poison of AR is that it will tend to fall under our technological *Gestell* when it tries to control and shape the world with extra information. *“But where the danger lies, also grows the saving power”*.<sup>74</sup>

Paradoxically, AR also has the cure to make us rethink our relationship with technology, and the world. If for example, AR shows information about people, objects, and other aspects of the world in a poetic manner, then it can disrupt our controllable view about the world. For example, when showing an object, the user must not get to see all the different instrumental or commercial purposes of it. Instead, the user could see a poem, a song, or the different relational aspects of an object. Therefore, if digital elements are integrated in our real lives, then it is important that the technology is designed in such a way that it does not focus on an enframing view of the world. Then, it has the possibility of viewing the world not just as a mere resource. So, although VR and AR will never fully escape our technological *Gestell*, Augmented Reality (AR) has the potential to make us rethink our relationship with the world, while Virtual Reality (VR) does not have this possibility.

To enable a poetic view of the world, we must also change the way we think philosophically about business. Then we can challenge the current, dominant view of seeing everything around us in an instrumental way. If we shift our focus from an instrumental approach to a

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<sup>74</sup> Heidegger, *The Question*, 34.

poetic approach, that is focused on creating meaningful experiences, then we can increase creativity and long-term sustainability in business, while also trying to reveal the world in another way than *Gestell*.



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