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Michael Madary

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Abstract This article offers an analysis of intentionality for virtual objects and explores some of the ethical implications of this analysis. The main example which serves as a motivation for the article is the case of a Chinese gamer who, in 2005, committed murder in retaliation for the theft of a virtual object, the theft of his virtual dragon sabre. The intentional analysis reveals that the way in which we experience virtual objects shares a structural similarity with the way in which we experience physical objects. Both virtual and physical objects are accessible through action and intersubjectively available. The final part of the article introduces three ethical points based on the intentional analysis. First, virtual objects can have the same ethical significance as physical objects. Second, it will be important to consider empirical results on the factors which influence one's subjective level of immersion in the virtual world. Finally, the intentional analysis of virtual objects suggests specific questions for future research.

Keywords Intentionality · Virtual objects · Phenomenology · Intersubjectivity · Virtual reality · Ethics

Qiu Chengwei's Dragon Sabre

In early 2005, Qiu Chengwei fatally stabbed Zhu Caoyuan because of a virtual dragon sabre. In the MMORPG "Legends of Mir 3," Chengwei had recently acquired this powerful weapon and lent it to Caoyuan, who then sold it on eBay for 7200 yuan (roughly 820 euro). Zhu Caoyuan had initially promised to return the virtual sword. After selling it, he promised Chengwei the money he received for it. But merely promising the money was not sufficient to assuage Chengwei. With no help from the police—Caoyuan had broken no law—and no compensation from Caoyuan, Chengwei attacked and murdered his former friend.[1]

This case is especially interesting because it raises ethical questions which straddle the boundary between a simulated world and the actual world. In this paper I will explore foundational issues for addressing these questions. In particular, I will offer a description of *intentionality* for virtual objects, such as the dragon sabre, the object behind the motive for the murder of Zhu Caoyuan. Intentionality is the philosophical term for the directedness or aboutness of mental states. We intend different types of objects in different ways. For instance, we can perceive, remember, or imagine an intentional object. The different ways in which we intend various kinds of objects has been described in the phenomenological tradition. Using techniques from this tradition, I will describe the intentionality of virtual objects, taking Chengwei's dragon sabre as my main example. The analysis will yield two main results. First, both the virtual and the real are *accessible through action*. Second, *intersubjectivity* is a crucial component in the way we intend objects—both virtual and real objects.

After giving an analysis of intentionality for virtual objects, I will explore the way in which this analysis can inform ethical questions surrounding virtual objects. The analysis motivates three main conclusions with regard to the ethics of virtual objects. First, virtual objects can have

M. Madary (✉)
FB05 Philosophie und Philologie, Johannes Gutenberg –
Universität Mainz, Jakob Welder Weg 18, 55099 Mainz,
Germany
e-mail: madary@uni-mainz.de

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[1] See "Chinese gamer sentenced to life" BBC, 8 June 2005. http://news.bbc.co.uk/2/hi/technology/4072704.stm.

the same ethical significance as physical objects. Second, it will be important to consider empirical results on the factors which influence one's subjective level of immersion in the virtual world. Third, the intentional analysis of virtual objects presented here suggests specific questions for future research.

The intentionality of virtual objects

The intentional object

Intentionality is the philosophical term of art for the property of mental states by which they are about their objects. The term was originally used by medieval philosophers and then was reintroduced into western philosophy by Franz Brentano in the late Nineteenth century (Brentano 1874/1973). The search for a proper understanding of intentionality, especially within a naturalistic framework, continues to be a central issue in philosophical research (Jacob 2010, section 9). Here I will not enter into the more controversial issues around intentionality. Instead, I will present a relatively uncontroversial account of our intentional directedness to objects both existing and non-existing.

An initial consideration of intentionality generates a puzzle. It is natural to understand intentionality as a relationship between a thinker, on one hand, and the object of thought, on the other. On this understanding, my thought about the coffee mug on the table is some kind of relationship between my mind and an object on the table. The puzzle emerges, however, when we consider our ability to think about objects that do not exist. Just as I can think about the coffee mug, I can also think about leprechauns, golden mountains, and Sherlock Holmes. It is odd to claim that my thought about Holmes is a relationship between me and the object of my thought because, in this case, the object does not exist: Sherlock Holmes is a fictional character.

There is more than one way to deal with this puzzle,[2] but for now I will follow an approach advocated by Edmund Husserl, and, more recently, by Tim Crane. They both suggest that intentionality is best understood without the notion that thinking is a relationship between thinker and object of thought. Both Husserl and Crane propose intentional states all have their intentional objects, but that intentional objects need not exist, and they need not have any kind of relationship with a thinker. On this view, some intentional objects exist, and some do not. Crane explains:

For when I say 'some intentional objects do not exist,' I do not mean that there are some real, but non-existent, intentional objects. Rather, I mean that there are intentional states which can be truly described as being 'about Pegasus,' 'about unicorns,' etc.—and it is not the case that there is anything corresponding to these quoted words. (2001: 25)

Husserl expresses a similar view:

If, however, the intended object exists, nothing becomes phenomenologically different. It makes no essential difference to an object presented and given to consciousness whether it exists, or is fictitious, or is perhaps completely absurd. I think of Jupiter as I think of Bismark, of the tower of Babel as I think of Cologne Cathedral, of a regular thousand-sided polygon as of a regular thousand-faced solid. (Husserl 1900/1901 V §11a, Findlay trans. 1970/2001)

Both Husserl and Crane are expressing the idea that the actual existence of the object of thought is not relevant for understanding intentionality. This approach to intentionality is attractive because it solves the puzzle of how we think about non-existent objects without having to accept other philosophically undesirable views.

For our purposes, this approach is also attractive because it offers a way to treat virtual objects without becoming tangled up in a debate about the ontological status of such objects.[3] But note that this advantage is not limited to virtual objects. Many objects of thought that are valuable and ethically relevant are objects which might be of dubious ontological status, objects with no spatial or temporal location.[4] Examples include vows, laws, contracts, and intellectual property (Searle 1995; Brey 2003). Ethical problems surrounding objects which are of questionable ontological status are not uncommon; for instance, one might investigate whether it is ethical to break a promise, or to share intellectual property without permission. Indeed, even the ethics of virtual objects is receiving increasing attention in the literature (Brey 1999; Kimppa and Bissett 2005; and especially Strikwerda 2012).

In the following two sections I will sketch similarities between our intentional directedness towards virtual objects and real objects. The first point is that the intentionality of the virtual shares structural features with the intentionality of the perceptual: both the real and the virtual

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[2] One option, explored and rejected by Crane, is to deny that relations entail the existence of their relata. For a critical discussion of this move, see Crane (2001: 24 and 25).

[3] Though I should mention that others have developed treatments of the ontological status of virtual objects. See Heim (1994) and Koepsell (2000).

[4] Adolf Reinach, an early follower of Husserl, develops this theme even further. He argues that non-physical objects, such as obligations, have the same ontological status as physical objects. See his (Reinach 1983) and DuBois and Smith (2008).

are accessible through action. The second point is that intersubjectivity plays a major role in our intentional directedness towards objects.

Perceptual and virtual objects

With the non-relational understanding of intentional objects in place, it is now possible to analyze the features of our intentional directedness towards virtual objects. One main theme here is that the intentionality of virtual objects shares similarities with the intentionality of normal perceptual objects. First I will sketch some of the relevant features of the intentionality of perceptual objects and then I will describe the case of virtual objects. A main point is that perceptual and virtual objects are similar in that they are both *accessible through action*. But the details of the way in which they are accessible is different. Philip Brey has noted some of these features of virtual objects:

> … virtual entities are not just fictional objects because they often have rich perceptual features and, more importantly, they are *interactive*: they can be manipulated, they respond to our actions, and may stand in causal relationships to other entities. (Brey 2003: 276)

In what follows I will develop these ideas in more detail.

One basic phenomenological fact about perceptual intentionality is that the properties of objects are always incompletely available for perception at any one time. In other words, perception is always limited to a particular perspective. This insight plays a central role in both Husserl's (1900/1901, 1966, 1973) and Maurice Merleau-Ponty's phenomenology (1962) and it continues to be an important theme in contemporary philosophy of perception (Noë 2004, Madary 2012). Our incomplete access to perceptual properties is not a problem for us because we are able to self-generate actions in order to explore our environment. I cannot see the full shape of a novel object from just one glance. In order to perceive the shape of the object, I have to gain different perspectives on the object. Typically, the gaining of different perspectives is achieved through self-generated movement. Another way to view the complete shape of the object would be if the object itself were moving in the right sort of way relative to my viewpoint.

Now consider a virtual object such as Qiu Chengwei's dragon sabre. Like perceptual objects, the dragon sabre is accessible through actions. Accessing the sabre involves entering and negotiating the virtual environment by using an interface such as a keyboard, mouse, or other game controller. In the environment, one can access images of the sabre and have one's character use the sabre under a variety of conditions. In perception, we gain different perspectives by moving our bodies in space. In the virtual environment, we gain different perspectives through the interface. The details are different, but the general structure is the same. Both perceptual and virtual objects appear to us in different ways depending on our actions in exploring and manipulating these objects.[5] As I will discuss later (3.2), I suspect that the nature of the interface with the virtual environment will turn out to be a factor in our analysis of the ethics of virtual worlds.

Above I mentioned examples of other ontologically questionable objects which have ethical significance. Consider the example of a marriage vow. Unlike a virtual object, marriage vows are not accessible through action. It is not possible to take different spatial perspectives on a vow of marriage due to the fact that the vow itself has no spatial location. One can have different perspectives in the concrete situation in which the vow was uttered, but this is not the same as having different perspectives on the vow itself. The same point can be made with the example of laws. Laws are debated, created, and recorded. But, presumably, one cannot reduce a law to any of these particular events. One can access the place in which a law is recorded, but this is not to access the law itself, which is distinct from the particular medium by which the law is officially recorded. Laws and marriage vows are profoundly important for society, yet our intentional directedness towards these things is dissimilar to the way in which we are intentionally directed towards everyday objects of perception. In the case of virtual objects, on the other hand, there is a strong structural similarity to perceptual objects.

Intentionality and intersubjectivity

The perspectival nature of perceptual objects is a main theme in the Husserlian phenomenological tradition. Another theme that is emerging in more recent scholarship is the importance of *intersubjectivity* for the possibility of experiencing the objective world. Thinkers such as Sartre (1956) and Levinas (1969) are well known for emphasizing intersubjectivity, or "the other." Dan Zahavi has made the case that the importance of intersubjectivity stretches back to the Husserlian beginnings of the phenomenological tradition. Inquiring into the conditions of possibility for the experience of a transcendent object led Husserl to the transcendence of the other, to transcendental intersubjectivity. Zahavi explains:

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[5] Here I am assuming a particular level of sophistication in the virtual environment. One can imagine rudimentary virtual environments in which exploration is not possible. The virtual environments widely used today allow for the kind of exploration I am discussing. Obvious examples include World of Warcraft and Second Life.

[Husserl's] idea was that objectivity is intersubjectively constituted and that a clarification of this constitution, accordingly, calls for an examination of my experience of other subjects… Husserl's thesis was that my experience of objective validity is mediated and made possible by my encounter with a transcendent other. (2005: 172)

Experiencing an object as objective necessarily involves experiencing it as an object which can be experienced by other subjects.[6] In this way, intersubjectivity is a condition for the possibility of objectivity.

Unlike physical objects, virtual objects can be experienced both with and without the possibility of intersubjectivity; we can switch between single-player and multiplayer modes, as it were. Of course, an observer can see a virtual object over the player's shoulder while the game is in single-player mode. But this passive observation is only a weak version of intersubjective engagement with a virtual object. The passive observer cannot freely access different perspectives on the object or engage with the causal powers of the object in the virtual world. Robust intersubjectivity in the virtual world only occurs when it is possible to encounter the characters or avatars of other players in the virtual world. Multi-player mode, then, provides a necessary condition for the possibility of experiencing a virtual object as objective. In single-player mode one can only cheat the game, but in multi-player mode one can actually steal from others.

I hope to have demonstrated that there is a strong structural similarity between the way in which we are intentionally directed to normal perceptual objects, on one hand, and virtual objects, on the other. First, in our intentional directedness towards both kinds of object, we can access new perspectives and properties of the object through our own actions. Second, both kinds of objects are in principle perceivable by others, at least when the virtual world includes the characters or avatars of other players. Now I will apply these results to the ethics of virtual environments.

From intentionality to ethics

I suggest that the intentional analysis of virtual objects motivates the following three points about ethics in virtual environments. First, virtual objects can have the same ethical significance as physical objects. Second, it will be

important to consider empirical results on the factors which influence one's subjective level of immersion in the virtual world. Third, the intentional analysis of virtual objects motivates particular questions for further research.

Virtual objects are ethically meaningful

It might be worthwhile here to address the intuition some may have that virtual objects are not worthy of serious ethical inquiry. An immediate reaction regarding such objects may be that they are of less ethical importance because they are 'merely' virtual; they are not real. But such a reaction can only be consistent if one either denies that other immaterial objects, such as laws and vows, have ethical relevance or if one argues that non-virtual immaterial objects are more ontologically robust than virtual objects. The first option is clearly a dead end and the second option has no obvious justification. It is worth bearing in mind that virtual objects are already a big part of human social life; consider documents, games, votes, social interaction, and digital media (Brey 2003). In addition, there is nothing psychologically undesirable about the preference to spend moderate amounts of time and money in a virtual world. According to a recent survey, Everquest II players are mostly adults who earn a high average salary and "seem to be more physically fit and get more exercise than their peers in the general population" (Lastowka 2010: 25).

Besides these points, I want to add another reason for taking the ethics of virtual environments seriously. My intentional analysis of virtual objects reveals that they are more similar to normal perceptual objects in their intentional structure, in the way in which they 'show up' for us in experience, than other ethically significant immaterial objects. This result shows that feelings about the unimportance of 'merely' virtual objects are lacking in justification.

Not only are virtual objects similar in their intentional structure to perceptual objects, but virtual objects also possess causal powers. Unlike other immaterial objects, virtual objects can effect change directly in virtual environments. Increasingly, users place value in the state of virtual environments which means that the events which take place in the virtual environment can have a real world impact, as the case of Qiu Chengwei shows vividly.[7]

Apart from the structure of our intentional directedness towards virtual objects playing an important role in their

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[6] Although I will not pursue it here, there is an interesting question as to whether other players experience the object itself, or merely a representation of the object. Similarly, one could argue that all players involved only experience a representation of the object. I thank an anonymous referee for raising this issue.

[7] For an example of virtual events with real-world impact that is less extreme than the case of Qiu Chengwei, consider what is known as the Battle of B-R5RB, which occurred in the MMORPG *Eve Online*. The battle occurred in late January 2014 and is estimated to have destroyed between $300,000 and $500,000 in virtual starships. See http://community.eveonline.com/news/dev-blogs/the-bloodbath-of-b-r5rb/. I thank Yann Wilhelm for drawing my attention to this virtual battle.

monetary and ethical value, there is at least one other crucial factor that I should mention here. Virtual objects are valued because of constraints on their possession within the virtual environment. The virtual dragon sabre is valuable partly because it is a rare (and powerful) object that is difficult to obtain in the virtual world of "Legends of Mir 3." The point here is that the structure of intentional directedness alone does not guarantee any value to virtual objects. Other conditions, such as constraints on possession, must be in place as well.[8]

The importance of immersive technology

The similarity in intentional structure between perceptual and virtual objects depends on both kinds of objects being accessible to varying degrees. The accessibility of perceptual objects depends on the details of our embodiment. For instance, the possible views we can have on objects is constrained by the way we can move our eyes and position our bodies. The accessibility of virtual objects, in contrast, depends both on our embodiment and on the technology we are using as an interface with the virtual world. Some interfaces will induce a stronger feeling of being in the virtual world than others.

The most effective interfaces with virtual environments can be found in virtual reality (VR) research. Appealing to a large body of such research, Mel Slater (2009) has suggested two elements which contribute to the feeling that an experience in a virtual environment is happening in reality. The first element is the *place illusion* and the second element is the *plausibility illusion*. In some ways, these two elements of the experience in the virtual world are similar to themes introduced from the phenomenological tradition in sections "Perceptual and virtual objects" and "Intentionality and intersubjectivity" above. The place illusion occurs when sensations change as they should with respect to self-generated movements. The plausibility illusion occurs when the events in the virtual world that are outside of the subject's control turn out to be related to the subject. Slater's examples of plausibility all involve a realistic kind of social interaction, or intersubjectivity. For instance, he suggests that eye contact and a smile from another avatar will add to the plausibility illusion in the way that perceiving an inanimate virtual object will not (Slater 2009: 3553). Now we have good phenomenological as well as empirical reasons to think that both accessibility through action and intersubjectivity are key elements for intending the virtual world as if it is real.

The crucial point here is that the way in which both of these elements are implemented depends on the technology. The first element, accessibility through action, is still

mostly limited to hand-held gamepads, although products such as Nintendo's Wii and Microsoft's Kinect represent important advances along this dimension. For instance, in a recent review of Nintendo's *The Legend of Zelda: Skyward Sword*, Steve Boxer reports that "when wielding the Wii-mote as a sword, you really feel like you are Link."[9] As better technology becomes available for mass consumption within the next few decades, virtual objects will be accessible through the same kinds of actions we use to access real objects. As this happens, we should expect an increase in the value—both monetary and ethical—that users place on virtual states of affairs.

Although my discussion here remains somewhat general, my point is that the specific implementations matter for the ethical and psychological impact on the user. It will be important to have empirically driven theories about these details. For instance, one surprising result from VR research is that visual realism does not turn out to be a crucial parameter for inducing the feeling that the virtual experience is real (Sanchez-Vives and Slater 2005: 333). Contrary to what one might expect, the sense of presence does not seem to depend on maximally realistic graphics. With this result, we can be careful not to discount the psychological impact of extended immersion based on unrealistic graphics. An overarching question to keep in mind will be as follows: which technologies alter the user, or, if you will, the user's self-model (Metzinger 2003, 2009), and does this alteration have further psychological consequences?

While the technology behind the availability of the virtual through action creeps forward, the technology for virtual realistic intersubjective engagement has already made a giant leap in the last decade. The internet has enabled the rise of massively multiplayer online games such as The Legend of Mir 3. With massive multiplayer possibilities came virtual worlds in which users invest time and money. But in the case of intersubjective engagement there are still unrealized technological goals. When addressing the ethical implications of technological advances along this dimension, it will also be important to possess the facts about how the implementational details will affect users—both physically and psychologically.

Questions for future research

Since the phenomenology of intentionality gives us some of the basic ways in which virtual worlds are experienced as real worlds, it may be fruitful to explore further ethical implications of this phenomenology. The phenomenological tradition is also relevant for two other reasons. First, it

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[8] I thank an anonymous referee for raising this point.

[9] "Link" is the hero, the player's character, in the game. The review appeared in *The Guardian* on 11 November 2011.

has taken up technology as a central theme (Heidegger 1977). Second, the importance of intersubjectivity—a main theme above—has played a central role in phenomenological work with ethical implications (Levinas 1969). There are interesting questions about how the phenomenological tradition relates to major theories of ethics (Drummond and Embree 2002; Smith 2007: chapter 8), but here is not the place to pursue such questions as they would take us off-topic. Instead, I will consider some of the ethically relevant questions that are motivated by the above analysis.[10]

The intentional analysis above yielded two main themes: accessibility through action and intersubjectivity. These two themes each have their own ethical implication. Begin with the theme of accessibility through action. What the ongoing cycle of action and perception reveals is that most of our actions are not the discrete, deliberate acts commonly investigated in contemporary ethics, which focuses a good deal on moral dilemmas such as the trolley problem. Instead, our actions are exploratory and embedded in an ongoing cycle with perception. The moral upshot of this insight could be that acting ethically—whether in a virtual world or not—depends on how we execute these fine-grained movements in addition to the momentous decisions faced in life's trolley problems. Now, I do not mean to imply that this suggestion is novel; arguably, the same theme can be found in Aristotle's ethics. But what is new here is the way in which this point relates to new information technology.

Suppose it is correct that the ethical life is partly constituted by the small details of the action-perception cycle. Since this cycle is largely a matter of exploring and manipulating our environment, the environments in which we spend our time will play a noteworthy role in our ethics. Will immersion in a virtual environment have a lasting impact on our action-perception cycle in the real environment? Will some virtual environments be more edifying than others? These questions are important and they are empirically tractable.

The second theme explored above was the importance of intersubjectivity as a necessary condition for objectivity. Virtual environments enable new varieties of intersubjective engagement. One pressing ethical issue here is the value or authenticity of digitally mediated intersubjectivity versus traditional face to face contact (Dreyfus 2000). Technology can help or hinder our abilities to meet ethical obligations to the other, and it will be crucial for users to be aware of the possibilities. Which forms of information technology foster the kinds of intersubjective engagement that are so healthy and valuable for us? For example, is the

contact between two player's characters in World of Warcraft comparable to the intersubjectivity of a telephone conversation? The two different kinds of technology constrain the kinds of information that the individuals are able to share with each other. How do these constraints shape intersubjective engagement? These questions refer back to the point above about the importance of the details of the technological implementation.

Conclusion

In this article I have used the tragedy involving Qiu Chengwei's dragon sabre as a motivation for an intentional analysis of virtual objects. In particular, I have borrowed two themes from the phenomenological tradition, *accessibility through action* and *intersubjectivity* in order to show similarities between the intentionality of physical and virtual objects. In the final parts of the article, I drew three ethically relevant points from the intentional analysis: virtual objects are ethically meaningful, the details of technology matter for ethical issues, and the intentional analysis can motivate particular issues for further research.

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[10]   Issues become more complex when we consider that many virtual environments are places in which games are played. For a discussion of this issue, see Lastowka (2010: chapter 6).

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