'WHERE AM I?': THE PROBLEM OF BILOCATION IN VIRTUAL ENVIRONMENTS[1]

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I. INTRODUCTION

In this paper, I deal with a striking phenomenon that often occurs when we explore the virtual environment of, for example, a video game. Suppose a friend sees me playing a video game and asks 'Where are you?' There are two possible answers to this question. I can either refer to my actual location ('I am in my room'), but I can also refer to my location in the virtual world ('I am in a space-ship'). Although my friend is probably after this second reply, the first one is not false. At first sight, this gives rise to a tension. On the one hand both claims – 'I am in my room' and 'I am in a space-ship' – seem true. But on the other hand they also seem mutually exclusive as bilocation, i.e. being in two places at the same time, is impossible. I am either in London *or* in Paris, in the bathroom *or* in the kitchen, in a space-ship *or* in my room. How can I claim to be in two places at once? In the following, I discuss two ways to dissolve this tension:

1. The claims 'I am in my room' and 'I am in a space-ship' are not both true. Only the first one is. The second claim articulates an illusory experience and can

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hence be discarded as false. The implication of bilocation is thus avoided: I am in my room and nowhere else.

2. The claims 'I am in my room' and 'I am in a space-ship' are not mutually exclusive. This becomes clear when we explicate what is implicit in them: 'I am (*really*) in my room' and 'I am (*not really, but virtually)* in a space-ship'. Bilocation is thus avoided, as it requires that I am really present in two places at the same time.

In the second section, I argue against the first solution: claims like 'I am in a space-ship' are not indicative of an illusion on the level of the player's experience. In the third section, I defend the second solution. The main challenge there will be to explain, in positive terms, what we mean when we say we are virtually present in computer generated environments. In order to understand first-person indexical *utterances* referring to virtual locations, I will look into the *experiences* articulated in them. I will explain how a sense of being present in a virtual world comes about and describe two key differences between being present in the virtual world and being present in the real world.

II.   ILLUSIONISM

In this section, I discuss the first way to get rid of the tension from the introduction: claims like 'I am in my room' and 'I am in a space-ship' are mutually exclusive, but they are not both true. According to a popular line of argument, the sense of being in a virtual environment is *illusory* in nature.[2] Claims in which this illusory experience is articulated can consequently be discarded as false. This way, the illusionistic account avoids the threat of bilocation: I am simply wrong when I refer to a virtual location if someone asks 'Where are you?'. I will argue against this illusionistic account. To do so, I first discuss how the concept of illusion is used to account for the experience of being in a virtual world. Next, I sketch a weak and a strong variant of the illusionistic thesis and argue that they are both inadequate.

How can we account for the experience of being *in* a virtual world in terms of illusion? In their article 'Being There', IJsselsteijn and Riva appeal to Daniel

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[2] IJselsteijn, Freeman & De Ridder (2001), Marsh, Wright & Smith (2004), Grau (2003). Grau writes: "The technological goal, as stated by nearly all researchers of presence, is to give the viewer the strongest impression possible of being at the location where the images are. This requires the most exact adaptation of illusionary information to the physiological disposition of the human senses." p. 14.

Dennett's concept of an *illusory shift in point of view* to do this.[3] Dennett uses this term when he speaks of Cinerama. In Cinerama, images of, for example, a rollercoaster ride are projected on a panoramic screen. Dennett writes: "Point of view clearly has something to do with personal location … What should we say about the point of view of the Cinerama viewer who shrieks and twists in his seat as the roller coaster footage overcomes his psychic distancing? Has he forgotten he is safely seated in the theatre? Here I was inclined to say that the person is experiencing an illusory shift in point of view."[4] Dennett suggests, in other words, that the Cinerama viewer believes, if only momentarily, that she experiences the phenomena on the movie screen from within the pictorial space.

It is easy to see why philosophers feel tempted to apply the notion of a 'shift in point of view' to virtual worlds. Even in desktop-virtual reality we favour a non-actual point of view over our actual point of view. Think of a game involving a space-ship. On the one hand, there is my actual point of view. In front of me is my screen, to my left are some papers and a bottle of water, to my right there is the door leading into the corridor. But when playing a game, I also have a point of view in the virtual world. In front of me is a door leading to another part of the ship, to my left there are windows showing me a starry sky, behind me are four aliens with laser guns.

The question remains, however, how this virtual point of view gives rise to an illusion of being in a computer-generated world. According to the illusionists, I take myself to be there because of the *transparency* of the enabling technologies.[5] While playing a game, they argue, I do not attend to the screen or the mouse. I am, in other words, not visually experiencing a screen with little green colored figures on it, nor do I have direct awareness of pushing certain buttons on my mouse. Instead of green markings on the screen's surface, I see aliens. Likewise, I do not experience myself as pushing buttons on the keyboard, but rather as running around a space-ship, firing a laser gun. It is this transparency of the enabling technologies that gives rise to what Lombard and Ditton call an 'illusion of non-mediation'.[6] IJsselstein and Riva describe this illusion as '… a level of experience where the VR-system and the external physical environment disappear from the user's phenomenal awareness … he or she fails to perceive or acknowledge the existence of a medium … and responds as he/she

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[3] IJsselsteijn & Riva (2001).
[4] Dennett (1978), pp. 314-315.
[5] Marsh (2004), p. 226.
[6] Lombard & Ditton (1997).

would if the medium were not here."[7] While exploring a virtual world, so the illusionist argues, I am not attentive to the technology making this possible. Consequently, the illusion of 'being there' comes about.

Although most theories about being present in virtual worlds use the concept of illusion, it is not always clear how they define this concept. There are two types of illusions: cognitive and perceptual ones.[8] Cognitive illusions involve false beliefs. Imagine you are driving on the highway with a friend on a hot day. It might appear as if there is water on the road surface. Suppose your friend is not familiar with this mirage and thinks that there really is water on the road. If so, she is under the spell of a cognitive illusion. Perceptual illusions, on the contrary, do not involve false beliefs. Consider again the 'water' on the road. Even if I inform my friend about the mirage, and she drops her belief that there really is water, it might still appear as if it is there. She is just not fooled into believing it is really there anymore.

In the following, I will present two possible variants of the illusionistic account: a strong variant (which takes the experience of being in a virtual world to be a cognitive illusion) and a weak variant (which takes the experience of being in a virtual world to be a perceptual illusion). Neither of these variants will show to be satisfactory, which leads to the conclusion that the concept of illusion is insufficient to describe our sense of being in a virtual world.

If my claim that I am in a virtual environment originates from a cognitive illusion, there must be moments in which I *believe* I am actually there. What is presented as being on my left in the virtual world, is taken to be really on my left. For two reasons this cognitive version of the illusionary account is absurd. Suppose someone asks me where I have been all day. Taking this person to inquire after my *actual* whereabouts, I can say that I was at home, in the supermarket, and in the library. But I probably will not say, that I was at home, *in a space-ship*, and in the library. Still, if I believe I actually was in the virtual world at some point, this should have been my reply. Of course, one can say that the cognitive illusion is only temporary: while playing I take myself to be there, but once I have turned the screen off, I know it was all unreal. This weak variant of the cognitive thesis can be countered with a second argument. If I really believe I am in a virtual world, I take the things on my 'virtual left' to be really on my left. This makes it hard to explain why we do not react to video games as we

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[7] IJsselstein & Riva (2001), p. 8.
[8] Currie (1995), pp. 22-29.

would to relevantly similar real life situations. If I really thought there were four aliens behind me, I would probably panic and flee. Maybe a perceptual version of the illusionistic account is more attractive: a video game might give me the impression that I am at a certain location, but I am not fooled into really thinking I am there. I discard, in other words, any belief that I am in the virtual environment. Subsequently, I would not claim that I am really there, just as I would not claim there is water on the road surface on a hot day. But this variant of illusionism is flawed too. There is a disanalogy between the perceptual illusion of seeing water on the road's surface and the experience of being in a virtual world. In the first case, there is a temptation to believe there is water on the road, even though this temptation directly meets resistance (I *know* there is no water there) and never leads to a false belief. As I am familiar with this optical illusion, I block off my spontaneous inclination to take what I see as real. In the case of virtual reality, however, I do not even have to block a spontaneous inclination to take myself as really there. I start exploring a virtual world knowing that my presence in it is not real and this conviction stays with me during the entire course of the game. There is never any temptation to believe I am really there.

The concept of 'illusion' is often used, rather naively, to describe the sense of being situated in a virtual world. I argued that any account based on this concept is unsatisfactory. Still, what this account has to offer is the avoidance of bilocation. In the end, all versions of illusionism take references to virtual locations as products of illusion and, hence, as *false*. Only the claim in which I refer to my actual location is true. The tension between two claims that seem both mutually exclusive *and* both true thus disappears. Can an alternative account offer an equally plausible solution to this problem?

III.   BEING VIRTUALLY THERE

In this section, I defend my own solution to the apparent tension from the introduction: the claims 'I am in my room' and 'I am in a space-ship' are both true, but they are not mutually exclusive. This shows when we focus on their elliptical character. Elliptical utterances lack a significant element which could be inserted by the speaker. Suppose you are playing a video game and a friend calls you on your mobile phone to ask you where you are. Consider two variants of the conversation that follows:

Variant 1

(Friend) "Where are you?"

(You) "I am in my room."

(Friend) "Are you really in your room?"

(You) "Yes, I am really there."

Variant 2

(Friend) "Where are you?"

(You) "I am in a space-ship."

(Friend) "Are you really in a space-ship?"

(You) "No, I am not really in a space-ship: I am playing a video game."

In both conversations, an implicit element surfaces: 'I am (*really*) in my room' and 'I am (*not really, but virtually*) in a space-ship'. I will argue that, formulated in this non-elliptical fashion, apparently exclusive claims like 'I am in my room' and 'I am in a space-ship' can co-exist. They will show to belong to different language games which, ideally, do not interfere with each other. To make a case for this idea, I will have to clarify what we exactly mean when we say that we are "*not really* in a space-ship". In the following, I first investigate if a Waltonian theory of fictional utterances might help me out (section *III.i*).[9] I will argue that this Waltonian theory is true, but that we can only gain a proper understanding of fictional utterances like 'I am in a space-ship' if we look into the *experiences* which are articulated in fictional utterances. I address two aspects of the experience of being in a virtual world: how it comes about (section *III.ii*) and how it differs from the experience of being in the real world (section *III.iii*).

III.i Fictional Utterances

A theory which might be useful to rephrase a claim like 'I am (*not really*) present in a space- ship' in positive terms is Kendall Walton's theory of fictional utterances.[10] This theory can explain on a general level how seemingly mutually exclusive claims can co-exist. Imagine seeing a painting of a horse. If someone asks 'Do you see a horse'

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[9] Walton (1990).

[10] In 'The Art of Videogames', Grant Tavinor argues that videogames are Waltonian fictions (Tavinor 2009, pp. 34-60). He does not, however, apply the Waltonian view to the problem of being *in* virtual worlds.

you can answer both 'yes' and 'no' without contradicting yourself: when you say 'Yes', you intend to say 'I (*fictionally*) see a horse', and when you say 'No' you intend to say 'I do not (*literally*) see a horse'. In this non-elliptical form, these replies do not contradict each other as they belong to different language games. With a literal claim I intend to say something true about the world, with the first claim I assert something that is fictional.

This Waltonian theory does not only work for understanding our claims about paintings and literal fictions, but also for claims we make about our virtual locations. When I say that 'I am (*literally*) in my room' and that 'I am (*fictionally*) in a space-ship', I do not contradict myself either. The first sentence belongs to literal discourse and the second one belongs to the discourse of pure make-believe. These discourses make up separate realms and claims from one realm do not compete with claims from the other. This explains why I do not correct the observer of a painting who says 'I see a horse' by saying 'No, you do not see a horse, you see a canvas'. And, similarly, I do not correct someone saying 'I am in a space-ship', by saying 'No, you are in your room': I know that the speaker does not say something that is literally true, but makes a fictional utterance.

Although I take this Waltonian line of thinking to be correct, I think it leaves us with the same questions as the privative formulation - 'I am (*not really*) in a space-ship' - we started with. What do I exactly mean with fictional utterances like 'I am in a space-ship'? What kind of *experiences* are expressed in them? And how do these experiences, i.e. those of being somewhere (but not really), come about? By identifying certain utterances of users of virtual environments as 'fictional', these questions do not dissolve. In the following, I will try to answer them. I first explain how the experience of being in a virtual world comes about. I investigate what it is in a virtual world that allows me to experience myself as being in it. After this explanatory story, I explain the peculiar nature of being present in a virtual environment as opposed to my 'normal' presence in the real world. Proceeding in this way, I hope to shed light on the curious *claims* referring to virtual locations by looking into the *experiences* behind these claims.

III.ii Fictional Presence Explained

What explains our sense of being (*fictionally*) present in virtual environments? Here, it might be helpful to return to the concept of a virtual point of view mentioned in the

previous section, of course, without claiming that this point of view gives rise to illusions.

When we explore a virtual world, a shift in our attention occurs. Our primary focus is not on our actual surroundings any more, i.e. not on the screen in front of us, the bottle on our left, the door on our right, but on the virtual surroundings. This shift of attention, however, is not typical only of virtual worlds: a similar shift occurs when we experience other kinds of visual representations. When I look at a painting, I actually see a marked surface in front of me, but this is not at the center of my attention. At the center of my attention is rather the depicted object, for example, a horse. But even though there is a shift away from our actual point of view here - we do not focus on what is literally in front of us - we would never say we are *in* the painting. When I look at a painting of a horse, it makes sense to say that on *the* left there is a horse, but it does not make sense to say that the horse is on *my* left. However overwhelming paintings and movies can be, I do not claim that I am *in* the fictitious worlds they represent. When I look at a painting of a horse I am not in the meadow, when I see the Eiffel tower on a poster I am not in Paris, and *The Lord of the Rings* does not transport me to The Shire. If someone asks 'Where are you?' when you look at a painting or watch a movie, you refer to your actual location.

Thus, a shift in our attention from something that is literally seen (a canvas, a screen) to something that is only fictionally seen (a horse, a space-ship) is not enough for the sense of being in a pictorial space to come about. An extra ingredient is needed to explain this feeling. What is needed is a fictional point of view over which we have some kind of *control*. This control is usually exercised by means of an *interface*, for example, a mouse or a joystick. These devices create a correlation between my actual movements and the sensory information generated by the virtual world. When I move the joystick to the right, I (*fictionally*) see a door and when I move it to the left I (*fictionally*) see an alien with a laser gun. Just like my perception of the actual world, what I see in the virtual world is dependent on my movements. When I move my head to the left I (*literally*) see a door, when I move my joystick to the left I (*fictionally*) see an alien. The possibility to control a non-actual point of view allows me to explore the image-space, rather than just passively observe the phenomena in it. This process of active exploration generates fictitious egocentric spatial information. I start to experience the virtual items as being left, right, under, and above *me*, because I can take on a position in relation to them. Only when virtual worlds allow me to gather

(fictitious) egocentric spatial information by means of a correlation between my actual movements and the sensorial information presented to me, can I feel situated in them.

Consider the following example in support of this explanation. Suppose you are not exploring a virtual space yourself but are watching someone else do this. Even though you receive the same input as the user - mostly audiovisual information - you will not claim to be *in* the virtual world. You might say 'I am in my friend's room, watching a video game' but not 'I'm in a space-ship'. Only a person with control over the virtual point of view claims she is there. Without a correlation between your actual movements and the sensorial information provided, a sense of being present there cannot come about. I would see things left and right on the screen, but I cannot take them to be (*fictionally*) on *my* left or *my* right. Subsequently, I would not make fictional utterances like 'The aliens are on my left' 'The door is on my right', and ultimately, I would not say that 'I'm in a space-ship'.

So much for my *explanation* of our sense of being in virtual environments. I have defined the peculiar nature of virtual worlds over against other kinds of representations, which can be overwhelming but do not allow me to say I am *in* them. In my explanation, I emphasized aspects that my experience of being in a virtual world and my experience of being in the real world have in common. In doing so, I hope to have explained why we feel present in both actual and virtual worlds. In either case I can explore an environment because I have a controllable point of view which allows me to gather egocentric spatial information.

III.iii Fictional Presence versus Real Presence

Now that I have looked at the similarities between the experience of being in virtual and actual environments, it is time to point out the differences. There are, of course, many differences, and I will sketch only two key distinctions.

First, being in a virtual environment entails that everything I do in there, i.e. all the consequences my actions provoke, are limited to the virtual world. They fall outside the larger causal chain of the world. In virtual worlds there is causality as I can, for example, shoot the four aliens on my virtual left. This, however, is a fictional chain of events, taking place in a secluded environment, which ceases to exist after I turn my computer off. Of course, pushing buttons on a controller *is* an event in the world, but the virtual action thus initiated is not. When I kill four aliens or people in a virtual world I do not have to fear prosecution for murder, as this event does not become part

of the world. Everything that happens in a virtual world stays in there and does not have repercussions on the real world.

Secondly, actual and virtual worlds are ruled by different temporal regimes. In the actual world I can visit a location at *t1* and at *t2*, but I cannot return to *t1* once I reached *t2*. Time is irreversible in the real world. Virtual environments, on the contrary, allow us to reverse time. When I die in a video game at *tvirtual2*, I can restart the level and return to *tvirtual1*. Virtual time is not necessarily irreversible. If I fail to beat the aliens, I can start again. The events in the virtual world had no effect on the actual world (apart from the player being frustrated) and I can go for it again.

Again, there are more distinctions between being in real and virtual worlds, but I take these two aspects - the secluded character of virtual spaces and the reversibility of virtual time - to be especially important. That is what, as some have suggested, makes virtual worlds excellent training environments. If I crash my airplane in *Microsoft Flight Simulator*, no harm is done and I can start anew. Others, however, have criticized the use of virtual worlds as training situations for exactly the same reasons. Hubert Dreyfus argues that virtual spaces are without risk and therefore cannot be used to teach, for example, future doctors a proper sense of responsibility.[11] A sense of responsibility is connected precisely with the idea to get it right the first time because the consequences of my actions are not limited to a virtual world and are part of an irreversible chain of events. Whatever one may think of Dreyfus' critique of virtual learning, this critique does touch upon an essential feature of being present in virtual worlds. In these worlds there is *involvement without risk*. Once the screen is turned off, we do not have to care any more; it is as if we were never there.

IV. CONCLUSION

I have argued that the experience of being present in a virtual world is not illusory in nature. Nor do virtual worlds allow for bilocation, as this requires that I am really present in two places simultaneously. When I claim to be at a virtual location, however, I do not claim that I am really there, but rather that I am 'not really there'. In my paper, I have elucidated strange claims, like 'I am (*not really, but virtually*) in a space-ship' by looking into the experiences behind them. I have offered an explanation of the experience of being in a virtual world (i.e. a controllable point of view in the picture space) and sketched two criteria to define the peculiarity of being

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[11] Dreyfus (1998)

in virtual worlds (i.e. everything I do in virtual worlds stays there and virtual time is reversible). In short, I have offered an account of virtual *experience* which can serve to philosophically elucidate *claims* referring to virtual locations.

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