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Against Virtual Realism

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ABSTRACT

As virtual reality technology grows more sophisticated, questions about how we define reality versus unreality become more imperative. David Chalmers tackles this question in his 2017 paper "The Virtual and the Real," where he contrasts two views which he calls virtual realism and virtual irrealism. In his paper Chalmers wants to show that even with our imperfect and temporary VR, the view that virtual objects, events, etc., are real and can be thought of as digital objects. He defines VR as immersive, interactive, and computer-generated. VR proper is said to have all these traits, but some things can be called VR with only one or two of the three. One example Chalmers cites is World of Warcraft. WOW is a virtual world, an interactive computer-generated environment that we seem to inhabit. In these environments we would find virtual objects. The virtual realist would hold that virtual objects really exist, events that happen in virtual reality really happen, experiences we have in virtual reality are not illusory, and that these experiences in virtual reality are valuable just like non-virtual experiences. Virtual irrealism argues the antithesis of each of these qualities. Chalmers wants to defend the view of the virtual realist. In this paper, I will argue against Chalmers' theory of virtual realism. I will present three objections based on what I see as a mistake Chalmers makes regarding how we experience VR and also how the user interacts with VR.

As virtual reality technology grows more sophisticated, questions about how we define reality versus unreality become more imperative. David Chalmers tackles this question in his 2017 paper "The Virtual and the Real," where he contrasts two views which he calls *virtual realism* and *virtual irrealism*. Chalmers defines virtual reality as an "immersive, interactive, computer-generated environment." (Chalmers 2017, 3)

In his paper Chalmers wants to show that even with our imperfect and temporary VR, the view that virtual objects, events, etc., are real and can be thought of as digital objects. He defines VR as immersive, interactive, and computer-generated. VR proper is said to have all these traits, but some things can be called VR with only one or two of the three. One example Chalmers cites is World of Warcraft. WOW is a virtual world, an interactive computer-generated environment that we seem to inhabit. However, we cannot say it is immersive, since the borders of the frame are visible. It is clear we are playing a game. In these environments we would find virtual objects. The virtual realist would hold that virtual objects really exist, events that happen in virtual reality really happen, experiences we have in virtual reality are not illusory, and that these experiences in virtual reality are valuable just like non-virtual experiences. Virtual irrealism argues the antithesis of each of these qualities. Chalmers wants to defend the view of the virtual realist. In Chalmers view, if tomorrow we were to find out we lived in a Matrix, "instead of saying there are no tables, we should say instead that tables are digital (computational) objects made of bits." (Chalmers 2017, 2) In this paper, I will argue against Chalmers' theory of virtual realism. I will present three objections based on what I see as a mistake Chalmers makes regarding how we experience VR and also how the user interacts with VR.

1. CHALMERS' ARGUMENT FOR VIRTUAL REALISM

Chalmers begins by laying out the definitions he will use throughout the paper. It is helpful here to define these things for this paper, as well. Chalmers points out the "Virtual X" used to be defined as something like "as if X but not X." More recent definitions take virtual to mean "a computer-based version of X." In Chalmers view, a virtual sword is simply a computer-based version of a sword, and, just a non-virtual sword is made of atoms at its core level, so a virtual sword is made of "bits."

Chalmers also defends virtual objects and experiences from charges of fictionalism. Fictionalism is the view held by virtual irrealists who believe that virtual worlds, and by extension all objects and events within, are fictional, akin to Middle Earth in the works of Tolkien, which has no geographic location outside of Tolkien's books and all characters and events within are purely products of imagination. It likewise follows from this view that all virtual objects within a fictional virtual world are fictional objects. Chalmers, however, wants to say that even in these worlds there are real objects. Virtual objects are objects within virtual worlds which we perceive and that we interact with as part of the world. These are things like virtual bodies, virtual swords, virtual trees, etc. These are the things that cause our perceptions in the virtual world and digital objects have those causal powers in non-virtual reality by virtue of existing on real computers.

Take a virtual sword as an example. A user may see a virtual sword, they may see a glint of sunlight shine off the blade, the intricate carving on the handle. Chalmers would say the sword has real causal power because it is causing you to see all of these things, to *experience* the sight of a sword. Because virtual objects have this causal power, we can think of them as *digital* objects, as real things that are not fictional and are made of computational bits in the same way an object in the non-VR world may be made of atoms.

Chalmers also argues against "virtual illusionism," wherein the perception of visual worlds is considered illusory. Specifically, the premise he wants to argue against is the premise that "We perceive virtual objects as having the ordinary (non-virtual) colors, locations, and shapes that a corresponding nonvirtual object has." (Chalmers 2017, 15) Also, when laying out the premises for an argument in favor of virtual illusionism, another of the premises he uses is "If one perceives an object as having properties that it does not have, the perception is illusory." This is important because Chalmers writes that this premise "can be regarded as a definition of 'illusion.'" (Chalmers 2017, 15) This is the only definition of illusion he provides, and so it is the one I will use for the sake of my argument. The reason we may consider VR worlds as illusory is because we perceive virtual objects as non-virtual ones. To this point, Chalmers says that there are naïve and sophisticated users of VR technology, wherein naïve users may have false beliefs such as if they are in a VR world, they may believe they are in a non-VR world, in non-virtual space and interacting with non-virtual objects.

As for experiences, Chalmers argues that VR experiences have value just as non-virtual experience does. For Chalmers, the more sophisticated VR users become, the more immersed into the world they are, and are better able to apprehend objects and experiences as being "about as valuable as non-virtual experiences of a non-digital world." (Chalmers 2017, 2) This is because in VR, users can interact and direct the course of the game. Things are not preprogrammed in advance and they can use the game however they want. Their achievements are real achievements, because they came about through their effort. They can also do things in VR, like make friends or write a book or fall in love, that have value as real experiences. In Chalmers' view these are plausibly real actions accomplished through a virtual body.

One last clarification before moving onto the body. I should say that the goal of this essay is to argue Chalmers' claims and definitions in the context of what he calls, "temporary and imperfect virtual realities that are possible with current VR technology." (Chalmers 2017, 2) It is often a fool's errand to speculate on potential future developments and I will not be arguing for the possibility or impossibility of VR that is capable of completely supplanting our existing reality in the future.

2. OBJECTIONS

2.1 The Frame Objection

Chalmers wants to say virtual things are real things, even though they may not be the same things in the real world. Virtual space is still space. His theory is neutral on whether a virtual X is the same as an X in physical space. Chalmers simply wants to define something virtual as being "a computer-based version" of the thing in question. I would dispute Chalmers argument from the standpoint of perceptions.

Chalmers argues that the virtual objects we perceive in a virtual world are the causal basis of perceptions. The causal basis of our perceptions are digital objects, therefore virtual objects are digital objects. And since digital objects are real, virtual objects must be real in this sense. However, I would say that the objects we perceive are not the causal basis of our perceptions. Take the case of a photograph of Albert Einstein. Chalmers would say that when you look at a picture of Einstein you see Einstein, because Einstein is the causal basis of your

perception because our perception depends on Einstein's features at the moment he was photographed and we perceive him *via* the photograph. However, to say this is to ignore the medium which mediates the real Einstein and our perception of him. In truth, the causal basis of your perception is the *picture of* Einstein. The basis for your perception of Einstein is a photo of Einstein.

Chalmers describes the photo as being the "causal basis of our experience, and the features of our experience depend systematically on the features" the man had "when he was filmed." (Chalmers 2017, 9) However, this photo is only a representation of Einstein, lacking many key features Einstein would have had when the picture was taken like consciousness and three-dimensionality, things like his wit, the sound of his laugh, his particular odor. The Einstein of the photo is not real, at least not anymore, it is only a representation. The photograph only is the causal basis of perception.

In VR, your perception is caused by the VR glasses themselves. If you were to use an Oculus Rift, which is an immersive VR headset which covers your eyes and offers handsets allowing you to manipulate the VR, you might feel totally immersed in the reality. If you find a red apple the VR simulation, Chalmers would say the apple is the cause of your "red experience" and that it would be wrong to say that the apple is not really red. Rather, it is *virtually* red, and since it is the cause of a red experience, we can simply say it is red. However, the apple is not the cause of your red-experience, but instead it is the headset itself. VR may seem totally immersive, but the level of immersion in VR is still limited by a frame in the way a picture is, it just so happens in the case of VR that the frame is the boundary between the real and digital world itself.

VR is also similar to a photograph because it is created as a representation of the world. The trees or apples or landscapes of a VR world may be exaggerated, but they nonetheless all carry elements borrowed from the world we live in, i.e. in a fantasy world where the trees have blue leaves, the tree is still meant to be recognized as a tree. Even Chalmers' view that virtual objects are made of computational bits does not rescue VR from the status of representation. Instead of thinking of these bits as akin to the atoms that make up matter, it is better to think of them in the same way we think of the individual brush strokes of a painting. Or to carry on with the camera metaphor, we can think of them in the same way we think of traces of light on film brought out by photochemical compounds.

2.2 The Problem of Illusion

Chalmers holds that VR are not illusory. In VR worlds, things are presented to us as being nonvirtual. If we pick up our virtual sword and closely examine it it will seem to have all the properties of a real sword. This is by design. Chalmers lists two ways VR may (mistakenly he will argue) be perceived as illusory. One is by a false belief wherein the VR world is presented as non-virtual. The second is via perceptual illusion, which Chalmers defines as "a case where an objects[sic] looks a certain way, when it is not that way." (Chalmers 2017, 16) Chalmers believes that there are naïve versus sophisticated users of VR, and this may play a part in whether they have a false belief about VR or whether they experience a perceptual illusion. Naïve users suffering false beliefs about VR may persist in thinking that the environment the are interacting with is physical, non-virtual space. A similar thing happens with perception.

To help illustrate this, Chalmers uses the example of a rear-view mirror in a car. A naïve user with no background using mirrors may look in the rear-view and plausibly experience an illusion by seeing what looks to be cars on the far side of the mirror in front of the car. What the naïve user doesn't know and has no context for, is that the cars are really on the near side and behind the car. The sophisticated mirror user will have an entirely different experience. They will *from the instant they gaze at the mirror* experience the cars as being behind them.

However, mirrors are not obviously analogous to VR experience. Mirrors are designed only to reflect the world; they are not painstakingly crafted to be a simulation of a world. Every open-world video game that Chalmers cites, such as *World of Warcraft*, as well as every VR simulation in general, is made with intention that it *be deceptive* by design which we can tell simply by the fact that creators want it to be as immersive as possible. Any creator of a video game is going to boast about the painstaking detail with which the VR world they created was rendered, and it is done with the intention to immerse the users and deceives them into thinking the VR is as real as possible. In this way, VR and video games are indeed their own artform, and are thus more analogous to art. Specifically, the medium I would liken VR to the most is painting. This is because painting like VR are ultimately representations of the world. Even fantastical VR worlds, there are still recognizable elements drawn from our own world to help orient viewers, and

like a still-life painting, it is created *to leave the impression* of seeing the thing it is representing.

Because of this, it is more appropriate to stay with the original definition of "virtual" which Chalmers argues against in his paper. Remember, Chalmers wants to define virtual as "a computer-generated version of x" as opposed to the older definition, "as if x but not." But the older definition is more accurate because a virtual apple is made by VR designers to appear as if an apple but it is not really an apple. And Chalmers may respond by stressing that it is a *computer-generated* apple made of computational bits. But we know VR is illusory because it was designed to be so. It was designed to fool the user because the end goal of VR is to immerse the user as much as possible into the world. In this way, VR should be judged as an artform or a different form of media than as its own virtual space. Most people would probably agree on the aesthetic merits of VR. After all, much detail and careful design work was put into the creation of the digital world. And as I said before, the goal is much the same as any other artform: to fool the user as to the nature of the world to totally immerse you in it. Even a very dissimilar art form such as literature shares that goal. Readers of a book like *The Lord of Rings* often report feeling "as if they were there" in Middle Earth.

Looking at similar art forms makes this point even more strongly. The details of a still-life painting, such as in Caravaggio's *Basket of Fruit*, which contains the illusion of texture and shadow and depth, are similar to techniques in VR. The art of film is even more immersive since it adds motion and sound and characters. VR adds the appearance of three-dimensionality and the stimulation of more senses. Like other art forms, VR also takes elements from the real world to help draw users in. Even the most fantastical games still have familiar landscapes or human characters. VR should therefore be judged as an artform the *represents* the world in an illusory way. In the same way a painting is representational, we would not call a painting of an apple a paint-generated apple and imply it is its own qualitatively different entity with the medium producing it. A painting is only meaningful in the totality of all its brushstrokes. Similarly, lines of code create the appearance of an apple.

2.3 The Problem of Value

Chalmers argues that virtual worlds and virtual experiences have value. Chalmers defends the value of virtual worlds by arguing against Nozick's parable of the Experience Machine, in which Nozick gives three reasons against plugging into a VR machine. We will focus on the first reason which Chalmers summarizes as "We want to *do* things, and not just have the experience of doing them." (Chalmers 2017, 25) Chalmers believes this doesn't apply to VR, however. "In virtual reality environments, users make real choices, they really do things, and they are genuine sorts of people. Even in limited existing environments such as Second Life, a user can genuinely write a novel, or make a friend, or read a book." (Chalmers 2017, 25)

Chalmers is not wrong to say these acts done in VR can have a kind of value. Some may even find them highly rewarding. However, experiences in VR cannot have equal value to experiences in non-VR or even be said to be real at all because they lack one key feature of real experiences, something which makes them necessarily incomplete, which is the feature of scarcity. It is true that human beings want to do things, and that there are things they can do in VR which will bring them satisfaction. However, it is also true that humans *need* to do things which VR cannot provide. One unique thing about humans is that they are a synthesis of the mental and physical. VR seems to certainly satisfy the mental needs, such as the need for distraction, creativity, and storytelling. But an immersive VR is incompatible with the physical aspect of humans. No matter how immersive the world, a person will also need to break away to eat, since they could not sustain themselves on virtual apples. The experience of eating a real apple will always be more meaningful, since not only will the apple eventually rot, but the labor to grow and harvest the apple is much greater than that needed to create an apple in digital space.

3. RESPONSES & REPLIES

3.1 The Frame Objection

Frame Objection: Chalmers argues that seeing in VR is more reminiscent of ordinary seeing than something like a photo or a film. Chalmers supports this in

three ways. First, that when plugged into a VR experience one needn't have a sense of seeing a screen, and might not see the screen at all. Second, VR provides immersive, three-dimensional perceptual experience and this can be seen from a perspective. Third, one can move around, interact with the world, and potentially alter its course in a VR environment. To Chalmers, the immersive and interactive quality of VR makes it qualitatively different than the aforementioned other mediums and thus more realistic.

In response to Frame Objection, I think it is helpful to point out a certain caveat to the immersive quality of VR, which is that it can only ever be immersive *to a certain extent*. This means that there is a limit to the immersive quality of VR because, unlike real life or non-virtual life, VR can be *unplugged* from. There is always an implicit border between the virtual world and the non-virtual world. This border may vary between the naïve and sophisticated users. For instance, the naïve user may see a virtual object in the distance and reach for it only to end up grabbing air. For the sophisticated user, the border may only exist in the feel of the VR goggles on the face or when the goggles are removed. But the point is that there is a line of demarcation that distinguishes the virtual and the real, and while one may not see the border of the screen it is always implicitly there.

Given Chalmers fascination with *The Matrix*, he may reply that we cannot be sure the reality we inhabit when we take the VR goggles off is real-life, that we may be totally sophisticated, immersed users in a Matrix we are unaware off. While we can never say with all certainty that this is the case, until such a thing can be shown the question is irrelevant. If we think of different reality's, both virtual and non-, as Russian nesting dolls, we should say that the outermost shell in which we have no awareness of a reality outside as our baseline reality, and this is what we should consider real.

3.2 The Problem of Illusion

In response to the illusion problem, Chalmers would say that naïve users are more likely to interpret virtual worlds as fictional. This applies to virtual experiences: how you experience the VR world becomes a matter of sophistication and comfort with the virtual world.

Chalmers cites the use of mirrors as a case for the naïve vs. sophisticated users. The process of looking in a mirror and knowing that what you see in the

mirror is behind you not in front, is not a very intuitive one. Yet, we are able to, without hesitation, interpret the car we see in our rearview mirror as being behind us. This is a case of a sophisticated mirror user. Cognitive penetration, which is the influence of cognition on perception. What one knows or believes influences their experience of the world. If a person has extensive background knowledge of mirrors or has a strong belief about how mirrors operate, it will condition their use of mirrors. Chalmers presents a hypothetical case of naïve versus a sophisticated mirror user "in which a subject sees a chair in a mirror, where in one case the subject believes a mirror is present and in the other subject believes a window is present. The two subjects may have quite different visual experiences: the chairs[sic] appears to be on the near side of the glass for one subject, and on the far side for another. This suggests a direct dependence of perceptual appearance on belief." (Chalmers 2017, 18)

Responding to Chalmers, we must note the way he distinguishes between naïve and sophisticated users. The distinction for Chalmers lies in the users' perceptual orientation of the virtual world. Naïve users experience the world as being illusory, they are fooled into believing virtual objects are non-virtual objects. The sophisticated user on the other hand is more experienced and is better able to interpret the world as virtual. To quote, "A naïve user who does not know they are using virtual reality will undergo the illusion that certain objects are present in physical space in front of them. After they learn they are using virtual reality, the perceptual illusion may persist for a period, but they will not be fooled into believing that the objects are present. After some time, a sophisticated user will become familiar with VR, and they will act in ways that turn on interpreting themselves to be in VR." (Chalmers 2017, 19) On this we can probably all agree. But where I would push back against Chalmers is in his assertion that the sophisticated user is more immersed in the world by virtue of experiencing it *as a virtual world*, and not a fictional one. In fact, the more sophisticated user is more acutely aware of VR's artificiality. Videos of people playing games reveal players who revel in exploring glitches in the game or utilizing cheat codes to gain unrealistic advantages or in general push the limits of the games' worlds. Because they are better aware of the heightened and fictitious nature of the game, these sophisticated viewers take pleasure in manipulating the mechanics of the game to their own ends.

To even better illustrate this, let us look at an example from *The Matrix*. At the end of the film, the main character Neo dies in confrontation with the

film's antagonists, only to be reborn. When he is revived, however, it is with the additional power to see the Matrix as it truly is, which is structures of code. The layer of artifice is stripped away, and Neo sees that in fact the virtual objects he had been perceiving are not truly there. This gives him the ability to manipulate reality and gain enhanced abilities like inhuman speed and dexterity and even flight. Neo in effect becomes the ultimate sophisticated user of the matrix, and the effect is not to be more immersed in the VR, but rather to see through it and its underlying artifice in ways that allow him to take advantage of it.

3.3 The Value Objection

Chalmers wants to say virtual reality has value. To illustrate the value of VR, he responds to three criticisms by Robert Nozick. We will focus on the first two because Chalmers cites them as the more serious objections. To reiterate, the first objection is that people want to do things, not just simulate themselves doing things. Nozick's objection specifically is that in the experience machine, your physical body would simply be in a vat, while scientists would use machines to, "stimulate your brain so that you would think and feel you were writing a great novel, or making a friend, or reading an interesting book." (Nozick 1974, 44-45) The second is that life in the experience machine is entirely preprogrammed, that you select the experiences you want and they play out on a track for you.

Chalmers thinks neither of these apply to VR. If you make a friend in VR, you genuinely make a friend. You can genuinely read and write a book. And VR as we know it allows you to collaborate and make choices when building your life in the virtual world. In more modern video games and VR machines, nothing is guaranteed, and the user has to act in the right way to accomplish an objective in the game.

However, Chalmers response to the first criticism mistakes the medium for the experience. Let's take the example of writing a book, and imagine two hypothetical video games, of which the objective of both is to write a 200-page novel. Either a) you play as a virtual avatar. The virtual avatar sits down and writes a book, and you watch as a passive observer while the player sits passively watching on their monitor. Maybe you have to make your avatar eat and drink or do things to keep them alive, but the content of the novel is purely generated by the program. Or b) you are the one actually producing the content of the novel. The game is you

typing into your computer and watching your avatar type the things you type. Maybe you make your avatar mimic you as you get up to eat or drink or smoke.

In the first game, the content of the novel would be preprogrammed and the user couldn't say they had actually written a novel because they had put no effort into it. Therefore, it would be difficult to say they'd achieved anything or had a valuable experience. The second case does have value as an experience. However, the fact of it taking place through a VR simulation is not what inscribes value into the event and to say that the value of the experience stemmed wholly or in part from the medium in which it took place would be false. In that scenario, where you had written a 200-page novel as part of a game, it would be strange to say you'd played a game where you wrote a novel. You would simply say you'd written a novel. It is the same with making a friend through VR. The value of the experience, making a friend, is independent of the means through which it happened. Before VR and the internet, people had pen pals, where they had the experience of making a friend without the friend being in physical proximity to the person. In this scenario, the act of letter writing is not in itself valuable, it is valuable as a means to an end. The same is true of experiences in VR.

In conclusion, the main problem with Chalmers theory of the virtual is that it assumes a more idealized and perfect form of VR than what currently exists. As I have stated, the intent of the paper is not to argue the possibility of such an apparatus, but to say that VR as it exists is incapable of meeting the qualities described by Chalmers. While for some the allure of VR may seem more appealing than life outside, the technology is not at place where VR can reasonably even be called real.

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