

SI: Chalmers on Virtual Reality Introduction

Ricardo Santos
University of Lisbon

David Yates
University of Lisbon

DOI: 10.2478/disp-2019-0021

BIBLID [0873-626X (2019) 55; pp.291–296]

Abstract

In June 2016, David Chalmers delivered the Petrus Hispanus Lectures at the LanCog research group, University of Lisbon, on the subject of objects, properties, and perception in virtual reality environments. The paper resulting from these lectures was subsequently published in *Disputatio* as “The Virtual and the Real” (vol. IX, 2017, No. 46, pp. 309–52). In it, Chalmers defends *virtual realism*, according to which virtual objects are bona fide digital objects with virtual counterparts of perceptible properties such as colour and shape, and perception in virtual reality environments is typically veridical rather than illusory. This special issue collects responses to Chalmers due to Claus Beisbart, Jesper Juul, Peter Ludlow, Neil McDonnell and Nathan Wildman, Alyssa Ney, Eric Schwitzgebel, and Marc Silcox; together with a detailed response by Chalmers to each paper.

Keywords

David Chalmers, virtual reality, virtual realism, digital objects, perception.

Intuitively, it is natural to think that the objects that users of virtual reality (VR) headsets seem to see, and the worlds they seem to inhabit, are illusory. Users of VR merely *seem* to perceive objects in VR environments; in reality, there are no objects to perceive, and users are subject to persistent illusions. In ‘The Virtual and the Real’,¹ David Chalmers argues, against this intuitive orthodoxy, that the ob-

¹ Chalmers 2017.

jects users apparently perceive in VR are real *digital* objects, which can be the objects of non-illusory perceptual experiences by VR users. Virtual objects, it is argued, are either identical to or composed of data structures, which in turn have causal powers to bring about perceptual experiences. To argue that those experiences should be seen as veridical rather than illusory, Chalmers appeals to the functionalist framework he has defended elsewhere² concerning properties. For instance, according to one version of colour functionalism, the property of being red is identified with the power to cause experiences of a certain phenomenal type—*reddish* experiences—under normal perceptual conditions; on another, it is identified as whatever property normally causes such experiences. The data structures, which according to Chalmers compose virtual objects, don't cause colour experiences under normal perceptual conditions simpliciter, which precludes their being coloured in the same sense as ordinary nonvirtual objects. However, they do cause such experiences under conditions that are normal for users of VR, and so count as having virtual colour properties. Chalmers applies functionalism not only to colours, but also to intuitively less plausible cases such as spatial properties. Data structures also have the power to cause spatial experiences under conditions that are normal for VR users, and so count as having virtual shape, virtual location, undergoing virtual motion, and so forth.

Hence, in Chalmers' view, when a user of VR perceives a virtual object with the power to cause reddish experiences (under conditions normal for VR) *as* virtually red, they are not thereby deceived. Perceptual illusions will occur in inexperienced users when they perceive virtual objects as literally red, square, or in motion; but that is because they are neglecting the special conditions under which they are perceiving virtual objects, and perceiving them as nonvirtual, with nonvirtual properties. Experienced users, by contrast, will typically perceive virtual objects as virtual objects with virtual properties, and so do not typically misperceive them. To justify this claim about perception in sophisticated users, Chalmers depends on the cognitive penetrability of perceptual experience. When looking in a rear-view mirror, an experienced driver will perceive the cars

² See Chalmers 2012.

they see as behind them, even though the reflected image is in front of them. Similarly, it is argued, with VR: experienced users incorporate knowledge of the conditions normal for VR into their perceptual experiences, and see virtual objects *as* virtual, and as having virtual counterparts of properties such as shape and colour.

Chalmers' overall position, *Virtual Realism*, is defined in terms of the following four theses: (1) Virtual objects exist and are digital objects; (2) Events in virtual worlds occur and are digital events; (3) Experiences in virtual reality involve veridical perception of a digital world; (4) Experiences in virtual reality can be as valuable as experiences of a non-virtual world. The contributions in this special issue take issue, in various ways, with these four theses, and with the arguments that underpin them.

In 'Virtual Realism: Really Realism or only Virtually so?', Claus Beisbart argues against Chalmers' realism about digital objects, by comparing virtual worlds to computer simulations of complex physical systems like galaxies. Beisbart suggests that the best and most parsimonious account of objects in simulations is that they are fictions that represent real objects. He then argues that we should say the same thing about virtual objects in VR. In addition, Beisbart also puts pressure on Chalmers' positive account of virtual objects and their properties; and takes issue with his claim that perception in VR is non illusory—even granting virtual realism, he suggests, experienced users of VR do not know enough about its workings to experience virtual objects as virtual.

In 'Virtual Reality: Fictional all the way Down (and that's OK)', Jesper Juul takes issue with Chalmers' claim that virtual objects can be just as valuable as their non-virtual counterparts, by arguing that virtual objects are incomplete representations of real objects. While virtual objects may have some virtual features that correspond to those of their real counterparts, others are left out—for instance, we might be able to virtually drive a virtual car, but there may be no virtual engine with which to interact, for instance by changing the virtual oil. Thus, for Juul, virtual objects are at best "half-real", and never of equal value to their real counterparts.

In 'The Social Furniture of Virtual Worlds', Peter Ludlow does not deny Chalmers' virtual realism, but instead takes issue with Chalmers' identification of virtual objects with data structures.

Ludlow first argues that in many virtual worlds, objects can come apart from the intrinsic data structures of VR computers, and are best seen as socially constructed rather than grounded in data structures. He then argues, by appealing to externalism about computation, that the computational structures of VR computers are best seen as grounded in the “social furniture” of the virtual worlds they represent, rather than vice-versa.

In their ‘Virtual Reality: Digital or Fictional?’, Neil McDonnell and Nathan Wildman press Chalmers on the relationship between virtual objects and data structures. Against the view that virtual objects are identical to data structures, McDonnell and Wildman point out that in “crossplay” a single virtual object can be implemented by two distinct data structures. Against the weaker view that virtual objects are grounded in data structures, they object that this leaves virtual objects susceptible to a causal exclusion problem that warrants their elimination. They go on to suggest a form of fictionalism about VR, based on Kendall Walton’s fictionalism, according to which our engagement with virtual worlds depends on a structured practice of make-believe, and various digital elements serve not as objects with genuine causal powers, but as props to stimulate the imagination and help us imagine virtual objects and events.

In ‘On Phenomenal Functionalism about the Properties of Virtual and Non-virtual Objects’, Alyssa Ney challenges Chalmers’ functionalist conception of virtual properties. While it may be plausible that colours are powers to cause certain colour experiences under normal conditions, she argues, this phenomenal brand of functionalism is far less plausible when it comes to spatiotemporal properties. While Ney is sympathetic to virtual realism about objects in VR, she argues that the perceptual experiences of users are non-illusory only in relation to properties of virtual objects for which phenomenal functionalism is plausible. She goes on to challenge phenomenal functionalism even for colours, and suggest that realism about VR objects should be combined with fictionalism about their properties.

In ‘Kant Meets Cyberpunk’, Eric Schwitzgebel explores the relationship between Chalmers’ virtual realism and Kantian transcendental idealism. Schwitzgebel focuses on spatial properties, and argues that given its reliance on phenomenal functionalism, virtual realism is best seen as a form of transcendental idealism, in which

spatial properties are mind-dependent, while the underlying causes of our spatial experiences, in themselves, need not have spatial properties at all. He goes on to explore the epistemological consequences of virtual realism so construed, and the extent to which it offers a rebuttal of various digital sceptical scenarios, concluding that the anti-sceptical force of virtual realism depends on the kind of computer simulation we are taken to be living in.

In 'The Transition into Virtual Reality', Marc Silcox takes issue with Chalmers' claims concerning the value of virtual objects and the experiences of VR users thereof. Focusing on videogames, Silcox argues that Chalmers' claims about value are in tension with virtual realism. Chalmers argues for the non-illusory nature of VR perceptual experiences in sophisticated users, who represent virtual worlds as virtual. However, Silcox argues, in videogame worlds, the players who attach the greatest value to the virtual world are typically those who take it to be real and nonvirtual. People who do not know they are in Nozick's experience machine, it is argued, will attach far greater value to their experiences than people who do, so sophistication and non-illusory perception in VR comes at the cost of value.³

Ricardo Santos and David Yates (editors)
LanCog, Centre of Philosophy
Faculty of Letters of the University of Lisbon.
Alameda da Universidade
1600-214 Lisboa, Portugal

³ The project of this special issue originated when David Chalmers visited the LanCog research group, at the University of Lisbon, to give the Petrus Hispanus Lectures in early June 2016. An edited version of the lectures was eventually published in *Disputatio* as "The Virtual and the Real" (vol. IX, 2017, No. 46, pp. 309-52). We thank David Chalmers for his encouragement and support throughout the process of preparing the issue, and the contributors to this issue for their original and challenging contributions. Thanks also to *Disputatio*'s previous editors Célia Teixeira and Teresa Marques, who enthusiastically welcomed the proposal from the beginning. Ricardo Santos and Elia Zardini took over as editors of *Disputatio* during production of this issue, so Elia Zardini is exceptionally acting as sole editor-in-chief on this occasion.

References

- Chalmers, D. J. 2012. *Constructing the World*, Oxford University Press.
- Chalmers, D. J. 2017. The virtual and the real. *Disputatio* 9(46): 309–52.