Open Peer Commentaries

on Bin Liu's "The World of Screen Creatures"

From Pixels to First-Person Experience and Language

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> Abstract • I examine the premise that Liu's screen creatures duplicate the images of a first-person shooter. I raise questions about the first-person perspective of screen creatures and their use of language.

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« 1 » Bin Liu develops a thought experiment to achieve multiple goals: The world of screen creatures (WSC) establishes the model of a world that is intended to be, in principle, indistinguishable from our world. Within this framework, Liu aims to explain how all features of the world can be constructed by experience without claiming that experience is something generated by the brain (this is an elimination of what Liu calls the generative relation, i.e., a relation between the brain and experience), and without claiming that perceptual experience results from perceiving the external world (this is an elimination of what Liu calls the perceptual relation, i.e., a relation between the purported external world and perceptual experience). Liu claims that the WSC is compatible with the constructivist worldview as introduced in Liu (2022a), that it is equivalent – taking into account four criteria – to the irrealist worldview introduced by Jan Westerhoff (2020), and that the WSC should be preferred to Westerhoff's model.

« 2 » The setting of the WSC is closely tied to a video game. While Westerhoff's irrealism does not discuss the ontology of an external world, the WSC mirrors a simulated video-game environment, i.e., an ontologically precisely defined world. The video-game premise can be interpreted as a metaphysical assumption without fundamental impact on the thought experiment. In critically examining this premise, however, I raise some concerns. I question whether the first-person perspective of screen creatures is equivalent to subjective experience following a realist understanding of the purported external world and ask how language works in the WSC.

First-person perspective in video games

« 3 » The WSC is populated solely by image streams (series of images, in Liu's terms). These streams duplicate the images of screens, which show a first-person shooter video game. Liu gives *Counter-Strike: Global Offensive* and *Valorant* as examples; the first game puts players into a naturalistic environment that visually resembles the world that is known to us, the latter includes supernatural elements such as teleportation. Regardless of whether the virtual world is naturalistic or supernatural, its rules and objects are well defined in a video game. Likewise, Liu describes the video-game environment as an ensemble of distinct objects: "the game's 3D environment includes the sky, ground, walls, buildings and characters" (§10). Such a prerequisite is at odds with Westerhoff's aim to "undermine the ontological assumption of an external world" (Westerhoff 2020: xxxii).

« 4 » It is clear that the WSC is not an inquiry into ontological questions. The purpose of the WSC is to show that ontological entities can be explained as being created by virtue of the screen creatures' experience. However, two constraints can be found due to the alignment with a video game: Firstly, the world duplicated as image streams is ontologically predetermined. In a similar way, secondly, a video game is something deterministic. This implies that the perception of the video-game environment is determined; it is the same for all the characters. These constraints prompt the question: Can subjective experience arise in the WSC?

« 5 » The common source of the screen creatures' experience is the very same world for all inhabitants of the WSC: The map of a first-person shooter. In a video game, a character's point of view at a specific point in space is the same for any character, since the game character is – from a technical point of view – only a moving camera position, which is navigated by a human player through the prefabricated 3D environment. As all playable characters in a video game are equal, it makes no difference for the constructed world whether there are seven or billions of screen creatures present in the WSC, or just one. The number of screen creatures adds nothing to the totality of possible experience of the virtual world. It is, as emphasized above, the consequence of the game's being fully deterministic.

« 6 » One approach to address this issue and explain subjective experiences in the WSC is to attribute a first-person view to the screen creatures. Liu does not introduce the screen creatures as passive displays that experience a geometrical first-person point of view from a third-person perspective (like someone who watches the transmission of a video-game streaming platform). He claims that "[w]e can say that the series of images on a screen is from the first-person perspective" (§10). If it is accepted that the

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image streams convey a first-person perspective, the subjective content of experience is also accepted; therefore, the screen creatures can have different experiences, even if the screens show images of the very same world to all of its inhabitants. Yet here again, the duplication of a video game poses a restriction: Multiplayer video games, especially first-person shooters, are designed to give all players equal chances and similar experiences. While playing, there are, of course, different experiences, but these different experiences can be attributed to the players. For example, skilled and unskilled players may experience a game differently. This, however, does not affect the images the players see on their screens. So, the question arises again, how to explain that screen creatures have subjective experiences?

« 7 » The screen creatures' experience is by definition from a first-person perspective, as the view in a first-person shooter is from a first-person point of view; this, however, is a geometrical description. A convincing explanation of why screen creatures have first-person experiences must go beyond a mere geometrical experience of space from a first-person point of view. As the sentient screen creatures do not play the game but are duplicates of the game's visual content (supplemented by other sensory impressions), the challenge of creating subjective experience is passed on to the video game.

« 8 » It is debatable whether video games can convey subjective experiences. It can be argued that video games played from a first-person point of view are capable of conveying subjective *spatial* experience. Stephan Günzel (2013: 128), for example, argues that the images of first-person shooters fulfil the condition for the subjective experience of space in a simulation because they do not only convey a specific visual perspective, but action is also taken from this perspective. Since Liu asserts empirical equivalence between the WSC and the realist understanding of the world (§§29–32), not only spatial experience but the entire range of possible subjective experience in the realist world, must be attainable for the screen creatures from the images they duplicate.[1] Some video games may succeed in representing a first-person experience. For example, the game *Superhot* allows players to control the in-game time by their movement and therefore conveys a specific temporal experience.

« 9 » Using sophisticated examples of video games, it is feasible that a screen creature has subjective experience. I think that the persuasive power of Liu's thought experiment largely relies on the idea that it feels some way for *us* to watch a stream of images in front of a screen. A simple illustration of this idea is the feeling that the stomach rises when watching the images of a roller coaster ride, but just like this subjective feeling also thoughts, sensations, beliefs, etc., must be generated by the experience of a video game. It is questionable whether the image stream of a first-person shooter covers such a range. Does a short flash of red and a decreasing health bar convey the subjective experience of pain? Or does the thought experiment suggest that the screen creatures are not just duplicates of image streams – and other sensory stimuli (§12) –, but also streams of pain?

Can experience precede language?

« 10 » Liu (§13) claims that screen creatures are intelligent beings that can "think and reason" and linguistically articulate conscious thoughts. The sentence "I am turning left" may, for example, appear like a subtitle, describing the screen creature's experience from the first-person perspective while turning left.

« 11 » Liu derives the screen creatures' intelligence and language purely from their behavior. This approach is based on the constructivist understanding of "meaning or propositions as constructed from […] our behaviours related to symbols" (Liu 2022b: 278). Liu's idea that language can arise from behavior appears to be sound, because his suggestion that subtitle-like sentences describe what is happening on the screen can already be found in video games and can be regarded as the product of behavior. *Fortnite,* for example, displays symbolic markers to indicate the source and nature of sounds for hearing-impaired players. The meaning of such signs, however, does not come from within the WSC. It is determined by the language of the video game and such a game language reflects meanings from our world. Therefore, the screen creatures' linguistic experiences are constrained and determined. If the WSC is used to illustrate how language shapes one's reality, this can only happen in a limited sense. Screen creatures may develop individual descriptions for the image contents based on individual behavior. However, since the streams duplicate a first-person shooter, any linguistic articulation only implies different subtitles for the same images.

« 12 » If I assume that human language is the result of human behavior, then the current language is the current moment in the evolution of *human* behavior. Did the screen creatures also experience such an evolution to produce exactly this linguistic articulation? Why does the screen creatures' descriptive language resemble ours when their behavior is determined by the rules of a first-person shooter? Again, there are some constraints due to the video-game premise. For the screen creatures, for example, the concept of death must be quite different from ours. The experience of death in the WSC is immediately followed by the experience of respawning. If a stream of pain is part of the WSC (as posed as a question in §9 above) then what is a stream of death like? In this respect, the empirical equivalence (§§29–32) is again in question for me. It is unclear what death means in the WSC. Death can be explained in the realist world (and in Westerhoff's irrealism), but with the premise of the video game – in which death is omnipresent, life often lasts only a few seconds, and the new life seamlessly connects to the end of the previous one –, the WSC and our lifeworld appear to be incommensurable.

1| A structural similarity, an isomorphic relation between the WSC and the realist understanding of the world is not sufficient if Liu's answer to the hard problem of consciousness (§41) is to be accepted. He assumes in his example in §41 that the observed activities of the 3D brain-object in the video game are said to have a generative relation (or an identity relation) to consciousness. If it is a fictitious video-game brain, no identity or generative relation to consciousness would be asserted on this basis. If it is a model of the known human brain, then the complete range of known experience must be covered.

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On the Ontology of Screens and Screen Creatures

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> Abstract • Bin Liu's target article "The World of Screen Creatures" proposes a new constructivist understanding of our relationship to the (apparent) external world. While there is much that is interesting and innovative in Liu's account, I suggest that there are some key points for clarification that would help readers to be better able to weigh the merits of his account against its rivals.

Handling Editor • Alexander Riegler

« 1 » Questions about the nature of the (apparently) external world and how we perceive it are, to risk comical understatement, rather contentious ones within philosophy (and, of course, more broadly). Bin Liu's target article provides an innovative new response to these questions, but, in this commentary, I will suggest that some further clarifications are needed before it is possible for scholars to fully weigh up his proposal against its rivals.

« 2 » Debates about the nature of the world and our perception of it are, of course, ubiquitous within philosophy. On the one hand, there are views that take there to be a reality that is mind independent and which we perceive with at least a reasonable degree of accuracy (either directly or via some intervening medium like sense data). On the other hand, there are those who deny the existence of the mind-independent world altogether or, at least, deny that, were any such world to exist, we could have any knowledge of it. These are, of course, rather over-simplified versions of what are often complex and nuanced positions, and there exist a range of positions between these extremes (for a more developed summary see Lyons 2023 and the references therein).

« 3 » Liu's article proposes and defends a "constructivist worldview" (§1) according to which "there is a *constructive relation* between experience and the purported external world, but there is no *generative relation* or *perceptual relation* between them." He then goes on to argue that his view compares favourably to constructivist rivals and, in particular, to Jan Westerhoff's (2016, 2020) irrealist virtual world proposal (§§3–9). Key to Liu's account is the idea of screen creatures and the suggestion that the putatively external world is – contrary to what many are mistakenly inclined to think (§§14f) – constituted out of these. However, what exactly should we take these screen creatures (and the screens they appear on) to be once the metaphorical trappings that Liu uses to introduce them are removed? Q1 Liu (§10) is very clear that these ideas are metaphorical. He talks of analogies with our watching images appearing on videogame screens of characters moving, speaking and so forth, but then quickly clarifies that, for example, "the universe does not contain physical screens, only the content on the screens." I must admit that I find myself struggling here. The kinds of issue Liu is grappling with – concerning the nature of the putative external world and our perception of it – are, as may be expected, very complicated ones and, perhaps, ones that cannot ever be formulated in ways that do not have something of a metaphorical edge to them. However, my concern is that once we are asked to disregard key elements of his central metaphor (concerning the existence of screens and of viewers) it is difficult to understand precisely what literal content is meant to remain. This is particularly the case since some important later discussion of, e.g., the same experiences being "duplicated on several screens" (§13) or the "character's conscious experiences" being "the images on the corresponding screen of the character" (§41) seems to depend on reintroducing these expunged elements.

« 4 » Liu takes himself to be defending (§1) the general view that the world is constructed from experience. Indeed, Liu goes on to clarify (§24) that he is endorsing a form of "eliminative phenomenalism" where experiences, and entities constructed from these experiences, are all that exist. Since they are not mere experiences, I take it that screen creatures are meant to be a certain kind of construction from experience. What kind though? And how do they differ from the kinds of construction that rival eliminative phenomenologist views propose? Liu