

Embodied Involvement in Virtual Worlds

The Case of eSports Practitioners

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EMBODIED INVOLVEMENT IN VIRTUAL WORLDS: THE CASE OF ESPORTS PRACTITIONERS (6142 words)

eSports practice designates a unique set of activities tethered to competitive, virtual environments or worlds. This correlation between eSports practitioner and virtual world, we argue, is inadequately accounted for solely in terms of something physical or intellectual. Instead, we favor a perspective on eSports practice to be analyzed as a perceptual and embodied phenomenon. In this article, we present the phenomenological approach and focus on the embodied sensations of eSports practitioners as they cope with and perceive within their virtual worlds. By approaching eSports phenomenologically, we uncover ways in which its unique forms of virtual involvement overlap with as well as differentiate themselves from traditional structures of embodiment.

keywords; eports, phenomenology, embodiment, sensation

Introduction

Over the past two decades, eSports¹ have grown from largely local happenings to massive events, with the more popular tournaments drawing in millions of (predominantly online) spectators worldwide – often eclipsing large, traditional sports events in sheer viewer numbers.² On top of this, eSports hosts have enthusiastically started integrating various elements from traditional spectator sports into the larger eSports events (e.g. online broadcasting, physical audiences, sports analysts, prize pools, sponsorships, commentators and sports casters) and some sports bars around the world have even begun live-streaming important matches. All of this has entailed that the umbrella concept of eSports, covering a multitude of different competitive games, has gradually cemented itself as a both unique and multifaceted form of competition. Accordingly, eSports has also seen a growing academic interest, including, but not limited to, various economic and cultural analyses (Keiper,

¹ Due to the focus of this article, we exclude from our use of the concept of *eSports* (and gaming) such games as *Hearthstone* and similar card and board game simulators, focusing instead on real-time and fast-paced games where, we argue, the embodied aspects of the performances are closely tethered to the successful enactment of the game involved (we here refer to such games as *Counter Strike: Global Offensive*, *League of Legends*, *DOTA 2*, *StarCraft II*, et cetera). It should be stressed that this is not a rejection of the excluded games as eSports practices as such.

² As an example, the *League of Legends* finals in 2013 amassed 32 million viewers – roughly 5 million more than the FIFA World Cup aggregated the following year (Tassi, 2014).

Manning, Jenny, Olrich, & Croft, 2017; Canning & Betrus, 2017), as well as investigations of the physical training schedules of eSports practitioners (Kari, 2016).

Unique to the practice of eSports, we argue, is its inclusion of uniquely structured, virtual³ worlds within which the eSports practitioners must comport themselves perceptually and practically. While research into virtual comportment is already a growing field itself (Steed, Friston, & Lopez, 2016; Kiltani, Groten, & Slater, 2012; Kokkinara, Slater, & López-Moliner, 2015), the particular kind of virtual comportment involved within the context of eSports constitutes a comparatively new and unique field of practice(s) which call for further investigation. Compared to research in virtuality as such, eSports practice commands a high degree of virtual mastery and is substantially influenced by the competitive premise of the games. The aim of this article is therefore to provide a contribution to our understanding of the embodied involvement which characterizes the virtual worlds of eSports. This pertains chiefly to a question of what it entails perceptually and sensorially to engage in the virtual worlds of eSports.

We pursue our aim in three parts. First, we briefly describe the relevance of the intellectual and physical aspects of eSports and emphasize that eSports practice cannot be reduced to either aspect. Instead, the virtual involvement in eSports practice is approached as perceptual and embodied. Second, we introduce some of the core theses of phenomenology including the constitutive powers of embodiment. These first two parts form the basis for pursuing our aim in the third part: exploring the unique forms of embodied involvements at play in the virtual worlds of eSports.

³ In this context, unless otherwise specified, whenever we refer to phenomena as *virtual*, this is meant to designate phenomena pertaining to the virtual worlds of eSports practice. We therefore use the term to direct the reader to a certain range of phenomena, not to imply that these phenomena are necessarily of a less actual, real or immediate nature; something we return to in Part 3.

Part 1: The intellectual and physical aspects of eSports practice

Intellectual competences like strategy and planning make up a large part of most games in eSports. This is evident in the ever-growing or developing state or “meta” of the competitive games found in eSports, which typically arise as a product of the limitations imposed by the worlds of the games themselves (Conway, 2016, p. 94). This fast-paced evolution of strategy and planning is further amplified by the competitive nature of eSports. Nevertheless, playing games such as *Counter Strike: Global Offensive* and *League of Legends* successfully also presupposes a unique physical skillset on the side of the eSports practitioner: manipulating the relevant hardware in order to cope in their virtual world is absolutely central to the successful performance. This physical skillset of an eSports master amounts to a fast-paced and dexterous prowess⁴ with the physical hardware unmatched by most people. As Canning and Betrus have noted:

Nobody uses a keyboard and mouse like a pro-gamer. [...] In games like StarCraft 2, for example, players can perform up to 10 actions per second [...] Multitasking at this level requires a mixture of muscle memory skills, and consistent, precise execution of complicated inputs, all woven together through dynamic improvisation (Canning & Betrus, 2017).

Yet, even with an added respect for the physical skillset involved in eSports mastery, this still does not leave us with a very rich understanding of the eSports practitioners’ involvement with their virtual worlds. In other words, in contrast to Jonasson and Thiborg’s (2010) analysis, we do not believe the relationship between the eSports practitioners and their virtual worlds is chiefly an intellectual one, but nor do we consider it strictly physical. Such approaches to eSports, as Hilvoorde and Pot (2016) have noted, are strained by a dualistic terminology which establishes an insufficient framework for understanding eSports practice (ibid). Just as we do not acquire an adequate description of eSports practice by considering it as something predominantly intellectual, we do not acquire one merely by

⁴ ‘Mechanics’ is the term generally used in the world of competitive gaming to designate the physical skills of a player. It commonly refers to a player’s ‘speed, accuracy, ability to multitask, and efficiency’ (Lejacq, 2013).

considering, for instance, how many physical actions per second the eSports master is able to perform, that is, by simply considering the body of the eSports player as a special object in the world capable of fast-paced physical manipulation. While part of the attraction of eSports events for spectators can be the physical presence of the eSports players, spectators of eSports are chiefly interested in watching players' performative abilities *within* the virtual worlds. In this sense, the actions of eSports practitioners are undivorceable from their virtual correlates. Or, to put it differently, a fuller understanding of eSports comportment presupposes that we include the complex relationship between the living, perceiving subjects (the eSports practitioners) and the virtual world within which they comport themselves. This is done aptly by directing a phenomenological gaze upon the eSports practitioners' bodily and sensorial involvement in the virtual worlds of eSports. Before delving into descriptions of these unique forms of embodied sensations, we begin by introducing the phenomenological method as well as its overall approach to embodiment.

Part 2: Phenomenology and embodiment

Succinctly put, phenomenology is the study of phenomena⁵ as they are given for an intentional⁵ consciousness – ideally⁶ without personal, cultural or scientific presuppositions or biases (Husserl, 1982, pp. 60-62). This type of examination is based on a particular type of gaze that seeks to explore or expound the prerequisite or essential structures of subjective experience (Husserl, 1976, pp. 56-57; Merleau-Ponty, 2012, pp. xx, xxiv) by ceasing to take the immediate givenness of the world for granted. Another way of formulating the method is as an ongoing process or meditation whereby

⁵ Intentionality, in short, refers to the fact that what sets consciousness or subjectivity apart from everything else (and things as such) in the world is its essential *directedness*; its *aboutness*. Consciousness is best understood not as another object amongst objects in the world, but as that for which the objects, people and the world are given. However, this should not be misunderstood as if it is thereby claimed that all conscious experience is necessarily intentional (Gallagher, 2017, p. 66; Crane, 1998).

⁶ 'Ideally' here pertains to the fact that this bracketing of is a method that is never "finished", but a constant directedness towards the experiential, essential structures pertaining between subject and world.

authority and attention is lent the essential correlations between the subject and the given world, as demonstrated in recent phenomenological sports research (Breivik, 2008; Hogeveen, 2011; Martínková & Parry, 2011, 2013; Larsen, 2016; Ravn & He, 2017).

Phenomenology is essentially a descriptive endeavor; it does not investigate the structures of subjective experience in order to ‘determine’ or ‘explain’ the given world and its objects (Merleau-Ponty, 2012, p. lxxii). Instead, by means of its meticulously descriptive methodology, phenomenology explores

[...] how we are immersed in our everyday situations and projects, how we experience the world, relate to others, and engage in the kinds of actions and practices that define our lives (Gallagher & Zahavi, 2008, p. 28)

It is central to the analysis to step back from, or bracket, the way the world around us is taken for granted in our everyday activities; in other words, to bracket our ‘natural attitude’ (Husserl, 1976, p. 48) in favor of a descriptive loyalty to the phenomena themselves (ibid. p. 63). This bracketing of the immediate way the world is given to us is formulated by Merleau-Ponty as a loosening of ‘the intentional threads that connect us to the world’ (Merleau-Ponty, 2012, p. lxxvii). This entails that the phenomenologist from the outset brackets the notion of a substantial gap between mind (including intellect; thought) and our physical bodies, because any substantial split between our mind and our body is something we have come to know only via abstraction or reasoning (Legrand, 2010, p. 1). From the perspective of the everyday subject-world relation, there is no immediate, experiential gap between the physical world and the mental life of the perceiver.

Within the phenomenological tradition, the concept of body is mainly relevant in terms of the living, experiencing body. It concerns how the body is generally *given* to us – what Husserl labels *Leib*. Of course, sometimes our bodies can be given to us as another object amongst objects in the world (*Körper*) (Husserl, 1973, p. 57). This occurs particularly often in intersubjective circumstances,

as Sartre has emphasized (Satre, 1943, p 351).⁷ Yet, even when this is the case, our perception is still fundamentally an embodied perception. As Legrand notes, the fact ‘*that* the body appears or can appear in consciousness is not reducible to *what* appears in bodily-consciousness’ (Legrand, 2010, p. 188). The perceiving subject *is* his or her body (or, rather, he or she ‘is body’ (Merleau-Ponty, 2012, p. 151): he or she does not merely *have* a body (ibid., p. 151), but is a *body subject*.

Perception is fundamentally structured by how we as body subjects attune to and integrate the space around us in terms of practicality. The integrated space refers primarily to a practical or lived sense of space as grasped by the body subject, not an objective spatiality. This attunement involved is tethered to Merleau-Ponty’s concept of the *body schema*, a central concept in Merleau-Pontian phenomenology that seeks to highlight the necessary connection between perception and embodiment. Accordingly, the body schema includes the habituated actions designating our *bodily familiarity* with the surrounding environment. (ibid., p. 143). Whenever our perception of the world is fundamentally altered, like when we acquire a new set of skills or sensory information, or simply when we get used to the various sensory dimensions of a new home, the difference in perception can be described in terms of how our body schemas – by means of habituality – become integrated in a particular way to the given situation or world. In this sense, it is the body as a living, practical way of perceiving and being in the world that always already fundamentally shapes the way in which we experience, structure or make sense of the world (Zahavi, 1994). As Hilvoorde and Pot observe:

[...] the body moves itself, and is active at a pre-reflective level [...]. From the perspective of the relational body, there is an intrinsic relation between the body and the surrounding world. We, as embodied human beings, learn to move and understand the world in action (Hilvoorde & Pot, 2016)

The way in which we are embodied, as Hilvoorde and Pot insist, *includes* the surrounding world; a world that we come to learn by acting in it. With embodiment always comes a certain repertoire of

⁷ Nor does this exclude the possibility of our body sometimes being *jointly* experienced as subject and object, for instance, as evidenced by the research of Ravn (2016).

‘holds’ of the worlds which, at the same time, shape how one comes to perceive the world (Merleau-Ponty, 2012, p. 272). As Husserl insists, we perceive the world through an original lens of ‘I can’, (Husserl, 1952, p. 258). In other words, our perception of the surrounding world is intrinsically related to how we, as practical body subjects, understand it and cope within it.⁸ The perceptual experience of a novice rock climber and an expert climber gazing at a steep rock wall is very different. Once we have acquired a skill, like that of driving a car or googling a city map to find our way around, our world of perception acquires a new layer of meaning.

This practical, bodily understanding that fundamentally informs how we perceive the world, Merleau-Ponty labels *praktognosia* (Merleau-Ponty, 2012, p. 141).⁹ The way our practical capabilities shape our perception of the relevant world has notably been phenomenologically expanded in sports research. For example, absorption in and transcendence of other people’s practical expectations have been highlighted as essential to certain forms of successful sports performances, such as feinting in football (Aggerholm, Ejgil, & Ronglan, 2011), and our understanding of elite tool use has, in the case of elite rope skipping, been phenomenologically elucidated as an extraordinary type of relationship between tool and practitioner: a relationship that furthermore includes the relevance of belonging to a specific community of practice (Thorndal & Ravn, 2016).

A particularly relevant concept concerning the way the body subject comes to make sense of the world is that of the *virtual body* (Merleau-Ponty, 2012, p. 291), where the term ‘virtual’ in this precise context must be distinguished from the sense of the virtual we have so far used to refer to e.g. the virtual worlds of eSports. As Steeves has noted, virtuality is essential to Merleau-Ponty’s

⁸ This insight is closely aligned with the enactivist insistence that perception is something ‘we do’ (Noë, 2004, pp. 1-2).

⁹ For Merleau-Ponty, *praktognosia* extends from our more complex skills and perceptions all the way down to our senses, because even sensory meaning is tethered to the body subject adopting particular bodily “attitudes” (Merleau-Ponty, *ibid.*, p. 219, p. 341).

phenomenology, designating a pre-theoretical, imaginative layer of perception (Steeves, 2001). For Merleau-Ponty, the virtual body pertains to the creative or imaginative level of embodiment whereby a body subject comes to relate bodily or motor intentionally to the surrounding world or environment as a domain of *possibility*, and not just as something concretely given. In this sense, the virtual body is foundational for the unique form of virtual intentionality described in depth by Aggerholm as a form of motor intentionality (2015, p. 214). Here, Aggerholm notes, relating to one's concrete surroundings simultaneously as a domain of possibility presupposes the creation of "a distance to both the spatial and temporal situation, [...] with the potential to reveal another kind of playing field than what immediately appears" (Aggerholm, 2015, p. 214).

In a corresponding fashion, the virtual worlds of eSports are closely tethered to the eSports practitioner's ability to perceive the possible in the concretely presented, virtual worlds. The eSports practitioner has to be able to consider the virtual worlds of eSports as practical ones, as worlds wherein one moves, acts and competes. This way of relating to the virtual worlds of eSports remains a motor intentional one, and, as we shall see, this type of involvement persists as an involvement grounded in the body schema and its integration with a particular world.

Part 3: Embodied involvement in eSports

We begin our analysis by distancing ourselves from a belief in some form of 'principled distinction' between 'virtual' and 'actual', as Holt aptly describes it in his publication on the domains of cybersports (Holt, 2016, p. 12). Bracketing this principled distinction from the outset is necessary to explore the domain of the perceived worlds of eSports practice. We thereby begin by considering the virtual worlds of eSports as environments wherein the eSports practitioner has learned to move, act and compete. The "virtuality" of the worlds of eSports is to be understood in the way it plays into the givenness of the virtual phenomena *for the eSports practitioner*. As emphasized by Husserl, any

object-as-it-is-given (any ‘noema’ [Husserl, 1976, p. 181]) is given in a (often mixed) variety of different *thetic modalities* (ibid., pp. 241-245); as perceived, imaginary, dreamt, aesthetic, simulated, et cetera. These thetic modalities are an essential structure of intentional experience, and a useful way of approaching the givenness of virtual phenomena in eSports. As such, the virtuality of the worlds of eSports is relevant only as a secondary thetic modality for the performing eSports practitioner, it is not the primary way in which the eSports practitioner is directed towards his or her virtual world. Instead, as the primary thetic modality, the virtual worlds of eSports are decisively perceptual for the eSports practitioner; however, they are perceptual in a wholly distinct fashion.

As argued by Klevjer, there is a new ‘perceptual ecology’ connected to the practice of virtual gaming (Klevjer, 2012, p. 28). This point is clearly illustrated by Klevjer in his analysis of virtual avatars in the context of *First-Person Shooters* (“FPS”-games) (Klevjer, 2012, pp. 30-33). In an FPS-game, the player is forced to perceive through the “eyes” of the character played. This, Klevjer notes, forces an absolute commitment to a new form of perception needed to meaningfully perceive and act in the virtual world altogether:

in a First-Person Shooter, you have to learn to internalize camera control, or you will not be able to play the game at all [...] The built-in prosthetic nature of the navigable camera means that when you start playing an FPS for the first time in your life, a choice between all or nothing quickly presents itself: until you learn to incorporate this strange perceptual apparatus, responsive to the slightest movement of your fingers, as second nature, as a prosthetic organ, you will be permanently disoriented, like a drunk person, unable to cope with anything in the on-screen environment, and possibly also feeling a bit sick. When habituated, however (if you ever get that far) your new camera body becomes like a part of your own body (Klevjer, 2012, p. 31)

In this respect, the eSports practitioner learning to cope in a virtual world needs to perceptually learn to make sense of this world; to see it in a particular way and become embedded in it. The eSports practitioner must lose some indeterminate part of his or her sense of being in front of a monitor, peering into a digital world, instead allowing his or her body subject to become enveloped by a new and unique world of virtual comportment with its own sensory structures. In other words, the eSports

practitioner must learn to attune and integrate his or her body schema to the spaces of the virtual worlds in order to cope within them.

This integration also has to occur within the virtual boundaries set by the game design itself. A talented Counter Strike player and a novice Counter Strike player will technically only be able to jump the same height, run at the same speed, reload their gun at the same speed, and so on. But one thing that separates the talented player from the novice is their ability to play around these limitations set by the game design. Switching to a knife instead of a gun while running will increase your running speed temporarily, using the crouch key while mid-jump will allow you to land at higher locations, switching back and forth between guns while reloading can force the game to instantly reload your gun, potentially saving you a few lifesaving milliseconds. In this way, various aspects of the limitations found in the virtual worlds of eSports are often waiting to be transcended in new and original ways. As Conway has noted:

[...] the ‘fighting’ genre has made exploits and glitches such as ‘framecounting’, ‘animation cancelling’, ‘wavedashing’ and so on core aspects of the play experience, bringing-forth new understandings of the medium; first-person shooters have long illustrated fecundity in phenomena such as ‘rocket jumping’, ‘bunnyhopping’ and ‘skiing’, bringing entirely unexpected moments of play to light that later become core features of the genre (Conway, 2016, p. 94)

While the virtual worlds do impose strict, practical limits, mastering these worlds as practical and skillful subjects (especially in competitive scenarios) often generates wholly new ways of comporting oneself within them. Metaphorically speaking, the competitive environment of eSports practice is characterized by a constant drive for discovering virtual Fosbury Flops: the talented eSports practitioner must always stay within the limitations of a game world while at the same time trying to transcend them by developing new techniques – a transcendence closely linked to the body subject’s ability to discover the possible in the concrete. In the case of eSports, the practitioner must perceive and act within the virtual world in wholly new ways not immediately present in the design of the world itself.

eSports practice is thus tethered to forms of perception and comportment that transfigure the ways in which we normally perceive and act in the world. The details of these transfigurations become clearer once we consider eSports practice within the context of Husserl's work on *hyletic* and *kinesthetic* sensations (Husserl, 1984, p. 610; 1997, pp. 139-158), both of which are amalgamated forms of sensation central to Husserl's phenomenology of the body (Husserl, 1966, p. 14).

Virtual sensations: hyle

In short, 'hyletic sensations' refer to the sensuous constituents of our intentional experiences (Husserl, 1984, p. 610). They make up the "raw" sensations, e.g. of touch and sight. This should not be confused with what other views of perception have termed *sense data*, because the two concepts refer to different things within their respective methodological frameworks. Whereas the concept of sense data traditionally designates some form of basic experiential constituents or primary sensory content within empiricist views of perception (Russell, 1912 (1997), p. 12), hyletic sensations themselves are not the primary or originally given objects of perception, but essential parts of perception and of the actual given objects of perception (Husserl, 1976, pp. 192, 75). As Merleau-Ponty insists, we first and foremost experience 'objects' (Merleau-Ponty, 2012, p. 312), that is, perception is always already holistically structured. This insistence is aptly illustrated by Jerry Fodor, who noted that, when asked what the time is, we are able to look at a mechanical watch and tell the time, yet likely unable to afterwards recall the shape of the numerals that informed us what time it was (Fodor, 1983, p. 57). This exemplifies the notion that the hyletic data (in this case, the visual shape of the numerals) are not given prior to the relevant percept, but nevertheless must have been a meaningful part of it. In this way, hyletic sensations are essential to our perception of the world, even if they are not naturally experienced in isolation from their larger, perceptual contexts during everyday existence.

Within the virtual worlds of eSports, the eSports practitioner is undoubtedly exposed to visual as well as auditory *hyle*, and *seeing* as well as *hearing* as practical skills are fundamental features of these worlds – as long as we keep in mind that acquiring the praktognosia to make visual or auditory sense of the virtual phenomena presupposes bodily attunement. However, whereas the virtual worlds involve integration of explicit visual and auditory hyletic sensations, they do not seem to offer much within neither the realm of tactile hyletic sensations, nor indeed the broader realm of physical sensations like pain, fatigue, et cetera.¹⁰ When a player reloads a weapon, no tactile feedback is provided; if a player runs into a wall, no physical resistance is felt (although one is seen); if a player is damaged, no physical pain is felt; et cetera.

Focusing on tactility, it would seem that this form of hyle is present for the eSports practitioner chiefly to the extent that he or she interacts with keyboard and mouse, but they are seemingly missing from the virtual worlds of eSports themselves.¹¹ In Husserlian terminology, absence of tactile hyletic sensations entails that an entire ‘field of sensation’ (Husserl, 1966, p. 415; Husserl 1997, p. 135) seems to be missing from the virtual worlds of eSports. Given Husserl’s emphasis on the essential relevance of hyletic sensations – especially touch – with regard to the constitution of perceived reality (Husserl, 1966, p. 17; Husserl, 1997, p. 136), as well as our commonsensical intuition that a large part of perceiving something meaningfully is bound to our perception being tactile, this presents a feature of eSports embodiment that sets the embodied perception of eSports drastically apart from non-virtual perception.

To understand how the eSports practitioner makes sense of his or her world, it is central to note that the eSports practitioner does not cease being a subject where tactility is an essential part of

¹⁰ For more on the topic of haptic feedback in gaming, see (Chang, 2002; Deng, Chang, & Zhang, 2013).

¹¹ Granted, with certain forms of hardware (like console controllers), haptic cues like vibrations do play some part in the virtual experience.

perception during his or her comportment in the virtual world: players still, in some form or other, *see* and *hear* the virtual world as something with indirect tactile and physical givenness. Part of this can be attributed to the fundamentally intersensorial nature of perception. As Merleau-Ponty noted, our perception is always essentially intersensorial because our senses are always dynamically making sense of each other whenever we perceive (Merleau-Ponty, 2012, p. 150, p. 234, p. 238, p. 244). In this way, the phenomena encountered in the worlds of eSports can retain implicit tactile and physical meaning because of the intersensorial nature of perception.

Another part of the eSports practitioner's experience of tactility (and physicality) in the virtual worlds can be expounded via Merleau-Ponty's concept of praktognosia. What the eSports practitioner sees and hears is intimately connected to what he or she can do with the seen and the heard. For instance, in an FPS-game like *Counter Strike: Global Offensive*, a wall is seen as fuller or more solid as far as it serves its function as a solid cover. Provided one is equipped with particular weapons, certain walls and objects can be shot through, and the talented FPS-player quickly learns to see certain walls and objects as shoot-through-able in this sense. Moreover, the talented player also acquires a visual sense of the particular spaces *behind* these obstacles, further reinforced by his or her familiarity with the layout of the particular virtual world itself.

In this sense, because of the intersensorial and practical constitution of the body subject, the worlds of eSports can remain tactually and physically meaningful. Naturally, the exact nature of these forms of intersensorial and practical perceptual structures will vary depending on the virtual world and the more specific types of activities involved within it. These are unique forms of virtual comportment wherein the eSports practitioner as a fundamentally tactile body subject must, in competitive settings, learn to structure and integrate virtual worlds that in themselves offer next to no explicitly given tactile or physical hyle.

Virtual sensations: kinesthesia

‘Kinesthetic sensations’ refer to our awareness of our own bodily movements of, for example, our upper body, head, eyes, et cetera. These kinesthetic sensations are fundamentally correlated with how the world becomes perceptually constituted for us, as our sensations of movement essentially follow our understanding of both the objects and the spaces around us (Husserl, 1997, pp. 139-158). When we turn our body, our head or our eyes, our experiences of the new perspectives on our surrounding world are always correlated with certain kinesthetic sensations.

Thus, with the omni-sided transformation and retransformation of the gaze, we have again and again the parallel sequences of the two serial systems: on the one hand the systems of images and on the other hand the kinaesthetic streams and systems of these streams. The temporal series on both sides are identical, and, in their filling, they correspond reciprocally and univocally. The associative connection joins together the corresponding phases through co-existence and joins the pairs, in their continuous sequence, through succession. If ever new stationary systems of Objects offer themselves to the gaze, perhaps through the turning of the body, or if the system of Objects changes through its own movement or in some other way, and finally ends in a stationary state, then, in the transitions to the new stationary states, it is certain that other systems of images, of a quite different type, are lived through and are given together with the same *K-systems* [kinaesthetic systems] (ibid., 154)

Furthermore, within Husserlian phenomenology there is, as Taipale has noted (2014, p. 57), a distinction between kinesthetic *effort* and kinesthetic *awareness*. The distinction between effort and awareness is roughly analogous to the concepts of the sense of *agency* and the sense *ownership* in movement. If your doctor raises your right arm for you in order to examine it further, you experience it as *your arm being raised*, but not as *you raising your arm*. Similarly, as Klevjer (2012) has noted, a player in a video game is often so closely extended into and connected with his or her virtual world that

if the computer then takes camera control away from you, if only for a brief second, this will not break the strong prosthetic link, but instead produce a sensation of being moved, of being taken for a ride (Klevjer, 2012, p. 31).

Klevjer is here keen to note the close correlation between virtual world and body subject, evidenced by the continuous kinesthetic awareness tethered to the experience of the virtual world even when

possibility for kinesthetic effort is removed. In other words, even if the player's sense of agency is removed by the game during his or her virtual comportment, a sense of ownership nevertheless continues during practice. Klevjer's description highlights the fact that a kinesthetic bond between player and virtual world, encompassing both kinesthetic awareness and effort, is central to the comportment or involvement of oneself in a virtual game world.

eSports practice comprises activities involving drastic variations to the traditional relationships between perception and movement. Changes in what and where we perceive become correlated with wholly new kinesthetic systems of sensation. For example, in an FPS-game, the kinesthesia experienced in the form of right hand and right arm movement is now correlated with what would normally be turning one's head or body, whereas everything physically from the player's actual chest down is almost entirely immobile. This entails that turning oneself 180 degrees in the game is completed while the player is detached from traditional kinesthetic sensations of turning one's body, instead being correlated with the kinesthetic sensations of moving one's right hand and arm. Of course, these crisscrossings of normal and "virtual" kinesthesia and action can vary greatly depending on the type of game in question; something that has been comprehensively analyzed by both Klevjer (2012) and Black (2017).

These variations to classical kinesthetic systems of sensation highlight the Husserlian point that kinesthetic sensations always follow changes in perceptual appearance; even in the more radical case of the virtual worlds of eSports. Husserl did not insist that a determinate or universal set of kinesthetic sensations necessarily follow some determinate set of changes in appearance – indeed, this would be very odd – only that systems of kinesthetic sensations and perceptual change always go hand in hand in order for the constitution of perceptual meaning to occur (Husserl, 1997, p. 149).

From the perspective of embodied involvement, eSports distinguishes itself by its wide and varied array of different kinesthetic systems. These variations depend not just on the particular game played and its particular player perspective, but also on the particular character, role or getup one plays with within the particular game. The kinesthetic systems connected to *Counter Strike: Global Offensive* are radically different from those of a MOBA-game¹² like *League of Legends* and, even within *League of Legends* itself, one finds unique kinesthetic variations depending the character being played. For example, several champions have the option of constantly switching between two forms, typically one agile and one less so, each with its own set of abilities, advantages and disadvantages or, in other words, each with its own praktognosia. The moment this change in form occurs within the virtual world, the sense of space and sensations of movement are instantly reconfigured for the experienced practitioner. We thus find a dynamic flux of kinesthetic systems at play in eSports practice, and a constant requirement on the part of the eSports practitioner to constantly reintegrate his or her body schema with the given, virtual world and its possibilities. Phenomenologically exploring these kinaesthetic systems in their correlated virtual worlds is an essential part of understanding the embodied involvement of the eSports practitioner.

Conclusion

We have argued that eSports practice ought to be considered as a form of practice beyond something solely intellectual and/or physical, favoring instead an account of eSports practice as something that encompasses unique forms of embodied tethered to virtual worlds. Because eSports practice challenges our traditional notions of bodily involvement, we have explored it by introducing the phenomenological method and its approach to embodiment, and expounding various ways in which

¹² “MOBA”, short for Multiplayer Online Battle Arena, is a very popular and widespread real-time strategy action gaming format, where two teams of typically five players fight each other in an effort to siege down and destroy the opposing team’s base’s main structure.

eSports practice overlaps as well as varies from “traditional” (non-virtual) structures of embodiment as they are presented in the phenomenological tradition. We have chiefly highlighted examples of these variations within the context of hyletic and kinesthetic sensations as fundamental structures of perception that are deeply modified within the virtual worlds of eSports. Our exploration thus leaves us with phenomenological descriptions that enrich our understanding of the forms of embodied involvement at play in eSports practice.

We also want to stress that a better understanding of eSports practice is only part of what is to be gained from this form of research. Considering eSports as a case of unique variations on embodiment in virtual worlds to be explored also stands to greatly benefit and broaden our general understanding of radical modifications to embodiment as such, particularly in an ever more virtualized world of, for example, robot-assisted surgery and motion-controlled drones – domains where modifications to the structures of hyletic and kinesthetic sensations are also inevitable.

Exploring the embodied involvement of eSports practice further aligns well with the inclusion of further empirical work with eSports practitioners. Here, combining classical phenomenological analyses with observations and interviews of a qualitative format with practitioners, or even masters, of eSports comportment can help further clarify and expound the embodied involvement at play during the virtual performance. One particularly able candidate for this form of research is the interdisciplinary research methodology exemplified in the work of Ravn, et al. (Ravn & Høffding, 2016; Ravn & He, 2017). This interdisciplinary methodology has highlighted the potential benefits not only for empirical researchers interested in phenomenological, conceptual clarifications, but also for phenomenologists interested in acquiring data to corroborate or demonstrate their phenomenological descriptions (Ravn & Høffding, 2016). By combining phenomenological insights and phenomenologically based attentiveness and inquiry with data

generated from eSports masters as representative of extreme cases within their unique, virtual domains (ibid.), we believe it is possible to arrive at an even deeper understanding of embodied perception in the context of virtual involvement. In this way, the phenomenological explorations and analyses provided in this article are the initial essential steps towards an understanding the unique forms of embodied involvement at play in eSports practice.

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