

E-sport, phenomenality and affect

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ABSTRACT

This essay takes as its focus the phenomenality of broadcast professional videogaming, or electronic sport (e-sport) – understood as how complex processes in high-level gaming are organised as to become accessible to viewer consciousness through the technologies and techniques – or technics – of broadcast. I argue that the technics of broadcast e-sport creates the capacity for viewers to discriminate subtle variations in play and as such, become affected in particular ways through watching. This fleshes out current understandings of e-sport as a significant part of modern gaming’s “attention economy.” Through the description and analysis of four examples, I contend that the technics of broadcast e-sport work to channel affect: ordering our understanding of the temporally fine-grained and complex moments of expert play, as well as shaping viewers’ own embodied states in watching particular matches.

KEYWORDS

Videogames, affect, technology, e-sport, Dota, phenomenality

Introduction

This essay is about broadcast electronic sport (e-sport hereafter) – the competitive play of videogames, often transmitted through web-based platforms such as Twitch.tv. Particularly, I examine the ways through which the complex manoeuvring of high performance play is articulated to spectators through technology and technique (and the experiential implications thereof). These technologies and techniques that shape viewer experience can be understood as the “technics” of e-sport, after the philosopher Bernard Stiegler (“Fault”; “Cinematic”).

To date, there is a small literature that has variously discussed the formal qualities of e-sport broadcasts (see Boluk and LeMieux 207-272; Ferrari; Jayemanne, 287-288; McCrea; Seo). Distinct from existing accounts, my interest lies in what could be termed the “phenomenality” of e-sport. Emerging in the work of founding phenomenologist Edmund Husserl, phenomenality refers to the characteristic of something appearing to consciousness (Moran 54) which is manifest as a subjective perception (or recalled later as a memory) (Stiegler, “Disorientation” 5-6). More in line with the present work, Stiegler offers a post-phenomenological re-reading and elaboration on Husserl’s phenomenality (“Cinematic”). In contrast to Husserl, who is focused on a “pure” subjectivity, Stiegler suggests that phenomenality is conditioned by exterior, technical forms, advancing a perspective that pays serious attention to the material substrate of the “thing” in question. This furthers Stiegler’s broader argument that the basis for human becoming is the irreducible co-implication of the human and its exteriorisations (see “Fault”). Media theorist and human geographer James Ash offers a Stiegler-influenced definition of phenomenality that is also useful in understanding and contextualising phenomenality’s usage in this essay. Ash calls phenomenality “a process through which the spatiotemporal limits of sense are organised ... phenomenality encompasses how the past, present, and future appear” (“Technology” 188), oriented through and around technologies.

I stage this encounter with e-sport phenomenality through a case study of the popular e-sport game *Dota 2* – an adversarial multiplayer game developed by Valve Corporation. The gameplay involves two teams of five players attempting to destroy the other team’s heavily fortified “base.” The game itself is very complex and a spectacle of player skill. During a major 2017 tournament, there was a peak of 10.9 million viewers globally (eSportsCharts). In this essay, I examine closely the game’s broadcast over livestreaming platform Twitch.tv, a platform dedicated to the broadcast of gaming related video content, drawing largely on my own positionality as a *Dota 2* player and e-sport spectator.

The account of e-sport’s phenomenality, developed in this essay, is substantiated through four main examples in *Dota 2*. First, I examine commentary and analysis. Second, I analyse statistics and data visualisation. Third, I look at video footage of players “performing” expertise. Fourth, I explore the visualisation of data to do with (often imperceptible) bodily processes. Taken together, I suggest that these technologies and transmission

techniques represent a process of ordering through which the complex and fast-paced e-sport match – understood as an assemblage of various human and non-human forces and conditions in flux – are rendered visible (Taylor “Assemblage”; “Raising” 224).

The conceptual and theoretical terrain of affect is useful in considering the phenomenality of e-sport, specifically, in asking questions like what is made visible (and how and why?), and with what implication to the observing body? In very general terms – drawing on Brian Massumi’s widely adopted Spinozan-Deleuzian-influenced view of affect – affect is taken here as the capacity to affect and be affected, where the “human appears as an envelope of possibilities rather than...finite totality or essence” (Gibbs 251). For Massumi (“Parables”), affect is about a pre-personal intensity – a quality or feeling of being set in motion, and a way of conceptualising bodily orientations in more visceral terms. From such a perspective, as Ruth Leys writes, “embodied action is a matter of being attuned to and coping with the world without the input of rational content” (442). [1] Massumian affect has significant utility in studying screen-media, as it allows us to think about how images can be conceptualised beyond the representational and how bodies are variously materialised around screens. We become absorbed, preoccupied and predisposed to action in particular ways through the channelling or mediation of affect (the technical channelling of affect has been examined across an interdisciplinary literature see Massumi, “Parables”; Thrift; Clough; Hansen, “Feed-Forward”; on affect in gaming, see Ash, “Architectures,” “Technologies,” “Technology,” “Interface”; Moore). Understanding affect as a relational (and foundational) force that materialises the body in certain ways can be connected with a broader literature in phenomenology (see Ratcliffe, who invokes Heidegger’s view of Mood and Care to conceptualise the complex relations comprising our being-in-the-world – of which affective states are part) and more centrally here, post-phenomenology. As Jan Slaby puts it, from a post-phenomenological perspective affect can be described as “relational dynamics unfolding within a socio-material setting” (2). Indeed, this chimes with how affect is understood in this essay – a key characteristic of the commerce individuals have with their technical environments.

[1] While affect is widely characterised as ‘pre-reflective’ bodily response – separate from cognitive thought and action – it is important to recognise affect’s foundational nature. As Leys puts it, “action and behaviour are held to be determined by affective dispositions” (443; see also Slaby).

Across the individual sections of this essay, I look at how affect is variously channelled within the context of e-sport. The first two sections are about the *generation* of viewer affects. The first section on commentary and analysis focuses on the atmospheric, transpersonal quality of affect. I am concerned here with how affective atmospheres are created through commentary and analysis of e-sporting events (particularly atmospheres of anticipation around the contingent and always indeterminate nature of play) – considering the experiential implications for viewers. In the second section, I deal with the grammatisation of gameplay through statistics and data visualisation. After Stiegler, grammatisation is understood as the presentation of wider phenomena in flux as a set of discrete marks allowing for repeatability and reproducibility (“New” 9-13). Statistics and the visualisation thereof grammatise the complex processes and operations of play and create conditions for particular affective relations between viewer and game. The following two sections focus on the *apprehension* of the affects of e-sport. In the third section, I suggest there is both a technicity (understood, after

Stiegler, as the implications of human consciousness’ irreducibly technical composition (“Fault”)) and affectivity to skilful play. I unpack this by looking at how video cameras, placed in the “booths” in which professional players compete at e-sport events, reveal some of the embodied processes in high-level play that could be characterised as affective. My interest in this section is in the microtemporal encounters and processes between body and machine, which are key in expertise. The fourth section explores affect – after Massumi – as “prepersonal intensity corresponding to the passage from one experiential state of the body to another” (“Plateaus” xvii) – focusing on the use of data visualisation to provide a (grammatised) view of physiological aspects of gameplay that are not “visible” to a spectator, such as arousal (measured through tracking and visualising electrodermal activity).

Taking these examples together, I suggest that the phenomenality of e-sport (considered in terms of broadcast’s technologies and techniques) is important in that it creates the capacity for viewers to become affected or “articulate” to e-sport events, to selectively use the terminology of Bruno Latour. What Latour means here is being “effectuated”, moved, put into motion by other entities, humans or non-humans” (205). Humans develop the ability to be affected by things in new ways, cultivating the capacity to discriminate subtle variations in what might have previously only registered as singular and undifferentiated. Latour’s terminology is useful in conceptualising how e-sport broadcast has various formal qualities that can help viewers develop capacities to be affected in particular ways by the complex manoeuvring in the e-sport arena (Taylor, “Raising”; Hansen, “Feed-Forward” 57).

As such, the phenomenality of e-sport is important as it creates and contours the conditions for sense and intelligibility, allowing viewers to participate in the microtemporalities of expert play, as well as opening up the space and time of expert play by transferring affect across organic and technical bodies (and potentially generating embodied states). In this way, the technics of e-sport broadcast allows for a richer and more finely differentiated experience for viewers. Indeed, the implications of e-sport’s technics are significant within the context of Dota 2. Recent work has suggested that the game’s “attention economy” – from which considerable economic value is generated – is maintained through the consumption of expert play (see Boluk and LeMieux, 207-272). [2] The contribution made here, then, is a spotlighting of the specific technologies and techniques that shape phenomenality and channel affect in particular ways, which might be seen as key aspects of maintaining the game’s attention economy. [3]

[2] See also Valve’s monetisation of e-sport with the recent “Battle Pass”:

<https://www.dota2.com/international/battlepass/>.

[3] Importantly, affects are not shaped universally, and there is documented resistant reception to e-sport broadcast (see, for example, the many discussions around resistant reception and particular tournament formats on the Dota 2 sub-Reddit). While I do not pursue this thread here, I acknowledge it as a question that requires further study.

The view of e-sport phenomenality and affect offered in this essay contributes to studies of gaming and affect more generally. Where existing work has looked at how affect is shaped through gaming technologies (Ash “Architectures”; “Interface”; Moore), and how affective atmospheres are generated at in-person e-sport events (Taylor, “Now”), there is a distinct lack of work focusing on digitally mediated broadcast. As theorists writing on sports broadcasting and affect have shown, taking seriously the technical framing of affect around broadcast sporting events is fertile ground (Massumi, “Parables”; McCormack).

Developing an account of the affective encounters around e-sport, facilitated by its various formal qualities, also contributes to recent interest in questions of how affect is technically generated, apprehended and transmitted. This is apparent in work on gaming (Ash, “Architectures”, “Interface”), online pornography (Paasonen), GIFs (Miltner and Highfield), news media (Massumi “Politics”), and code and algorithms (Bucher). Through the case study of broadcast e-sport, this research explores and contributes to an ongoing discussion about media technologies and affect.

Commentary and analysis

Writing on sports broadcasting, human geographer Derek McCormack suggests it is important to consider not only how affects emerge via the architectures of technology, but also how the techniques of using technology configure affects. In McCormack's case, various radio-related technologies are deployed to transmit and generate affect around sports matches via the technique of commentary (122). In *Dota 2*, like traditional sports, commentary and analysis work as important parts of the phenomenality of *watching* a match – recruiting the viewer into the time and space of expert play (see also Marie-Laure Ryan, who examines how forms of commentary can give context to one's own place and time). This orientation of the viewing body around the screen allows for the organisation and creation of bodily affects.

In *Dota 2*, play-by-play and analysis commentary represent distinct sites of affective encounter (I discuss these individually later). I will first start by examining commentary in a general sense. Much like traditional sport, commentary in *Dota 2* punctuates the gameplay, translating the flow of in game action from assemblages of actions and abilities to neat narratives – making expertise legible and visible (see Taylor, “Raising” 224). [4]

[4] For an overview of the “training” and preparation required of commentators see <https://www.dotabuff.com/blog/2016-02-13-behind-the-mic>.

Following McCormack's work on sports commentary that mobilises theories of affect, I suggest that it is inadequate to simply term the work done by commentary as “representational” (McCormack 134). McCormack examines the radio broadcast of sport and suggests that we might productively think about commentary as “semiconducting” after Michel Serres, understood by McCormack as a process of passing on affect (136). For McCormack, affect is semi-conducted through the technologies and techniques of radio broadcast, a process of “modulating” affective and rhythmic atmospheres and spacetimes, transferring these rhythms across diverse sites. Modulation is taken here, after Massumi, as “local modifications of potential that globally reconfigure (affects)” (“Parables” 76 in McCormack 134). This view of affect as globally reconfigured through the sports game coheres with views of affect as atmospheric. As Kathleen Stewart has it, an atmosphere is “not an inert context but a force field in which people find themselves” (452). Affect here is pre-personal and not limited to any single individual – transmissible through technologies and techniques (on affective transmission, see also Anderson; Blackman; Gibbs).

McCormack's account of sportsmedia and (atmospheric) affective modulation leans heavily on Massumi's idea of the soccer field as "field of potential" ("Parables"). For Massumi, the soccer game is a dispersed site (i.e. broadcast and "in-place") of movements and transformations occurring between various subjects and objects. Through broadcast, this field of potential can extend outward – for instance, into the home (Massumi, "Parables" 80; McCormack 135). The device of transmission (the television, in Massumi's case) works similarly to the game's ball – functioning as a "catalytic part-subject" with the capacity to shape potential within the domestic space ("Parables" 80). For Massumi, broadcast transmission possesses a "high charge of indeterminacy, of unrealized ... potential" ("Parables" 87). Television "is more about delivery into a more-or-less open milieu" – the domestic space, in which television is "less a container than a membrane: a filter of exteriorities continually entering and traversing it" ("Parables" 85).

Taken together, the broadcast sports game, for Massumi and McCormack, passes on the sports event and generates and transfers affect, allowing the viewer to be taken up in the unfolding of the game. Commentary and broadcasting are understood as powerful techniques and technologies for expressing events and shaping affects. Likewise, we can understand the e-sport commentator as channelling affects through atmospheric means – localised affects (e.g. to the bodies of the commentary team) are transmittable through platforms like Twitch.tv, which in turn create capacities for viewer affect.

As noted earlier, in *Dota 2* there are generally two kinds of commentators: the play-by-play commentator, and the analysis commentator. I explain the distinction thus. The play-by-play commentator in *Dota 2* aims to keep the viewer in the moment of immediate perception, in a way similar to actually being in a rapidly unfolding game of *Dota 2*. To quote the commentary of Owen "ODpixel" Davies, in a particularly fraught encounter between teams Empire and Asus *Dota 2*:

death ward gets popped out, BKB popped and he just walks out of it. Silent says, "hang on guys I'm just gonna walk this one off." Cogs get thrown down. There's the RP onto three heroes, this is a massive RP, RP catches out the rest of the team! GG is called, there's no way you can play on from a double RP like that from Yoky. (yoky-Magnus-Empire AsusDota 2)

The play-by-play commentator here punctuates the moving event – a contingent and indeterminate process comprised of many elements – with communicative immediacy, positioning the spectator on the cusp its unfolding. In doing so, ODpixel transmits the frenetic pace of play and its atmosphere of tension. Listening to ODPixel's dramatic account made me excitedly anticipate the match's outcome.

The analysis commentator has a distinct, important phenomenality. Where the play-by-play commentator is situated around rapidly receding present

moments, the analysis commentator works to “condition” the initial memory and perception of the event and further shape understandings of the game-to-come. To offer an example, during the final game of the 2017 International between teams Newbee and Team Liquid, Liquid kill all of Newbee’s players and move on to win the game. “Liquid lose nothing but take everything!” exclaims play-by-play commentator Tobiwan. The teamfight is followed by a replay and is explained in detail by analysis commentator Troels “syndereN” Nielsen. “That was so close. Miracle- with 5% HP got off the Omnislash and turned the entire fight. GH waited as long as he could on that bait to come in with the Echo Slam that broke the shackles and let Miracle get his spell off.... If he [Miracle-] falls there it’s a different story” (Team Liquid vs NewBee GAME 3, The International 2017 GRAND FINAL). Here, syndereN makes the viewer aware of how precarious the teamfight was, as well as how Liquid manipulated small timing windows in order to “bait” Newbee into an unfavourable encounter. From this detailed analysis, the anticipations of the viewer going forward in the game are shaped in a particular way. SyndereN signals Newbee’s status in the game as being quite precarious, which is likely to create tension if one is a Newbee supporter or elation if one is a Liquid supporter.

Taken together, commentary and analysis could be considered in terms of Stiegler’s account of phenomenality and tertiary retention, which builds substantially on Husserl’s original theorisation of time consciousness. According to Husserl, we experience things on which we are focused through a process of primary retention (comprised of a dual process of anticipation and memory of the just-past) and secondary retention (our recall of primary memory or imagination). For Husserl, primary and secondary retention are absolutely opposed. In his re-reading of Husserl, Stiegler suggests they be taken together and, moreover, that this is an issue of artifactual, technical forms. As Stiegler sees it, the threading together of perceptions and memories is made possible through the technical substrate of the media in question (see Stiegler, “Disorientation” 5-6). Stiegler ventures the term “tertiary retention” to understand the process of human memory’s materialisation. For Stielger, taking seriously the material properties of technology and media allows for the consideration of their retentional dynamics. For example, Stiegler recognises that a film can be re-played – a point that takes seriously the material substrate of cinema. Writing on the re-watching of Alfred Hitchcock’s suspenseful “Four O’Clock,” he points out that repeated encounters with a recording can offer affectively renewed and richer experiences, even though each re-experience is conditioned by previous experiences of the recording (Stiegler, “Cinematic” 30). Just like cinema, e-sport is experienced as a threading-together of memories, perceptions and anticipations (achieved here through commentary and analysis), which, in turn, shapes the affective states of viewers. As I have shown here, this is a process that requires consideration of the technologies and techniques involved.

Statistics and data visualisation

For Stiegler, experience of time consciousness is technologically constituted. As he puts it, there is “no relation to time, without artificial memory supports” (“Fault” 159). Developing Stiegler’s account of time consciousness via Stiegler’s reading of Heidegger, Ash suggests that technologies – in this case gaming technologies that provide “objective” or “quantified” readings of time – organise the temporal orientation of players, and thus their spatial orientation understood in terms of bodily habits (“Technologies”). This theorisation of time is useful as we proceed forward.

The relationship between “objective” time and phenomenological experience is important to the present conjuncture, particularly around the examples of statistics and their visualisation. Like games (Conway) and traditional sports (Martínková and Parry), the turn toward statistics and data now pervades e-sport. Following various writers (Ash, “Technologies”; Egliston “Big,” “Building”) we can understand “statistical” representations of gameplay as capturing the “phenomenological flow of animation” (Ash, “Technologies” 196). As Boluk and LeMieux note, statistical data in *Dota 2* provides “textual inscriptions” which “reveal a discrete sequence of recorded events” (249). This can be read as a kind of grammatisation in Stiegler’s terms. The space and time of the game, a series of embodied gestures and machine operations working at varied and intersecting temporalities, are exteriorised and made retrievable through the form of numbers and types of visualisation (e.g. graphs). This has important outcomes for ways of seeing the game as a spectator.

As a form of grammatisation, statistics work to record and make retrievable gameplay that has passed, which is important due to the ephemeral nature of the broadcast e-sport match. At the same time, we can conceive of e-sport’s instruments of statistical measurement as creating particular experiences of the time of the game – as a dynamic process of perception, memory and anticipation (after Stiegler’s tertiary retention, covered in the previous section) – which can variously shape affective states. Statistics can frame the experience of time (matches, moments of gameplay), tempering how the viewer positions the present moment within the broader unfolding game, match series, or tournament.

The presentation of statistical data is often used to elaborate on what is happening in a current game and provide insights into how it might unfold. Onscreen statistics point out various quantifications of happenings in the professional arena. For example, net worth (the total ingame resources accrued by a player or team, see Fig. 1) might reflect how a game is likely to unfold – particularly if one team has a significant resource advantage over the other. In a similar way, the damage dealt by players to other players might be telling. During a game between Team Secret and Evil Geniuses at the 2017 ESL One Hamburg tournament, the statistics show that Team Secret was dealing minimal damage to the opposing team. Drawing on this information, commentator Synderen remarks that “dp (Death Prophet) has done more damage than the radiant [team] combined” (Team Secret vs Evil geniuses bo1 ESL One Hamburg Major 2017 Dota 2). By grammatising the “damage” dealt by a range of individuals in the various scrimmages of the game so far, this statistic provokes a sense that Team Secret might lose the game (indeed,

the creation of dramatic tension through a numerical system can be seen in sports and scoring, see Conway).

Fig. 1 Representation of net worth (left) and damage (Centre) dealt in Secret versus Evil Geniuses game.



The quantification of the potential outcomes of a situation – based on metrics of past performance – is also important in terms of affect, particularly for anticipation (emerging from the indeterminacy of the game) and affects based on grammatised past performance (i.e. predictive data). Take the following statistic, for instance, provided by *Dota 2* analyst Alan “Nahaz” Bester: “Teams with a 3 – 5k gold advantage at the 10-minute mark have an 86.3%-win rate in 292 pro *Dota 2* matches on record during 6.81” (Bester). This statistic reveals that during one version of the game (i.e. version 6.81), a significant resource gain at the outset of the game is likely to yield a win. For Nahaz, statistically framing the present game does not need to be strictly “accurate” (in the sense that statistics have been used in sports – such as sabermetrics in baseball, see Hutchins). Rather, statistics work to give a picture of how the game *might* unfold by contextualising the current game within a wider set of games, and consequently creating conditions for viewer engagement with the game. This occurs by generating particular relations between memory, anticipation and perception, and thus, affective states.

In contrast to prior work on gameplay statistics and affect, such as Ash’s on framing gameplay within a wider “career” performance as to offset any immediate “negative” affects (Ash, “Interface” 107-117), the use of statistics here to “predict” an outcome manipulates affects by bringing to the fore past, grammatised play. This intensifies the experience of the present moment. For example, Nahaz’s suggestion that if a team loses in the early stages of a game, they will lose entirely, may frame one’s experience of the match as more tense – right from its outset (especially so if one was a supporter of the losing team).

Statistics like this can also amplify the always undetermined and contingent nature of a *Dota 2* match. In this way, “predictive” statistics – by leaving open the possibility of an unexpected outcome – do more than “predict” or “clarify” what is happening. Rather, as Nahaz notes, the statistical framing of

career performance can be especially potent in terms of generating affect when an unexpected outcome occurs:

In one of Empire's matches this week I put up a stat "teams with a five-tower advantage at 15 minutes are 45-1 in 6.81 pro Dota 2". Empire later came back to win - i.e., only the second time in 47 matches such a comeback had occurred. I mentioned this in the second game of the series, and Toby made a comment to the effect of "wow, for those who tuned in, we got to see something really special." (NahazDota)

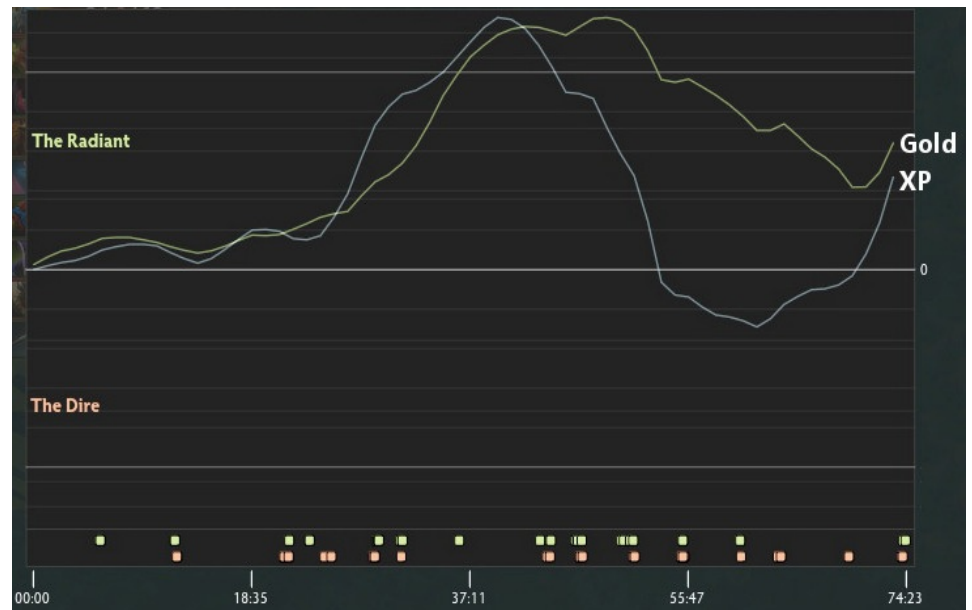
Beyond the grammatisation of gameplay into numeric data, statistics are often grammatised through visualisation techniques – an important aspect of e-sport's visual economy and phenomenality. As a process of grammatisation, statistical visualisation is harnessed in order to consolidate and make retrievable the often difficult-to-see fluxes that span moments of play, entire matches, or tournaments and leagues. Importantly, and aligned with Johanna Drucker's perspective on visualisation, visualisation techniques are not only a measure of phenomena, but also "generative," in this case, of affects. (Indeed, Stiegler also argues that ways of being arise from grammatisations ("New" 31-32)).

In *Dota 2*, the game's spectator mode features the ability to generate real-time line graphs of each team's total resources accrued ("net worth") and experience points gained (i.e. player "levels" and the points that constitute "levels"). This graph is supplemented with a timeline that shows the times at which particular events occurred. This allows viewers to pinpoint precisely where and when teams let advantages slip or took hold of a game. Like existing work on gaming and data visualisation (Ash, "Interface" 112), data-visualisation in e-sport works to shape affective encounters with games through grammatising play.

Watching a favourite team's net-worth plummet (e.g. after many player deaths ingame), for instance, might produce negative affects of dread (especially if the graph shows the loss of a previously held advantage). Conversely, watching the graph slowly creep back up can produce a sense of anticipation and uncertainty. Moreover, watching a team return from a large resource or experience deficit can be rewarding, and is amplified through a visualised consolidation of the team's performance "peaks" and "troughs" (a visualisation of the familiar "underdog" sports narrative).

Figure 2 below shows the resource and experience point graph presented during a 2014 game between LGD China and Team DK – where DK recovered from a maximum resource (gold) deficit (the biggest gold gap comeback since patch 6.80, released almost 6 months earlier in January 2014). In my experience of watching this game live as a DK supporter, seeing their gold graph creep up to LGD produced a tense affective state of uncertainty and constant anticipation. Being able to trace DK's rise to victory – and being able to retrieve this poor performance in discretised form, in the present moment – made this an all the more exhilarating experience.

Fig. 2 Resource (Gold) difference/change over time in LGD/DK game.



The visualised data also works to *maintain* an atmosphere of affect (cf. Ash on the “suspension” of immediate affective states through large sets of performance-over-time data. See Ash, “Interface”). Lulls in a game (where there was no “action”) often obfuscate how far ahead or behind one team are. Through accompanying visualisation in the LGD versus DK game, I was kept in a constant state of anticipation. As Nahaz puts it, “knowing just how big the odds are against a comeback can make it that much more compelling when that comeback happens” (NahazDota, 2015).

In short, the phenomenality of *Dota 2* e-sport is increasingly oriented around statistical data and the visualisation thereof. Taken together, through these processes of grammatisation, e-sport creates conditions for intense and attentive ways of “participating” in the e-sport match as a viewer.

Boothcams

I now turn to the *apprehension* of affect. I focus here on an important aspect of how e-sport appears to viewers – making the embodied aspects of performing expertise visible. Here we see the porosity of virtuosic bodies, which “open up” to gameplay and become materialised in certain ways around the screen and its contingent events. One way that this occurs is through recording video footage of the playing body through a feature known as “boothcams.” Cameras are placed in front of players, or in the corners of the soundproof booths in which the team play the game, capturing how play “happens” (Fig. 3). In *Dota 2*, this is broadcast by Valve over “channels” on website Twitch.tv (e.g. during the 2017 Kiev Major tournament stream surveyed below, the player camera augments the main livestream channel showing gameplay).

Fig. 3 Boothcams for a match at a large tournament.



Booth-cams provide an optic of how play emerges from sites of material-bodily encounter – a point made across a range of writing on games (Sudnow; Giddings; Taylor “Raising”; Ash, “Technologies”). This conjunction of human and non-human could be considered a kind of technicity after Stiegler (Crogan and Kennedy; Ash, “Interface”) that carries with it an affectivity. Skilfully playing videogames is often characterised by the emergence of pre-reflective embodied tendencies (see Ash, “Technologies”, “Interface”; Moore).

Massumi’s view of affect as pre-personal, vital force is a useful reference point going forward. The body, for Massumi, is positioned as a “conversion channel’ or transducer that can modulate or amplify this intensive force through a kind of sensing feel, rather than a conscious calculation” (Blackman 95). For Massumi, drawing on the experiments of neuroscientist Benjamin Libet as evidence, there is a “half-second delay” between an event’s reception and conscious interpretation (“Parables” 195). As such, as Massumi sees it, there is a window in which individuals can act without “thinking” (“Parables” 29). While Massumi’s point is useful in illustrating how individuals operate at the very edge of conscious perception, we might visit a range of other work on performance and its intentionality to more precisely apply this premise to thinking about game-skill. In an essay that critiques both Libet and Massumi, Leys suggests that it is infelicitous to describe performance (particularly skilled performance) as “unconscious” or “unintentional” (455; see also Ratcliffe, who challenges the distinction between cognition and affect, or the work of Gallagher and Zahavi on “goal-driven” action as opposed to nonintentional reflex movement). Rather, skilled performance demands an acute awareness of a situation and its required response (see Dreyfus), more accurately characterised in terms of a performer’s intuition or a “knowing feel” (see the phenomenological work of Merleau-Ponty and Heidegger). Adding to this, as it could be put by post-phenomenology, skilled play emerges *through* our encounters with our technical environments, gaming technologies becoming ‘part of’ a suite of our bodily behaviours, gestures and movements (see Ash, “Technologies”).

The idea that videogames can be played in a pre-reflective manner is one that has emerged variously through the conceptual vocabulary of affect. The work of Ash (“Technologies”) mobilises Massumi’s “emergent field of potential” to conceptualise the play of videogames as “intense spaces”, characterised by contingent encounters between game environments and the players in them. Mastery then demands that users become attuned to efficiently negotiate game environments, developing tacit and pre-reflective styles of play via continued practice. For Moore, Massumi’s thought experiment of the “missing half second” is key in understanding fast or “twitch” responses in first person shooter videogames. The body reacts before it can reflectively register what is happening in the game – with twitch responses being considered part of skilful play. Additionally, situated outside a Massumian conceptualisation of affect, for Hansen, high-level players perform at “extremely fine-grained temporal micro-intervals,” a process that he partially attributes to the “microtemporal operationality” of modern videogame technologies (“Feed-Forward” 57). Hansen suggests that videogame technologies operate at such incredibly fast and imperceptible speeds that they often exceed the capacity for premeditated action or cognition (“Feed-Forward” 57). As Ash suggests, to do so players often perform in an anticipatory way and work to sensitise themselves to small spatiotemporal windows, learning techniques that allow them to perform within them (“Technologies”).

By showing expertise in situ, the booth-cam displays the distributed organic and technical bodies that comprise play, and some of the embodied and technical processes that can be characterised in affective terms. Figure 4 is a screenshot from a game between teams Virtus Pro (VP) and OG at Valve’s “Kiev Major” tournament. In this particular part of the game, OG and VP were caught up in a disarrayed scrimmage. OG’s heroes trained focus on VP player No[o]ne – who loses health points at a significant rate and is on the verge of death. To avoid this fate, No[o]ne uses the “Armlet toggle” technique. This involves using the “Armlet of Mordiggian” item (acquired by No[o]ne), which gives the player a temporary boost in health points (activated over a 0.6 second delay) that decreases over time. By rapidly “activating” and “deactivating” this item, players can “bounce” their health points from low levels to higher levels – avoiding death if skilfully timed. This becomes especially difficult when a character is sustaining damage while also needing to Armlet toggle. If one sustains damage while performing the toggle it is certain they will die. To avoid being killed while toggling, players need to roughly anticipate how much damage they expect to sustain, and at what rate. This demands an understanding of enemy attack animations, projectile travel times and speeds, and sounds. [5]

[5] See:

https://dota2.gamepedia.com/Attack_speed#Attack_speed_formula and
https://dota2.gamepedia.com/Attack_animation

Fig. 4 Screenshot of No[O]ne armlet toggling against team OG.



To precisely time all of this is incredibly difficult (if not impossible) to do, and as such, players have to operate in a kind of anticipatory, roughly calculated way based on knowledge of the game. Mastery then might be considered, as Giddings and Kennedy put it, as not strictly about the control exerted by an autonomous player-subject. Rather, to perform in such a way the player becomes open to be affected by the game. Watching the video clip, we can see No[O]ne sitting entranced in the game, the boundaries between bodies – human and non-human – permeable. He “participates” in the game’s rhythms, which affect him just as he affects it, the video demonstrating play as fluctuations of “activity and passivity” (Giddings and Kennedy 30; see also Sudnow). We see this human-technical coupling exemplified as No[O]ne calmly bounces his health up and down, keeping his character alive for some time. The speed and intersecting temporalities of the encounter do not leave sufficient time for “analytic” deliberation (as Dreyfus puts it), as No[O]ne makes roughly calculated gestures.

No[O]ne’s familiarity with this microtemporal encounter is exhibited through his embodied performance of play. His gestures are precise and not at all “excessive”; all action is necessary and registered by the game (see also Ash, “Technologies”). The clip does not show No[O]ne “reacting” frantically through rapidly moving fingers (as perhaps a novice player might), but rather playing based on intuitive “feel” and anticipation. No[O]ne’s very slight movements are necessary (in playing with techniques that have such small temporal windows) and translate into much “larger” movements within the context of the game (Ash, “Technologies”).

Given the various infinitesimal and intersecting temporalities at play in this particular example, this kind of video content highlights the relationship between affect, technology, and embodied action, emphasising how players work to minimise the delay between an event and action by using “twitch-like” playstyles – operating on the very cusp of play’s unfolding. Like the extant work around video as a method to apprehend and reveal embodied affects in gaming (Ash “Technology”; Giddings), boothcams open up a closer view of human-technology encounter. They enable attention to areas of play which may not be otherwise easily perceptible, the embodiment of “visceral perception” (Clough 3).

Body data and visualisation

Increasingly, the rhythms of the human body are being captured and “written” in the form of data, often in real time. As Deborah Lupton writes, “many different types of digital sensors are now used to monitor a diverse array of aspects of human and nonhuman activity” (17). Through a range of technologies, such as those of the “Quantified Self” movement (Lupton), bodily intensities – those processes which are “felt” rather than “seen” (Blackman 15) – are rendered as discrete and retrievable. They are increasingly gathered and inscribed as they are actually occurring, representing a “becoming-gramme” of human embodiment (cf. Stiegler “New”).

As noted prior in this essay, a range of theorists and researchers have suggested that a component of skilful play is the physiological processes that work outside of cognitive reflection. One such area yet to be broached in this essay is the “skill” of embodied composure under pressure – or what Emma Witkowski terms a “discreet” form of embodied mastery that extends beyond “quick hands or self-control” (362). As Witkowski sees it, this is central in e-sport-level play. Virtuosoic play is a site of human and non-human encounter that places the individual in a “rich sensorial network” (Witkowski 362) and negotiating this network key to expertise. What Witkowski refers to here is the “balanced body,” taken as “the body reconciling with the pressures of play” (359).

Capturing exactly what is happening in these aspects of play that are not necessarily visible to the human eye (or even strictly perceptually accessible by the players themselves), is increasingly an aim of e-sport broadcasters. For instance, in *Dota 2*, there is a history of the affective embodiments of play being grammatised for spectators. In 2011, during the inaugural “International” tournament, Valve tracked electrodermal activity (by attaching devices to players) and visualised the output on screen. Such a technique holds value in studying affect, as Anna Gibbs suggests – showing how “humans react physiologically to images faster than we can cognitively process and make sense of them” (252). Such approaches are often used in sport as a measure of athletes’ arousal levels, where electrodermal response is generally elevated during moments of arousal (Zaichkowsky and Naylor 159).

This breaks down bodily rhythms that are not “visible” (or strictly “conscious” responses for players) into a parsable format for viewers. The feature itself was presented as a measure of “player excitement level” (Fig. 5), and is described as follows by Valve’s *Dota 2* team:

You may have seen graphs displaying the players’ excitement levels displayed periodically during The International tournament matches. This biofeedback data is collected using a wristband with custom hardware and works by measuring the electrical conductivity of the skin and sending signals to the player’s PC. The game collects this data continuously and

plots the last two minutes of the player's biofeedback history. Swings in a player's emotional state, both positively and negatively, are represented by spikes in the graph. (Dota 2 Blog)

The aim here is to further open a panorama into instances of skilled play. Visualisations are synthesised with the accompanying commentary and work to provide texture to the spectated match.

In one match between teams Online Kingdom and MUFC, we can see some interesting and varied results of this technology. To first provide some context, during the match, both teams were on the verge of being eliminated from the tournament and were both still quite precariously remaining in the game. During this portion of the game, MUFC have breached Online Kingdom's base (destroying the base being the win condition in Dota), sieging the last remaining remnants. Despite the odds, Online Kingdom are able to push MUFC back out of their base and remain in the game. Following this climactic encounter, commentator TobiWan opens up the player excitement meter for Online Kingdom player Clinton 'Fear' Loomis – a seasoned competitive player. The graph shows a relatively consistent, low level of excitement across these intense moments (Fig. 5). Tobiwan comments after the intense team fight that kept Online Kingdom in the game: "Fear's as cool as a cucumber, man. Cool as a cucumber. He's actually got that [monitoring device] attached to him right now, and he's not even panicking" (dota2). Moments later, the graph appears for Online Kingdom player Sivatheeban "1437" Sivanathapillai, who has not performed as well. This performance is characterised by large spikes during this intense encounter, suggesting that he was much more on edge during this part of the game than his teammate, Fear. This reveals the relationship between skill and embodied composure (Witkowski). To use Witkowski's phrasing, skilled performers like Fear can be seen as "reconciling" their bodies with the intense demands of e-sport-level play (359-360).

Fig. 5 "Player excitement level" in MUFC/Online Kingdom game for player "Fear."



Through the arrest and visualisation (grammatisation) of the "discreet" embodied masteries involved in skilful play, viewers become articulate to the

ways that corporeal affects around gaming technology – even those that sit below the threshold of perception – are central components to expertise.

Conclusion

At time of writing, it is apparent that e-sport is becoming economically and culturally more central a part of videogaming (Taylor, “Raising”; Seo; Boluk and LeMieux). We might then – as I do in this essay – focus on understanding how and through what means e-sport thrives.

This essay has adopted the concept of phenomenality, drawing from Stiegler’s rereading of Husserlian phenomenality (“Cinematic”) and its later usage by Ash in his post-phenomenological look at games, to examine the way that e-sport appears to viewers – yielding conscious access to the space-times of expert play (Ash, “Technology”; Hansen, “Feed-Forward”). Substantiated by a detailed look at *Dota 2*, focusing on the four examples of commentary and analysis, statistics and data visualisation, video footage, and body-data visualisation, I suggest that the technics of broadcast actively works to create conditions for viewers to become “articulate” developing the capacity to make fine-grained differentiations whilst watching, and moreover, to become affected. While I do not do so in this essay, future work could productively situate a discussion of e-sport (and its associated technologies and techniques) within the context of Stiegler’s polemical work on industrial, digital technologies and the politics of memory.

Through my examination of e-sports broadcasts, I have shown how the orientation of phenomenality through the techniques and technologies deployed by the e-sport broadcasting industry have an affective capacity, that is, work as a channel for affect. This is understood in terms of generation, transmission and capture. In examining the specific ways that e-sport appears to viewers, I flesh out a wider point – made in recent studies (Boluk and LeMieux; Taylor “Raising”) – that e-sport is a significant part of gaming’s ‘attention economy.’ Relating to wider interdisciplinary interests in the mediation of affect, the technologies and techniques of e-sport enrol the viewer into a more intense and attentive state of watching the e-sport match.

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