Technologies of captivation: videogames and the attunement of affect

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Abstract

This paper analyses the skills and knowledges involved in multiplayer first person shooting games, specifically *Call of Duty 4* for the Xbox 360 games console. In doing so, it argues that the environments of first person shooting games are designed to be intense spaces that produce captivated subjects - users who play attentively for long periods of time. Developing Heidegger's concept of attunement and Stiegler's account of retention, the paper unpacks the somatic and sensory skills involved in videogame play and discusses how videogame environments cultivate a sense of captivation. In conclusion the paper reflects on the politics of captivation for the bodies that engage with these games through the idea of vulnerability as an 'opening of the bodies capacity for sense'.

1. Introduction

Academic writing on videogames is beginning to investigate the skills that need to be developed to use a variety of games. This, in turn, has lead to a recognition that different games require very specific sets of skills and knowledges in order for users to be successful at them (for example, Reeves et al, 2009). At the same time, work on the relationship between experiences of time, space and technology has attempted to uncover the ways in which the human body is shaped on a variety of 'unconscious' levels by different technologies (see, for example, Thrift, 2004, 2009; Hansen, 2006a, 2006b). It is my aim in this paper to expand this field of work by thinking through a concrete example of how users become attuned to videogame environments through engaging with the multiplayer component of a specific videogame, *Call of Duty 4* (Activision, 2007)[1].

I argue that the multiplayer maps of First Person Shooting games (FPS) encourage the development of particularly intense forms of attunement as the maps are actively designed to amplify the potential for intense encounters to occur between users, which I term via Bogost (2007) the maps' 'possibility space'. This process of attunement is central to the production of captivated

bodies, which in turn is a key part of the genres appeal and commercial success. I argue that attuning oneself to the game involves a self management of the affective and emotional state of being of the user in an attempt to minimise negative affects such as frustration and vulnerability. Rather than producing affectively numbed bodies, games such as Call of Duty 4 actively sensitise users to open their bodies to a variety of affective states in order to become skilled at the game. The paper therefore points to a politics of captivation in which the sensual and perceptual relations in the body are organised and commodified by these games in order to create attentive subjects. To make these claims, I draw upon observation of two users as they progressed from being inexperienced beginners with the game to being competent skilled users, alongside my own experiences with playing the game.

Many scholars have attempted to destabilize the notion of action as something which is undertaken by an autonomous and rational subject (Dreyfus, 2007a; 2007b). This body of work problematizes the Cartesian dichotomy between a rational mind and an irrational, emotional body. As Katz argues:

> 'emotions which have so often been treated as opposed to thinking are paradoxically self reflective actions and experiences. But the self reflection in emotions is corporeal rather than a matter of discursive

reasoning. Through our emotions, we reach back sensually to grasp the tacit, embodied foundation of our selves' (1999: 7).

Much of our knowledge of the world is tacit; 'we know more than we can tell' (Polanyi, 1966: 4, see also Moss, 1995). Indeed, the very act of trying to access this tacit knowledge can impinge upon our ability to perform it. For example, Polanyi explains that skilled pianists can find their movement restricted or paralyzed because they have concentrated too much attention on their fingers (1966: 18, see also Sudnow, 2003). Developing this work on emotion and tacit knowing, a number of scholars have attempted to understand embodied life through the concept of affect. In this work, affect is understood as a series of non-conscious capacities and receptivities that shape the ways in which individuals think and act (for example, Massumi, 2002; Clough, 2007). However, Blackman argues that these accounts are not particularly useful precisely because they are based on unconscious processes which are inaccessible to explicit thought and reflection. As she explains:

'Work on affect often eschews the concept of the unconscious for a notion of the non-conscious that is tied to a bodily unconscious understood through the concept of habit. These are forms of bodily memory which lie outside of a subject's conscious reflections and deliberations, and are often enfleshed within the processes of the CNS [central nervous system] or proprioception (see Massumi, 2002)' (2010:

177).

For Blackman, the problem is that by reducing bodily memory to proprioceptive processes any account of skill acquisition or sense-making become 'blackboxed' into the inaccessibilities of the nervous system. This then sets up a dichotomy whereby affect is primarily a non conscious process, and thought is considered to be conscious. As I argue in section three, rather than being separate or autonomous realms, affect and cognition are interdependent on one another. Processes of cognition can shape affective capacities and affects themselves can work to rewire the relationship between thought and action. In this sense, affects are thoroughly material. As Kavka argues 'affect is material that matters' (2008: 33). Skill is not simply habitually trained into the body but actively emerges from a process of 'mattering':

> 'a doubling which involves the evacuation and refilling of a material object with the material of feeling that is and is not my own. The point of emergence of such affect is the cusp, join, or interface, a point of indistinction where subject meets object, same meets other, mind meets body' (Kavka 2008: 34).

In this case affect does not simply operate *between* body and world on an unconscious level, but actively creates associations between various material 'cusps' which exist within and across a variety of biological and physical

levels. As Katz argues this is possible because there is only a minimal distinction between body and environment:

> 'The prevailing folk and scientific cultures doggedly refuse to acknowledge that there is no point of separation between what is outside and what is inside, no definable limit to the penetration of self onto world and world onto self, no place where one's identity neatly ends and the social environment obdurately begins' (1999: 16).

I develop the concept of attunement to think through how environments operate to 'matter' affect and in turn how these environments becomes central to the type of attunement and bodily capacities that can be developed. The critical point of the paper is that the environments in which attunements are developed are increasingly commodified. In the case of Call of Duty 4 these environments are actively designed to produce a state of captivation to encourage users to continue to play the game. As such the relationship between affect, attunement and cognition are fundamental to this process of commodification.

In *How Emotions Work*, Katz argues there are three ways of analyzing and studying sensory life. In the paper I concentrate on two of these: 'interaction processes' or 'how a person shapes his emotional conduct with regard to the readings and response that others give' (ibid p6); and 'sensual metamorphoses' or the ways in which emotion can shape the sensual

framework of action and, thus, bring new habits or forms of conduct into the world (ibid: 6). While Katz is interested in interpersonal relations between human beings I want to extend his methods to incorporate the technical objects, rules and mechanics that form the basis of playing *Call of Duty 4*. This allows me to understand how a person shapes their sensory conduct with regard to the nonverbal readings and feedback they receive from the 'intense space' the game environment produces and how the sensory feedback users gain from the game environment alters the sensual framework of their future habits and conduct. These approaches shape my discussion of the empirical examples developed in sections three and four.

To unpack these arguments the rest of the paper is composed of three main parts. In the next section, I argue that the multiplayer videogame maps in *Call of Duty 4* can be understood as intense spaces— spaces that are designed to amplify the potential for contingent encounters to occur between users and in doing so encourage users to develop highly trained sensori-motor skills to cope with these encounters. This allows me to explore how the sensori-motor skills developed in using *Call of Duty 4* can be theorized through Martin Heidegger's concept of attunement and Bernard Stiegler's account of the materiality of the body. In section three, I discuss the somatic and analytic aspects of attunement , and think through the ways in which they are mixed in the action of videogame play. In the fourth section, I explore the particular

form of captivation that emerges as users interact with the intense spaces of *Call of Duty 4*. Finally, I end by thinking through the possible politics of captivation in relation to bodies that engage with videogames.

2. Intense spaces

Call of Duty 4 is a popular First Person Shooting (FPS) game (which means that users perceive the on-screen environment as if 'looking' through the 'eyes' of the avatar they control. See Galloway 2002; Crogan 2004), which was released for the PC, Xbox 360 and Playstation 3 videogame consoles in 2007. By May 2009 in excess of thirteen million copies of the game had been sold, which makes *Call of Duty 4* one of the most successful shooting game franchises in the history of videogame consoles (Radd, 2009).

In the single player component of the game, users play as either a member of the British SAS Special Forces or the American Marines and move through predefined environments, which are based on approximations of locations in the middle east and eastern Europe, shooting enemies as they follow mission objectives and unravel a narrative about a terrorist nuclear threat. While the single player component of the game is important, the wild success of the game can be attributed to its multiplayer component. In multiplayer play, up to eighteen users battle one another on self-enclosed, pre-designed maps over

an internet connection. There are numerous different multiplayer modes in which users fight to gain control of flags in a map, or to see which team or individual user can earn the highest number of 'kills' (in the 'free-for-all' game mode for example the limit is 20 kills) in a set time limit (10 minutes for free-for-all games for example), among other objectives.

The professional games press have cited a number of reasons why Call of Duty 4 is such a successful multiplayer game. For example the game successfully incorporates a number of features such as a 'class system' that allows the user to customise the different weapons that they will use in game and the 'perk system' whereby users can add different 'perks' to their avatars (such as 'stopping power' which makes the in game weapons more powerful or 'sleight of hand' which shortens weapon reload times) (Kelly, 2007). While these factors are all undoubtedly important, I want to concentrate on the ways in which the maps and rules that structure a users engagement with the game are designed to produce the potential for intense encounters to occur. As Malaby (2007) argues, videogames are about the control and management of contingency (also see Ash, 2010a). As Malaby puts it: 'games are distinctive in their achievement of a generative balance between the open-endedness of contingencies and the reproducibility of conditions for action' (2007: 106). Alex Galloway theorises this contingency as operating between two forms of action that are embedded within videogame play:

> '[There are] two basic types of action in video games: machine actions and operator actions. The difference is this: machine actions are acts performed by the software and hardware of the game computer, while operator actions are acts performed by users' (2002: 5).

As a result, Galloway argues that the action of the machine is of equal importance to the actions undertaken by the videogame user. To become skilled in the multiplayer mode of *Call of Duty 4*, users have to learn to work with the tension between their own actions, those of the other users, and the action of the game itself. The tensions between machinic and human action within the multiplayer matches and maps in *Call of Duty 4* (and in many other FPS games) can be conceptualised as intense spaces. By intense space I mean a space that is designed to generate complex *potentials* for movement and action in the contingent space between user and game. These intense spaces in turn require the development of close forms of attention and concentration from users if they are to perform well in the game.

Within Call of Duty 4 these tensions are expressed through the particular design and structure of the maps that users play on, which operate like above ground labyrinths (there is no entrance or exit but a variety of ways to reach different points on the map). Call of Duty 4 was released with 16 multiplayer maps, which can be split into three categories according to size (small, medium and large). Small maps such as shipment represent an open yard

filled with shipping container crates roughly 30 by 30 metres. Shipment encourages a high rate of encounters between users as there are no closed off areas or rooms and users can run between each corner of the map in a short space of time (roughly 10 seconds). Larger maps such as 'Overgrown' on the other hand represent farmland spread over a number of kilometres of space and contain open fields and single story and multiple story buildings which provide multiple look out points and hiding places.

The complex forms of potential these 'intense spaces' serve to frame and realise can be usefully conceptualised through Massumi's concept of an 'emergent field of potential'. Massumi discusses the concept of an emergent field of potential in relation to a football pitch. For Massumi a football pitch is not an inert or passive container for the play that takes place on it, but actively shapes the potential of this play. He argues; "the field of play is an inbetween of charged movement. It is more fundamentally a field of potential than a substantial thing or object" (2002: 72).

Whereas a football pitch is a flat rectangle of ground with a goal at either end, the maps of Call of Duty 4 are more geometrically complex. Any one map can include rooms, corridors, stairways, balconies and rooftops amongst many other architectural features of varying sizes and elevation which in turn create more complex forms of potential encounter between users. In relation to Call of Duty 4 this means shifting attention away from analysing the kinds of

generic spaces or locations that are represented in the maps (such as as a city street, a bog, a warehouse and a creek for example) to understand the nonrepresentational registers of forces and flows that the geometry of the architecture affords or constrains (see Ash 2010b, Malaby 2006). For example in 'Shipment' the container crates act to block users lines of sight which in turn affect what parts of the map can be seen from what position. This geometry can also be used to inhibit actual contact. On 'Overgrown' for example walls can block firing lines between users, but can also act to enable indirect contact. A wall in one of the central buildings in Overgrown (colloquially known as 'grandmas house') is often used as a surface to bounce grenades off of into an attic where users regularly hide for example. The maps in Call of Duty 4 are therefore designed to intensify potential spatial relations between users –they are designed to encourage different ways of encountering other users within a relatively small and limited architecture of buildings, objects and landscape features.

These nonrepresentational forces are important because users become attuned to the constant play of tensions between the rules of the game and the contingent action of other users in these intense spaces. Users do this by developing various bodily capacities for action and devising ways of preempting how and where other users will move and what they will do. As such, the attunements users develop as they negotiate the multiplayer mode

of *Call of Duty 4* have both a somatic and analytic character. For example, the ability to move the cross hair to an exact point on the screen can be described as a somatic attunement insofar as acquiring the skill requires users to both develop their hand-eye coordination and to fine-tune the movement of various sets of muscle groups in the hands as they manipulate the thumbstick. When a user uses an intuition derived from past experience with the game to decide to move their avatar towards a specific part of a level, that could be described as an analytic attunement to the game. Users draw upon a range of both somatic and analytic attunements as they navigate the multiplayer maps in *Call of Duty 4* attempting to 'kill' their enemies while they avoid being 'killed' themselves. In this way, attunements can be understood as complex assemblages of bodily capacities and cognitive processes, which work together in skilled gameplay.

3. Attunement

For Heidegger, attunements are not simply conscious behaviours or learnt skills within a specific situation; they pervade the ground of our being in every situation.

> 'Attunements are the fundamental ways in which we *find* ourselves *disposed* in such and such a way. Attunements are the how according to which one is in such and such a way […] And yet this

> ‘one is in such and such a way’ is not—is never—simply a consequence or side effect or our thinking doing and acting’ (1995: 67 emphasis in original).

Attunements are not just feelings or emotional states that begin or exist within a pre-constituted subject, but work as atmospheres outside and between individual human bodies. Heidegger likens attunements to a musical melody resonating through a space. In his words:

> ‘[A]n attunement is a[…]melody that does not merely hover over the so-called proper being at hand of man, but that sets the tone for such being, i.e., attunes and determines the manner and way of his being’ (1995: 67).

In other words, humans become attuned to situations in particular ways: they pick up the ‘vibe’ of a room through the shared moods within that situation, for example (see Dreyfus, 2000, 2002). Within *Call of Duty 4*, users always-already bring a set of preexisting attunements to the game from their previous life experience, but in playing the game they develop a new set of attunements which take on a particularly skilled and intense character through the atmosphere the multiplayer environments generate. These atmospheres have a culpable effect on the body of users, inscribing and generating new associations in thought and action. Bernard Stiegler argues that bodily capacities for sensori-motor action develop through humans’

ability to unknowingly retain past experience, which is achieved through two kinds of 'bodily memory' (also see Latour 2004). Drawing upon the work of influential biologist August Weismann, Stiegler argues that:

> '[E}very living sexual being is constituted by two kinds of memory, which […] have been called germinal and somatic—the genetic memory of the species preserved in DNA, and the somatic, individual memory preserved in the organisms nervous system' (2003: 158).

For Stiegler the body exists in a state of what he terms 'retentional finitude' (2008: 188). The body is a kind of living or somatic memory, which is composed of various retentional apparatuses. Stiegler suggests that the body's organs are shaped in a number of ways, most of which do not come to human awareness. In this way, the body can be understood as a retentional apparatus for experience, but it also acts as a site of selection with regards to what is interiorized (or retained) by the body organism and what is left exterior (or 'forgotten') (Stiegler, 1998, 2008: 126-129, 2009). Selection and memory are therefore intimately linked. The corporeal body is the 'site' of selection; it is actively shaped by the atmospheres and events to which it is exposed and it retains aspects of those events across the life course, both intentionally and unintentionally (see Crogan and Kennedy 2009 and Crogan 2010 on how Steigler's work is useful in understanding videogames).

In addition to these two forms of memory, Stiegler posits a third: tertiary retention. Tertiary retention is an exteriorisation of human memory into objects in the environment. As Stiegler puts it: 'a tool is, before anything else, memory' (1998: 254). The material properties of an object imply specific kinds of uses, gestures and comportments and the continued existence of these objects implicitly allow all manner of somatic and analytic knowledges to be passed down through and across generations and populations of humans (Stiegler, 2010: 10). Taken in this sense the maps, rules and interface systems of Call of Duty 4 can be understood as environments for the transmission of tertiary memory into users gestures and actions (somatic and analytic attunements) as they play the game.

Drawing together the concepts of atmosphere, resonance and attunement, in the next three subsections I outline how the atmosphere of intensity generated by the environments and rules of Call of Duty 4 produces and inscribes the body with a range of somatic and analytic attunements. Rather than accidental or neutral, the development of these attunements are central to the creation of a state of captivation in users. As I argue in the fourth section these examples demonstrate how a state of captivation is actively engineered into being by the environments of the game itself.

a) Thumbstick sensitivity

Videogame users rely upon a range of somatic attunements, such as the tacit knowledge about how fast or slow to move an analogue stick on the Xbox 360 control pad in order to produce a corresponding movement in the avatar on screen. In *Call of Duty 4*, the sensitivity of the thumbstick can be changed in the options screen. The default setting is '1' or low, which means that a large degree of movement on the stick will produce a small degree of movement in the avatar. Most beginners are not aware of the importance of thumbstick sensitivity and so leave it on this default setting. As users become more experienced with the game, they tend to increase the sensitivity of the stick, such that a small movement in the stick will produce a larger movement in the avatar. This has the effect of increasing the potential speed the avatar has to move around the space. When changing the sensitivity setting, users require a period of re-familiarisation. The user must become de-attuned to the previous relationship between thumb and avatar movement and concretise new relations in the body to deal with the increased sensitivity between the avatar and the movement of the thumbstick. With a low sensitivity, the user has to push the stick further if they want to turn the avatar 180 degrees on its axis in order to shoot a user opposite them. Whereas, with a higher sensitivity, it may only take a very small movement to create the same effect on screen. This attunement and the atmosphere it generates between users will then affect the way in which the user community as a whole approach the game.

Returning to Stiegler's account of tertiary retention, both control pad and thumbstick sensitivity acts of forms of memory that shape the kinds of somatic and analytic attunement developed. Indeed the material plastic of the thumbstick and its physical limitations for movement form the possibility space for the development of somatic memory to be developed in the body of the player. Whether set fast or slow, the digital and material properties that determine turning speed encourage users to become senstised to the movement of their avatar. As players become more skilled and increase the thumbstick sensitivity this increases the speed of encounters between players in general, which in turn increases the speed of play in the game as a whole and so on. In other words the particular mechanical properties of the game create a generalised atmosphere of how the game can and should be played.

b) Reload time of weapons

As complex assemblages of different bodily capacities, 'somatic' attunements such as learning to move the thumbstick accurately also extend into and affect more overtly 'analytic' forms of attunement. For example, users can become aware of the reload times of different weapons and use this knowledge, alongside other attunements they have developed, in order to determine how they approach specific encounters within a match (to some extent at least). If a novice user—who is facing off against an enemy—only has one or two rounds

of ammunition left in their weapon's magazine, and they know their gun takes more than a second or two to reload, they may back away from the encounter because they know that during this temporal window (the reloading animation) they will be vulnerable to enemy fire. If, however, they know that their weapon reloads quickly, they may continue to attack in the hope that it might startle or surprise the other user. This could give the novice user a window of opportunity in which to kill the other users avatar. The difference between weapon reload times is often minimal, but it can be crucial to a user's success or failure in the game. For example the 'P90' weapon takes 3.5 seconds to reload from empty, whereas the 'Scorpion' weapon takes 2.67 seconds to reload. This 0.83 second of difference is tiny, but it factors into decisions about when and whether to reload nonetheless. Indeed, this temporal difference is so small that users are forced to make it without purposeful reflection about the reloading time. The difference in reloading times must be internalised by the user as they become familiar with the game in order to allow them to respond effectively to emergent situations in a match.

Success in *Call of Duty 4* is contingent upon a whole number of variables beyond weapon reload time. Other attunements and capacities are implicated in particular encounters and can contribute to a user's success or failure in any given encounter. For example, experienced *Call of Duty 4* users are likely

to have a more highly developed capacity for aiming the reticule, which allows them to approach an encounter in which their ammunition is low differently. They do not necessarily have to reload the weapon; they might attempt to use the final two rounds to 'kill' the enemy because they can have confidence in the capacity they have developed to hit their target dead on (more often than not). In this way, the potential for movement and accuracy that is rendered visible to a body through the development of its capacity to move and aim accurately also affects the taking place of *thought* as a process. That is, the way in which a user reacts and responds to the low ammunition situation above may be dependent on their capacity to aim, which is itself developed through the contexts which brought these somatic attunements into being.

In describing characteristics of attunement, the terms somatic and analytic are not simply stand ins for long-established divisions between body and mind, or thought and action. Rather, both analytic and somatic attunements are largely tacit, although they can be brought to reflection through conscious effort or through the review of past experience. Somatic attunements do not emerge from the development of forms of analytical attunement; the development of somatic attunements leads to the potential for reflecting upon these attunements in an abstract way and, thus, the further development of attunements within the game, which can be drawn upon both consciously

and unconsciously.

c) Sight lines

An experienced user of *Call of Duty 4* is likely to have gained a fairly precise 'knowledge' of the angle(s) from which they will be able to peer around a corner in order to shoot into a building, and they are able to use this attunement (in combination with a range of other attunements to the game) in order to make, often split-second, 'decisions' about where, when and how to take a shot. Shooting into a building from too shallow an angle may provide them with no access to a room, but moving backwards to get a wider angle might expose them to sniper fire from across the valley. Furthermore, users often come to recognise specific alleyways (or other areas within the game) as 'danger spots' because their experience tells them that users tend to snipe from one end to the other. A novice may unwittingly charge down the alleyway, however they are armed, but more experienced users might change their course of action depending upon their understanding of the capacities of their weapon and their confidence in striking their target. An experienced user who is armed with a shotgun, for example, would usually choose an alternative route to flank the sniper because the know that their shotgun has insufficient range to 'kill' a sniper at the other end. This could leave them open and vulnerable to attack inside the alleyway. Alternatively, a user who is

armed with a rifle (which has a far longer range than the shotgun) may risk a head on confrontation with the sniper in the alleyway so long as they are confident of their ability to hit their target reliably at long range.

Movement around the level is, then, dependent on complex understandings about how all manner of variables can affect one's chance of survival within the game, as well as an understanding of the specific areas that tend to gather specific kinds of weapon users in particular configurations. Crucially, these 'danger spots', angles of attack, and so forth are not universal; they are not 'coded' into the video game space. Instead, they emerge from the 'possibility space' between the operator actions of users and the structured maps of the game (Galloway 2002). As such, they change from user to user and match to match as differently attuned users deploy tactics in a range of different ways. The 'open skill' (Reynolds, 2006) of playing *Call of Duty 4* (and, indeed, many other FPS games) is not produced by learning or memorising a generalised set of 'rules' for each level or map; it lies in the ability to respond to events in context-specific ways as they emerge in the moment and which, to a large extent, cannot be anticipated 'ahead of time'. Furthermore, while experienced users become aware of various tendencies within a game and are able to become familiar with ways of moving around a particular map or level, they do not consciously think through these processes in most encounters; skilled users are able to 'automatically' react to changing circumstances within the

match as they need to.

The ability to reflect upon your videogaming activity in order to recognise that other users tend to gather at one corner of a level, for example, only emerges through a familiarity with the game which can be developed through sustained use (it may require over twenty, fifty, one hundred or more hours of use, depending on the specific capacities of the user involved). For experienced users, both the analytical aspects of attunement (for example, the ability to recognise the patterns in which other users tend to move) and the somatic aspects of attunement work alongside one another. As they learn to play *Call of Duty 4*, novices rely upon a developing set of attunements, which are largely somatic in character. Inexperienced users are unable to register the tendencies within the game because they appear to be completely random at first. It is only through experience with the game over time that they are able to analyse the various tendencies within the game and use this, more analytic, attunement tactically to their advantage in encounters with opponents.

4. Captivated bodies

The complexity of the intense space that Call of Duty 4 generates and the range of attunements users have to develop to cope with this complexity

encourages the construction of captivated bodies. Captivation is the process by which bodies enter a state of engaged and focused concentration in order to successfully negotiate the ongoing flow and immediacy of an encounter. The experience of the surrounding environment is diminished for those experiencing intense captivation (see Crary 2001, Lahti 2003). While captivation is arguably the outcome of engaging in many different activities, the multiplayer mode of *Call of Duty 4* produces a particularly effective form of captivation because the complex spaces of the maps acts as forms of tertiary memory. They are designed to illicit high levels of contingency, which in turn forces users to concentrate as closely as possible to what is going on in the game if they don't want to be continuously killed by enemies.

During the ethnographic period of my research it became clear that beginners had to focus very hard on what was happening in the game. Events such as being spotted and shot by another user would often be over before the user had a chance to register what was going on, let alone respond to this event. For beginners the game is saturated with an atmosphere of unease, which one respondent described as a constant feeling of being 'on edge' while playing. As the same user put it: 'whenever I am playing in a match online I never feel safe or secure, I never know if an enemy will creep up behind me'.

This sense that the unexpected is always around the corner, that an enemy

could creep up and kill the users avatar at any moment, actively encourages the user to concentrate their attention to every possible form of sensory feedback provided by the game. This sensory feedback encompasses both visual and auditory stimuli. For example Call of Duty 4 provides the user with locational sound cues. All avatars in the game produce footstep sounds, which, provided you have a stereo sound enabled headset or speakers, allow the user to anticipate where enemies 'are' relative to their avatars location within a map, without the need for visual confirmation. The importance of these forms of sensory feedback is emphasized by the fact that users can unlock a perk in the game called 'dead silence' that reduces the volume of the avatars footsteps to almost nothing. This gives users a big advantage as they can sneak up from behind enemies without being heard.

The limited field of vision provided by the first person perspective, which is much narrower than regular visual perception, alongside the selective forms of locational cue enabled by the sound design in the game, encourage users to develop an elevated sense of perception and attention. My own experience of this elevated sense of attention, as a beginner, was embodied through a sense that my whole body 'strained' to pick out particular visual and audio details from the environment of the game. This was experienced as leaning forward towards the screen, squinting my eyes and turning my head to pick out differences in sound from the left and right speaker, which may give away an

enemies position. This sense of contingency and the elevated sense of attention required by this atmosphere of contingency is also actively amplified by the architectural design of the maps themselves. For example in the 'Crossfire' map (a map based on a bombed middle eastern street scene) all of the buildings have multiple entrances and exits as well as a variety of open windows. Rather than a single exit which a watchful user could guard (a tactic that is derivatively termed 'camping') users have to be mindful of other users throwing grenades through open windows, or running in through another entrance and stabbing the user in the back. The maps are designed in this way to encourage continuous movement of users which in turn amplifies the potential for contingent encounters to occur.

The control interface of the game also encourages users to concentrate and react to events within the game with minimal physical expenditure. As Kirkpatrick argues, the control pad is a site of translation where small inputs on the pad result in large outputs in the game world. Referring to the act of throwing a javelin in a game he argues: 'something of the experience of throwing a javelin—its tensions in the body, its discipline, its conscious manipulation of weight and energies—gets condensed into the hand' (2009: 134).

This process of translation and condensing means that one only has to move ones fingers and thumbs a few centimetres to perform the full range of the

avatars movements and abilities. The secondary result of this translation is that the interface enables a minimal distinction between thought and physical reaction. Nelson terms this connection 'the seam', which is both a form of connection and separation: 'the controller joins us to the game, yet remains an unstable encounter that can easily come undone' (2009: 69).

The material properties of this seam, which becomes more transparent as users develop a somatic attunement to the game, enables users to engage with the game over long periods of time because they do not experience excessive cardio-vascular exercise as one would in regular exercise. In this captivated state, 'hours become like minutes' (as one participant in a *Call of Duty 4* online game session explained to me). Within the comportment of captivation, the recollection of an evening's play is often reduced to memories of one or two particularly intense, contingent or exciting moments that become foregrounded in a user's mind. As the same participant explained further:

> 'It becomes like a blur. I can feel physically exhausted after a long session, yet I can't really remember what went on. Normally I can just recall bits and pieces, maybe a couple of really good or lucky shots I got, or maybe a high kill streak [where the user kills a number of enemies in a row without dying]. I'm left with more of a feeling than remembering distinct things'.

Playing Call of Duty 4 does not produce cardiovascular exhaustion in the

same way that going for a run might. Entering into a state of captivation can lead to a complex mixture of negative and positive bodily affects. Users often complain of experiences of fatigue, overexertion, frustration and stress after several hours of play because becoming and being captivated draws the body into a specific mode of concentrated comportment. In playing *Call of Duty 4* online, this state of concentrated comportment can manifest in the physical ways in which users hold their bodies. During my research, I observed users shifting forward in their seats during online matches, with their shoulders and back arched forward, and their muscles tensed in readiness to react. My participants remained in such readied positions for long periods of time because the outcome of the encounters in which they were involved resulted in sensory stimulation that did not involve the overt displacement of the physical body.

Returning to Katz's (1999) account of emotion discussed at the beginning of the paper, we can draw a number of parallels between playing Call of Duty 4 and the limited ability to express frustration exhibited by the car drivers in Katz's study. For the motorway driver the car itself becomes a means to express complex emotional states. The material structure of the car offers limited options for communication and so anger becomes expressed through basic physical acts such as sounding the horn or shouting.

In Call of Duty 4 users are also cut off from their competitors or team mates in

the sense that they are not physically co-present with one another. While it is possible to 'voice chat' using the Xbox 360's headset and microphone, many users choose to play in silence. Emotional communication is therefore often limited to the transmission of forces that are enabled by the game (such as running, shooting, stabbing or throwing grenades).

Alongside this limited form of communication there is no direct relation between a positive or negative encounter and the release of any physical tension associated with the outcome of such an encounter. Successfully 'killing' other users produced a range of responses—from cries of triumph, to punching the air with a fist, to shouting expletives—but users quickly returned to their concentrated position in order to deal with the next threat. The duration of the physical release of energy through the displacement of the body or cry from the throat and mouth, for example, was not equal to the duration in which the user had been in a captivated state. In other words, the physical energy economy—between the states of captivation and their release —was unequal, both in terms of the intensity and the duration of each state as it was experienced. Tennis users often cry out while they serve, but the serve also involves a massive amount of physical energy expenditure alongside the concentration necessary to aim and perform the serve at all. In *Call of Duty 4*, high levels of concentration are required in order to shoot an enemy, but without a similar level of energy expenditure.

What this points to is the development of shared 'somatic modes of attention' (Conrad 1993) that are expressed by Call of Duty 4 users in an (attempt) to manage and control their affective and emotional states. Winning or doing well encourages forms of bodily release, such as shouting or punching the air, but these responses were not 'rational' - they had no impact on what subsequently happened within the game. Developing semi-conscious attunements on the other hand, enabled users to develop skill and thus minimise their experience of frustration with the game as they learned to avoid making (retrospectively) 'obvious' and costly mistakes.

While there is a clear representational politics evident in the violence depicted on screen in games such as Call of Duty 4, these shared somatic modes of attention point to a politics of bodily affect brought about by the particular material and computational rules that structure users engagements with one another and thus inhibit and enable experiences of frustration. Returning to the earlier example of beginners who feel vulnerable to attack while playing, developing attunements as to how and where enemies will appear acts to guard against a sense of affective vulnerability. In other words, developing an attunement to Call of Duty 4 is as much about attempting to minimise experiences of troubling affective states as it is about doing well and winning matches. For the beginner who plays Call of Duty 4 one often feels to be particularly sensitised and vulnerable to what is going on in the game, in the

sense that one has to literally strain ones senses to pay attention to what is happening as closely as possible.

Developing an account of attunement complicates a narrative of videogames as producing affectively numbed, aggressive or simply disaffected bodies. War and (by association) war games and toys have long been associated with a hypermasculine desire for control and power in which the male body is presented as a 'strong' and 'tough' (Goldstein, 194; Nandy, 1988; Scheff, 2006). However I have argued that to gain competence with Call of Duty 4, one has to open up ones body and become affectively vulnerable. This process of opening the body to sensory feedback from the game is necessary in order to be able to respond fast enough to events that occur within the game, such as spotting an enemy, or ducking for cover, which in turn are attunements that one has to develop in order to do well. Becoming more attuned to the game does not result in the simple disappearance of this sensitivity or the creation of a dissaffected body. Instead this sensitivity becomes internalised into the body as particular forms of somatic and analytic attunement.

5. Conclusions

In this paper, I have demonstrated how users develop expertise and skill at playing the Xbox 360 game *Call of Duty 4* through the concept of attunement. In doing so, I have explored the complex folds of somatic and analytic attunement which

are implicated in gameplay. In this way, the paper does not seek to separate out or oppose processes which are either conscious or non-conscious. Instead, the paper develops an account of videogame practice in which cultural, biological and technical processes are equally implicated. In doing so, it attends to the complex assemblages of bodies and technologies in playing *Call of Duty 4* and begins to think through how the action of becoming attuned to videogame play can encourage the development of specific capacities.

Without denying the difficulty in making absolute distinctions between particular kinds of activity and the attunements cultivated by them (and on which they rely), we can argue that in *Call of Duty 4*, these assemblages are particularly intense because of the ways in which the spaces and the rules of the game are designed in order to maximise the potential for contingent and surprising encounters to occur between users. In this sense these environments operate as forms of tertiary memory to produce an 'atmosphere' of intensity, which bodies become attuned to.

Returning to Blackman's (2010) account of affect that was discussed in the introduction of the paper we can begin to think productively about the relationship between affect, emotion and vulnerability. Vulnerability is often framed as a negative or problematic disposition or situation in which one feels uncomfortable or out of control (Bissell, 2010). Rethought through Katz's methodology and this case study we can consider how a certain kind of

affective vulnerability exercised in skill development is a highly useful state to enter if one wants to cultivate a sensitivity that is necessary to become competent in a specific activity. Developing Blackman's argument about the difficulty of separating conscious and non conscious processes, I have argued that with right level of skill, conscious feelings, unconscious affects (and vice versa) can emerge into and out of perceptual awareness as and when the situation arises. The paper has also furthered Blackman's call to move away from a model of the non conscious as determined by the central nervous system. Rather than passively and nonconsciously reacting to the environments of the game, Call of Duty 4 players actively attune themselves to these environments, 'mattering' new relations between the body-brain-environment assemblage as they go. The form of vulnerability generated by beginner Call of Duty 4 players is then the outcome and mutual feedback between conscious and non-conscious processes. Reframing vulnerability as an 'opening of the body's capacity for sense' that crosses both affective and emotional levels, we can further interrogate the relationship between technologies, bodies and processes of skill acquisition.

Exploring the relationship between vulnerability and technology becomes all the more pressing when it is recognised that environments in which users open their bodies to vulnerability are the same environments that are designed to produce captivated subjects. In terms of Call of Duty 4 it must be

kept in mind that the architectural design of the maps operate as forms of tertiary memory: they implicitly attempt to transmit particular kinds of somatic and analytic attunements embodied in users responses to them in order to keep the user playing the game. Videogames therefore attune affect for the explicit ends of increasing users reliance and consumption of these games and services. If this is the case then it is important to understand the extent to which these attunements are reflexive and how well users are able to challenge them. Doing so will allow us to investigate how particular rhetorics of captivation and reflex exhibited affect the bodily capacities that users develop as they play videogames like *Call of Duty 4.* In turn this example offers a possible starting point to think through the corporeal effects and implications of an increasingly commodified 'retentional economy'.

References

Activision (2007) *Call of Duty 4.* Santa Monica.

Bissell, D. (2009) 'Travelling vulnerabilities: mobile timespaces of quiescence' *Cultural Geographies* 16: 427-445.

Blackman, L. (2010) 'Embodying Affect: Voice-hearing, Telepathy, Suggestion

and Modelling the Non-conscious' Body and Society 16: 163-192.

Bogost, I. (2007) Persuasive Games: The Expressive Power of Videogames. Cambridge: MIT Press.

Clough, P. (2007) (ed.) *The Affective Turn: Theorizing the Social*. Durham, NC: Duke University Press.

Crary, J. (2001) Suspensions of Perception: Attention, Spectacle and Modern Culture. London: MIT Press.

Crogan, P. (2004) 'The experience of Information in Computer Games', *Scan* 1.1.

Crogan, P. and Kennedy, H. (2009) 'Technologies Between Games and Culture', *Games and Culture* 4 (2) 107-114.

Crogan, P. (2010) 'Bernard Steigler: Philosophy, Technics, and Activism', *Cultural Politics* 6 (2) 133-156.

Deleuze, G. and Guattari, F. (1988) A Thousand Plateaus: Capitalism and Schizophrenia. London: Continuum Publishing.

Dreyfus, H. L. (2000) 'Intelligence without representation – Merleau-Ponty's critique of mental representation: The relevance of phenomenology to scientific explanation' Phenomenology and the cognitive sciences 3: 367-383.

Dreyfus, H.L. (2002) 'Refocusing the question: Can there be skillful coping without propositional representations or brain representations?' Phenomenology and the Cognitive Sciences 1: 413-425.

Dreyfus, H. L.(2007a) 'The return of the Myth of the Mental' Inquiry 50: 352-365.

Dreyfus, H. L. (2007b) 'Response to McDowell' Inquiry 50: 371-377.

Galloway, A. R. (2006) GAMING - Essays on Algorithmic Culture. Minnesota: University of Minnesota Press.

Goldstein, J H Ed. (1994) Toys, play and child development. Cambridge: University of Cambridge Press.

Hansen, M. B. N. (2006a) 'Media Theory' Theory, Culture and Society 23**:** 297-306.

Hansen, M. B. N. (2006b) New Philosophy for New Media. Cambridge: Mass.

Hansen, M. B. N (2009) 'Living with technical time: From Media Surrogacy to Distributed Cognition' Theory, Culture and Society 26 (2-3): 294-315.

Heidegger, M. (1995) The Fundamental Concepts of Metaphysics: World, Finitude, Solitude. Bloomington: Indiana University Press.

Katz, J. (1999) How emotions work. Chicago: Chicago University Press.

Kavka, M. (2008) Reality television, affect and intimacy. New York: Palgrave Macmillan.

Kirkpatrick, G. (2009) 'Controller, Hand, Screen: Aesthetic Form in the Computer Game' *Games and Culture* 4(2): 127-143.

Kelly, K. (2007) 'Joystiq hands-on: Call of Duty 4 multiplayer', *Joystiq* URL (consulted December 2010): http://www.joystiq.com/2007/08/10/joystiq-hands-on-call-of-duty-4-multiplayer/

Lahti, M. (2003) 'As We Become Machines: Corporealized Pleasures in Video Games' in M. J. P. Wolf and B. Perron (eds) The Video Game Theory Reader. New York: Routledge Publishing.

Latour, B. (2004) 'How to talk about the Body? The normative dimension of science studies' Body and Society 10 (2-3): 205-229.

Malaby, T. (2006). 'Introduction: Control and contingency online'. *First Monday,* 7 Available from http://firstmonday.org/issues/special11_9/intro/index.html

Malaby, T. (2007) 'Beyond Play: A New Approach to Games' *Games and Culture* 2 (2) 95-113.

Mackenzie, A. (2002) Transductions. London: Routledge Press.

Massumi, B. (2002) Parables for the Virtual. Durham: Duke University Press.

Millington, B. (2009) 'Wii Have Never Been Modern: 'Active' Videogames and the 'Conduct of Conduct', *New Media and Society* 11 (4) 621-640.

Moss, E. (1995) The Grammar of Consciousness. London: Macmillan Press.

Nandy, A. (1988) *The Intimate Enemy: The Psychology of Colonialism*. Delhi: Oxford.Nansen, B. (2009) 'Exertion Gaming as Kinaesthetic Technicity', *Second Nature* 2: 64-91.

Pile, S. (2009) 'Emotions and affect in recent human geography' Transactions of the institute of British geographers 35 (1) 5-20.

Polanyi, M. (1967) The Tacit Dimension. London: Routledge Publishing.

Radd, D. (2009) 'Call of Duty 4: Modern Warfare Sells 13 Million, Guitar Hero at $2 Billion' Gamedaily News 7th May available at http://www.gamedaily.com/articles/news/call-of-duty-modern-warfare-sells-13-million/?biz=1. [last accessed 31/07/09].

Reber, A, S. (1993) Implicit learning and tacit knowledge: an essay on the cognitive unconscious. Oxford: Oxford University Press.

Reeves, S. Barry, B. and Laurier, E. (2009) 'Experts at Play: Understanding Skilled Expertise' Games and Culture 4 (3): 205-227.

Reynolds, J. (2006) 'Dreyfus and Deleuze on L'habitude, Coping, and Trauma

in Skill Acquisition' Interntational Journal of Philosophical Studies 14(4): 539-559.

Scheff, T, J. (2006) 'Hypermasculinity and violence as social system' *Universitas* 2(2): 2-10.

Stiegler, B. (1998) Technics and Time: The Fault of Epimetheus. Stanford: Stanford University Press.

Stiegler B. 2001a 'Derrida and Technology: Fidelity at the limits of Deconstruction and the Prosthesis of Faith' in Cohen, T (ed) *Jacques Derrida and the Humanities* (Cambridge University Press, Cambridge) 238-270

Stiegler, B. (2003) 'Technics of Decision: An interview' Angelaki: Journal of the Theoretical Humanities 8(2): 151-168.

Stiegler, B. (2008) Technics and Time 2: Disorientation. Stanford: Stanford University Press.

Stiegler, B. (2009) 'Teleologics of the Snail: The Errant Self Wired to a WiMax Network' *Theory, Culture & Society* 26(2–3): 33–45.

Stiegler, B. (2010) For a New Critique of Political Economy. London: Polity Press.

Sudnow, D. (1983) Pilgrim in the Microworld. New York: Grand Central Publishing.

Sudnow, D. (2001) Ways of the Hand. A rewritten account. Cambridge: MIT

Press.

Sutton, J. (2007) 'Batting, Habit and Memory: The Embodied Mind and the Nature of Skill' Sport in Society 10(5): 763-786.

Thrift, N. (2004) 'Remembering the technological unconscious by foregrounding knowledge's of position' Environment and Planning D: Society and Space 22: 175-190.

Thrift N. (2009) 'Different atmospheres: of Sloterdijk, China, and site' Environment and Planning D: Society and Space **27**(1) 119 – 138.

Virilio, P. (1993) 'The Third Interval: A Critical Transition' in V.A. Conley (ed) Rethinking Technologies. London: Minnesota Press.

Walkerdine, V. (2007) Children, gender, video games: Towards a relational approach to multi-media, London: Palgrave Macmillan.

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[1] The analysis and conclusions presented here cannot simply be extrapolated to other genres outside of First Person Shooting games because the specific play mechanics of particular games can be so different. These differences would of course produce different forms of attunement and skill development and thus require their own analysis. Further to this I have not addressed the broader subcultural practices associated with the game that operate around a number of websites and Youtube.com. On the broader sociality of gaming see Walkerdine 2007.

[1] This ethnography took place over the course of approximately two months (for around thirty hours in total across the months of October and November 2008). Over this period, I observed the users develop various capacities for movement and action. During this time, I learned to play the game myself alongside these two users, and experienced the transition from an unskilled beginner to competent user for myself. These observations and experiences have informed the general discussion and examples throughout this paper.