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Games and the Open World:
On Divisibility

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Introduction
Up until the early 70s, it was very commonplace for films to have opening credits, rather than closing ones. When Orson Welles had tried to do away with opening credits in *Touch of Evil*, the studio, *Universal*, included them back in − a change that was not revoked until the restored version in 1998. The reason for this change is often seen to be films' shorter stays in cinemas as well as the rise of television in the mid sixties. Grabbing the audience's attention as quickly as possible started becoming paramount, with the people that made the film becoming almost an afterthought relegated to closing credits that often serve as background music while people fix their trousers and make their way off their seats.

This paper's aim is not to discuss the merit of opening credits or to villify those who block the view of that one person sitting in the back-row trying to see who Assistant Prop Handler #3 was. Rather, the opening credits analogy has been drawn up as a consideration of the ontology of the film. By naming the people responsible for assorting different units into a cohesive system that would nominally be called a film with an identifying name to distinguish it from similar, yet different, systems, people would be able to actively reflect on the system rather than retrospectively reflect.

Digital games often follow the same trend as post 70s films. It is very commonplace to feature the studio, the publisher, maybe the engine being used and then the name of the game. With most story-driven AAA games, the credits are often shown when the primary objective, such as the main quest, is completed. Whether this is also reflective of consumer trends is arguable. However, what this trend does illustrate is that the units within digital games are seen as simply part of the game. The music is a part of the game's ambience, the stage design part of the game's setting and so on. You acknowledge (through crediting) these units at play after you are done experiencing the system as a whole as these units do not exist independently, but rather as part of something bigger, an organ.

What this paper shall argue is that this systemic view of games is something that has permeated into game studies as well, leading to a very limited understanding of the units within. This view can be spotted within the word 'game' itself. Popular definitions for game (Salen & Zimmerman, 2004; Juul, 2005) have been problematised (Aarseth and Calleja, 2009) which ends up creating a knowledge vacuum. Not only do we know very little of the units within the system, but even our understanding of the system needs to be revised.

We shall first commence by exploring the frame that shall be utilised, which is Gilles Deleuze's work, often alongside Felix Guattari. It is acknowledged that even this is a system, alongside logic and language. However, these systems, while potentially dangerous for the reason we have outlined above, are important to help us discuss the topic at hand. Additionally, we shall attempt to keep the number of frames utilised at the barest minimum possible.

Gilles Deleuze and Felix Guattari
Before we commence in our exploration of Deleuze's work, there is one question that needs to be asked. Why Deleuze? Many of the terms used so far are references to other people's works. System and units have been appropriated from Ian Bogost's *Unit Operations*. The word frame which we utilised in our last paragraph is also one that is not new to this paper, with Erving Goffman's *Frame Analysis* coming to mind.

Both Bogost and Goffman's work could both be useful and applicable for this study. However, Deleuze's consideration of metaphysics in his works offers something that neither of these theorists offer. Through his rhetoric of a plane, his thought lets us consider indivisibility and singularity. Bogost's unit is still in duality with a system, at least within its linguistic construction. Goffman's frame analysis still requires a base frame as a starting point. The Plane of Immanence, with its influence from Spinozan Deism.

The Plane of Immanence is a non-dualistic concept inspired very strongly by Spinozan Deism. Rather than utilising the concept of God (or Nature), Deleuze uses the concept of the Immanent; a plane that is neither one nor the multiple; it is the absolute 0 which contains everything. It is characterised by being everything yet remaining completely indivisible and unchanging. The word Immanence itself knows its origin in Latin, where it is composed of 'in' and 'manere'. The former word retained its meaning, while manere means to stay or to remain. In conjunction they form the meaning to "stay in", putting it at odds both with dualism and monism.

It is at odds with dualism due to its singularity. Claire Colebrook explains this when she draws comparison with the dual state of life and death by stating that in Deleuze they are not separated or different states but rather two aspects of the plane of immanence. Similarly, the mind is not separate from the body, a distinction that becomes especially prevalent with the Body without Organs metaphor. However, at the same time, it is still at odds with monism, which implies a single substance out of which everything is created. While in monism everything is unified, in the immanent everything is instead connected. While in Neoplatonism the One is where everything is derived from, in Deleuze's work the One is equal to Zero. It is where things are, not come from. Deleuze would go on to criticise this sort of thinking when he compares the rhizomatic model with the arborescent model, concepts which we shall explore.

In his work with Guattari, Deleuze states that the priest casts a threefold curse on the desire emanating from the field of immanence: the negative law, the extrinsic rule and the transcendent ideal. The negative law curse puts immanence at odds with the philosophy of lack – if something is desired, how can it not be lacked? This is problematic within the immanent as everything is within the immanent, including both what the priest cursed to be considered lacked as well as lack itself. The extrinsic rule curse sees the motive of desire as coming from outside feelings of pleasure, want or hedonism, which is also not possible within this structure as the motive is one and the same as the orgiastry. The Immanent neither wants nor lacks, for it is only immanent if it does not possess any features, as features are substantive. Immanence cannot be substantive for it is substance itself – being substantive would make it divisible, and the zero is never divisible. Finally, the transcendent ideal is at odds even with the roots of the word itself. Transcendence requires movement; movement from the mundane to the divine, from the base to the holy – something that cannot happen if everything is bound to remain.

Therefore, while we can never pin down what Immanence is, as that would require substantive states with the codification of logic, language and so on, we can state what immanence should be conceived as.

- Irreducible – For "It is only when immanence is no longer immanence to anything other than itself that we can speak of a plane of immanence"
- Indivisible – For divisibility would imply potential for reduction
- Intransient – For transcience would imply an emergent not static multiplicity, making it divisible

These statements lead us to the rhizomatic, the underlying structure within the immanent, which leads us to start talking about the One and the Multiple. While as we have seen even One is problematic, Deleuze and Guattari move to this distinction to explain how everything is matrix-like yet completely atomic. In an effort to explain the rhizomatic without the word rhizomatic, I have used two imperfect words. Matrix has progenital connotations within Latin; it means uteral and Deleuze and Guattari make an effort to analyse the egg rather than the womb in their plateau *How do you Make Yourself a Body without Organs*. Atomic, in Ancient Greek, was originally composed of α (a), which is a negatory prefix, and τόμος (tomos), which means cut. It is something that cannot be cut or split, but now the atom within science has the potential for divisibility, which creates a bit of an ontological conundrum. .

This leads us back to explore why the word rhizome is so useful. The word rhizome comes from the Ancient Greek word ῥίζωμα (rhizoma), which means roots. While the tree is growing branches that emerge from each other, the roots are forming an interwoven structure where all the roots are connected with each other without necessity. The roots themselves might form linking systems but if they were to exclude themselves with the larger decentralised system, both the roots as well as the tree would cease to function. It is essential for the rhizomatic to remain lateral, unhierarchical and multidirectional.

This leads Deleuze and Guattari to warn about pseudo-multiplicities in the arborescent model. As opposed to the rhizomatic model, the arborescent model is derivatory, where the word matrix would perhaps be more appropriate as it is progenital. It is the reason he chooses to use the dogon egg, with intensities, rather than the womb with formation. The arborescent model's movement is also vertical, not horizontal as the rhizome, showing a potential linear conception of events. Finally, the arborescent model is referentially tied, as opposed to the rhizomatic which is irreverently tied.

The arborescent model at its very least is monistic, such as within the Neoplatonic One. However, it can also manifest within theories with bases, such as Chomsky's hierarchy of formal languages which Deleuze had criticised heavily, as well as with the aforementioned frame analysis by Goffman, although possibly less so. It is different from the rhizomatic as it is antithetic of what the immanent should be. It is transient through its derivation, therefore divisible through its transcience and ultimately reducible through its divisibility to the originator.

Game studies is not insular to these concepts with Cybertext being a clear example. The eminating desire that the priest cursed originated from Deleuze and Guattari's predecessor to *A Thousand Plateaus*, the book called *Anti-Oedipus* – a name which immediately reveals its alliances towards Freud. In this book, the concept of Desiring-Production is compared to machine circuit-breakers, a concept that would be later expanded with the intensities terminology in the Body without Organs. It is explained how both the desire and the production are not only both necessary, but tied and part of the same thing. The similarities to ergodic literature, where non-trivial effort is required for the text, is clearly present. However, this does not mean that Cybertext is always necessarily rhizomatic; if Queneau's poems in *Cent Mille Milliardes de Poemes* always started with "If on a

Winter's Night, a Traveller...” there would be a clear progenitor to them.

This leads us into the Body without Organs (often referred to as BwO). As we have stated, the origins of this argument can be clearly seen within the Desiring-Production machine in *Anti-Oedipus*; the machine has a rhizomatic structure where desire brings forth production. This desire is controlled using circuit breakers that fluctuate. By comparing these fluctuations, we often fall into a fake pattern-recognition. Instead of seeing the rhizomatic structure as a whole, they form links between the open circuit-breakers which gives rise to a system. However, by the time Deleuze and Guattari wrote *A Thousand Plateaus*, they instead adopted the BwO. Perhaps this was because circuit-breakers had a slight binarism in their opening and closing; their breaking or not breaking. Perhaps it was also to show the cybernetual link between the 'natural', such as the Dogon Egg or the BwO, and the 'machine'.

While talking about the BwO, Deleuze and Guattari explain how when we speak of the body, we conceive of an entity that has a stomach with a particular role, a liver with another role, a large and a small intestine that each have their own duty. However, they make a point in stating that these delineations are imposed by us and our own conventions, be they of logic, language or anything else. Why does the stomach stop before the oesaphagus and the large intestine? By understanding the stomach as the organ where food is destroyed with acid, we are minimizing its relation to the other organs. Even if we accept these delineations, why is the food that goes into the stomach not part of the stomach – even though it is having an active effect on it; it is making it produce acid.

They state that if the body worked using organs, it would not function. If the stomach simply destroyed, then we would gain nothing from the stomach. The rhizomatic connections with and within the stomach are what make the stomach such an integral part of our body. Deleuze and Guattari argue that thinking about a stomach is reductionist, we should instead think of a body as a whole – a rhizomatic structure where intensities, replacing the circuit-breakers, controlled by desire, influence the production. This said, it must be emphasized one last time, that production is not creationary, but rather a reorganizing of intensities.

Magic Circle
The magic circle's most cited origin is in Johan Huizinga's book *Homo Ludens*. Written in 1938, but published posthumously in 1955, Huizinga argues that there is a clear division between work and play, an activity that is not limited to play. He goes on to further argue that the decline of society is linked to the marring of the lines between these two facets. As the name Homo Ludens implies, humans are defined by their play – when work permeates into our play, we lose our ability to be human. Huizinga famously stated

> All play moves and has its being within a play-ground marked off beforehand either materially or ideally, deliberately or as a matter of course. Just as there is no formal difference between play and ritual, so the 'consecrated spot' cannot be formally distinguished from the play-ground. The arena, the card-table, the magic circle, the temple, the stage, the screen, the tennis court, the court of justice, etc, are all in form and function play-grounds, i.e. forbidden spots, isolated, hedged round, hallowed, within which special rules obtain. All are temporary worlds within the ordinary world, dedicated to the performance of an act apart.

As can be seen, Huizinga defines the magic circle specifically only fleetingly, but even so, he defines it at least as separate and temporary (and therefore end-oriented), both of which have been

problematised.

The term was later adopted by Katie Salen and Eric Zimmerman, who appropriated the term for game studies generally but to game design specifically, as Zimmerman contests in a later article. They explain how the magic circle was one of the many special places that Huizinga creates to explain a space where new rules are created. They state "To play a game means entering into a magic circle, or perhaps creating one as the game begins."

Their work, even if it was meant as a game design book, left a clear mark on game studies at large, with the term magic circle being appropriated by other theorists such as Jesper Juul (2005). It has also been criticised outside of game design too by Malaby (2007) and Calleja (2011, 2012) within game studies and Castronova (2005) in fields beyond the ludological, such as economics.

Before moving into the criticism levered towards the magic circle itself, it is important to note which magic circle is being criticised. Stenros argued that the criticism levered towards Salen and Zimmerman is based on their unfortunate use of the terms "enclosed" and "separate", building what is almost a strawman argument as the larger meaning at hand does not have the rigid separation that the criticism levered towards the magic circle has. He argues that the "ontological contexts of the formulations [between Huizinga's and Salen and Zimmerman's magic circle] are different". A big difference that seems to be present in Huizinga, alongside Caillois' (1958) work, is the imposition of judgement on the separation. It seems that all the parties do not argue that there is some degree of separation. However, while both Huizinga and Caillois argue that there should be a separation, an argument that Huizinga makes more strongly in his earlier work (1936), Salen and Zimmerman do not seem to be imposing cultural or social implications on the separation.

This distinction between Huizinga's magic circle and Salen and Zimmerman's is further cemented by Zimmerman himself. He stated "The magic circle is not something that comes wholly from Huizinga. To be perfectly honest, Katie and I more or less invented the concept…" Espen Aarseth (2011) agreed with this and stated that Salen and Zimmerman should be blamed for the magic circle and that Huizinga should be left alone as the concept that seems to be oft criticised within game studies is not present within his book.

Having said this, there is still criticism that has been levered towards the concept of the magic circle, whether levered towards Huizinga or Salen and Zimmerman. Both Malaby and Calleja have argued against the normative status that Huizinga, Salen and Zimmerman as well as Juul (2005 – end orientation) attributed to games. Malaby also criticises the division between play and non-play that both seem to advocate, drawing examples from Doystoyevsky's *The Gambler* as well as the existentialist dice gamblers in Greece. Castronova criticises the enclosedness and separateness that Stenros calls unlucky, by explaining how in-game economies are effecting real-life economies, using the Everquest (1999) as an example. Aarseth and Calleja's (2009) study of the ontology of games, and more specifically the word game, also problematises whether games generate meaning.

This criticism has received answers both by Zimmerman, as well as by other theorists such as Juul, who came up with the concept of the puzzle piece to address some of these issues. He opens the paper by addressing that the social aspect that theorists such as Malaby as well as Pargman and Jakobbson (2008) criticise are present within Salen and Zimmerman's definition. He also argues that Copier (2005) and Taylor's (2007) criticism hinging on seeing the magic circle as utopian is based on a statement that neither Huizinga nor Salen and Zimmerman utter. He moves on to argue a proof for the magic circle using a salt metaphor. Snatching salt at the dinner table from another person would be considered rude. However, doing so in a game of Ludo would be considered socially

acceptable. He also creates a diagram with three frames, one lodged into the other. The first frame is goal orientation, the second is making a game interesting and the last is management of a social situation

However, the concept of the puzzle piece is where his paper takes on a very interesting tilt; after arguing that the magic circle is very simply the boundaries that players negotiate, he states that perhaps a puzzle piece would be a better metaphor. Imagine a game, or perhaps a play situation. The dents and obtrusions in the puzzle piece are what has been negotiated. This does not mean that the puzzle piece is not part of the entire puzzle, but rather that cuts have been made to create a boundary. Cuts have been made to define what goal orientation, social interaction or level of interest is now, not only socially acceptable, but also perhaps desirable.

The comparisons to an organized body are palpable, even though there never seems to be any outright mentions to an arborescent modelled philosophy in his paper. The puzzle piece is an organ; a socially, culturally or perhaps even logically defined boundary – while it may be useful as a consideration point, as we shall discuss later, it is still limiting our understanding of games' position within a rhizomatic structure, a problem that the magic circle seems to share.

The question that follows then is how can we redeem this organization? Should we stop talking about games entirely, acknowledging that they are an organ and therefore limiting? Even Deleuze acknowledges that organs are present and unavoidable; the priest's curses proliferate within immanence. Certain organs will perhaps always remain prevalent, such as logic, language, semiotics or physics. However, philosophy has always had an underlying understanding that these are in fact systems, produced by us for us. An understanding that needs to extend within games.

We have not called the stomach as the stomach irreverently, or by calculating a surface area within our body and giving it a name with no consideration. There is clearly an underlying logic behind it, bound by more organs such as biology, which bounds the organ of anatomy. However, the studies as to what organs seem to be circumscribing games seems to be lacking. We acknowledge that there is logic and there is a substantial amount of writing about game semiotics. However, these are two organs that can be applied to almost everything we understand, especially logic. By having a ludocentric focus, studies might be limited to a binary that could perhaps be avoided; a binary of what is similar to games and what is contrary.

Even by discussing the legitimacy of the magic circle, we are still bound by this binary that the concept of the magic circle, perhaps unwittingly, created. The question the magic circle poses is "How are games different to other things?" to which the answer would be "Games are not different to other things," which remains a completely binary statement between 'games' and 'other things'. Instead, we can pose the question "How are games and other things similar?" a process that will reveal circumscribing structures.

Not only will this help us to understand games better, but it will help us to understand how to make games better. While Zimmerman contested that it should be the onus of the social scientist to apply theories of game studies into their field (and vice versa), by understanding that social sciences, game design and game studies are all rhizomatically connected, applying and adapting theories would be simply missing the organs influencing them all. A process which could render the entire process null.

Divisibility
Having explored immanence and having come to understand that systems are unavoidable, we are

presented with two options. We can either accept the impossibility of knowledge within immanence, or we can accept that organs, while ultimately limited and potentially fallacious, should still be studied. The arguments for pursuit of knowledge when it is never completely attainable are numerous, such as within absurdist thought or most contentinental post-structuralist thinkers such as Derrida. Another problem we face is that identifying all the circumscribing organs might not even be possible, due to limits presented by the organs we have identified.

What we can do is a modest task. We can attempt to disorganize the organs – a process where we look at elements within the game organ that are present in other organs and attempt to see if they are true systemic cognates. For example, some fields have already had research that pushes in these directions, such as narratology. However, these attempts have been largely restricted to comparing games either to other media or to other forms of technology, when games, as part of a rhizomatic structure, are necessarily tied to everything else.

Will research on ties between games and furniture, for example, render many interesting results? Possibly not, as the circumscriptive ties might be based on organs that we have already established, such as logic. However, this should not discourage anyone from trying. Additionally, perhaps looking at something such as a game organ is still a bit too problematic as the word game still eludes and belies any definition. Making statements about how games, or even perhaps digital games, share common units with other systems would be overreaching and potentially unwise.

Having said this, methods to discuss particular types of games is clearly available, be it through genre studies, player-response theory, cybertext and ergodicity, and so on. Unfortunately, this requires another system to be assumed in our studies, but until (that is, if we do) establish a definition of games, this is yet another thing we have to always keep in mind, yet still brunt. In turn, these explorations will influence our understanding of games but they will also influence how games are designed, not only by understanding what is within the structure, but also by looking at how the organs we are studying played around with the elements which we find interesting in games. and apply these to games.
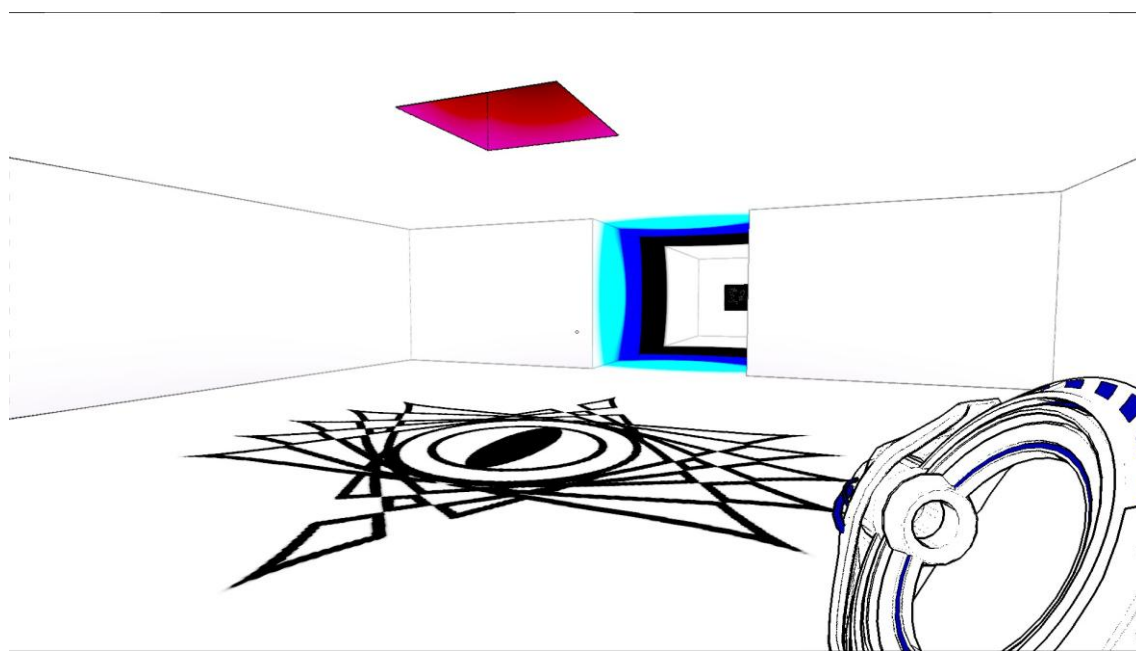
Antichamber (Example of the gun & Don't Look Down!)

For example, a commonly looked at digital game example is *Antichamber* (2013). This game shows

that the game organ and the rules organ, which could perhaps be boiled into something less wide or more defined, both share a circumscribing structure. Derrida had explored the rules organ in his paper *Before the Law* (in Attridge, 2012), where using a tale from Kafka's work, he explores how the only reason the man did not go through the door presented to him by the gate-keeper is by assumed laws. Laws assumed because beneath the man's experience there was a structure that Derrida was attempting to deconstruct, whether it is numerical logic (he was told that there is a next gate, therefore it could be seen as logical to attempt to traverse the first before the second), social construction (laws and permissions), semiotics (gate-keepers are signs to stop) or perception (there is something between the door and the man). *Antichamber* explores all these elements that Derrida explores in writing through ergodicity. Numerical logic is tested using the green gun (one block does not make one block, but it makes four or more), social constructions are tested in the art room (permission is rarely granted to touch art pieces, but you are required to go inside an art piece), semiotics are tested with the presence of guns in general (guns are usually violent, destructive yet they are pacifist, constructive in *Antichamber* – see earlier picture) and perception is tested in the "Don't Look Down!" challenge (looking down makes you perceive the lack of foundation beneath you, which in turn makes you fall – see earlier picture). Two target readings already showed us how a particular game and a particular book revealed at least four organs, let alone with wider analysis whether in scope (talking about types of game) or range (comparing one game with many systems) reveals.

Other case studies can be used to explore different organs, whether for that game in particular, for a larger group of games or perhaps for games at large, whatever that would entail. For example, *Façade* (2005) is a very interesting example to study the interaction organ to look at the units that they both share in common such as the language organ circumscribing them. *Façade* really illustrates how in games, as we do in language, we expect certain signifiers to be signified in a particular way but the game really shows how things can be lost in translation. The use of a typing system that responds to their pre-programmed set of interactions

Similarly, the game *Braid* (2008) allows us to explore how games interact with the organ of time. Through *Braid*'s play both on the linearity of time as well as on ontology, where your decisions to influence time effect the final outcome, it really allows us to also explore how we treat save files and how it would effect the ontology of our game experience. Looking at Heidegger's work, for example, would surely render some very interesting insight that has clearly already affected the way we think about games, as *Braid* has shown.

This said, so far we have spoken about how games might share circumscribing structures with other structures. However, something we advocated for earlier was to not remain solely ludocentric. Games can also help us to explore how two other structures relate to each other, whether through ergodicity, theme and setting, narration or even simply player experience. This is certainly not an aspect restricted to games, yet sometimes it is easier to discover something if you are either more familiar with the text, that is an object of codification, or if you share more units with the game system than another system that studied the two structures in conjunction.

For example, the game *dys4ia* (2012) attempts to reveal the societally constructed system of gender by explaining a trans* person's journey through their hormone development with a player input that is very simple, yet still clearly ergodic – it is non-trivial both in terms of effort and in terms of effect. The study that *dys4ia* put ahead is not meant to explore games or what games do, but the games organ served as a vehicle to study gender identities. This is then followed by trying to use a structure circumscribing games, such as language and using that to explore gender identities to – discussing things we interact with is often a way of bringing them closer to immanence, as language

is often a system circumscribing other systems not being circumscribed by them.

Another game that is interesting to look at is *The Novelist* (2013) to disorganize our understanding of narrative structures; rather than looking at the narrator as an omniscient perspective, it shows us how deeply divided a story is as you move from room to room through the light bulbs, strongly influencing each character. While Juul argued that games are making an argument for structuralist narrative theory, *The Novelist* shows us how the negotiated boundaries were always there when a novel is approached within a writerly fashion. Additionally, linking back to our previous exploration into divisibility, *The Novelist* also allows us to see the common nodes between game avatars and homo or heterodiegesis as you enter the family's memories to experience their flashback tableaus.

One final game that is interesting to look at is *Unmanned* (2012), a game about the cognitive dissonance covered by a drone-controlling soldier in a war-torn area, who through dream sequences, discussions, introspection and digital games starts realising the conflicting ideas he has about killing people. As with *The Novelist*, even this game can help us understand games more through study of the cognitive dissonance that we suffer when playing. Anecdotally, upon showing the game to a group of people, they did performed actions that would make them feel uncomfortable in real life, such as sexual harassment and blindly following orders, yet they only suffered dissonance when this was pointed out to them. More academically, the Gamer's Dilemma is also a clear reflection. The actions in the game circumscribe the same thing The Gamer's Dilemma illustrates in games in general – the psychology organ and perhaps even multiplicitous identities.

Next Link
In the previous section, a word I have often used is circumscribed, replacing my many instances of underlying, in order to avoid an arborescent way of thinking. While circumscribed is still not a word I am too confident in due to the lines of demarcation it writes in (scribere is after all the Latin word for to write), it is still sufficiently horizontal. Hopefully, the previous section should have shown that despite there not being any hierarchy of thought or any vertical progress, and despite our acceptance of the impossibility of truly every completely understanding a concept due to the organs constantly at play, there can still be substantial investigation. The examples have not been overly rigorous, not due to their lack of potential, but rather because it was instead attempted to study how keeping immanence and the rhizomatic model in mind can actively help us not only from an academic perspective but also from a game design perspective.

Our study of the magic circle beforehand should have also hopefully been seen not only as commentary on the theory, but also a move away and more importantly a way to show that what study of the rhizomatic can do to digital games, it can do to other organs. While whatever is circumscribing other organs we want to explore will surely be at the very least marginally different from the games organ, Deleuze and Guattari's work will still surely be able to lead us to a more holistic understanding of the structures that bind us and the structure that releases us.

References

Aarseth, E. 1997. Cybertext: Perspectives on Ergodic Literature. John Hopkins University Press, Baltimore.

Aarseth, E. 2011. Ludus Revisited: The Ideology of Pure Play in Contemporary Video Game Research, in *DiGRA Conference*. Utrecht School of the Arts, Hilversum.

Aarseth, E. and Calleja, G. 2009. The Word Game: The Ontology of an Undefinable Object, in *Philosophy of Computer Games Conference,* Oslo.

Alexander, B. 2013. Antichamber. Self-Published.

Anthropy, A. 2012. dys4ia. Self-Published.

Bogost, I. 2008. Unit Operations - An Approach to Video Game Criticism. MIT Press, Massachusetts.

Blow, J. 2008. Braid. Hothead Games, Vancouver.

Calleja, Gordon, 2012. Erasing the Magic Circle, in *Philosophy of Engineering and Technology Vol. 7.* Springer, Netherlands.

Calleja, Gordon, 2011. In-Game. MIT Press, Massachusetts.

Castronova, Edward. 2005. Synthetic Worlds. University of Chicago Press.

Deleuze, G. and Guattari, F. 1983. Anti-Oedipus: Capitalism and Schizophrenia (trans. by Hurley). University of Minneapolis Press, Minneapolis.

Deleuze, G. and Guattari, F. 1987. A Thousand Plateaus: Capitalism and Schizophrenia (trans. by Massumi). University of Minneapolis Press, Minneapolis.

Derrida, J. 1992. Before the Law, in *Acts of Literature* (ed. by Attridge). Routledge, London.

Goffman, E. 1974. Frame Analysis: An Essay on the Organization of Experience. Harper and Low, London.

Hudson, K. 2013. The Novelist. Orthogonal Games, San Francisco.

Huizinga, J. 1955. Homo Ludens: A Study of Play Element in Culture (trans. by Hull). Beacon, Boston.

Huizinga, J. 1936. In the Shadow of Tomorrow. W. W Norton & Company, New York.

Juul, J. 2005. Half-Real: Video Games Between Real Rules and Fictional Worlds. MIT Press, Cambridge.

Juul, J. 2008. The Magic Circle and the Puzzle Piece, in *Philosophy of Computer Games Conference.*

Malaby, T. 2007. Beyond Play: A New Approach to Games, in *Games and Culture, Vol. 2, No. 2.* Sage Publications, Web. [Accessed November 5th 2014]

Munroe, J. 2012. Unmanned. Molleindustria, Italy.

Pargman, D. & Jakobbsen, P. 2008. Do you Believe in Magic? Computer Games in Everyday Life, in *European Journal of Cultural Studies, 11/2.* Sage Publications, Web. [Accessed November 5th 2014]

Procedural Arts, 2005. Façade. Procedural Arts.

Queneau, R. 1961. Cent Mille Milliards de Poemes. Gallimard, Paris.

Salen, K. and Zimmerman, E. 2003. Rules of Play: Design Fundamentals. MIT Press, Massachusetts.

Stenros, J. 2012. In Defence of a Magic Circle: The Social and Mental Boundaries of Play, in *DiGRA Nordic Conference.* University of Tampere Press, Tampere.

Taylor, T. L. Pushing the Borders: Player Participation and Game Culture, in *Structures of Participation in Digital Culture* (ed. by Karaganis). SSRC, New York.

Zimmerman, E. 2012. Jerked Around by the Magic Circle – Clearing the Air Ten Years Later. Gamasutra, Web. [Accessed November 5th, 2014]