

The Scales of Apocalypse

Spaces, Movement and Affect between the Sacred and Profane in Video Games

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Video games that immerse players in end-of-the-world scenarios can provide powerful, at times polarising, emotional experiences between despair and hope. This potential lies in the spatio-temporal quality of the medium: The dimensions of a video game world that players explore in (post)apocalyptic games, plus the means that players are given to explore them, turn them, for example, into wanderers searching for hope across vast wastelands or allow them intimate meditations in sheltered spaces. The player's role in a game's end-of-the-world setting, the spatial arrangement of its virtual geography, and their lasting effect are intrinsically linked.

We propose the 'scales of apocalypse' in this paper: a taxonomy identifying three different types of such (post)apocalyptic game spaces and how they may affect players. We explore how the portrayals of video game worlds always depend on how players are embedded into them and identify how the size and design of these spaces impacts their end-of-the-world aesthetics significantly, which, in turn, shapes how they affect players emotionally. The scale considers how apocalypse-themed games spatially distribute elements of hope and despair, encapsulated in environmental storytelling nodes of sacred or profane qualities, to enable meaningful experiences revolving around (post)apocalyptic scenarios. We identify its calibration points as local affect games, global affect games, and the affective segue. The last one is an impactful yet rarely discussed transitional key experience arising from the in-between of two or more successive game instalments.

As a follow-up thought to our summary, we muse about the meaning of our thoughts regarding the broad range of opportunities in experience-based game design practices that handle (post)apocalyptic scenarios. We also provide further relevant research questions concerning fringe cases on the scales and the affective segue.

Keywords: affect, apocalypse, experience, game studies, identity, space and spatiality

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Introduction: The Apocalypse and Its Witness

This is Dr. Katherine Collins. I don't know if anyone will ever hear this. It's all over. I'm the only one left. (The Chinese Room 2015, introductory sequence)

The concept of an apocalypse always implies a duality: derived from the Greek *apokálypsis*, translatable into a 'revelation' (Arnold 2008, 32) or 'unveiling', it suggests a metaphorical veil being torn down between an observer and a dramatic, life-altering event. Originally conceived as a visionary realisation in its biblical context, a message of salvation and an implied moment of radical healing to humankind (Anderson 2013, 126), the prominent remnant throughout later apocalyptic narratives throughout history and in contemporary popular culture is its "eschatological element" (Weiss 20019, 9), the focus on the morbid cataclysm: Apocalyptic

fiction today exploits the aesthetics of ruinous grandeur. The human reflection, a spiritually important concept in the apocalypse, has been demoted to a mere focaliser of the apocalyptic spectacle rather than a counterpoint essential to its meaning. A family succumbed to the end times is recoded to an eye catching set piece among the dozen of other marks of calamity, a moment of spiritual reflection reduced to a mundane waymarker. By juxtaposing the massive and ever-changing with the human witness, the description of events de-subjectivises the human experience (Morich 2024, 8)¹. The salvatory vision, the revelation, has become something we must construct for ourselves out of the spectacle.

In apocalypse-themed video games, this exercise, which unites two polar yet unevenly negotiated extremes, is re-balanced. This re-discovered weight on human contemplation comes due to the video game's configurative properties of self-centred, self-driven narration: Depending on the focalising perspective of a game's aesthetic composition, it can range from witnessing the end of the world through the eyes of a singular avatar struggling for survival in the remains of a razed cityscape, as in the *Metro* games (4A Games since 2010), or to follow a cataclysm from the distanced, isometric perspective of a city-planner bracing for the incoming apocalyptic perma-blizzard as in *Frostpunk* (11 Bit Studios 2018). Nevertheless, players are typically integrated into the (post)cataclysmic event and are equipped with agency. The apocalypse-themed video game turns the witness of the disaster into its survivor, who is confronted with the magnitude of events as they unfold. Playable apocalyptic and post-apocalyptic events hence leave players with a different, self-driven, visionary experience.

We dissect this apocalyptic dichotomy in the following paper, along with the players' embedding and spatial dimensions in video games, and visualise it. By observing how apocalyptic affairs and the player's emotional attachment to them depend on one another and are negotiated via the identity concepts of the sacred and the profane, we propose a scale model of world-building and its consequences in apocalyptic video games. We open the paper by portraying our theoretical resources: with a psychological take on reactions to emergencies, Woodward's concept of sacred and profane identity markers, and Massumi's (2002) concept of movement in affect theory, we outline a train of thought in how far we see these concepts represented in a video games' ontology. We follow with a visualisation of our 'scales of apocalypse', covering three recurrent patterns in games: Firstly, the local apocalypse, focusing on small, personal narrations. Secondly, the global apocalypse, in which players traverse large open-world environments shaped by (and reflecting) the significant impact of apocalyptic events. Thirdly, we discuss the liminal apocalypse as we detect it in the in-between of different instalments of a singular gaming franchise. Our example for this are the *Muv-Luv* games (*Âge*, since 2016²), of which one is set in a pre-, and one is a post-apocalypse. We argue that the moment of segue between these radically different games, the player's involvement in familiar characters and settings transformed and scarred by the apocalyptic events, is a massively impactful experience. We conclude our portrayal of the 'scales of apocalypse' with a summary of our observations, their meaning for game designers, and by exploring potential future research questions on the apocalyptic experience.

¹ Morich uses the term *ent-ichen* in the original text.

² The so-called *ALL-AGES* Steam English Versions have been played for this paper. The original Japanese versions date back to 2003 for *Muv-Luv* and 2006 for *Muv-Luv: Alternative*.

Framing the Mental State of Emergency (in Play)

Psychologically speaking, apocalyptic events enforce a mental reaction between despair and hope (cf. Cortina 2021). Unfortunately enough, a look into a newspaper from 2024 or 2025 further confirms Cortina's observations. Cortina summarises it as

a Janus-faced response. One face, created by savage economic social and health disparities and toxic leadership, turns its dark look toward a destruction of apocalyptic dimensions. Another face, created by global awakenings produced by the pandemic, and social movements such as Black Lives Matter, looks with compassion and hope toward a just world. (2021, 74)

Whatever massive political rift or global escalation is encountered, we humans either appear to take it as a reminder for the qualities of the world for which they intend to fight for or to give up altogether.

Thinking in terms of polar opposites furthermore allows us to understand how humans organise their personal and communal identities. Following Kathryn Woodward's observations on Durkheim, we differentiate between sacred and profane identity markers (2012, 29-30), meaning aspects that are either incredibly meaningful to the individual human being or represent the mundane. Based on Durkheim's example of bread in a Christian context – there is profane bread which we may eat daily, but bread in a hallowed, Christian context is sacred and fulfils a communal symbolic purpose (in Woodward 2021, 30 – it can be said that “[the] ways in which culture sets boundaries and marks out difference are crucial to our understanding of identities” (ibid.). A human being creates and portrays their identity by treating individual items (a term that spans into the metaphorical to include ideas, concepts, mannerisms) as sacred and important to them or as profane everyday items. A person's identity is, in itself, a bricolage of sacredness and profanities in the sense of a wild assemblage of ideas, tokens of personal importance, and everyday items that we accumulate in a lifetime. Identity markers, varying from personal items, patterns of behaviour and belief, chosen phrases and sayings, and other preferences, are constant reminders of who we are and want to be.

There furthermore is an intricate interplay at hand between sacred and profane identity markers and the human experience of hope and despair. Especially in times of crisis such as an apocalyptic scenario, humans seek spiritual guidance and bolster their mental health via imagery and symbols they deem sacred – especially when their everyday life, represented by the mundane and profane elements shaping their reality, collapses. Relying on Durkheim again to illustrate, churches and other religious or spiritual places may gain newfound importance in such scenarios. The relationship between the sacred/profane and hope/despair pairings, however, proves to be a fluctuating dynamic more complex than that; the sacred may also lose its significance entirely, whereas profane elements may also become unexpected monikers of hope. In the video game *Mad Max* (Avalanche Studios 2015 – and let's be honest, in the entire transmedial 'Mad Max' universe), for instance, where traditional beliefs, nation-orders, or similar institutions have long been forgotten, cars, engines, and other diesel-driven tools of the past civilisation have been elevated to a quasi-sacred status, reflecting a fundamental shift in value pairings sacred/profane and hope/despair.

Apocalypse-themed video games may use these elements to create a different effect depending on their ludo-narrative purpose. As in real life, we may draw hope from the most profane items only to discard them the next day or take a beloved, sacred remnant of a past long gone as a nostalgic reminder that things will never be the same and, thus, as a reason for despair. In the

game *While We Wait Here* (Bad Vices Games 2024), for instance, the player/avatar is a waitress in a diner in the North American desert. Players mundanely work away in the kitchen and serve guests as the news of the world's end arrives. The player/avatar still does what is socio-culturally expected of them – serve guests, clean the dishes, entertain them with small-talk (and don't forget to cash up!) – yet in the face of impending doom, these little profane acts of everyday capitalistic transaction in which every nicety is just an insubstantial act (for a cheeky summary, cf. Grenz 8, 1974), develop an uncanny gravitas. In distress, even the littlest interactions become meaningful, which is represented by their gameplay function and the one thing players can do to develop meaning in that world. When experiencing apocalyptic distress, these connotations shift depending on how they affect us. In *While We Wait Here*, players may be neglectful of the mandatory smalltalk with the customers until I notice that it matters to the NPCs. In worlds that give me a sense of size, like *Frostpunk*, players rarely have the time to worry about everything, as they must swiftly react to snowstorms, accidents, and the challenges of micromanaging the city's heat system. To survive, they must pick their battles wisely – which node of my cityscape do I pay attention to and which happening, do I allow to affect me emotionally, leading to a very different game experience. These observations inspire the following train of thought:

- Worldview defines a video game world. While this observation is elementary, assuming that every video game is an audio-visual experience of a virtual, spatial mode laid out before the player, this mode defines how I regard the game world and understand my role within it. A first-person view will differ from a third-person view, especially a far-away one, as would be the case with strategy games. Perspective impacts how players experience their role and status in a video game. If I am at eye level with other NPCs or far above them, what I can see and interact with provides me with a sense of purpose. In the sense of an apocalyptic video game, we can thus argue that it unfolds between the game world and player embedding. In the apocalyptic video game, this means that “[they] allow players to participate in an attractive and escapist ludic lifestyle that is beyond the pale of normal workaday life – one that is integrally informed by the existential crises of our present age.” (DiTommaso 2024, 22)
- This worldview, in the sense of the impression of a world-ending event, is, in turn, defined by a video game's virtual geography. Video games are spatially structured experiences (cf. Jenkins 2004, 123-129) by becoming personal spaces of exploration (cf. Newman 2004 (2013), 110) with purposeful, metaphorical qualities (cf. Günzel 2013, 217). Depending on scale, perspective, and accessibility, players take in a different view. How large the world is compared to my avatar and how accessible it is to me directly impacts my ability to grasp an apocalypse.
- Virtual geographies are furthermore organised by their rhythm. The idea of rhythm to understand a video game space has been introduced by Kirkpatrick, who thereby approaches how a spatial understanding of a video game world always necessarily goes hand in hand with a temporal understanding (cf. 2011, 73-79). What passages allow me to roam freely, where do I have to hurry because of time constraints, and are passages arranged along the lines of frantic/non-frantic? Players who explore a video game world do so over time. The immersion into a video game world's pace would cause us to think of a game as serene or frantic, for instance.
- The rhythm of a video game, then, shapes its affect. Massumi (2002, 3-5) expands upon the idea of affect theory with his concept of movement. It is understood as looking at the flow of affect between states rather than a singular moment in time. Similar to a

game of chess, where the meaning of the game is in the movement of the pieces rather than the state of the board. Trying to understand how one state goes to another and the resulting affect from that movement is key. Applying this concept to games, the affect, and thus the emotion, is found in the flow from one state to another. For example, when roaming freely, the affect generated is in the sudden feeling of constraint after going to the following passage, which gives it meaning rather than being constrained in the first place.

- Affect impacts the subjective experience of a video game's apocalypse. Video games are self/orchestrated, self/contemplated, and self/mediated experiences (cf. Schniz 2021, 197), developing in a constant feedback loop between player agency and the configurative state of the game world. The meaning of a video game's apocalypse to me, as a player, is dependent on my meaningful integration into its pace as an apocalyptic event ruptures it and what I regard in there as meaningful or not.

This train of thought emphasises a correlation between the following elements: the world is made up of sacred and profane elements, which are brought forth to the player depending on world size and their embedding and may rouse different reactions of hope and despair. The underlying constituent between these axioms seems to be the condition of the in-game world, which we visualise in the following chapter.

The Scales of Apocalypse

The connections of hope, despair, the sacred and the profane manifest in the following dimensions:

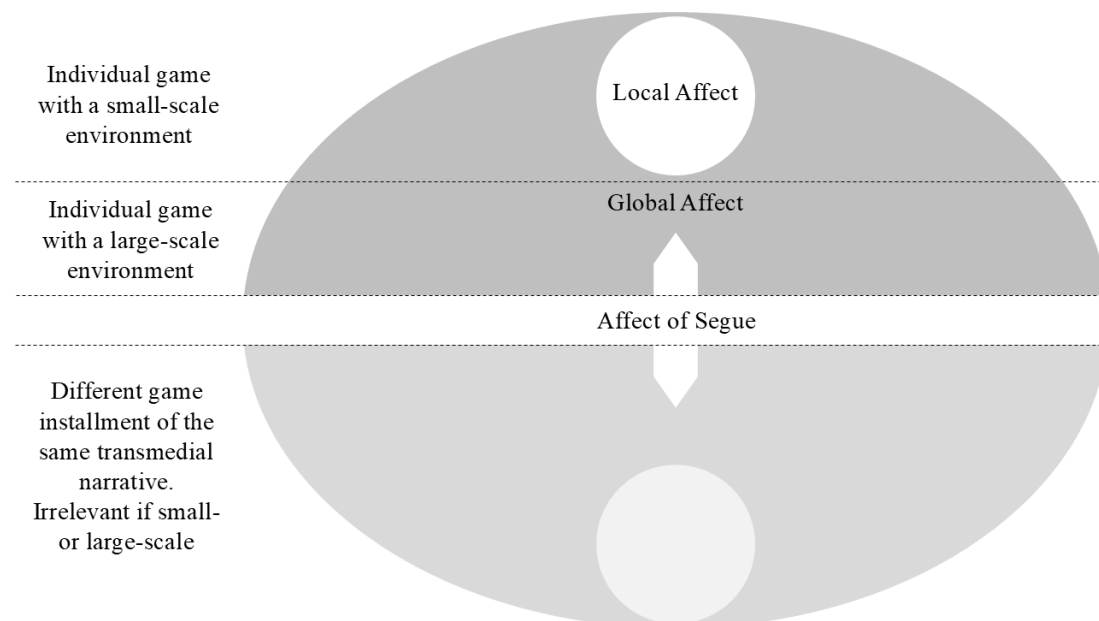


Figure 1. The Scales of Apocalypse

This model allows us to differentiate between three modes of experiencing an apocalyptic narrative in a video game and how it affects users differently depending on its virtual geography's size, structure and rhythm. With local affect games, we refer to games that take place in a limited virtual geography or in which players only have access to/awareness of a

limited part of a decidedly bigger world. A limited affect game could thus be imagined to be a part of a larger, global event. Global affect games, then, are such games which negotiate an apocalyptic event with a focus on its large-scale, far reaching effects. Here, players are allowed to explore vaster virtual geographies or are otherwise constantly reminded about the fact that the apocalyptic event in question is indeed taking place beyond local, regional, or national borders, too. In order to experience the affect of the segue, one would need to co-dependent games, such as follow-up instalments of a video game franchise or series. Irrelevant of these games portray a local or global effect, if one of them takes place in a decidedly pre-, the other in a decidedly post-apocalyptic setting, the liminal affect of the segue is felt, as is explained in a later chapter. In the following, we provide examples of these individual scales.

At this point, it is essential to take note of two underlying thoughts driving this theoretical construct: Firstly, and while the scales are predominantly built on understandings of virtual space, they do not merely reflect the spatial dimensions of a virtual world alone. Instead, they include the aesthetic representations of these worlds as well. These representations are defined by factors such viewing distance, traversability, and other secondary factors playing into a sense of allocation for the player-avatar compound that suggests their presence (and understanding of the game's apocalyptic events) is intrinsically linked and limited to a (trans)regional, perhaps global or maybe even cosmic scale. As these scales are not only influenced by the size of a world but also by how players are embedded into them, we ascribe to them a fitting terminology coming from intercultural studies and describe them as local and global modes of the scale. Secondly, it must be disclosed at this point that the difference between sacred and profane does not necessarily reflect on a quality of the enigmatic-apocalyptic experience. Rather, the discussed games highlight that the apocalyptic experience merely is a dramatically different one. In a sandbox game's micro-narrative clutter, we as players must for ourselves decide what is meaningful and what isn't.

Local Affect Games

The smallest meaning-unit in our scales of apocalypse are local affect games. Local affect games are meditations on what matters to us. Without a vast world for players to explore, it is more about what little of the world is left for them to explore. The entirety of the apocalypse has to be understood through what little is there and what part of the world is seen, while other aspects of it are only hinted at. A game like *60 Seconds!* (Robot Gentleman 2019), for instance, players experience the short period before a (supposedly global) war wreaks havoc upon their suburban world and seek shelter. After the bombs fall, everything else the players learn about this man-made apocalypse is what little details they are able to learn about the remains of the world above from within their bunker.

Local apocalypses offer ideal conditions for the sacred to shine. With only little available in terms of meaningful nodes, may they be instances of environmental storytelling, items, or non-player characters, the player has more capacity to engage with them meaningfully. As such, players are more likely to embrace these items, as the pace is not taking them constantly from one thing to another, allowing them to unfold strong experiential meaning. Due to the local quality of the environment, these sacred instances also tend to focus on the local in their meaning. They deal with the personal, which is nonetheless affected by the apocalyptic event but still centrally revolves around a personal tragedy. The question of whether the apocalypse actually happened or not is a mere aside to the defining point, as the latter examples show:

In *Everybody's Gone to the Rapture* by The Chinese Room, from which the epitaph of this paper was taken, the world-consuming events that caused (assumingly) everyone but the player

character to vanish from Earth is only ever hinted at. As an anonymous shell-avatar, players explore an abandoned village at the slow and thoughtful pace of a flâneur, the gameplay forcing them to take their time assessing their environments. Players are never able to pass beyond the confines of the village. Together with the slow pace, they are thus encouraged to take in the meaning of every nuance in the meticulously crafted environment, from leaflets and notes. Sticking out of the serene environment are humming, glowing orbs that, upon closer examination, turn into the glowing silhouettes of past village inhabitants. Like spectres, these entities haunt the village grounds and reenact minuscule vignettes of the time before the apocalypse happened to the player. We thereby learn of individual fates and feel empathy for these figures that we are never going to meet – or rather, meet again. The upcoming end of the world is narrated through the nostalgic lens of a life before, and the intimate pain of dozens of smaller narrations of heartbreak and loss replaces the focus on a massively apocalyptic event, as the lead developer of *Everybody's Gone to the Rapture* elaborates:

The major idea behind *Rapture* was the collision of the epic and the intimate, and we drew a lot of inspiration from the 'cosy catastrophe' science-fiction of authors like John Wyndham, Christopher Priest, J.G. Ballard and John Christopher. There's a very definite Englishness about this work that felt just absolutely right for *Rapture*. The combination of a sleepy, idyllic English village with this apocalyptic tale just felt like it would get that sense so absolutely (Pinchbeck in Kuhar 2015, n.p.)

Here, the small-scale 'cosy apocalypse' that sets a stage for human contemplation rather than apocalyptic spectacle (Walton 2005, 35) of the world has an impact on the meaning of traversal and the importance of items, which all appear to be sacred to the players. In the games, we take over the role of somebody gently navigating their way out of the apocalypse and into a serene afterlife. "in which the mourner and the mourned are represented as shepherds in decoratively mythological surroundings" (Baldick 2001, 186). The focus is on the moment and the individual journey through a dead world, which is reflected and reminisced in solitary contemplation or private dialogue.

Global Affect Games

Global affect games revolve around larger landscapes, thus acknowledging the world-spanning effect of an apocalyptic event more to the portrayal of the player. At a bare minimum, they are concerned with a larger landscape and how it is embedded globally. Sandbox games fall into this category, as they are defined by the driving notion of offering players a sizeable fictional world to explore and engage with through various mechanical genres. The larger a video game landscape is, the more clustered and diverse is its environmental storytelling.

The *Fallout* series (since 1997) is one of the most known representatives of a global apocalypse portrayed in a vast landscape on the Western market. Whether players are wandering the West American coastline in search of a water purification control chip in *Fallout* (Black Isle Studios 1997) or dragged into a conflict between warring factions on the American East Coast in *Fallout 4* (Bethesda Game Studios 2014), the main principle of experiencing the apocalypse is, despite the series' transition from turn-based isometric to first-person RPG, vastly intact. A map is riddled with dozens of post-apocalyptic settlements, ruins of a world gone in a nuclear conflict, and various instances which all draw meaningful connections to *Fallout*'s apocalyptic state of the world and re-emphasise the player's embedding in a post-apocalyptic world.

The distribution of sacred and profane occasions changes drastically with the increase of size in a virtual world and the accompanying liberty of players to explore space freely. Sandbox

games, as mentioned, especially strive on the principle of environmental storytelling, where players are loosely guided through a virtual world but are, explicitly or implicitly, encouraged to beat off the trodden path: They expect players to explore and to do so, provide a myriad of on environmental storytelling nodes, ranging from side-quests to landmarks to collectables. The *Fallout* games, starting with *Fallout 3* (Bethesda Softworks 2008), taking place in a first-person perspective in a three-dimensional environment, have developed a notoriety for providing a lot of such content. Players stumble upon items belonging to an old life, quests asking them to defuse an undetonated nuke (2008, The Power of the Atom quest), or just have them find skeletons that show where and how people died when the bombs fell, including tragic fates like a couple in bed (2008, Minefield location). The sheer amount of environmental storytelling nodes littering the environment and the constant reminder of tragedy they purvey is rendering its contents into profanity in which not an entire mass can be beheld.

Moreover, the ludo-narrative implementation of that many storytelling implements can further create a distance from the player to an affect of an apocalyptic tragedy. Similarly, *Horizon Zero Dawn*'s many reminders and ruins of a 21st-century world become more of an amusement park to the player due to the mechanical but also the fictional components of avatar Aloy. Players are encouraged by the game to go item hunting and explore the environment, which has become increasingly detached from the meaning from the perspective of avatar-protagonist Aloy and turned into challenging *parcours*. Due to mechanical engagement, these items get re-interpreted as fun obstacles and acrobatic climbing gameplay challenges rather than severe markers of a dire past.

The Liminal Affect of the Segue

Moving in-between

Before exploring the concept of liminal spaces, there is a need for a quick stop in the field of affect theory. To give a brief and simplified explanation, affect theory centres on the idea of bodies influencing each other. The idea is to understand the world through the lens of a collection of intangible forces flowing and influencing what they touch, understanding a process rather than limiting understanding to the isolated entity. For example, in the realm of games, one could focus on how games affect their player or, conversely, the player affecting the game instead of interpreting each as detached pieces.

As the name implies, liminal spaces exist in the in-between, or more concretely, are a presence defined by owing its existence to having the essence of two other states while not belonging to either one or the other and potentially in the process of transitioning from one to the other. Tying this back to affect theory, in *Parables for the Virtual: Movement, Affect, Sensation*, Massumi (2002, 3-5) introduces the concept of movement, originally proposing that affect is generated in the movement from one point to another, contrary to solely observing a given moment frozen-in-time.

To illustrate with an example more befitting the nature of this paper, imagine a game tracking the player's hit points and displaying them on the screen. When the player takes damage, it is visually displayed by the lowered hit points; with zero points, the game is over. Taking these hit points at any individual point during play is relatively meaningless. Instead, when the player takes damage followed by that health bar lowering, that affect is generated by moving from one state to another. With this movement encapsulating the significance for the player, if only a small number of hit points are lost, it will affect the player differently, as a single hit will

empty most of their pool of hit points. Applying this idea to an apocalyptic scenario allows us to understand their success as a storytelling device.

Inherently, the narrative potential of apocalypses operates on the philosophy of movement, as, by their definition, they are events shattering the normalcy of the world by plunging it into disorder. An apocalypse predicates itself on the existence of a world to break; the dread they inspire is a product of the affect generated by movement from this pre-apocalypse to a post-apocalypse world. Victims affected by the slide from safety to chaos, resulting in feelings of despair or even hope in the idea of pulling themselves out of the misery. Even the aesthetics of a deserted landscape after an apocalypse generates affect, eliciting emotions through the perceived movement as the result of a bygone catastrophe.

Often, stories are set solely in the post-apocalypse, where the apocalypse is only referenced by the world's inhabitants as a past event. That limited perspective will establish a standard and mundane stake in this fictional new world since there is no other point to compare. Our origin point is the decay. Still, this movement is present, as these worlds are likely alternative versions of our own. The recipient of those stories can still be affected by experiencing and comparing the differences to our world without including the apocalypse itself. While the movement is still present, the result will be different. Affect generated through comparing the fictional and non-fictional is dissimilar to an experienceable narrative shift.

Comparatively, stories showcasing the apocalypse itself establish where the world originates from and exhibit the shattering of the typical. Allowing the movement away from the status quo to be experienced first-hand and, thus, by extension, be affected by it. The opening chapter of the video game *The Last of Us* (Naughty Dog 2013) exemplifies this. While most of the game takes place in the post-apocalyptic version of our world, the introductory chapter provides the player with a level set on the evening of the apocalypse. Experiencing the same events as the protagonist and potentially affected similarly. Sadly, this is only a tiny section of the game, meant to serve as an introduction to the world and the protagonist. It is worth pondering the potential results of a game with this idea as its centre.

Showcasing the Liminal

The *Muv-Luv* games present a narrative with this concept at its core, delivering a narrative journey focused on the protagonist's experience in (the aftershock of) an apocalypse. Its contents contain a clear and substantial split in the before and after, resulting in an interesting example and demonstration of the power of the liminal in the apocalypse.

The first game, released in 2003 by âge, while only having *Muv-Luv* on the box, contains the trilogy's first two stories: *Extra* and *Unlimited*. A high school romantic comedy slice-of-life visual novel, or in less genre-based terms, a low-stakes day-to-day narrative starring a cast of characters in their last semester of high school centred around comedic and romantic story beats. The main character, Shirogane Takeru, is placed into a love triangle situation with multiple classmates vying for his attention. Throughout the story, the player is presented with decisions on how the protagonist should behave in social situations. The result of those choices leads the plot down a range of potential branches, each linked to a heroine, showcasing their story in a usually more melodramatic way.

Depending on the version, once the player has completed a set of specific routes, the option to play *Unlimited* becomes available, starting the trilogy's apocalyptic narrative. The protagonist wakes up one morning to see his neighbourhood in complete ruin. After walking through the

remnants of Yokohama, he arrives at his former school, which is now a military base in its stead. After spending some time in a military holding cell, he is informed by his physics teacher, now the executive officer of said base, that the world is in a global war with an invading alien race, a war humanity is losing. To summarise the explanation of the plot, drawn into a parallel dimension, Shirogane finds himself in a version of Earth where humanity is on the brink of extinction due to an invading species of aliens; their motivation and reasoning are unknown. They are merely a horde of extra-terrestrial beings leaving behind destruction as they swarm across the planet, leaving only their hives standing on the resulting wastelands.

From here on out, the story shifts from a high school plot to a war story, taking place in the exact location with the same characters as *Extra*, only being the versions who grew up in this world, torn apart by the dire end-times of this timeline. While still a slice-of-life story as it unfolds day-to-day, *Unlimited* instead covers Shirogane's journey in this new world, becoming a cadet of the United Nations in the fight against the extra-terrestrial threat. It is a journey from rejecting reality by pretending it is all a dream to finding a new place of belonging. *Unlimited* is meant to serve as a transitional part of the narrative, with most of the plot existing to illustrate this world's history and current situation to the player and the protagonist, shifting attention to the stark difference between the parallel worlds. Like the protagonist, the player is supposed to get accustomed to the new status quo and connect to this new version of *Muv-Luv*.

Muv-Luv: Alternative (âge), released in 2006, concludes the trilogy and the narratives of *Extra* and *Unlimited*. While *Unlimited* established the world through dialogue between the characters, *Alternative* shows the player first-hand by putting them on the front line figuratively and literally. The plot pulls away from *Unlimited*'s sole location, expanding the scope to the broader fight against the aliens in Japan, tangent with the resulting domestic crises stemming from the struggle for survival. Tangently, it also expands on Shirogane's inner journey of being pushed to the brink due to the events around him, exploiting bonds forged in the previous games inside of the player by directly displaying the realities of the war on the cast of characters.

The disconnect between *Extra* and the rest of the narrative might seem jarring. The rift in tone and thematics are stark opposites. The given impression is of a self-contained *Extra* left behind after *Unlimited* and irrelevant to the remainder of the plot. That image is an outcome of the need to simplify the plot synopsis. The design of the trilogy has every part in place, and each chapter is inseparable from the other. *Extra* was created with *Alternative* in mind and conversely. The first signs of this intent are found in the combination of *Extra* and *Unlimited* on the same disc, only revealing this fact after the player meets certain conditions. Further, the story beats in *Alternative*, leading the protagonist to travel back to the timeline of *Extra* and interfere with events witnessed in the first game. Implicitly framed as gags and jokes due to their comedic nature, these occurrences might spike initial confusion but do not invite further speculation as they are not out of place compared to other situations. In reality, a time loop unfolds before the player in *Extra*, as the events of *Alternative*, released three years later, play out in the plot of *Extra*.

While it is a common trope in the time-travel genre, having the lead character mess with space-time, it is important to emphasise how *Alternative* does not retroactively transform these situations into vital events through the narrative device of time travel. More accurately, *Extra* is primitive, setting up plot points only to unfurl these three years later in a different game. The purpose of this explanation on the deep connection between these games is to convey the developer's intent for a holistic experience rather than a collection of three relevant but not interwoven sets of games, serving as a basis for exploring the concept of the liminal space.

The Liminal Scale

With the synopsis out of the way, let us reintroduce the earlier scales defined in this paper. Trying to fit *Muv-Luv* into either of the categories already established will prove difficult. The local scale is ill-fitting since a global apocalypse inside an interdimensional time-travel story does not precisely fit the name 'local'; a global apocalypse is more fitting. Although only half of the narrative, since the other half is a standard day-to-day setting, only *Alternative* covers the global side of the conflict. Neither definition describes *Muv-Luv* particularly well.

The big differentiator regarding *Muv-Luv* comes from its dualistic nature; its identity is distinctly different pre- and post-genre shift. Consequently, it generates a narrative anchored in the transitional, going from *Extra* to *Unlimited* to *Alternative*, each step sliding deeper into the unfolding apocalypse, creating the liminal scale, where players can experience the metamorphosis of being pulled into the apocalypse.

The liminal scale allows for a combined showcasing of the pre-, peri-, and post-apocalypse and is defined critically by the movement process between them. The focus on the overarching might lead to the conclusion that the liminal is solely an expansion on top of the global, showing a wider part of the puzzle of which the global is a piece. While not wholly inaccurate, the power of the liminal resides in the focus on the explorable transition rather than its world. This permits an experience of transformation as opposed to the exploration of a singular frame, as is usually found globally. The vessel through which this process channels itself is fluid. Intuitively, it will depict the change in the physical environment, such as *Muv-Luv* permitting a glimpse of both stable and apocalyptic versions of our world. Shirogane's and the player's journey would likewise be a conduit for this change, showcasing a more intimate internal traversal of phases before, during and after the cataclysmic events and their effects on the individual—the core of the liminal being in the essence of change rather than a capturable still.

Due to the flowing nature of the liminal space, the player becomes more personally invested. Rather than being an explorer of a single strand in a tale of a world fallen to catastrophe, players witness the weaving of the chaotic tapestry.

Witnessing the apocalypse

Tan's (1995, 16-18) idea of the witness in film studies represents the audience taking on the role of an uninvolved third party. While viewers can relate and empathise with the characters on screen, there is a disconnect in the concerns they share.

For viewers to share completely the concerns of the character in his or her situation, would mean that they do not understand or imagine those concerns, but have them - an obviously impossible situation. (Tan 1995, 24-25)

Further, Oatley's (1994, 61-62) text transposes the concept to the literary world, arguing for a similar effect in novels. Meaning that when one experiences a narrative, due to their impartial position, it is unable to fully invoke a similar head-space and thus only mimic similar emotions to those portrayed.

A significant difference with the medium of games is that a form of agency exists as opposed to film and novels; the witness becomes more involved than the other media. Nevertheless, as the schema developed by Schalleger (2016, 44-45) lays out, the avatar the player controls can take on different form depending on the requirements of the game. Serving as a middle point

between player and developer, resembling a similar membrane as outlined by Tan and Oatley (1995, 10-13; 1994, 61). Getting shot in a first-person shooter game still results in the emotions generated inside the player, while tangential, one got mortally wounded while the other experienced a loss state – Resonating feelings, discordant concerns.

These observations still hold with the creation of the liminal scale, although there is a small but important difference due to the more extended scope. When looking at our case study of the *Muv-Luv* trilogy, specifically at the protagonist and the player's position, there appears to be the potential for a shared concern. Both can have a genuine longing for the before-times.

The player can share time with the protagonist and the other characters in the world pre-apocalypse. Presenting time and space to create memories and connections in the status quo, forming potentialities to rip away. More notably, in the case of *Muv-Luv*, the formation of these connections are purely the *raison d'être* for the player, existing in the *Extra* bubble unaffected by the later apocalypse. While the developers created these characters with the knowledge of later events, for the first-time player, these moments are purely innocent, being the *raison d'être* for playing the game. When the narrative turns, Shirogane and the player share a concern and yearn to return to normalcy—being able to empathise with synchronised intimate emotions instead of imagined feelings resulting from withholding the pre-apocalypse.

A longing for a return to comfort in an apocalyptic situation is not unique to *Muv-Luv*, rather its contextualisation is different. Whenever an apocalyptic story expects its recipients to empathise with characters' desires for particular mundane activities or objects from our world, the audience can only try to imagine such a situation and the feelings involved. As per Tan and Oatley, emotions are projected onto a struggle that is not theirs. It would be an over-extension to say that these scenes are, therefore, devoid of meaningful impact. However, they are an experience of imagining another's struggle affecting themselves. Embedding a certain level of disconnect, like a simple dip into the waters of potentiality, playing pretend with possibilities of losing the mundane.

Playing *Extra* connects the player to the world and its mundanity, similar to the protagonist's position. When *Muv-Luv* shifts from a romantic comedy to a war story, that disconnect with the protagonist begins to dissolve. The longing for that, which used to be profane, is now personal instead of imitated. The story's progression marches on as the player is similarly removed from their low-stakes experience and forced into a more dire scenario. This is due to factors beyond their control, such as external factors, where the developers decide where they are going next, mirroring the shattering of normalcy regarding the lead character due to unexplainable emanations. The player's ability to halt playing, as opposed to the protagonist, still forms a level of disconnect. However, the resulting effect is the same unless no meaningful connection exists between the player and the game. Escaping due to dissatisfaction with the new narrative originates from a similar desire to return to what was.

Like the protagonist, inside the player are the memories of a more peaceful life. Contrasted by the apocalypse in the background. The act of recollecting better times becomes personal..

According to a model constructed and tested by Dixon and Bortolussi (2017, 207-208), the combination of evoked realism and personal memories leads to emotional responses regarding fiction. Emotions are more likely to materialise when a reader connects story events with previous experiences. Due to the transitional nature of the liminal, the ingrained ability to reference previous events fully utilises this effect. The player's memory of the before can be constantly triggered by the explicit contrast of the current. Similarly synchronising with

Massumi's (2002, 3-5) concept of movement, the emotions of that contrast result from a shift between the two states rather than being in one or the other.

For the player, when *Muv-Luv* has the characters sit down for dinner in the apocalyptic timeline, it is an implicit invitation to reminisce. The melancholy of joking around with friends becomes actualised instead of emulated.

Reversing the Sacred and Profane in the Mirror

The explanation of the concept of movement from Massumi (2002, 3-5) in affect theory, combined with the extension upon the idea of the witness by Tan and Oatley (1995, 10-13; 1994, 61) and finally with the idea of the model of Dixon and Bortolussi (2017, 207-208) has shown how the idea of the transition in a liminal scale can create a highly affective and thus emotional experience when it comes to apocalypses.

With this capacity for emotion, combined with the confrontational nature of the liminal, a unique potential presents itself. As discussed earlier in this paper, according to Kathryn Woodward (2012, 29-30), the sacred and profane are indicators of identity, the importance, or lack thereof, resulting from an assemblage of personal attributes determining that importance. As a last note on the liminal, this paper postulates utilising the liminal scale as a confrontational mirror concerning the sacred and profane. More concretely, challenging the player to ponder what is important uniquely suits the liminal scale, as it creates a mirror space by contrasting the pre- and post-.

Making the distinction between sacred and profane is rarely a conscious process. As discussed during the discussion on the global scale, seldom does a player decide upon seeing the x-th set of remains during their travels that it suddenly is no longer meaningful to them. While a deeper conversation on the general process of sanctification of entities is sadly not at home in this paper, there is an inherent quality to mirrored spaces that foster reflection from its players on what they view as sacred or profane.

When something is sacred to someone, it is important to them; in contrast, the mundane is exchangeable. The meaning is in the juxtaposition of the two. Again, starting from Massumi, the meaning is found in the flow from one moment to another. If something shifts from sacred to profane, the effect is in the flow between the two; the resulting emotions permit the shift to be noticed. That detection invites further self-reflection: "Why did this change impact me?" Leading to potential introspection on what is important to the individual.

Shuffling the sacred and the profane is not a simple task, and it is doubly so when each individual has distinguishing values. The liminal serves to create an environment to allow for this shift. Through creating an investment in the pre-, a sacred-profane relationship with the elements of the fictitious world can be established. As the transition progresses to the peri- and post-, the confrontation of the sacred profane can be centred around already established elements instead of playing upon hypotheticals regarding the ideals of a potential player. The confrontation might be founded on fictional qualities; the resulting feelings of the player are real due to the liminal, as explained in the previous chapter. Those sentiments can then be transposed and compared to one's view on life, leading to a potential evaluation of what they hold sacred or profane.

To reintroduce the case study of *Muv-Luv* one last time. Let us start by using an example. Throughout the story of *Extra*, numerous scenes depict the cast of characters sitting down and

sharing a meal. As expected, they contain the usual romantic-comedy silly hijinks. However, at its essence, these scenes are often just that: a group of characters sitting down for a meal together, presumably labelling this as profane is not too unreasonable. Crossing the mirror line, later in *Alternative*, there are still occasions where the cast sits down to share a meal similarly. While the inherent action is the same, the framing is different, finding itself in a mosaic of tense situations, a sole moment of respite and normalcy. Creating a shift from the profane to the sacred. While this shift is purely fictional, as laid out before, the resulting emotions come from an intimate level due to the liminal scale. It is not hard to see how this situation could analogise how one regards their view on communal dining, even if it is just at lunch during work, an evaluation of the sacred and the profane.

It is important to note that this concept only invites evaluation, not re-evaluation. It could be a potential further topic of study on whether this is the case since re-evaluation would, by extension, result in a shift in identity according to the ideas of Kathryn Woodward (2012, 29-30).

Conclusion

Video games offer profound opportunities to engage players with apocalyptic meditations. They can provide virtual worlds in which players can experience the grandeur of an apocalyptic event and encourage them to reflect on the meaning of such doomsday scenarios for themselves and their well-being. Throughout this paper, we observed that the exact negotiation of this experience depends massively on two correlated factors: the spatial dimensions of a virtual world – or rather, the epistemological limitations of players – and how these spaces amass elements of sacred and profane qualities, relating to their emotional importance to the players.

We differentiated three types of apocalyptic representation in a scalable model. According to their relevance in terms of game space, we differentiate them between local, global, and liminal. Local apocalypses are intimate negotiations of the meaning of an apocalyptic event. They typically take place in a confined game world (or a game world to which players only have limited access) and, thus, focus on a tightly bundled set of NPCs or items that, in turn, feel important and sacred to players. Global apocalypses are enacted over a larger virtual landscape. This mode of apocalyptic storytelling typically unfolds in sandbox or otherwise open environments. In such modes of environmental storytelling, there usually are many items or micronarrative instances to be found – the sheer mass of them renders those individually meaningful units profane because there are too many. The liminal, finally, is a transition of apocalyptic modes between two individual games that are intended to be sequels or otherwise related within a transmedial video game world. The portrayed example of *Muv-Luv* is a rare occurrence in which one video game is pre-, and one is post-apocalyptic.

Needless to say, there are still countless of (video) games that could not be considered in this paper due to its natural limitations and that would yet provide a valuable addition to our proposed scales of apocalypse. Comparing various games of similar tropes, for instance, such as a discussion of cosy post-apocalyptic games, could shed a light not only on the question where on the scale they fit (is it always the local, as presumed?) but also on the question of how specifically they interpret local apocalypses, enabling us to create micro-differentiations within the scale. Other games, such as *Far Cry 5* (Ubisoft Berlin et al. 2018) and its corresponded addon, *Far Cry New Dawn* (Ubisoft Montreal 2019), may prove to be a reversal of our model. Renown for its whacky and ironic approach to open world game play, *Far Cry 5* feels like a player-defined amusement park ride in many instances, reframing the meaning of the profane under the lens of bland, meant-to-amuse pastiche. More interestingly though, *Far*

Cry 5 barely hints at its world condition outside of the given level geography – portraying a world in crisis via in-game radio snippets that players are barely able to pay attention to amidst the game’s fast-paced action. It’s true meaning as a pre-apocalypse only unfolds truly through the existence of *Far Cry New Dawn*, which takes players into a mad-max inspired post-apocalyptic wasteland. While still moving through the model, much akin to *Muv-Luv*, the reversal exists in how *New Dawn* aims to affect the player. Arguably the pre-apocalypse, *Far Cry 5*, takes a more serious approach than its subsequent post-apocalypse, *New Dawn*, which has a more colourful and bright aesthetic while simultaneously taking a lighter tone narratively. The point of interest for our model then becomes: how does this reversal in tone affect the player and what experience can a game deliver through it? We are sure that many more titles exist which provide thought-provoking cases for the scales of apocalypse.

“[The] end of the world as we know bears an implicitly depicted as a cathartic effect, as nature’s righteous payback or ‘divine’ punishment for humankind’s undiscerning behaviour” (Hoffstadt and Schrey 2011, 31). Discussing the phenomenon in video games shows that this cathartic effect varies depending on game world size. They can allow intimate negotiations, large-scale personal quests for hope in an abandoned world, or shock us by traversing us from pre- to post-apocalyptic. Aside of the aforementioned further games to research via the scales of apocalypse, one central call for action thus goes out to those making games: Developers aware of the scales can use them as a blueprint and try to optimise them. This bears distinct importance in a globalised gaming context, *Muv-Luv* and titles like *Everybody’s Gone to the Rapture* have juxtaposed a Western perspective on the apocalypse with an Eastern one. Delving further into these comparisons could yield interesting results.

Ultimately, the scales of apocalypse also indirectly raise awareness of what brings us hope. They showcase that hope can be found in all dimensions of virtual game geographies, come from sources that players and/or avatars may hold sacred, and that even in the mundanity of the profane, a sliver of hope for a better future can hide – all dependant on how exactly these elements are united on the ‘scales of apocalypse’. This is something that today may be more important than ever.

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