

Embedded Narrative in Open-World Video Games

How and to what effect can the main conventions of narrative (structure, character, setting) be employed to support embedded narratives in open-world video games?

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Abstract: Video games and narratives are often considered non-compatible but often combined regardless. Technical configurations and player expectations of open-world RPGs are especially conflicting, although the genre is common. This paper assumes the perspective that through narratives, game designers can contextualize actions and build purpose for players. To avoid disjunctions between ludic and narrative elements, game designers should tie the mechanics relating to narrative components (structure, character, setting) into the narrative thematically. This paper examines techniques designers can use to create synchronicity between open worlds and embedded narratives and bridge the extreme gaps in freedom. Each narrative component's mechanics are analyzed individually using expert theories and case studies of open-world RPGs.

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Introduction

Video games are not stories (Adams, 1999; Costikyan, 2001; Frasca, 2004; Juul, 1998). And yet, game designers and players both frequently gravitate towards games with heroes and villains, beginnings and ends, relying on the three main conventions of narrative — structure, character, and setting — to contextualize their actions. Humans possess a “narrative organ”, state author Bem Le Hunte and researcher Jan Golembiewski (2014, p. 2), and the role of storytelling in human history is undeniable (Miller, 1995, p.1), so it is unsurprising that we force narratives into spaces that may potentially not accommodate them. This paper will not aim to prove or disprove the harmony between games and narrative. Rather, this paper will aim to identify methods for games and narrative to better harmonize, given that games with stories do and will continue to exist.

The Building Blocks of Game Narratives

This paper will focus on just three components of narrative: structure, characters, and settings. These components are isolatable and do not emerge from the interplay of multiple components, which makes their effects precisely discernible.

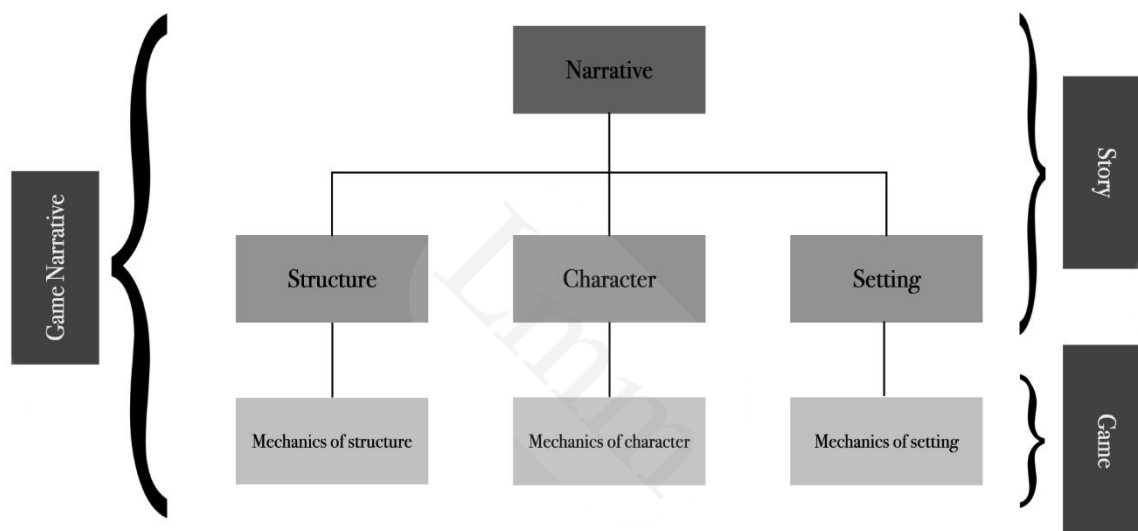
It is important to make a distinction in the terminologies attributed to narrative. Narrative and game designer Hannah Nicklin explains that *story* refers to what is being told, *narrative* to how it is being told, and *plot* to events of a story in linear order (2020). The following terms should also be defined (see *Appendix A* for full glossary of terms):

Narrative structure is the organization of events. Typically, narratives are structured linearly, but games often feature more experimental structures, such as branching narratives (Berstein, no date).

Character, in the context of this paper, will refer to the pawns with which game designers let players move through the world.

Setting in this paper will refer to the level design of maps over lore and aesthetics.

The aspects in which game narrative components differ significantly from literary narratives are the tools through which components can be moulded. While literature uses literary devices to describe, explain, and gauge, games use their mechanics as tools. Game narrative can be understood as a structure upheld by its components, which in turn are built from the mechanics used by game designers to shape player experiences (Figure 1).

Figure 1 : Composition of Game Narrative

Why Games Cannot Be Stories

The incompatibilities of games and narratives should be examined to identify areas of concern. Conflict arises when games merge with embedded narratives, meaning a pre-authored story that is told interactively (Salen and Zimmerman, 2004, p. 383). Game designer Greg Costikyan identifies the overarching reason as a conflict between the linearity of stories and the freedom found in games (2001, p. 2). Plot points in stories must be organized, accumulate to a maximum emotional impact, while games cannot be organized without depriving players of their agency. Essentially, the conflict lies in the velocity of storytelling, which has both a direction and a speed, and numerous games struggle to reconcile the player's free actions with final, pre-determined narratives (Adams, 1999; Costikyan, 2001; Juul, 1998).

Open-World RPGs

As the genre's name suggests, Role-Playing Games (RPGs) require players to "play" the role of a character. To play a character, players need a space to play in, and something to do. Narratives are hence commonly used in the genre to contextualize player actions (Mortensen, 2007, pp.297-299).

Paradoxically, RPGs also frequently include open worlds, implying extreme player freedom. There are no official criteria for games to qualify as open-world, but based on the features of open-world games from the past two decades, this paper will define open worlds as *a map, or a compilation of maps, in and between which players are given the freedom to roam*

at almost any given point in time.

The main narrative, also known as the *game spine* (Bateman, 2021), is not always focal to an RPG's gameplay, but often, a great amount of time and resources are invested into telling the story. Hence, the question arises: How and to what effect can the main conventions of narrative (structure, character, setting) be employed to support embedded narratives in open-world video games?

Methodology

To begin, a brief literature review of the concept of player freedom in games will be conducted to resolve existing misunderstandings surrounding the term and to identify what players expect from open-world games.

Thereafter, the role and mechanics of each individual narrative component will be analysed with regard to the research question. These analyses will alternate between literature reviews of expert theories, and case studies in which theories will be analysed in their execution.

The following RPGs will be used as case studies: *Xenoblade Chronicles* (Monolith Soft, 2010), *Final Fantasy XV* (Square Enix, 2016), and *Heaven's Vault* (Inkle, 2016) (see *Appendix B* for plot summaries of case study games). Each features an elaborate embedded narrative and an open world. These games will be analysed through the lens of the main embedded narrative as a priority for the purpose of this paper but may have been designed with differing priorities. The evaluation of techniques in these games is not intended to derogate from their quality and success.

Literature Review: Player Freedom

Before analyzing how mechanics can support narrative, it should be determined what they must achieve to engage players. The following exploration will aim to set standards for each narrative component to attain to be considered successful in supporting an embedded narrative in an open world.

Player Freedom

Player freedom is arguably the most defining quality of games as a medium. Game designer Greg Costikyan states that “players must feel that they have freedom of action within the structure of the game” (2001, p.1) and expresses that restrictions on freedom diminish the degree of satisfaction players draw from games. Freedom, however, is not entirely achievable in narrative games, as players are required to submit to the story’s needs. Opportunely, gaming psychology expert Scott Rigby’s discourse titled “*The Freedom Fallacy*” (2018) proposes new standards.

Player Autonomy & Volition

Autonomy is a component of Scott Rigby’s and Richard Ryan’s model *The Player Experience of Need Satisfaction* (2007) which explores methods to measure “fun” during gameplay (p.2). Rigby states in *The Freedom Fallacy* that not freedom, but “player autonomy is probably the single most important player experience variable across all genres” (2018, 00:40), the “core foundation of what makes modern games work” (5:38).

In psychological terms, autonomy does not mean freedom but volition. “Autonomy means that when we act, we do so volitionally” (Rigby, 2018, 8:05). He elaborates that “volition isn’t independence or freedom to do whatever you want. Volition is wanting to do the things that you are doing” (8:15). This reframing of player freedom suggests to game designers that narrative conventions can be used as tools to generate volition and make players want to play the game spine instead of forcing them. Rigby confirms that both narrative and open-world games are capable of building volition (11:55) and that the concept of volition means that designers “no longer have to be afraid of structure” (15:14), implying that an open world structured around an embedded narrative can generate volition.

Rigby states that the key method of generating volition is “to have a dense network of things that matter to people” (2018, 18:02) and to create “meaningful experiences”

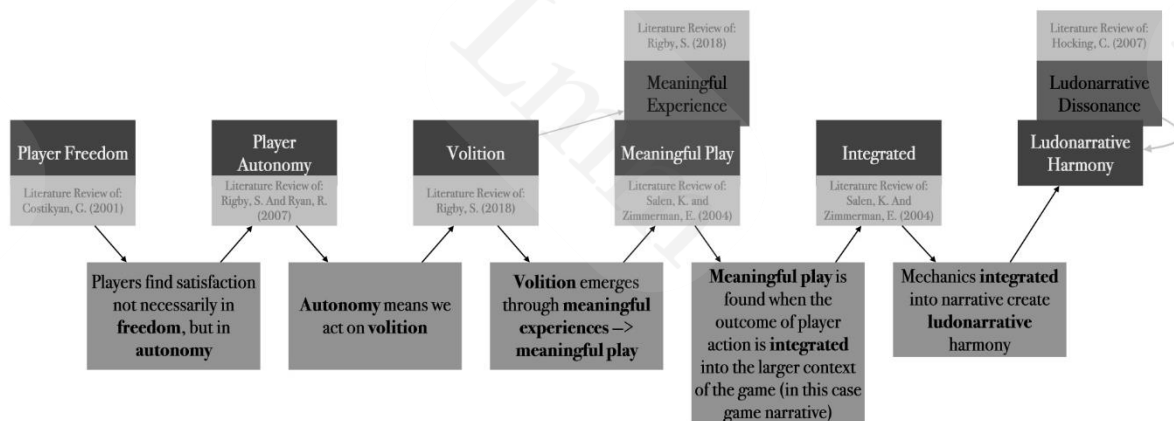
(18:24). Case studies by Rigby on this topic will be discussed in later chapters. Presently, it should be acknowledged that “meaningful experiences” resembles *meaningful play*, a concept discussed at length by game designers Salen and Zimmerman (2004, pp. 30-37).

Meaningful Play & Ludonarrative Harmony

Finding meaning in actions helps players understand and interact with game systems. Salen and Zimmerman state: “The *meaning* of an action in a game resides in the relationship between action and outcome” (2004, p. 34). One criterion of meaningful play is that “the relationship between action and outcome is *integrated* into the larger context of the game” (p.35). In a narrative context, this would mean that player actions have outcomes connected to the game spine or impact its path. The latter option is difficult for embedded narrative games to fulfil since the story is pre-authored, but the former is an achievable goal.

The consistency in player action and narrative is also known as *ludonarrative harmony*, which stems from *ludonarrative dissonance*, a term coined by game designer Clint Hocking in an analysis of Bioshock. “Bioshock seems to suffer from a powerful dissonance between what it is about as a game, and what it is about as a story. By throwing the narrative and ludic elements of the work into opposition, the game seems to openly mock the player for having believed in the fiction of the game at all” (2007). From this, it can be deduced that when game and narrative are harmonious, players believe and find meaning in their actions. In turn, this can build volition for an open-world game’s embedded narrative. Figure 2 below summarizes the relationship between the key concepts that will remain relevant in the ensuing thematic analyses of narrative components:

Figure 2 : Flow Chart of Key Concepts



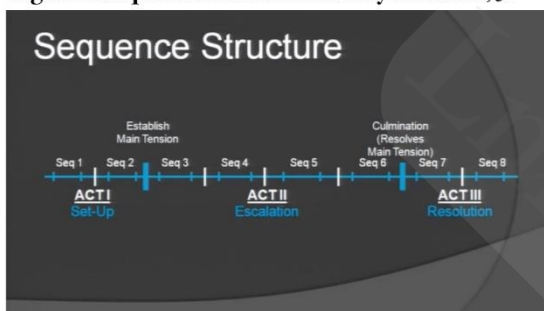
Narrative Structure

Game designers have frequently discussed how narrative structure could be adapted for games. Especially open worlds present significant challenges, as linearity often needs to be abandoned in favor of player initiative. Still, some open worlds contain linear stories with evolved structures. This section will examine a linear approach and a non-linear approach to open-world narratives and analyze their effectiveness with regard to player-volition-generation.

Literature Review: Sequence Structure

Game writer Jeremy Bernstein proposes that sequence structures are well suited to linear narrative games (no date). Sequence structures divide the conventional Syd Field 3 Act Structure into sequences, each of which contains a gameplay loop, as seen below:

Figure 3: Sequential Game Structure by Bernstein, J.



*8 sequences is an example, games can contain any number of sequences.

Figure 4: Sequential Gameplay Loops by Bernstein, J.



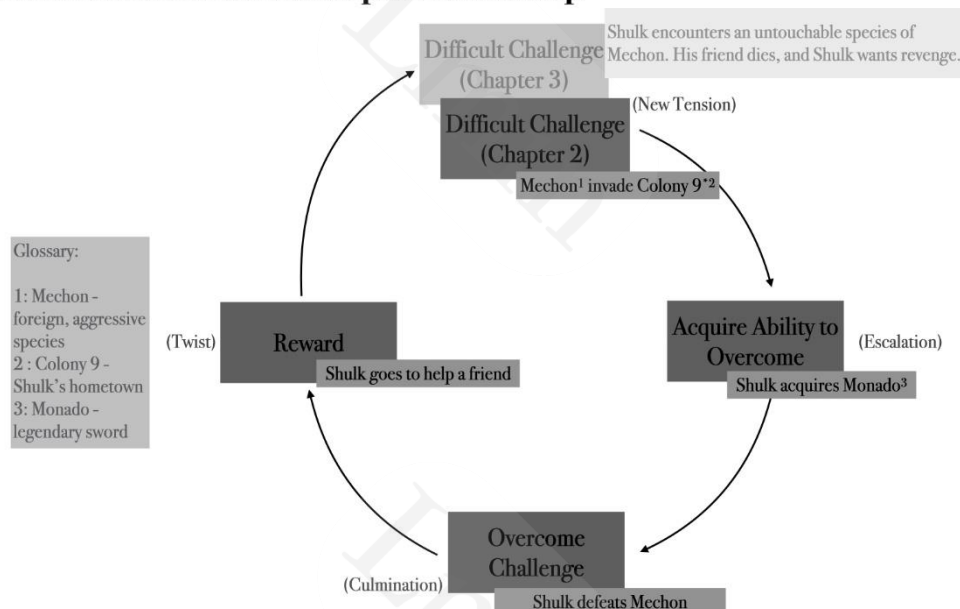
As seen in Figure 3, sequence structure is linear, the order of events is prearranged so that the story's tension culminates during the escalation in Act II and comes to a resolution in Act III. Sequences can be subdivided into segments identical to those of the main storyline, which can be superimposed on a typical gameplay loop (Figure 4): The player acquires an ability, masters it, and is rewarded. Each game loop sets up the next challenge during its reward phase by introducing a twist. Furthermore, Bernstein states that sequence structure is objective-driven (13:48), implying players are driven by rewards or the volition to reach the resolution of a sequence.

Xenoblade Chronicles : Sequence Structure in an Open World

An example of an embedded narrative open-world game with a sequentially structured game spine is *Xenoblade Chronicles*. The game has 17 chapters, which are equivalent to

Bernstein’s definition of sequences. Each chapter leaves players with new mechanics and abilities, knowledge of the lore, emotionally evolved characters, and a new objective. Applied to Bernstein’s gameplay loop, the second chapter of *Xenoblade Chronicles* would look as follows (Figure 5):

Figure 5 : Xenoblade Chronicles Chapter 2 Game Loop



Nonetheless, *Xenoblade Chronicles*’ narrative is frequently punctured by the tempting nature of the open world. The urgency is lost to side-quests and exploration, which distract players and undermine the game spine. For example, Chapter 2 ends as Shulk decides to avenge his dead friend “right now” (Figure 6):

Figure 6 : Xenoblade Chronicles Chapter 2 Ending Screenshots & Transcript

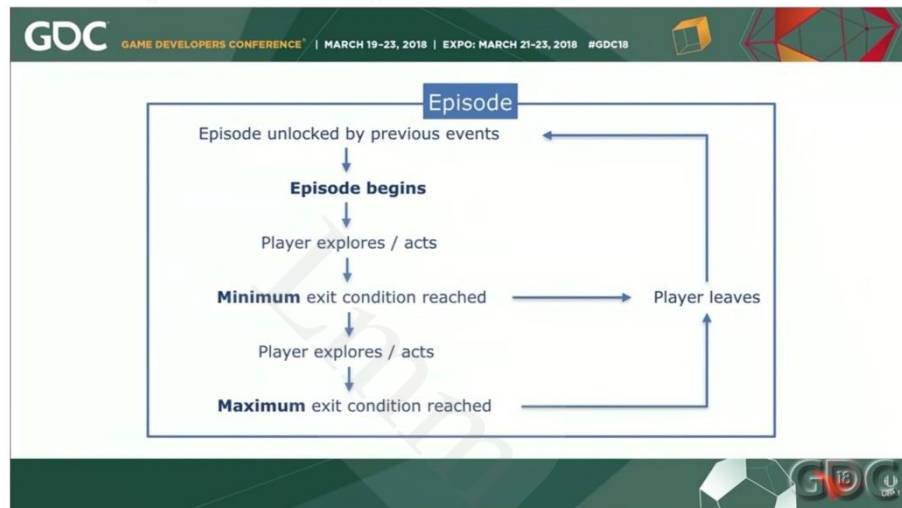
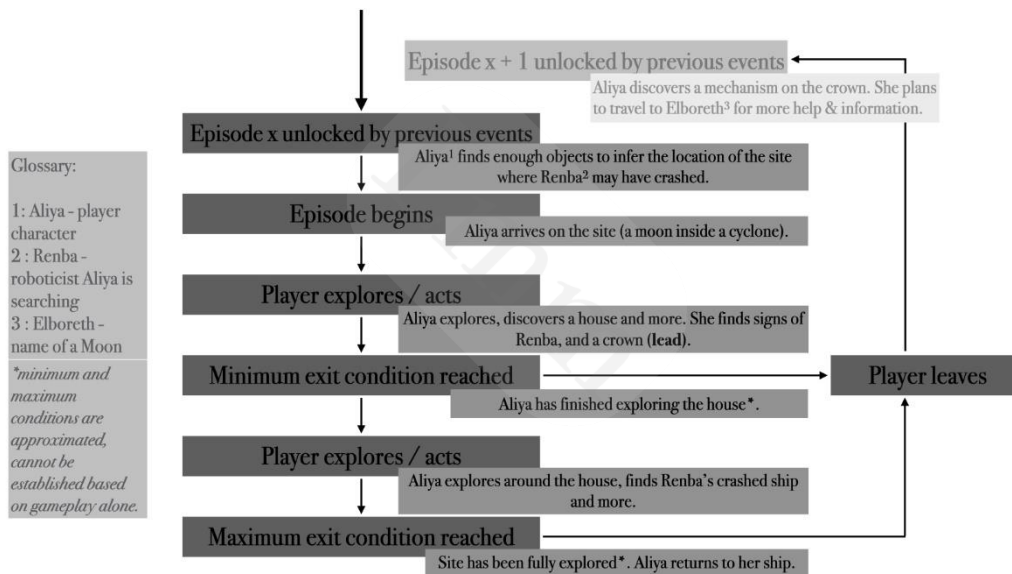


Yet, immediately after this conversation, 12 new side-quests are unlocked, some visible on the map, and a tutorial encourages players to go backwards and learn a new mechanic. Of course, players may choose to continue playing the game spine, but are not expected to, despite the characters voicing urgency. From this example, it can be deduced that sequential structure may only be appropriate for games that are permanently dedicated to their narrative. Breaks from the narrative risk diffusing player volition for the game spine and would need to be avoided, which is impossible in an open-world game.

Literature Review & Case Study: Episodic Structure in *Heaven's Vault*

Jon Ingold, narrative director of *Heaven's Vault*, proposes episodic narrative structure for open-world games (2019). Episodes are self-contained; most can be played in any order. Some episodes do require players to have met preconditions, but these preconditions are usually contextual, in that players have no reason to begin an episode because they are unaware of its existence, or nothing in the universe has triggered it before the precondition is met. This atomic structure supports the open world, as episodes can be scattered throughout the map and be kept on standby.

A flaw of this technique, according to Ingold, is the lack of opportunity to enforce “long-term narrative structure” (30:30), essentially the game spine. If episodes are self-contained and their content is stand-alone, player actions may ultimately appear meaningless. Exploration may become bland if the sum of the player's findings does not amount to anything. *Heaven's Vault* solves this issue by making use of *leads*. Leads are not objectives; players are often not aware of what exactly they seek. Instead, leads are clues that connect to and trigger other episodes, hinting at where to find more leads. An episode of *Heaven's Vault* looks as presented in Figure 7 and as seen in Figure 8 when contextually applied.

Figure 7 : Heaven's Vault Episode Structure by Ingold, J.**Figure 8 : Heaven's Vault Cyclone Moon Episode Structure**

The end of an episode is, as displayed in the figures above, not particularly eventful. Players return to their ship, recount and examine what they have found, and travel onwards. The gameplay substance lies in the “player explores/acts” phases of the episode, when players encounter leads. Contrary to the objective-driven sequence structure, episodic structure appears to be cause-driven. Players are interested in why leads are in certain places and how they link to the leads in further episodes, rather than what happens at the end of an episode. The player’s curiosity is continually increased, potentially even enforced by the time that elapses between finding something during exploration and meeting the conditions to leave the episode. It may therefore be argued that episodic structure, as seen

in *Heaven's Vault*, is an advantageous structure for open-world games because it frequently generates player volition through leads and connects its narrative units through consistent suspense.

Nevertheless, flaws of this structure also become apparent in *Heaven's Vault*. The game spine, while being flexible and player-driven, is strained when the answers to the questions are often inconspicuous, or simply too vague. For example, the first two leads are an inscribed brooch and a location given to the player character Aliya, who is tasked with searching for a roboticist gone missing. This task may be considered the inciting incident of the game spine as it spurs the player's exploration. The first episode takes place on Maersi, where Aliya find further leads, some of which are related to Renba's mystery, and some of which initiate entirely new branches of the story. By the end of the game, the question of what happened to Renba is not conclusively answered. Some players may be able to infer certain occurrences, but others may have missed whole episodes with crucial information. Giving clear answers may startle players who were unable to gather enough intelligence, and the game refrains from this entirely. *Heaven's Vault's* episodic structure thus generates player volition to play along the game spine through leads, but the leads stop abruptly and leave players in an inconclusive, narrative dead-end. Player volition is deconstructed by ambiguity, and actions can appear meaningless.

Summarizing Narrative Structure

From the analysis of two narrative structures, the following conclusions can be drawn:

- Using objective-driven sequence structure supports gameplay loops and narrative coherency but requires considerable dedication to the game spine, which may not be achievable in open worlds.
- Using cause-driven episodic structure and leads to connect episodes with one another helps maintain player volition for the game spine but can end in ambiguity. This deconstructs player volition and can result in meaningless play.

Literature Review: Player Plot Perception


There may be no ideal narrative structure for embedded narratives in open-world games, and while the discussion and exploration thereof are by no means concluded, game designers may potentially be giving it too much weight. Findings of a study conducted by

user researcher Deborah Hendersen on the “*Retellings of Game and Non-Game Narratives*”, presented in a speech by Richard Rouse III and Tom Abernathy (2016, 17:48), suggest that plot, and by extension narrative structure may be less relevant to players than expected (Figure 9):

Figure 9: Microsoft User Research Study Findings by Hendersen, D. (Annotated)

MICROSOFT USER RESEARCH STUDY

	findings summary
finding 1	Players had difficulty tracing game plots from beginning to end (in contrast to other media), often forming only <u>episodic memories for game narrative</u> .
finding 2	Game characters were consistently remembered, though not necessarily for their role in the plot. Instead, characterization appeared memorable.
finding 3	Player recall for gameplay dominated narrative, even for players who self-reported playing games mostly for the story, but narrative provided context for gameplay, even for players who self-reported ignoring story.
finding 4	Participants were perfectly capable of rich thinking about narrative.

 **STUDIOS USER RESEARCH**

Finding 1 confirms the relevance of episodic structure to game narrative. Finding 2 implies that game characters, specifically their characterization, are the most memorable aspect of games to players. Narrative and its other components merely serve as the backdrop for gameplay. As a result, it may be inferred that, in order to reinforce narrative, a game designer’s greatest tools are characterization mechanics, and that narrative structure may need to be oriented towards character to function.

Character

Memorable characters may be able to embody memorable stories. Events occur and pass, settings are discovered and left behind, but characters are constantly with players on screen. This could explain why players are more attentive to character and characterization than to the other narrative components. Characters might therefore need to be central to narratives in open worlds, as they can generate player volition for the game spine at the highest frequencies. The more character-driven a narrative is, the less constraining the narrative structure needs to be, as players find motivation for the game spine whenever they act as or through the player character.

Literature Review: The Player Character Vessel

Narrative designer Kaitlin Tremblay suggests that game design and narrative design are practically synonymous (2020, 0:54). Fundamentally, she argues, sequences of actions and interactions are stories, meaning narratives revolve around and are built by player actions (1:04). Yet, players do not directly act in the world, they act through characters. There are many perspectives on how players identify with characters, whether they act through them or with them (Montfort, 2007; Walsh, 2021; Worch, 2018; Vella, 2014), but it is undeniable that characters are a layer between players and game worlds. Players use not their own hands to hold the sword, do not improve their own cooking skills to create health potions—they do so through the dedicated playable characters. “To think of the interactor as steering, rather than playing, suggests that the player character is a sort of vehicle from which a world can be seen and otherwise experienced, and that this character both constrains us (we have to remain in the vehicle) and also opens up possibilities (we can use this vehicle to get around and even to effect changes in the world)” writes digital media expert Nick Montfort (2007, p.3). By combining Tremblay’s point of view on narrative and actions with Montfort’s perspective on players steering and being constrained by character, it can be hypothesized that if character actions are ludonarratively harmonious and deeply rooted in narrative, players are unable to stray significantly from the game spine.

Heaven’s Vault: Character Profession Driving Narrative

An example of a mechanic which supports this use of character can be found in *Heaven’s Vault*. The story’s main character, and the player character, is Aliya, an archaeologist. The

game's main mechanic, performed using Aliya, is deciphering ancient scripts. Deciphering aligns well thematically with the player's goal of uncovering the mysterious history of the Nebula. Thereby, Aliya's capabilities are the driving agent behind the advancement of the game spine. Mastering the deciphering mechanic is analogous to finishing the game, as understanding the scripts leads to uncovering the mysteries of the Nebula.

The glyphs are composed of radicals, comparable to the radicals of real-world logogram writing systems. By learning radical meanings, players will be able to decipher complex words and sentences. Players will likely encounter unknown words until the very end of the game. The following sentences in Figure 10 are presented to players at the beginning of the game and in the end phase of the game, respectively.

Figure 10: Heaven's Vault Decipherment Screenshots



As seen, both fragments use similar glyphs, but the shorter sequence is just a basic clause. The longer sequence contains important information on the Nebula's lore, showing that player skill advancement is directly proportional to the amount of information players can extract from glyphs.

If the advancement of a skill directly correlates with the advancement of the game spine, players can take on side-quests or tangential tasks without losing focus and volition for the game spine. In one episode, Aliya travels to an age of sail site, where she encounters a lonesome child who believes it has died. Through this child's journey, players can uncover the mystery behind the teleportation devices in the Nebula. Although this is not directly related to the player's quest of finding what happened to the missing roboticist, players still find several related leads while practicing deciphering.

Aliya is thus a vessel with the unique skill players need to reach the game's goal in its scattered world. She makes the story unfold no matter where she goes, and she creates meaning for the player.

Literature Review: Characters as Funneling Systems

Enforcing the player character's role as players' vessels through narratives has another benefit when combined with game designer Chris Bateman's technique of *funneling*. In his essay *Keeping the Player on Track*, Bateman explains: "*Funneling* describes any system for ensuring that players stay on or can find their way back to the spine of the game" (2021, p. 103).

In RPGs, funneling techniques are often reduced to menu screens, lists of objectives with the game spine sometimes highlighted in a different colour (Bateman, p.105). The same applies to many modern open-world games. Bateman argues there are subtler ways to funnel and explores in his essay the possibility of funneling through character: He identifies *The Legend of Zelda: Ocarina of Time's* (Nintendo, 1998) companion character Navi as an overt and famously irritating funneling device, and the character of Mina Habuka in *Castlevania: Aria of Sorrow* (Konami, 2003) as a more subtle example, a character players choose to turn to in times of confusion. Navi's perpetual, inescapable reminders make players feel condescended and many players stated in forums that they ignored her advice (jstewart01, 2011). Conversely, Mina Habuka is, according to Bateman, effective because the game has few characters to converse with, making Mina Habuka's function explicit to players. Additionally, Mina's strategic and stationary positioning on the map makes her an easily locatable source of advice (pp.104-106).

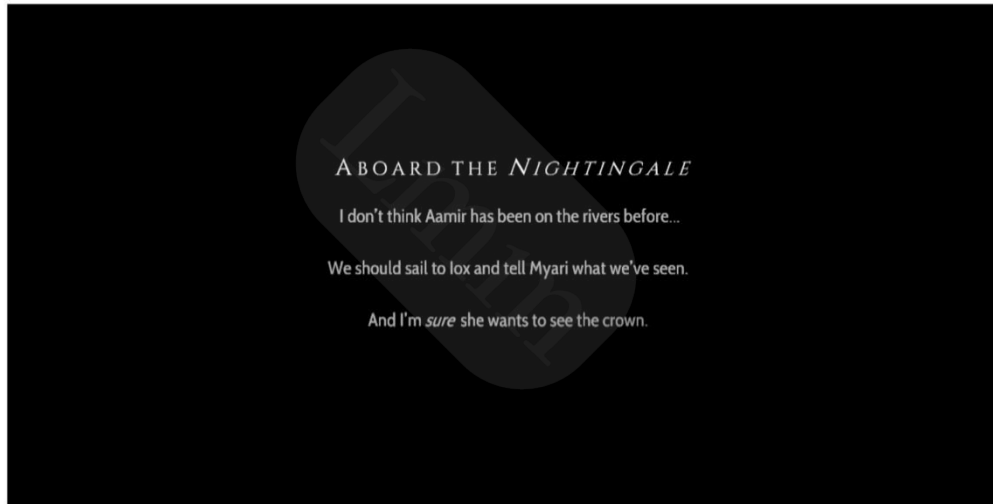
However, in a large open world with many conversations to be had, a stationary character may not be sufficient, and players may not be able to intuit their function. Considering that the player character is constantly with players, using it as a funneling tool may prove to be efficient. For this role to be filled by the player character, it must assume authority as well as players' attention, and must make them depend on its guidance as a vessel through the world.

Heaven's Vault : The Player Character as a Diegetic Funnel

Aliya, possessing the most vital skill in the game, carries a sense of authority. She serves as both player character and mentor character. Players, who are tied to Aliya, can be advised on how to follow the game spine regularly by her. For instance, before returning to the ship at the end of an episode, Aliya often summarizes her findings and suggests the next moves.

These musings occur when Aliya is being teleported, and the narrated words are also written on a black screen for players to read (Figure 11):

Figure 11 : Heaven's Vault Inner Monologues as Diegetic Funneling Screenshot



While this is essentially a non-diegetic user interface element — namely a black loading screen — Aliya is being teleported, disintegrating in time and space, and the black screen does hence not startle players, potentially even feels like an abstract representation of what is happening to her.

Because the instructions are formulated as thoughts, they do not come across as being too insistent. Because these instructions are not repeated perpetually throughout all phases of the gameplay loop, they are not irritating. And lastly, because the instructions are Aliya's thoughts, they do not require players to go out of their way for advice in the large world. *Heaven's Vault* does not risk players getting lost at the end of episodes, does not need them to follow markers on maps, it funnels players through Aliya's contextually diegetic inner monologue.

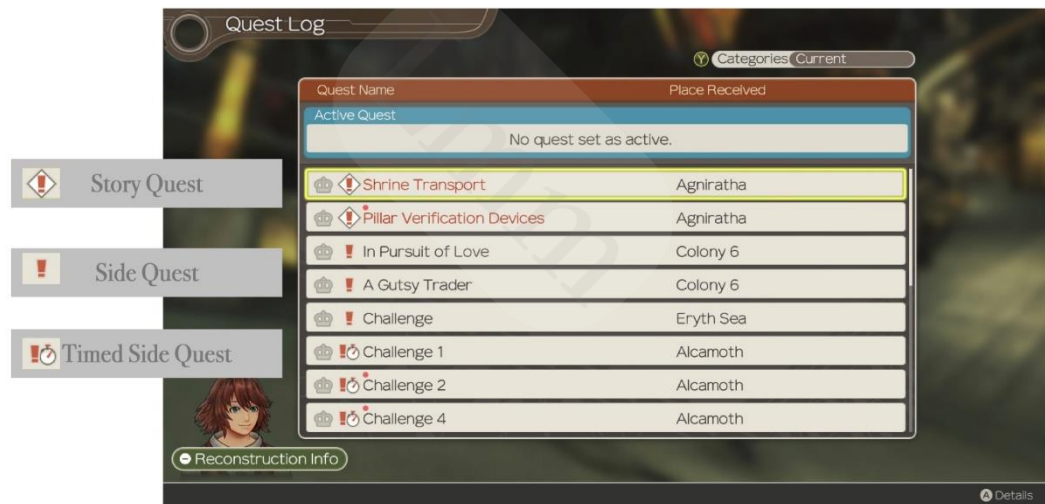
Aliya is a bridge between the ludic and narrative elements. Her instructions make players conform to the game spine without subverting the game's fiction. Losing focus and volition for the game spine is extremely difficult in *Heaven's Vault*.

Xenoblade Chronicles: Non-Diegetic Funnels

As discussed in the chapter on narrative structure, *Xenoblade Chronicles'* structure can cause players to lose focus of the game spine after its first act (see p.7). The technique of using the player character as a funnel may be a possible solution to the problem. Shulk, or any other party member reminding players of their main quests could give them space to

explore and complete side-quests without risking players forgetting about the main tasks in the meantime. Yet, *Xenoblade Chronicles*'s main funneling system is a quest log in which the game spine or story quests have an only marginally varied icon (Figure 12):

Figure 12: Xenoblade Chronicles Definitive Edition Quest Log Annotated Screenshot



Arguably, *Xenoblade Chronicles* missed an opportunity for characterization and returning prominence to the game spine by omitting diegetic funneling systems. Character, in this case, could have been a method of circumventing the ludonarrative dissonance between the narrative's structure and its urgency.

Nonetheless, the different functions and features of Shulk of *Xenoblade Chronicles* and Aliya of *Heaven's Vault* suggest that this technique would have been less impactful in *Xenoblade Chronicles*.

Even though the game features a variety of systems – crafting, gifting, trading – the primary system of mechanics resides in its combat. The game spine's matter and the combat mechanics align thematically, and yet fighting is not inherently rooted in the narrative. Shulk's objective in Chapter 2 of the game (see Figure 5, p.7) is to avenge his friend through combat, and this objective is fulfilled at the end of the sequence. The combat Shulk engages in during the middle parts of an episode is barely tied to the narrative, unless viewed as clearing the path towards the goal. If players avoided all combat between the start and the final battle of a sequence, the game spine would not be altered, albeit players may not have reached the recommended experience level and be defeated. Essentially, Shulk loses his integrity as a character with personality during sequences and only re-emerges as relevant within the space of the narrative at sequence key-points (see Figure 5,

p.7).

If Shulk's mechanic were grown from his characterization in the narrative, for example from his passion for machinery, and combat were affected by this skill, his integrity as a distinct vessel within the narrative would be maintained over the duration of a complete sequence. As a result, he could gain the authority to funnel players through the narrative because his skill would lead them onwards.

Final Fantasy XV: Player Character Parties

Another instance of characters as funneling devices is identifiable in *Final Fantasy XV*, where the player character Noctis travels with three friends through a large open world. While Noctis' mechanics, like Shulk's, may not be anchored in the narrative, and he may thus not possess any authority from players' perspectives, it is the party's dialogue that funnels players (Figure 13):

Figure 13 : Final Fantasy XV Funneling Screenshots & Transcript



As can be seen, Noctis does not speak, and only his companions are characterized through dialogue. Noctis acting as a funnel could break his characterization of being a quiet, brooding prince and make him too accessible to players. His silence may indeed be characterization. Regardless, characters within the player party acting as funnels in dialogue is efficient in characterizing multiple characters at once and funneling players towards the game spine.

Literature Review: Open-World RPGs & Volition Case Studies by Scott Rigby

The following techniques were identified by Scott Rigby to generate, or degenerate, player volition in open-world RPGs. While not directly related to character in his case studies, the techniques are prevalent in this paper's case study games in relation to character, which will be addressed in the next sections.

In his discourse on player autonomy, Rigby presents a case study of *Skyrim* (Bethesda Game Studios, 2011), in which he refers to the game's "dense RPG approach" (2018, 22:48). On a slide of his presentation, he writes: "Skyrim's Rich RPG systems deepen volition by empowering growth and providing richer narrative threads" (23:05). RPG systems often function numerically — character statistics, skill development, monetary systems — and can create great ludonarrative disharmony through non-diegetic menus and grinding, for example. If given meaning within the narrative though, RPG systems can contribute to players perceiving a "meaningful sense of growth" (24:06), an effect powerful in building volition (24:06).

Whenever systems become redundant or repetitive, they lose meaning to players, regardless of how deeply they relate to narrative. Rigby references the open-worlded *Far Cry 3* (Ubisoft Montreal, 2012) and its water-buffalo-hunting feature, which loses meaning and volitional player engagement after the initial mission. When the mission is completed, Rigby explains, the hunting of water buffalos becomes meaningless and dissatisfactory to players. "Once an activity loses value for need satisfaction, future "opportunities" are just noise to be ignored", Rigby writes on a presentation slide (17:41). This type of gathering-quest is often found in RPGs, and undermines any relation to the game spine the quest may have had through redundancy.

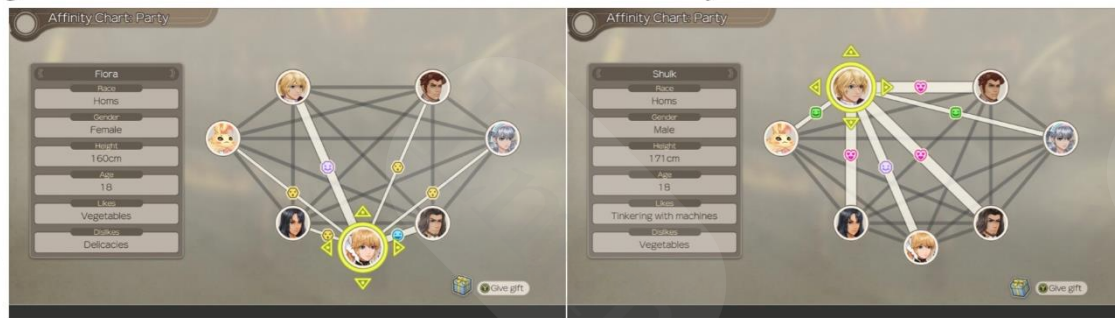
The next sections will evaluate the case study games through the lens of character in their use of the mentioned systems.

Xenoblade Chronicles: Narrative Skill Trees & Systems

Xenoblade Chronicles' exploitation of its affinity chart and the skill tree systems plays a great part in building player volition for its game spine. The RPG contains a complex network of character relationships. The player party can develop relationships with regions,

observe non-playable character (NPC) relationships, and deepen those between all individual party members (Figure 14):

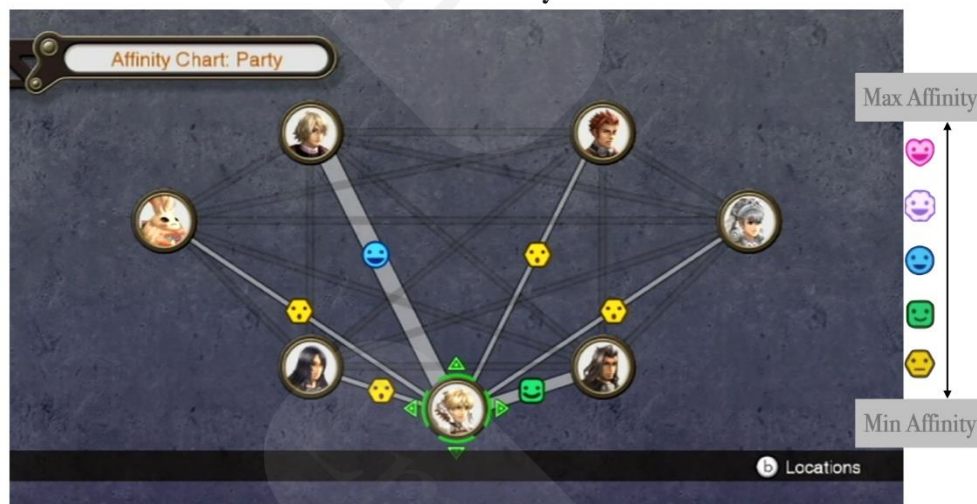
Figure 14 : Xenoblade Chronicles Definitive Edition Affinity Charts Screenshots



These affinities can not only be created through gameplay — for instance, by making one character gift the other something they have mentioned liking during dialogue — but they also affect gameplay.

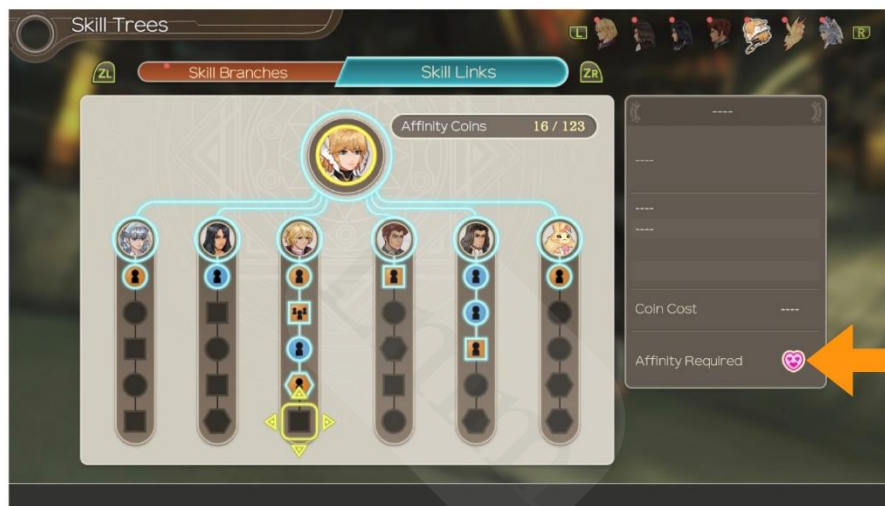
When Fiora, who was initially separated from the party, returns to find unknown members have joined, her affinity chart reflects her familiarity with Shulk and her brother Dunban (Figure 15):

Figure 15 : Xenoblade Chronicles Fiora’s Return Affinity Chart Annotated Screenshot



At this moment, game spine and character mechanics systems align, and players find meaning in their synchronicity.

Xenoblade Chronicles also features a system in which players can link party members' skill trees to lend abilities of one character to another. As can be seen in Figure 16 below, Fiora's ability can only be linked to Shulk if their affinity is at its highest.

Figure 16 : Xenoblade Chronicles Definitive Edition Fiora Skill Link Annotated Screenshot

This precondition is relevant to the game spine, as Shulk and Fiora are portrayed to have a close friendship. Shulk’s adventure even starts because of her death. When she is revived and the two reunite, their relationship is alluded to turning romantic, and players can ratify this by maximising their affinity to gain new abilities. These mechanics systems related to character are fitting examples of ludonarrative harmony and meaningful play through integration, as narrative and mechanics justify one another, cementing player action in the game spine and generating player volition. Moreover, they function well in characterizing Shulk and Fiora, and reflect their relationship, embedding story and gameplay into character.

Final Fantasy XV: Skills Outside Narrative

Conversely, *Final Fantasy XV* exemplifies mechanics that are disjointed from the narrative and become redundant. For instance, in Chapter 2, the player character Noctis searches a tomb to find the royal arms of his ancestors, which contain immense power. The scene in which Noctis takes possession of the first royal arm is given weight in the game spine, as his mentor-character states the following: “To claim your forebearers’ power is your birthright and duty as a king”. This implies a moment of character progression in which Noctis assumes control of the narrative’s trajectory. Finding all the arms, it is implied, will confirm his status as a king. Soon though, it becomes evident that the arms have no effect on Noctis’ characterization and merely unlock higher combat statistics and abilities. Players are only required to collect four of the thirteen arms, despite it being Noctis’ “duty”.

After Noctis seeks two arms in Chapter 2, they only regain significance outside of combat twice, once in Chapter 3 and once in Chapter 10. In both cases, the search for the arms is formatted as fetch-quests in which the battles and exploration are more significant, and the arms could be replaced by any other item. They are reduced to collectibles advantageous only for combat and become meaningless to the narrative and characterization because of their redundancy.

This exemplifies a mechanic that relates to character without characterizing. When players pursue royal arms, the system marginalizes the narrative.

Summarizing Character

Character and characterization are very useful tools for creating an embedded narrative in an open world. From the previous analyses, the following conclusions can be drawn:

- Using player character professions as main mechanics to anchor player action in the themes of the game spine results in meaningful play and ludonarrative harmony.
- Using a player character with sufficient authority to funnel players through the narrative creates ludonarrative harmony. Alternatively, player parties may be used to the same effect, specifically through dialogue.
- Using RPG systems to characterize and display evolving relationships between characters creates meaningful play through integration and ludonarrative harmony.
- Avoiding redundancy in RPG systems prevents the deconstruction of player volition.

Setting

Setting in games can refer to both the aesthetic nature of the spaces players navigate, and to the physical properties and configurations of these spaces. The latter perspective describes level design and will be assumed for the following chapter, as it is most closely tied to game mechanics.

The great importance of setting in open-world games is already evident by their genre's name, which sets certain expectations on the configurations of the spaces players navigate. A game spine in this category must leave space for the open world to be the main attraction. Contrary to character, setting cannot always support narrative but can coexist with it in ludonarrative harmony.

Combining open worlds with embedded narratives can have numerous benefits and purposes, including: To give players more spaces to practice skills in, to detail lore that would require long verbal explanations otherwise, and to give players several options of traversal from one event to the next as to conceal the rigid pre-authored nature of the story. Open worlds can be used to distract from and degenerate player volition for the game spine intentionally. This is a valid purpose in moments where the narrative holds no urgency. Ludonarrative disharmony arises when game designers must suddenly reverse the effect to continue the story, or reintroduce urgency into the narrative after periods of calm. How can game designers use setting as both a distraction and a funnel for the embedded narratives set in open worlds? With relation to this question, this chapter will discuss a few techniques employed in the case study games as well as ones suggested by experts.

Literature Review: Guiding Spaces

Blake Rebouche, quest designer on the open-world action RPG *Horizon Zero Dawn* (Guerrilla Games, 2017), shared techniques he developed to balance the action component with the RPG nature of the game by identifying design priorities, or lenses, of each genre (2018, 25:58) (Figure 17):

Figure 17 : RPG versus Action Design Priorities by Rebouche , B. (Annotated)

RPG	Action
1. Quests guide players through stories.	1. <u>Spaces guide players through challenges.</u>
2. Consider how players approach quests.	2. <u>Consider how players approach spaces.</u>
3. Movement should be guided and should prevent backtracking.	3. Movement should be fun in and of itself.
4. Quest should have <u>meaning.</u>	4. Quests should have <u>explosions.</u>

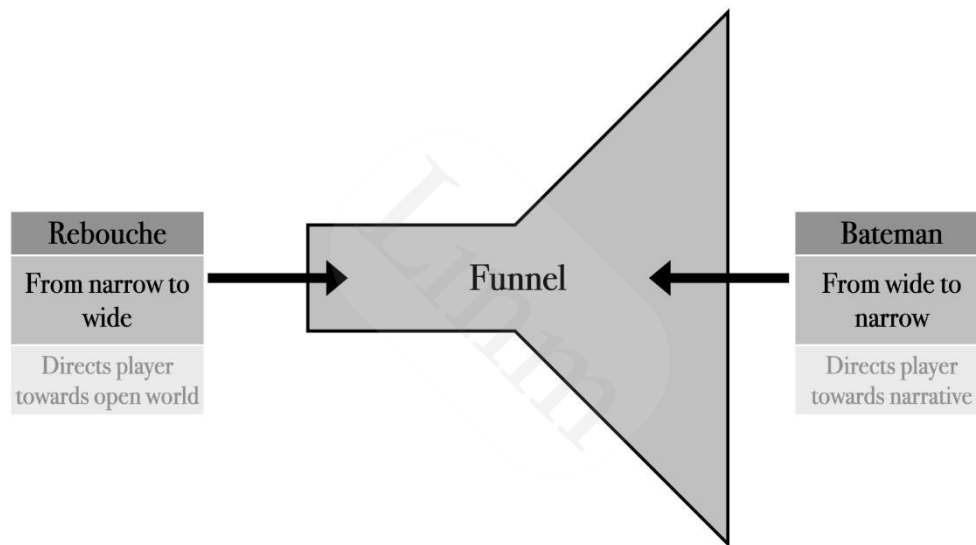
Points one and two of the action column focus on the use of spaces and are particularly relevant to games with open worlds for both quest and map design, even to those not categorized as action games. Spaces should guide players, even when they are freely navigable. This guidance can be directed at the game spine.

Literature Review: Choke-Point-Funneling & Inverse Funneling

Chris Bateman introduces the term *choke point* to refer to points on maps that trigger narrative events, such as cutscenes or dialogue (2021, p.102). Choke points could be considered a funneling technique for setting, a bottleneck to redirect player volition onto the game spine.

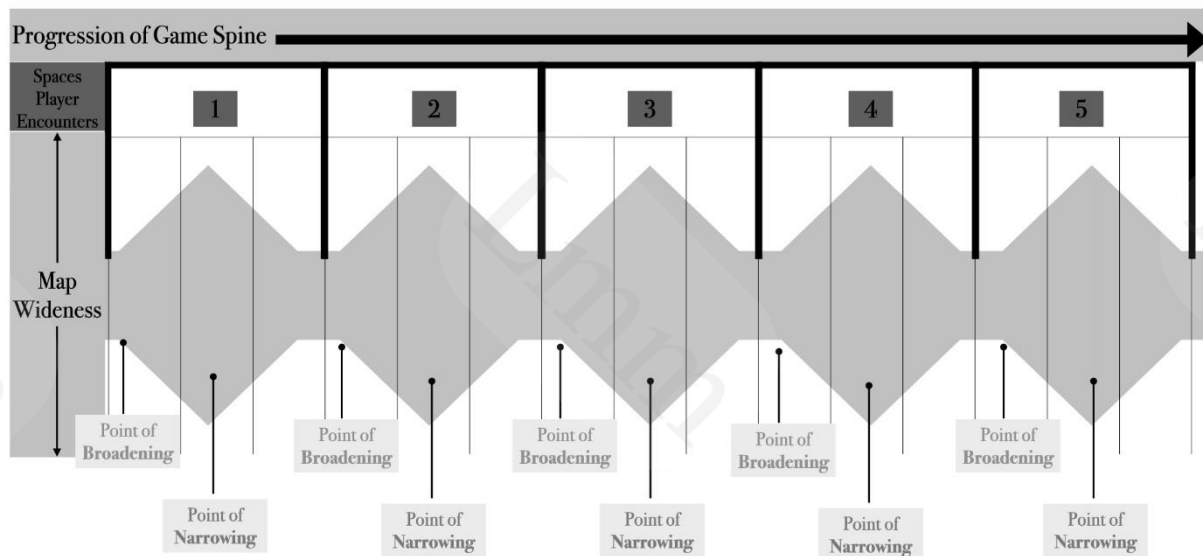
In contrast, Rebouche describes *Horizon Zero Dawn* as a funnel that gradually widens with “points of broadening” (2018, 30:51) that lead players gently from initial narrative exposition towards the freedom of navigation of the open world (30:30).

So, while Bateman’s funneling technique directs players towards the game spine, Rebouche’s technique directs players away from the game spine and towards the openness of the map (Figure 18):

Figure 18 : Comparison of Rebouche & Bateman Funneling Techniques

Rebouche also describes traversal mechanics he developed for dungeon-like spaces called bunkers and cauldrons in *Horizon Zero Dawn*, stating they are linear and contain most of the embedded narrative (2018, 6:02). Bunkers and cauldrons may thereby be Bateman’s version of a funnel — points of narrowing — showing that open worlds are likely to contain both “broad” and “narrow” funneling spaces that alternate between one another.

Figure 19 below presents players’ chronological journeys along the game spine through alternately widening and narrowing game spaces, combining Rebouche’s and Bateman’s techniques. Narrow areas contain unavoidable choke points, building narrative urgency. Broad areas are freely navigable in times when narrative urgency has been dissolved. The spaces’ numberings merely signify the chronological order in which players traverse them when adhering to the game spine, and do not depict a linear map.

Figure 19: Open World Funneling & Inverse Funneling Visualization

The design of setting requires a steady rhythm, one that players can anticipate to not feel ambushed by the narrative or lost in large spaces without a clear goal. The proposed funneling pattern will now be further analyzed with the case study games.

Xenoblade Chronicles: Funneling & Inverse-Funneling Maps

Xenoblade Chronicles is defined as an open-world game even though it frequently sets limitations on player navigation freedom. The most obvious case of this is that maps are unlocked linearly as the story progresses. The linearity is justified by the setting, namely the bodies of titans that must be scaled, but should be acknowledged nonetheless as a significant compromise to freedom of navigation. *Xenoblade Chronicles* still qualifies as an open-world game due to the back-and-forth travelling players can do, as well as the large, open, and broad spaces that do not need to be crossed in one correct way.

When analyzing the configurations and order of the game's maps, the alternation between points of broadening and points of narrowing becomes evident (Figure 20, 21):

Figure 20 : Xenoblade Chronicles Definitive Edition Map Sequences

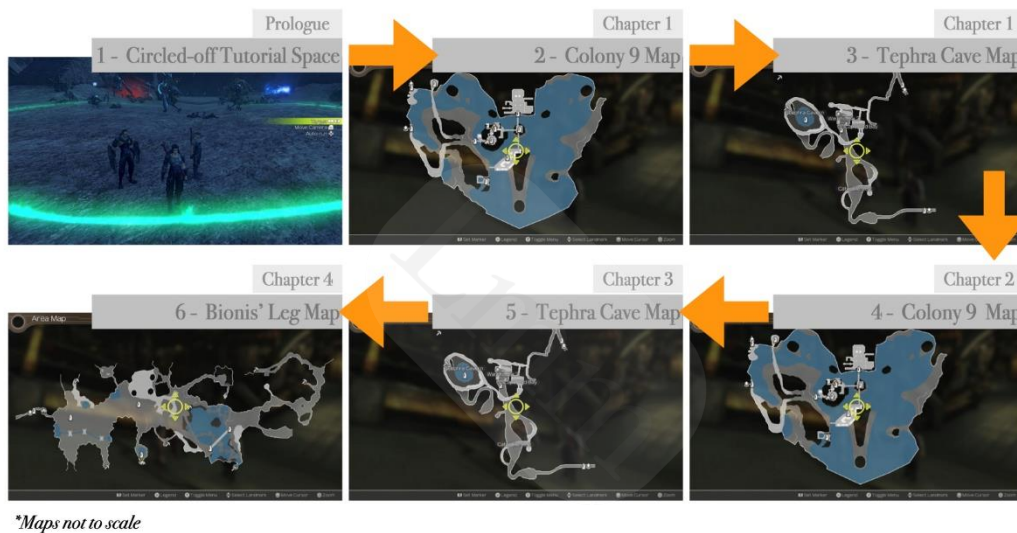
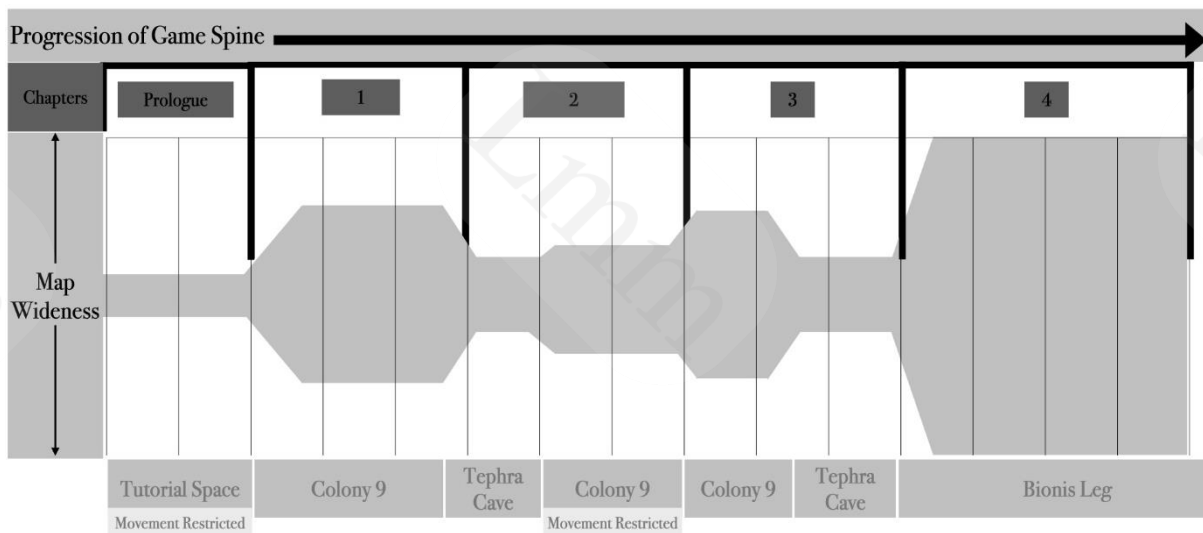


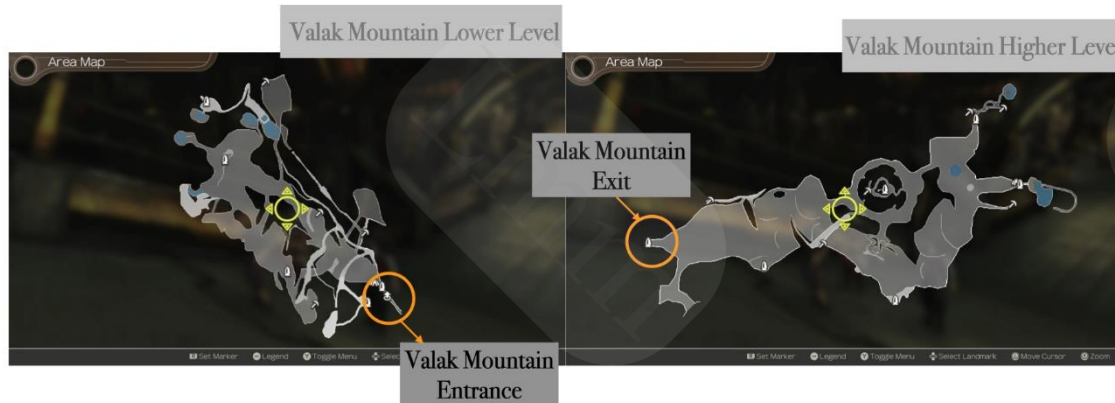
Figure 21: Xenoblade Chronicles Prologue - Chapter 4 Maps Narrowing and Broadening Visualization



The game features broad and narrow spaces and confirms the theory established in Figure 19. Broad areas, such as *Colony 9*, feature many side-quests, allow for grinding and exploring, and accommodate a few choke points that initiate narrower phases or give players context for subsequent missions. Narrow areas, such as the initial tutorial or *Tephra Cave* – specifically in Chapter 3 when Shulk must promptly chase and save a friend – are dense in cutscene-triggering choke points and often introduce new mechanics that players can test repeatedly in quick succession. The alternating schemes of broad and narrow areas allow the game spine to periodically waive room for openness, and vice versa. Furthermore, this rhythmic structure guides player actions by letting them anticipate what degree of widthness will ensue and what actions they should be performing.

On a micro-level, individual maps also have points of narrowing and points of broadening (Figure 22):

Figure 22 : Xenoblade Chronicles Definitive Edition Valak Mountain Maps



The entrance and exit of the map are funnel-shaped and clearly recognizable to players. Right before points of narrowing or widening, players likely expect choke points to give them narrative context for their next goals. They may choose to backtrack and return to side-questing and exploration or enter the funnel to advance the narrative. When players do not feel interrupted by choke points volition, for the narrative is generated.

In the previous chapters, it has been discussed that *Xenoblade Chronicles* weakly upholds player volition for the game spine in the transitions between events, as characterization fades into the background in side-quest and exploration phases. This partially correlates with the shape of the map, as players lose focus when maps are broad and brimming with opportunities. While narrow spaces accommodate narrative through linearity, broad spaces can accommodate narrative through characterization to compensate. Concisely, the wideness of a map and the strength of characterization enforced through mechanics needed correlate proportionally.

Heaven's Vault: Hubs as Choke Points

As mentioned previously (see Figure 8, p.9), each episode in *Heaven's Vault* ends with Aliya returning to her ship, which therefore functions as a hub world. On the ship, Aliya and her companion regularly discuss what they have seen, where they should go, and what they have gathered (Figure 23):

Figure 23: Heaven's Vault Ship Hub Dialogue & Transcript

The ship-hub could be considered a narrow map in *Heaven's Vault*, and transitions players from one broad map of their choice to the next. Generally, the game spine is at the foreground of the discussions on board and gives way to the open world before and after.

One notable difference to aforementioned points of narrowing is the lack of narrative urgency during scenes set on the ship. *Heaven's Vault* does not need urgency due to the fact that players uncover events that have already occurred. This does not imply that hub worlds, in general, cannot build narrative urgency.

Final Fantasy XV: Funnel Ambushing

When studying *Final Fantasy XV*'s setting sequences, the strong relationship between funneling, narrative pacing, and meaningful play comes into focus. The fifteen chapters can roughly be separated into four acts in terms of the game's settings (Figure 24-27):

Figure 24: Final Fantasy XV Act I Maps (Leide, Duscae, Cleigne)



**Image colouring has been altered to increase visibility.*

Figure 25: Final Fantasy XV Act II Map (Altissia)



**Image colouring has been altered to increase visibility.*

Figure 26: Final Fantasy XV Act III Maps

Map of Magna Fortia Train Route



Figure 26.1

Map of Fodina Caestino



Figure 26.2

Map of Zegnautus Keep Floor 2

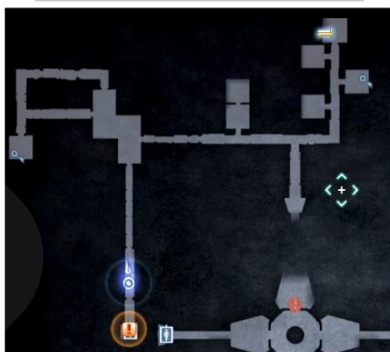


Figure 26.3

Map of Zegnautus Keep Floor 3

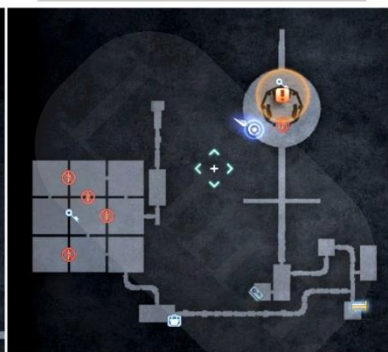


Figure 26.4

Map of Zegnautus Keep Floor 4



Figure 26.5

**Image colourings have been altered to increase visibility.*

Figure 27: Final Fantasy XV Act IV Map (Insomnia)



**Image colouring has been altered to increase visibility.*

Act I features large, open-world maps that are fully unlocked in Chapter 3. The narrative's pace is slow, as players are encouraged to side-quest and explore, and rarely forced to comply with the game spine's urgency.

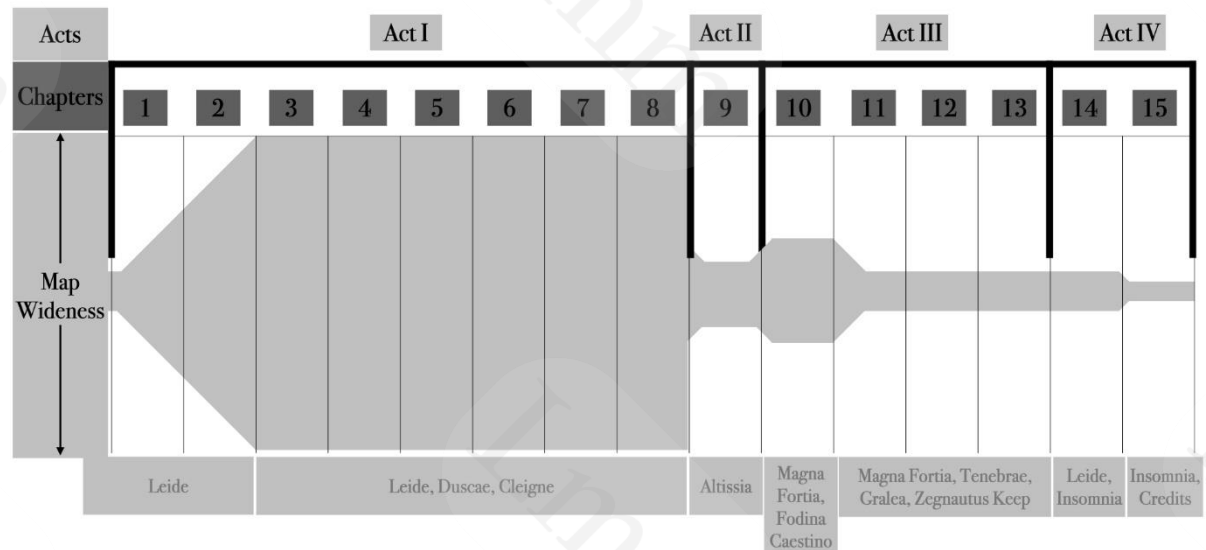
Act II takes place in a freely navigable city. The story is urgent, but players can still explore or even fish. The map is a point of narrowing but maintains some features of an open world.

Act III drastically changes the story's pacing, and players are caught on a train journey. Maps decrease in size, become linear, and are mainly designed for extended combat sequences. There are no side-quests available. Only the *Fodina Caestino* map in Chapter 10 could be considered as a point of broadening but is still far smaller than the map of Act I.

Lastly, Act IV has two maps, one completely linear, the other a city mainly intended for combats.

Several issues in *Final Fantasy XV*'s level design sequence become apparent when approximating the progression of map wideness (Figure 28):

Figure 28: Final Fantasy XV Maps Narrowing and Broadening Visualization



Firstly, the rhythm at which maps broaden and narrow is inconsistent. This causes issues in narrative pacing since the first act's game spine can be played leisurely, while all other acts increase in velocity and drag players along unexpectedly.

Secondly, the shrinking of map sizes and openness makes the maps feel linear. The ways in which players can approach spaces become very limited, making maps feel

constricting and downgraded.

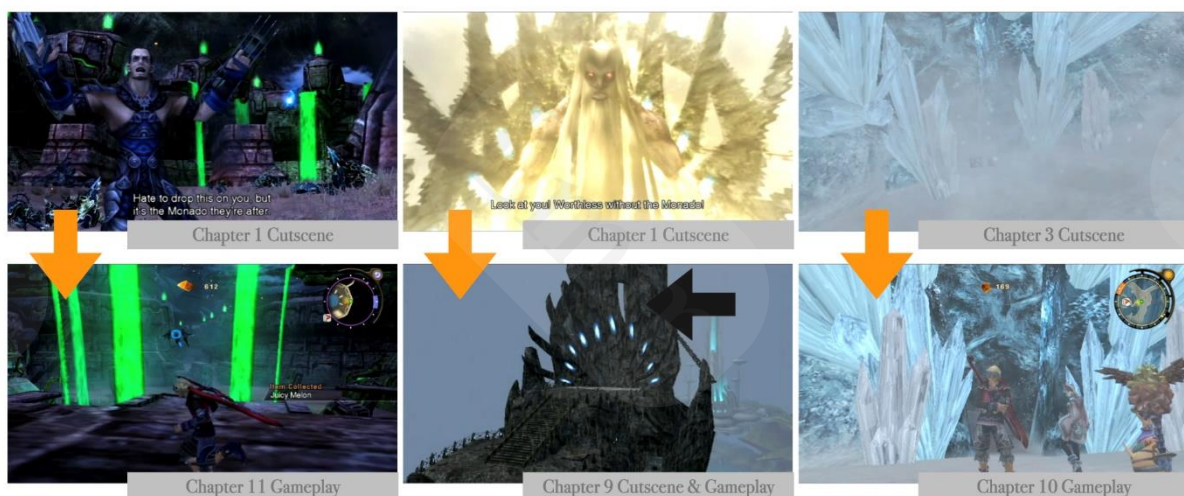
Thirdly, because players cannot return to maps once they have exited them and progressed in the story, players feel trapped and ambushed by the narrative. Through the lens of narrative, this is justified: the player character is on a journey and has no reason to return. Through the lens of the open-world genre, this design choice is problematic: the maps do not qualify as open by any means and players could feel upset by the subverted expectations. Players are given warnings at points of no return, but because they do not know how linear the subsequent maps are, the warnings do not reconcile the gap between player expectation and level design.

Final Fantasy XV's reduction of map wideness therefore displays the importance of funneling players through settings of different wideness at anticipatable rhythms to avoid forcing narrative and linearity onto players and breaking their volition for the game spine. *Final Fantasy XV* is arguably only an open-world game in its first act because openness is later entirely abandoned to accommodate the urgency of the finale. This deprives players of their autonomy and showcases the essentiality of back-and-forth travelling in open worlds as well as the detrimental impacts of level design on narrative pacing.

Xenoblade Chronicles: Cutscene Location

Lastly, *Xenoblade Chronicles* employs one more technique to make setting relevant to narrative: Settings shown during cutscenes are always visitable (Figure 29):

Figure 29: Xenoblade Chronicles Visitable Locations Screenshots



This makes cutscenes palpable, and players engage in volitional scavenger hunts to find where an event occurred. Exploration becomes meaningful in the context of the narrative. Setting in this instance generates volition for the game spine, and vice versa.

Summarizing Setting

The setting of an open-world game with an embedded narrative is a significant technical limitation to narrative. Onboarding players in the duality and rhythmic changes between linear segments and segments of freedom is vital to building volition. To make the compromises between narrative and open worlds less striking, game designers can use the discussed techniques:

- Funneling and inverse funneling players through points of broadening and narrowing at steady intervals builds anticipation and permits players to volitionally abandon their freedom of navigation temporarily.
- Placing choke points in broad areas gives players objectives and lends meaning to exploration. Placing them in narrow spaces capitalizes on narrative, and hub worlds can be used to the same effect.
- Introducing urgency during points of narrowing and dissipating it during points of broadening accommodates space for open-world mechanics such as exploration and side-questing.
- Controlling the density of choke points in a map helps adjust narrative urgency.
- Including points of broadening and narrowing on a micro-level in individual maps makes transitions between maps more seamless.
- Embedding cutscene locations in explorable spaces builds volition for exploration and contextualizes open-world mechanics within narrative.

Conclusion

Video games are not stories, but stories can be told through video games. Open worlds are certainly hindrances to storytelling, and yet the convergence of narratives and openness is not impossible. Narrative components are constructed from tools, and though the nature of these tools may vary depending on the medium, they can still amount to an engaging piece of fiction.

This paper's research question explores how and to what effect the main conventions of narrative (structure, character, setting) can be employed to support embedded narratives in open-world video games.

In short, each component's mechanics can be calibrated to the effect of building player volition for the embedded narrative, generating meaningful play, and creating ludonarrative harmony.

The mechanics of each component have distinct purposes and limitations, and can compensate for one another in areas of weakness:

- Mechanics relating to narrative structure can be configured to build narrative tension through either consequentiality or causality. Both structures have drawbacks, and there is likely no ideal structure for narratives in open worlds. Gaps in tension will occur and can be compensated for using character mechanics.
- Mechanics relating to character should be deeply rooted in narrative themes and characterize the player character wherever possible. Formatting the player character as a vessel that embodies the game spine and advances it through actions and interactions will ensure that players cannot stray far from the narrative, even when side-questing or exploring. Moreover, players are more likely to accept guidance along and enforcement of the game spine if they are diegetically integrated into character mechanics and characterization.
- Mechanics relating to setting cannot directly be used to support narrative. Instead, spaces can be designed to balance narrative with open worlds by funneling players through alternately broadening and narrowing areas. Setting mechanics cannot be used to trick players into staying by the game spine but can be employed transparently. Letting players anticipate changes and giving them options to delay or return from narrow areas through back-and-forth travelling mechanics allows for

smoother interplay between ludic and narrative moments. To keep the game spine relevant throughout the course of the game, character mechanics can serve to fill broad areas with narrative and build player volition.

Narrative structure and setting can be adapted to embedded narratives in open-world games. Character, however, can be purpose-built. Unlike structure and settings, characters have few restrictions with relation to both narratives and video game mechanics since there are no predetermined configurations a character must adhere to in an open world. Characters can be moulded in any fashion to fill any role a game narrative needs, no matter how unique or all-encompassing it may be. In essence, when composing a narrative in an open-world game, game designers should rely on detailed, specific, and thematically embedded characters. As explored by Deborah Hendersen (see Figure 9, p.11), characters are the most memorable parts of video games and should consequentially be considered essential in making narratives impactful and meaningful to players of open world games.

Word Count: 7990

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Figure 3: Sequential Game Structure by Bernstein, J.

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Figure 6: Xenoblade Chronicles Act 1 Ending Screenshots & Transcript

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Figure 7: Heaven's Vault Episode Structure by Ingold, J.

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Figure 9: Microsoft User Research Study Findings by Hendersen, D.

Hendersen, D. (no date) *Findings Summary* [Table] Available at: < https://www.youtube.com/watch?v=m6Hjfu0-oZY&ab_channel=GDC > (Timestamp: 17:48)(Accessed August 2021)

Figure 10: Heaven's Vault Decipherment Screenshots

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Figure 12: Xenoblade Chronicles Definitive Edition Quest Log Annotated Screenshot

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Figure 17: RPG versus Action Design Priorities by Rebouche, B.

Rebouche, B. (2018) *RPG vs. Action Lenses*, 25 June. [Table] Available at: < https://www.youtube.com/watch?v=b8WDPmwOHKg&t=600s&ab_channel=GDC > (Timestamp 25:58)(Accessed December 2021)

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Monolith Soft (2020) *Xenoblade Chronicles: Definitive Edition* [Screenshots]. Nintendo.

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Monolith Soft (2020) *Xenoblade Chronicles: Definitive Edition* [Screenshots]. Nintendo.

Figure 23: Heaven's Vault Ship Hub Dialogue & Transcript

Inkle (2021) *Heaven's Vault* [Screenshots]. Inkle.

Figure 24: Final Fantasy XV Maps Act I (Leide, Duscae, Cleigne)

Square Enix (2016) *FFXV Lucis In-Game Map* [Illustration] Available at: < https://finalfantasy.fandom.com/wiki/Lucis?file=FFXV_Lucis_In-Game_Map.png > (Accessed November 2021)

Figure 25: Final Fantasy XV Maps Act II (Altissia)

Square Enix (2016) *Altissia map from FFXV* [Illustration] Available at: < <https://finalfantasy.fandom.com/wiki/Altissia?file=Altissia+map+from+FFXV.png> > (Accessed November 2021)

Figure 26.1: Final Fantasy XV Maps Act III (Map of Magna Fortia Train Route)

Square Enix (2016) *FFXV Niffelheim Map* [Illustration] Available at: < https://finalfantasy.fandom.com/wiki/Magna_Fortia?file=FFXV+Niflheim+Map.png > (Accessed November 2021)

Figure 26.2: Final Fantasy XV Maps Act III (Map of Fodina Caestino)

Square Enix (2016) *Fodina-Caestino-Map-FFXV* [Illustration] Available at: < https://finalfantasy.fandom.com/wiki/Fodina_Caestino?so=search&file=Fodina-Caestino-Map-FFXV.png > (Accessed November 2021)

Figure 26.3: Final Fantasy XV Maps Act III (Map of Zegnautus Keep Floor 2)

Square Enix (2016) *Zegnautus Keep Floor 2 Clean Map* [Illustration] Available at: < <https://www.almarsguides.com/almarsimages/Retro/Walkthroughs/PS4/FinalFantasyXV/> >

[FullPlaythrough/Chapter13/Zegnautus%20Keep%20Floor%202%20Clean%20Map.png](https://www.almarsguides.com/almarsimages/Retro/Walkthroughs/PS4/FinalFantasyXV/FullPlaythrough/Chapter13/Zegnautus%20Keep%20Floor%202%20Clean%20Map.png)

> (Accessed November 2021)

Figure 26.4: Final Fantasy XV Maps Act III (Map of Zegnautus Keep Floor 3)

Square Enix (2016) *Zegnautus Keep Floor 3 Clean Map* [Illustration] Available at:

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<https://www.almarsguides.com/almarsimages/Retro/Walkthroughs/PS4/FinalFantasyXV/FullPlaythrough/Chapter13/Zegnautus%20Keep%20Floor%203%20Clean%20Map.png>

> (Accessed November 2021)

Figure 26.5: Final Fantasy XV Maps Act III (Map of Zegnautus Keep Floor 4)

Square Enix (2016) *Zegnautus Keep Floor 4 Clean Map* [Illustration] Available at:

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<https://www.almarsguides.com/almarsimages/Retro/Walkthroughs/PS4/FinalFantasyXV/FullPlaythrough/Chapter13/Zegnautus%20Keep%20Floor%204%20Clean%20Map.png>

> (Accessed November 2021)

Figure 29: Xenoblade Chronicles Visitable Locations Screenshots

Monolith Soft (2010) *Xenoblade Chronicles* [Screenshots]. Nintendo.

Appendix A : Glossary of Terms

Video Game Terms

Term	Definition
Choke Point	<i>After Chris Bateman</i> A point on a map that triggers a narrative event (e.g. <i>cutscene, dialogue</i>)
Diegetic	Embedded in the game's content, contextually integrated into the game world
Funnel	<i>After Chris Bateman</i> "... describes any system for ensuring that players stay on or can find their way back to the spine of the game."
Game Spine	<i>After Chris Bateman</i> The main story of the game
Grinding	Repeating a game loop to achieve values (e.g. <i>experience points, in-game money</i>)
Hub	A world or map that connects all other maps within a game, <i>sometimes hub-world</i>
Non-Diegetic	Detached from the game world in meaning (e.g. <i>numeric values, menu screens</i>)
NPC(s)	<i>Non-Playable Character(s)</i> Characters players cannot control
Player Character	The character players assumes control of
Open-World Game	A map, or a compilation of maps, in and between which players are given the freedom to roam at almost any given point in time
RPG(s)	<i>Role Playing Game(s)</i> A game in which players assume the role of a character during play
RPG System(s)	<i>See RPG</i> Refers to a system that determines the outcome of player action with regards to character-skill growth and abilities
Side Quest(s)	A quest not related to the main story of the game <i>Variations:</i> Collection-quests, Gathering-quests
Stats	<i>Statistics</i> Refers to values that typically measure the strength of the skills available to/attained by players

Narrative Terms

Term	Definition
Narrative	<i>After Hannah Nicklin</i> How the content is told
Narrative Pacing	The density of plot points and variation thereof in a narrative
Narrative Structure	The order in which events of a story are told
Plot	<i>After Hannah Nicklin</i> Events in chronological, linear order
Story	<i>After Hannah Nicklin</i> The content told

Appendix B : Summary of Case Study Games' Plots

Final Fantasy XV

The story takes place in a world named Eos in which exist many countries, amongst which Lucis and Niffelheim. Lucis, home of the protagonist Noctis, is the only kingdom to possess a Crystal, which grants magical powers to its king through a ring. Niffelheim, threatened by Lucis' power, used magic-tech and demons to build armies and conquer kingdoms all over the world. As Lucis struggled to defend its borders, its king Regis Lucis Caelum signed a peace treaty with Niffelheim, surrendering all of Lucis' land to keep only the capital, and promising his son Noctis to the former princess of the fallen kingdom Tenebrae, who is now known as Lady Lunafreya of Niffelheim.

Years pass, and the game opens as the king sends Noctis, accompanied by his servants and friends Ignis, Gladiolus and Prompto, to finally wed Lady Lunafreya. Soon after the party departs into the big open world in their car, the Regalia, and after encountering multiple road bumps, terrible news reach them: The peace treaty has been broken, Lucis has fallen to Niffelheim, and the king is dead.

Noctis, now king without kingdom, must embark on a dangerous mission across the continent and beyond to reclaim his kingdom and princess Lunfreya from the darkness of Niffelheim using the power of the Gods he subdues with the help of his friends. Little does he know about the twisted secrets and concealed unions of Niffelheim, and the harrowing sacrifices he will have to make to save Eos.

Heaven's Vault

Heaven's Vault's universe is named the Nebula and is composed of countless Rivers that connect Moons. Many civilizations have come and gone, and remnants of their livelihoods float in the largely unexplored world.

Aliya, the main character, was born on the impoverished moon of Elboreth, but saved by the Head of University of Iox, Myari, where she was educated to become a renowned archaeologist. Iox is a rich and luscious moon, once home to the Holy Ioxian Empire who believed in the looping of time.

The game begins when Myari summons Aliya to task her with finding the missing

roboticist Janniqi Renba. Accompanied by his amnesiac robot, whom he reactivated when he dug him out of a wall, Renba seemed on the verge of unearthing tremendous knowledge about the origins and functions of robots in the many past civilizations, but vanished suddenly.

With the help of Renba's robot Six, Aliya travels the Rivers on her ship to uncover what fate Renba faced and the secrets he was discovering using her archaeology skills. As their journey progresses, the two become deeply entangled in the past and the prophecies of the Nebula, learning that time is of a different shape than it seems to be.

Xenoblade Chronicles

The story takes place on the bodies of two titans, Bionis and Mechonis, who died in battle with one another, the sword of the Mechonis severing the Bionis' arm and creating a bridge between the two.

Eons later, the Bionis' and Mechonis' indigenous species are still at war with each other. Bionis harbours organic life, sustained by its ether, amongst which a species called the "homs", similar to humans. Mechonis is home to a species called the "machina", and their machinery, the "mechon", who often cross to the Bionis to attack the homs for unknown reasons.

On the Bionis' right calf lies Colony 9 – one of the only two remaining homs colonies. Colony 9 is home to the studious Shulk, the main character, his two childhood friends Reyn and Fiora, and her brother, the war hero Dunban, who was injured in battle. The injury he sustained was caused by his wielding of the legendary Monado, the only sword with the power to kill mechon and eventually the wielder himself.

When, shortly after the game begins, Colony 9 is air-raided by mechon, Shulk is forced to act by grabbing the hold of the Monado, risking his life. Yet, Shulk finds the Monado causes him no pain, instead granting him the power to see into the future and preempt his enemy's every move. Nonetheless, Shulk is unable to save his friend Fiora, who is killed by a mechon. The death of his friend ignites his desire for revenge and, in company of Reyn and the Monado, Shulk sets course for the Mechonis on a vast adventure that unveils his past, and even the origin of the universe itself.

Thesis Figures

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Figure 1 : Composition of Game Narrative

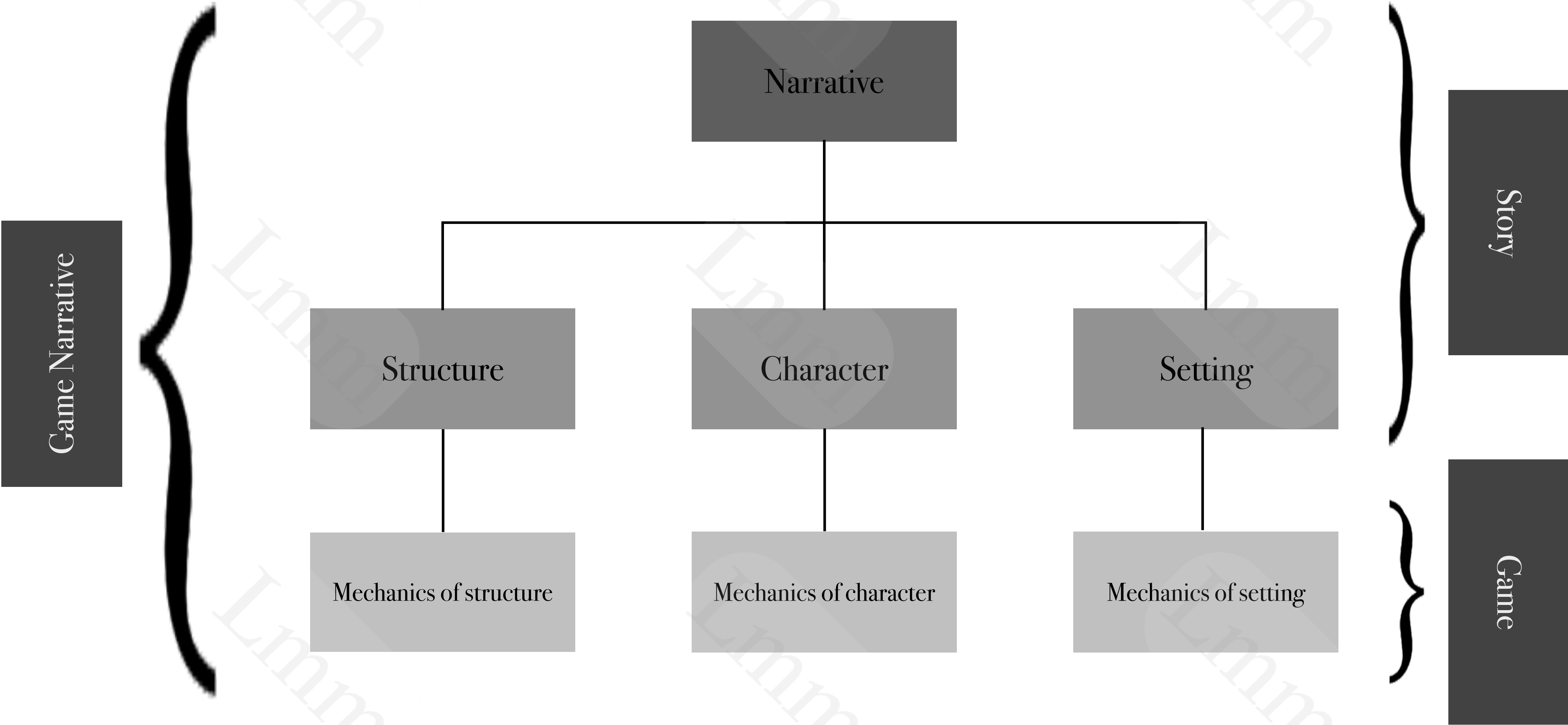


Figure 2 : Flow Chart of Key Concepts

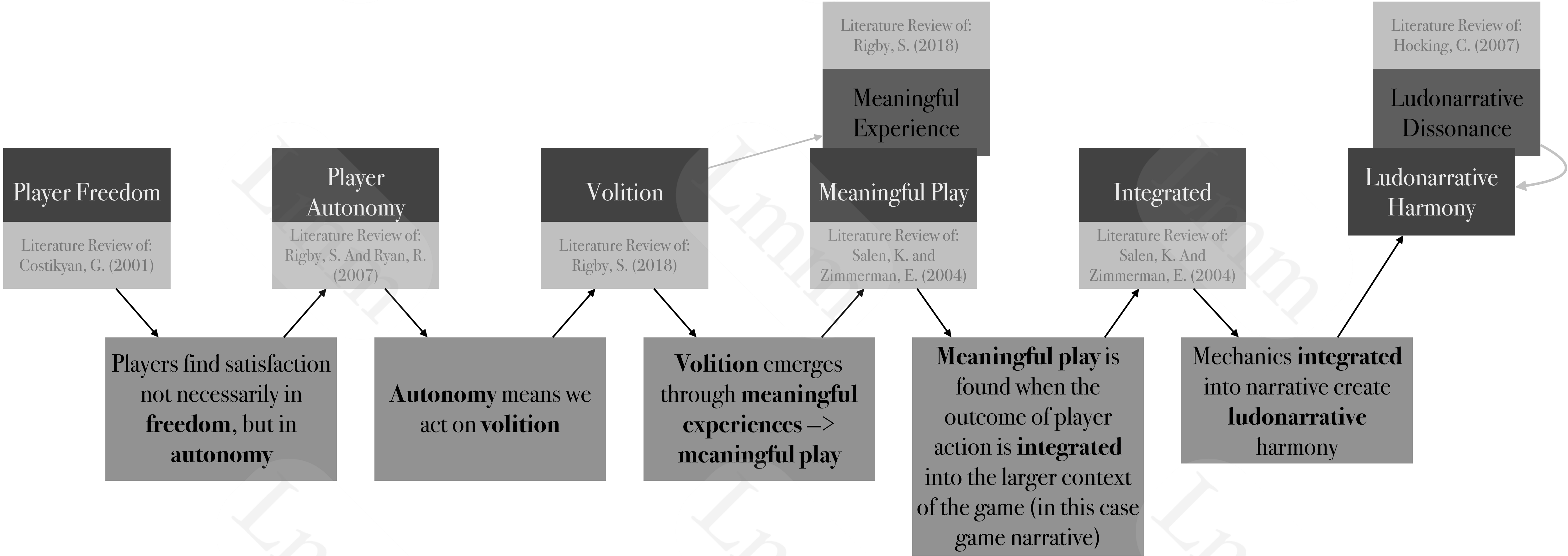


Figure 3: Sequential Game Structure by Bernstein, J.

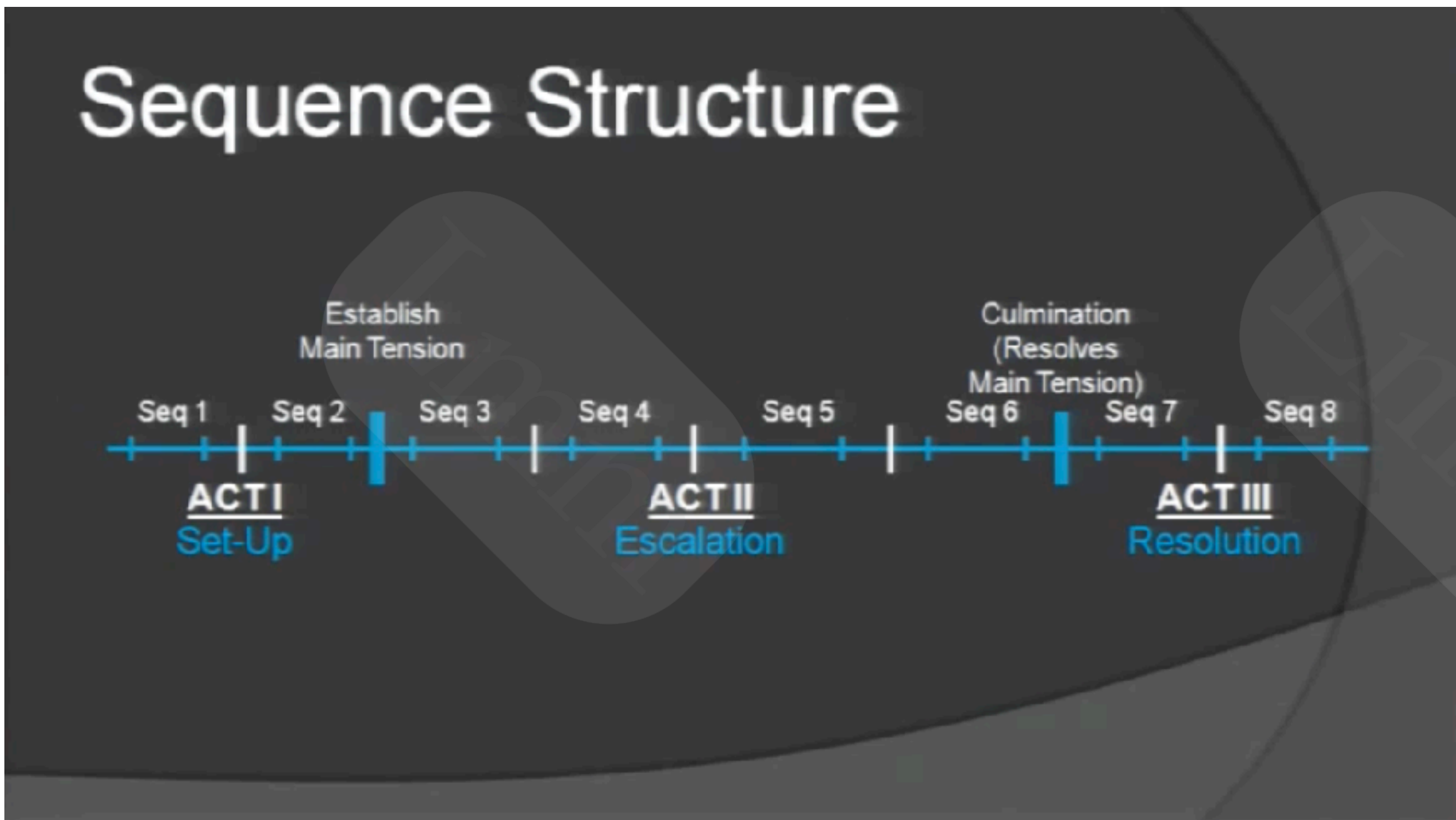
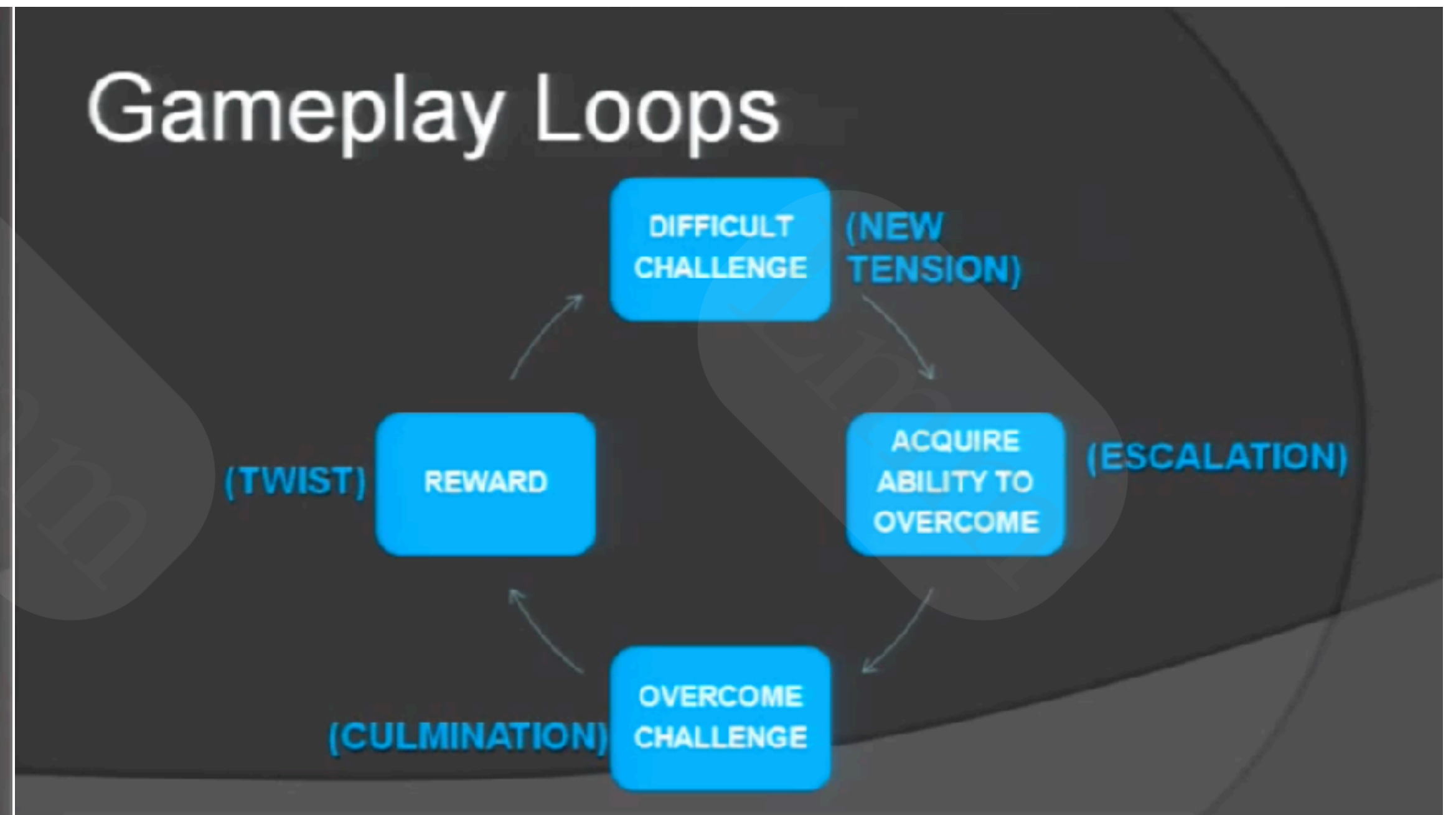


Figure 4: Sequential Gameplay Loops by Bernstein, J.



**8 sequences is an example, games can contain any number of sequences.*

Figure 5 : Xenoblade Chronicles Chapter 2 Game Loop

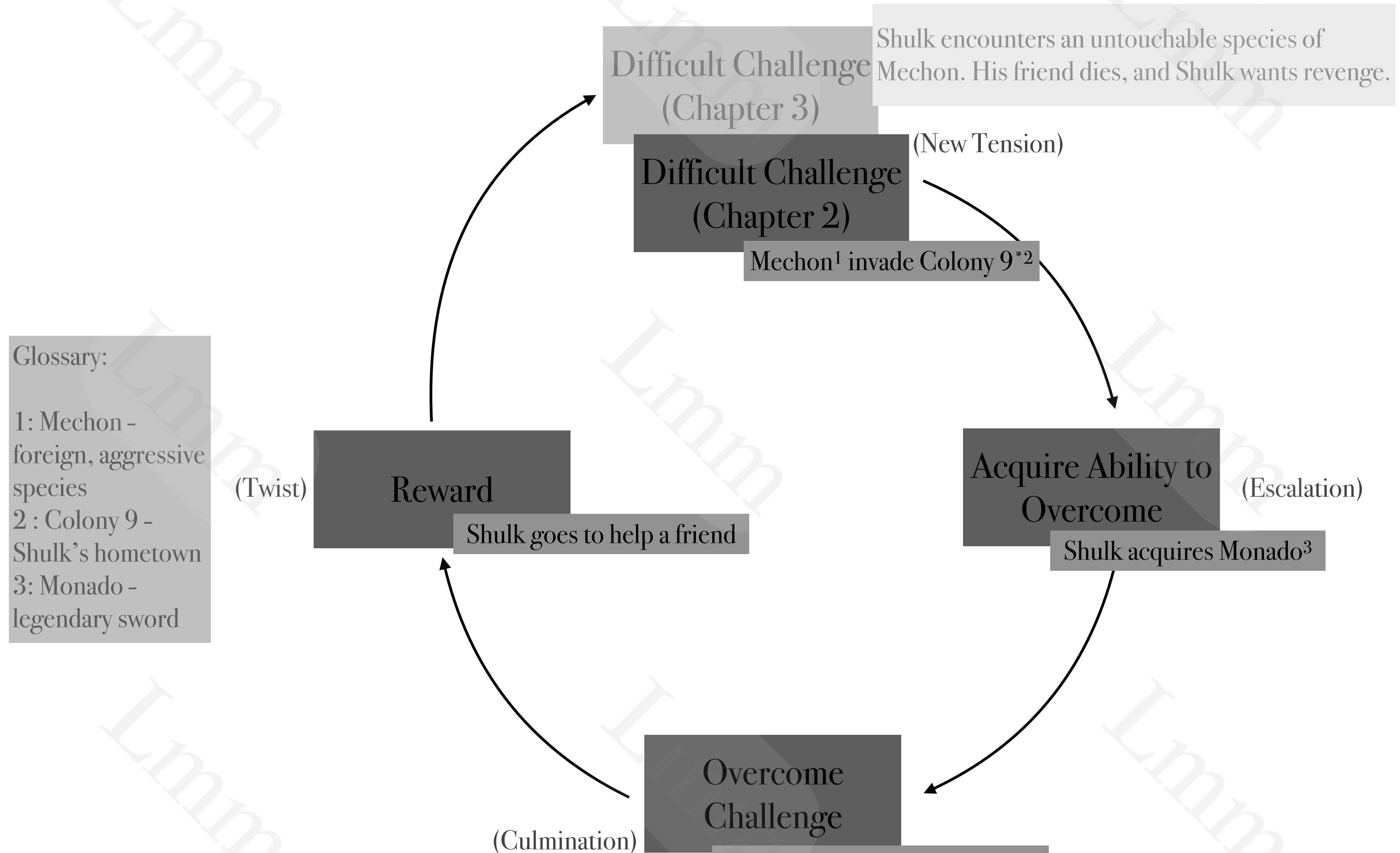


Figure 6 : Xenoblade Chronicles Chapter 2 Ending Screenshots & Transcript

Transcript:

Shulk: I will find that Mechon – find it and destroy it. Destroy them all!

Reyn: So when are we heading off?

Shulk: Right now.



Figure 7 : Heaven's Vault Episode Structure by Ingold, J.

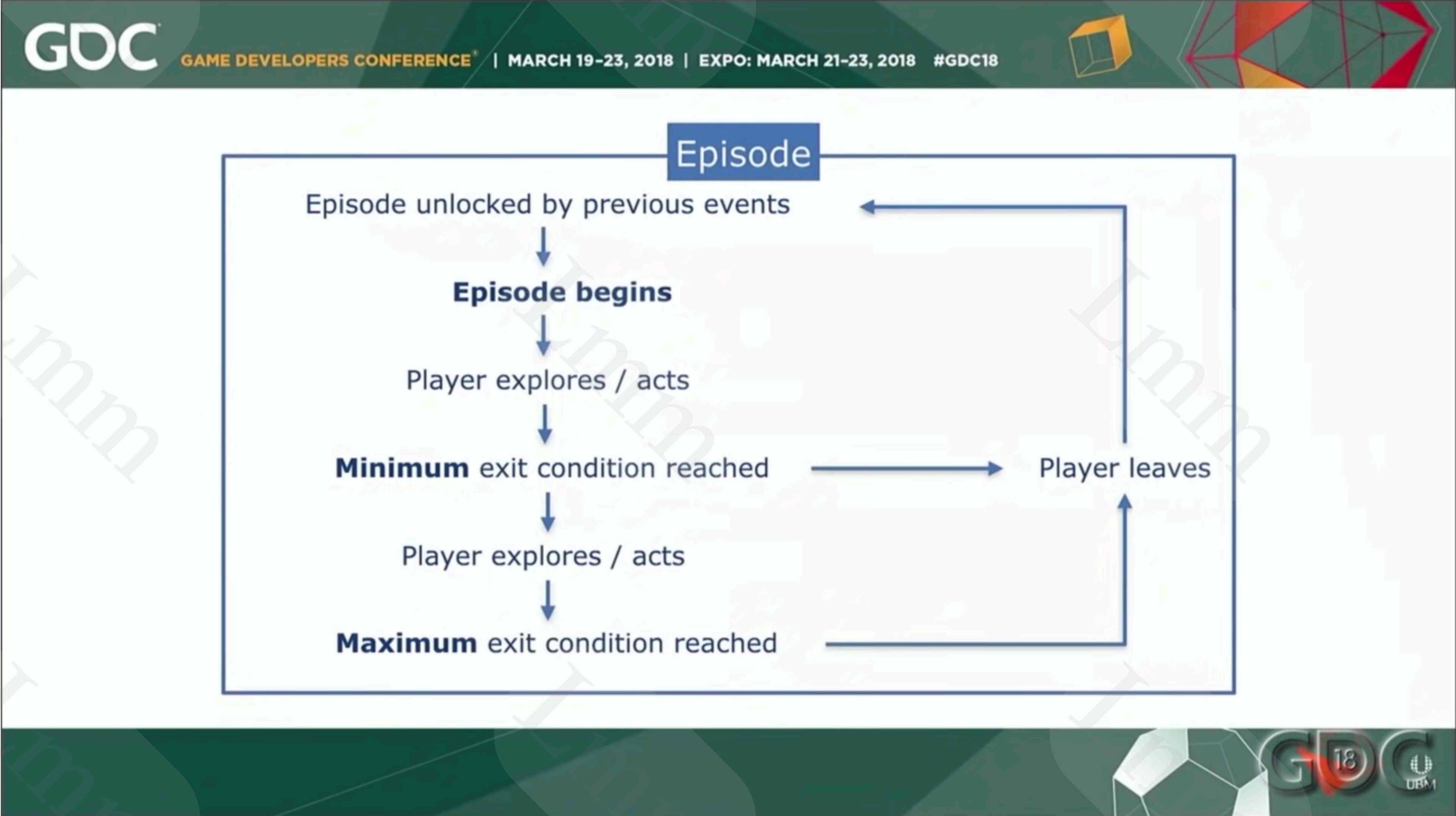
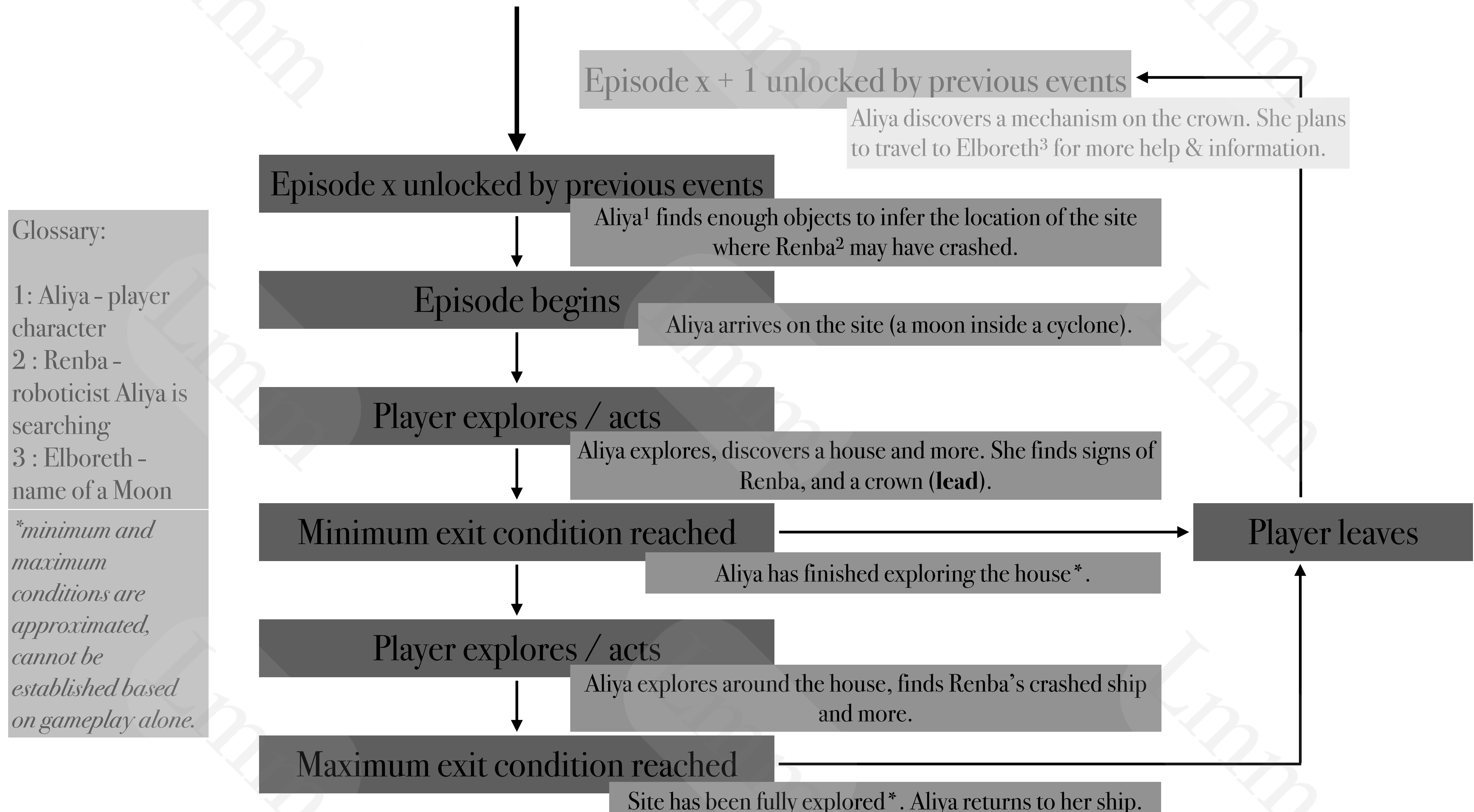


Figure 8 : Heaven's Vault Cyclone Moon Episode Structure



Glossary:

1: Aliya - player character
 2 : Renba - roboticist Aliya is searching
 3 : Elboreth - name of a Moon

**minimum and maximum conditions are approximated, cannot be established based on gameplay alone.*

Figure 9: Microsoft User Research Study Findings by Hendersen, D. (Annotated)

MICROSOFT USER RESEARCH STUDY


	findings summary
finding 1	Players had difficulty tracing game plots from beginning to end (in contrast to other media), often <u>forming only episodic memories for game narrative.</u>
 finding 2	Game characters were consistently remembered, though not necessarily for their role in the plot. Instead, characterization appeared memorable.
finding 3	Player recall for gameplay dominated narrative, even for players who self-reported playing games mostly for the story, but narrative provided context for gameplay, even for players who self-reported ignoring story.
finding 4	Participants were perfectly capable of rich thinking about narrative.

Figure 10 : Heaven's Vault Decipherment Screenshots



Figure 11 : Heaven's Vault Inner Monologues as Diegetic Funneling Screenshot

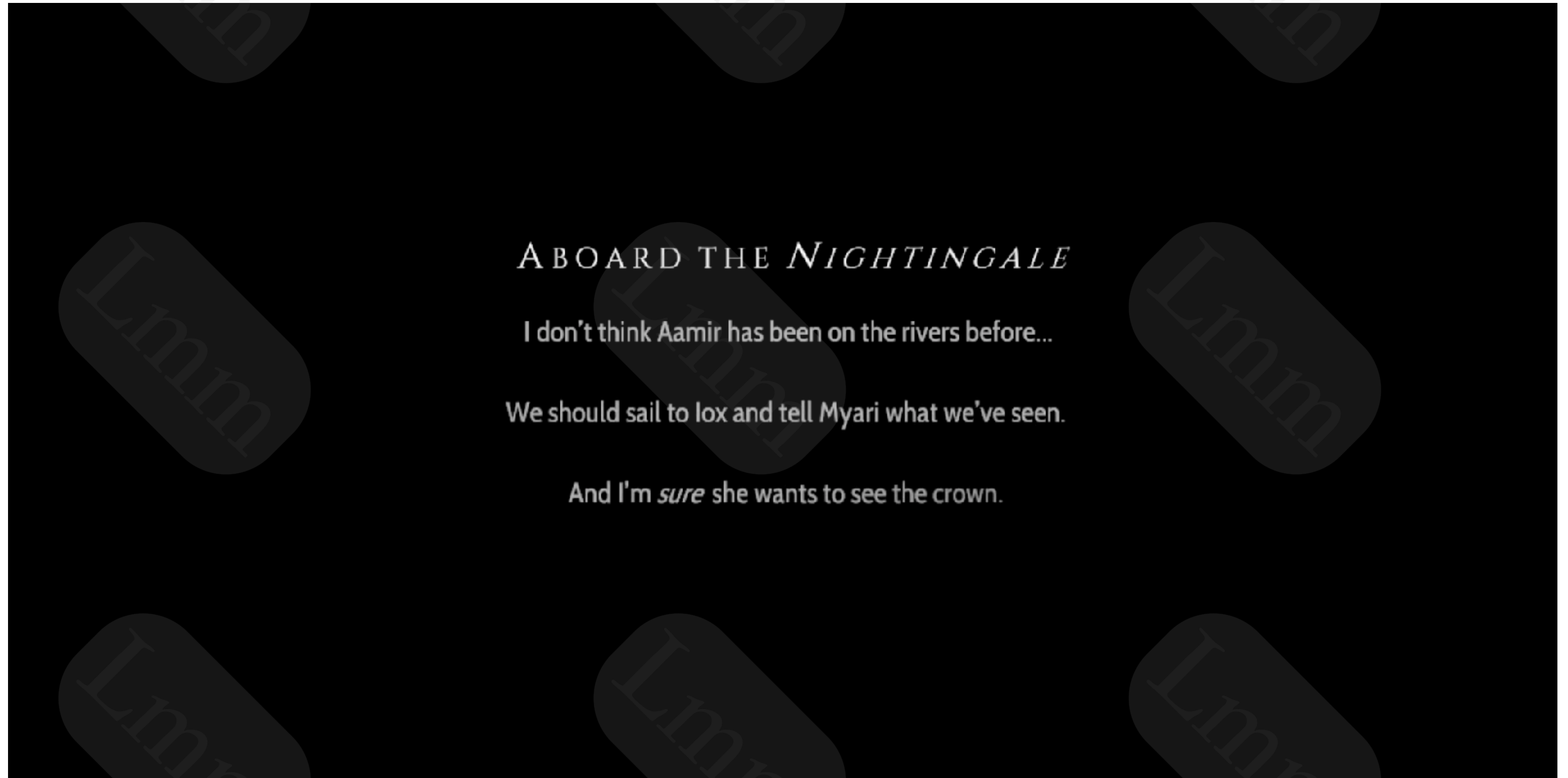


Figure 12 : Xenoblade Chronicles Definitive Edition Quest Log Annotated Screenshot

Quest Log

Categories Current

Active Quest

No quest set as active.

Quest Name	Place Received
Shrine Transport	Agniratha
Pillar Verification Devices	Agniratha
In Pursuit of Love	Colony 6
A Gutsy Trader	Colony 6
Challenge	Eryth Sea
Challenge 1	Alcamoth
Challenge 2	Alcamoth
Challenge 4	Alcamoth

Story Quest

Side Quest

Timed Side Quest

Reconstruction Info

Details

Figure 13 : Final Fantasy XV Funneling Screenshots & Transcript

Transcript:

Prompto: So, uh, where are we headed anyway?

Ignis: Nowhere until the repairs are done. Then we head for Galdin Quay.

Gladiolus: And after that, we hop on a boat, and before you know it, loverboy's hitched.

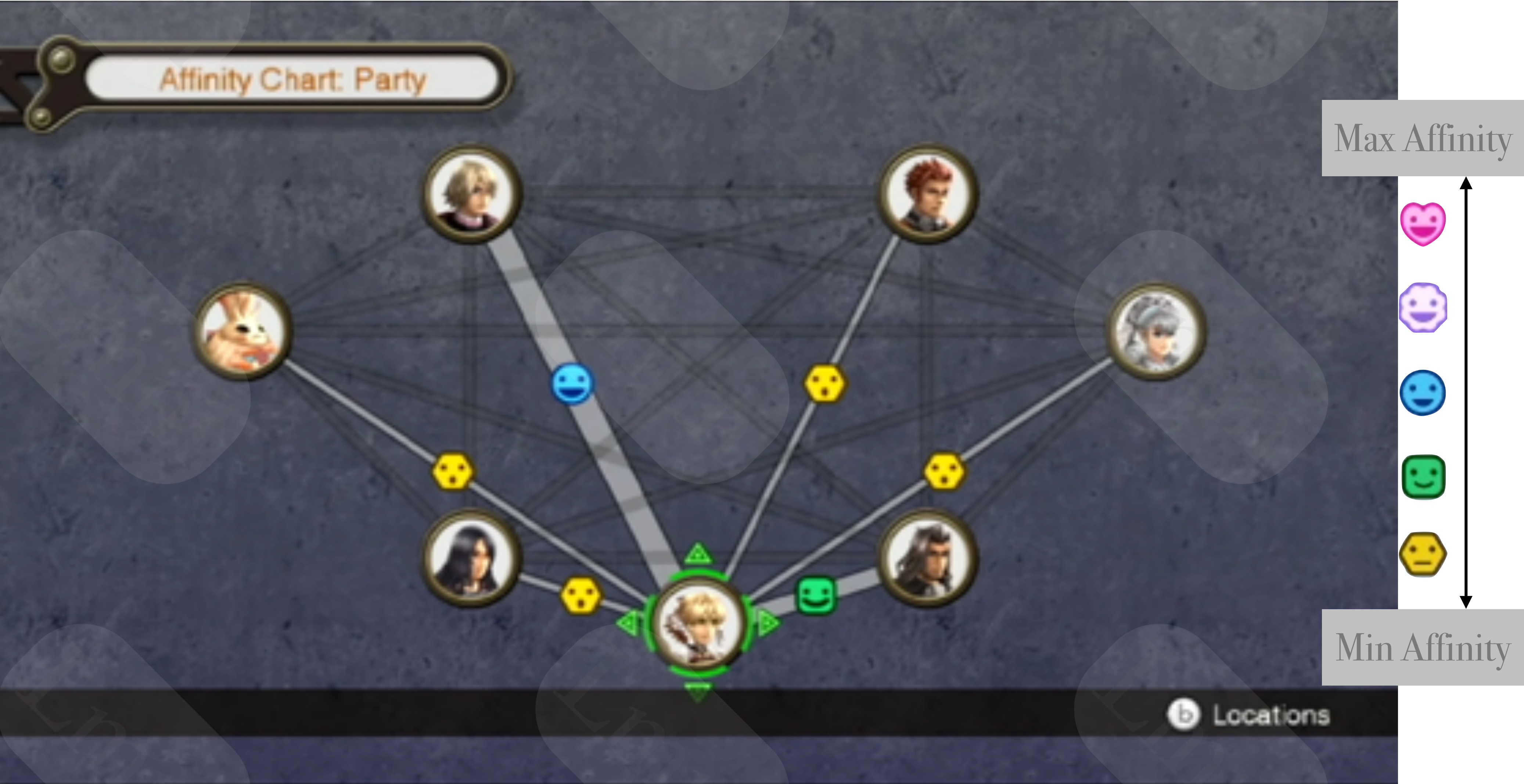
Prompto: Wait for car repairs, then wedding bells in the air. Got it!



Figure 14: Xenoblade Chronicles Definitive Edition Affinity Charts Screenshots



Figure 15 : Xenoblade Chronicles Fiora's Return Affinity Chart Annotated Screenshot



Mit der kostenlosen Version von Watermarkly geschützt. Die Vollversion setzt dieses Zeichen nicht.

Figure 16 : Xenoblade Chronicles Definitive Edition Fiora Skill Link Annotated Screenshot



Figure 17 : RPG versus Action Design Priorities by Rebouche , B. (Annotated)

RPG	Action
1. Quests guide players through stories.	1. <u>Spaces guide players through challenges</u> .
2. Consider how players approach quests.	2. <u>Consider how players approach spaces</u> .
3. Movement should be guided and should prevent backtracking.	3. Movement should be fun in and of itself.
4. Quest should have <u>meaning</u> .	4. Quests should have <u>explosions</u> .

Figure 18 : Comparison of Rebouche & Bateman Funneling Techniques

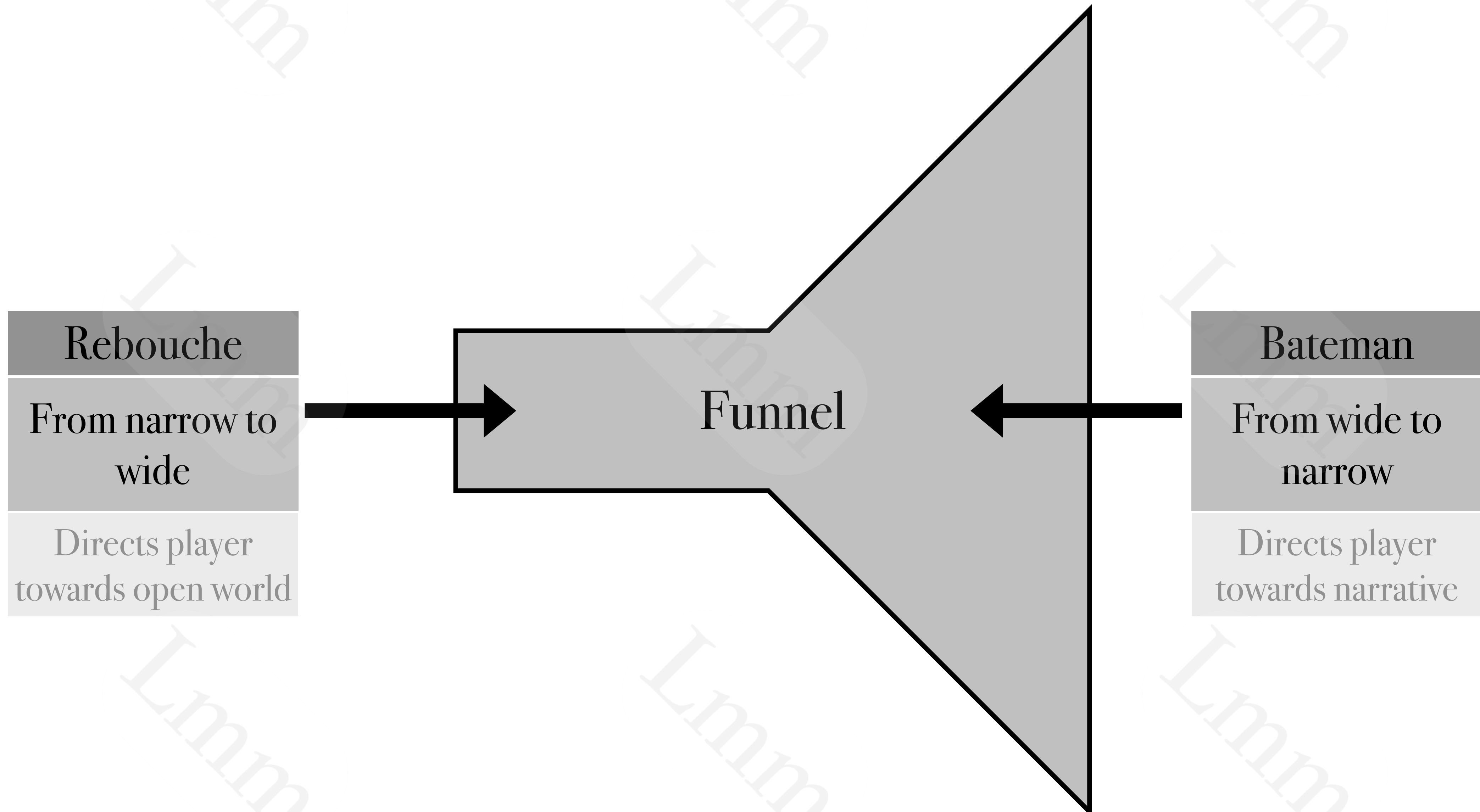


Figure 19: Open World Funneling & Inverse Funneling Visualization

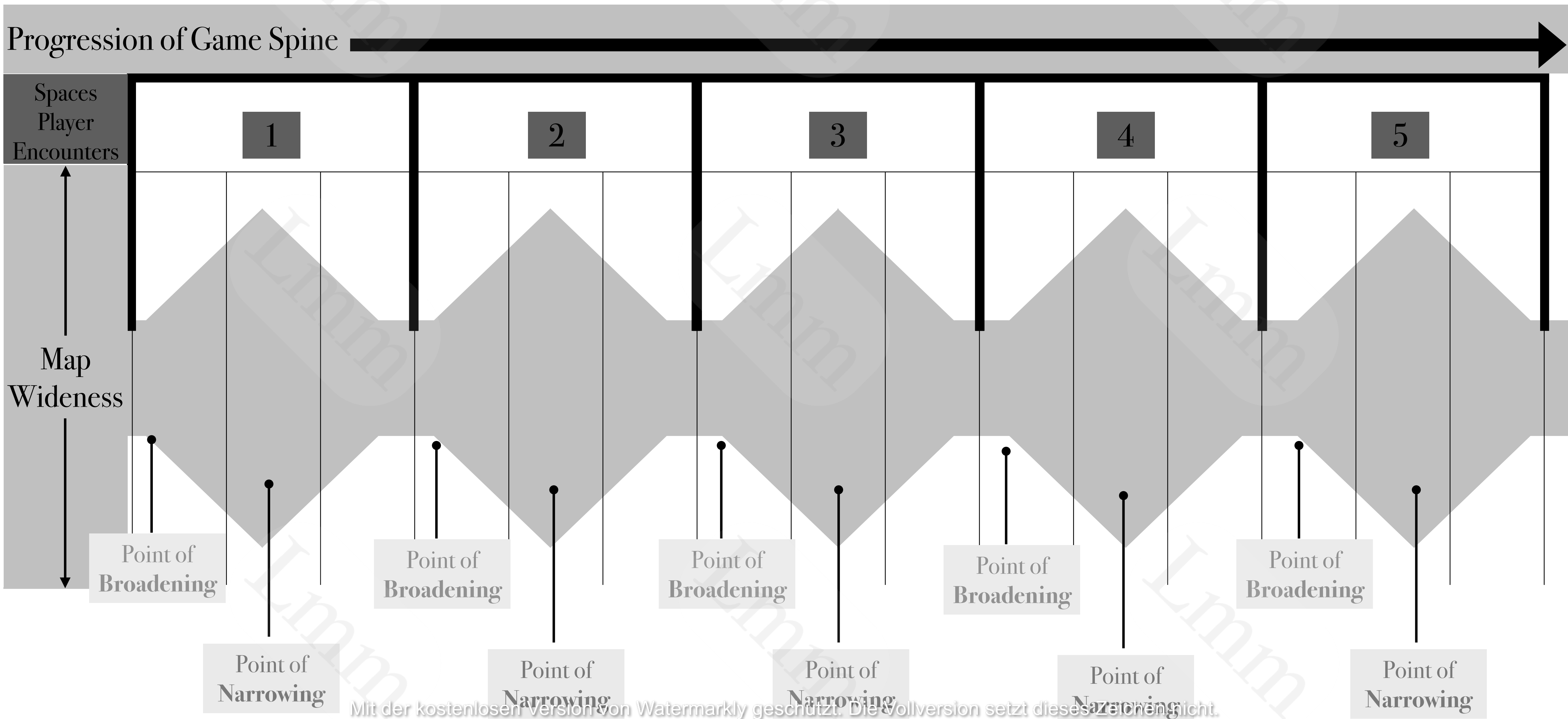
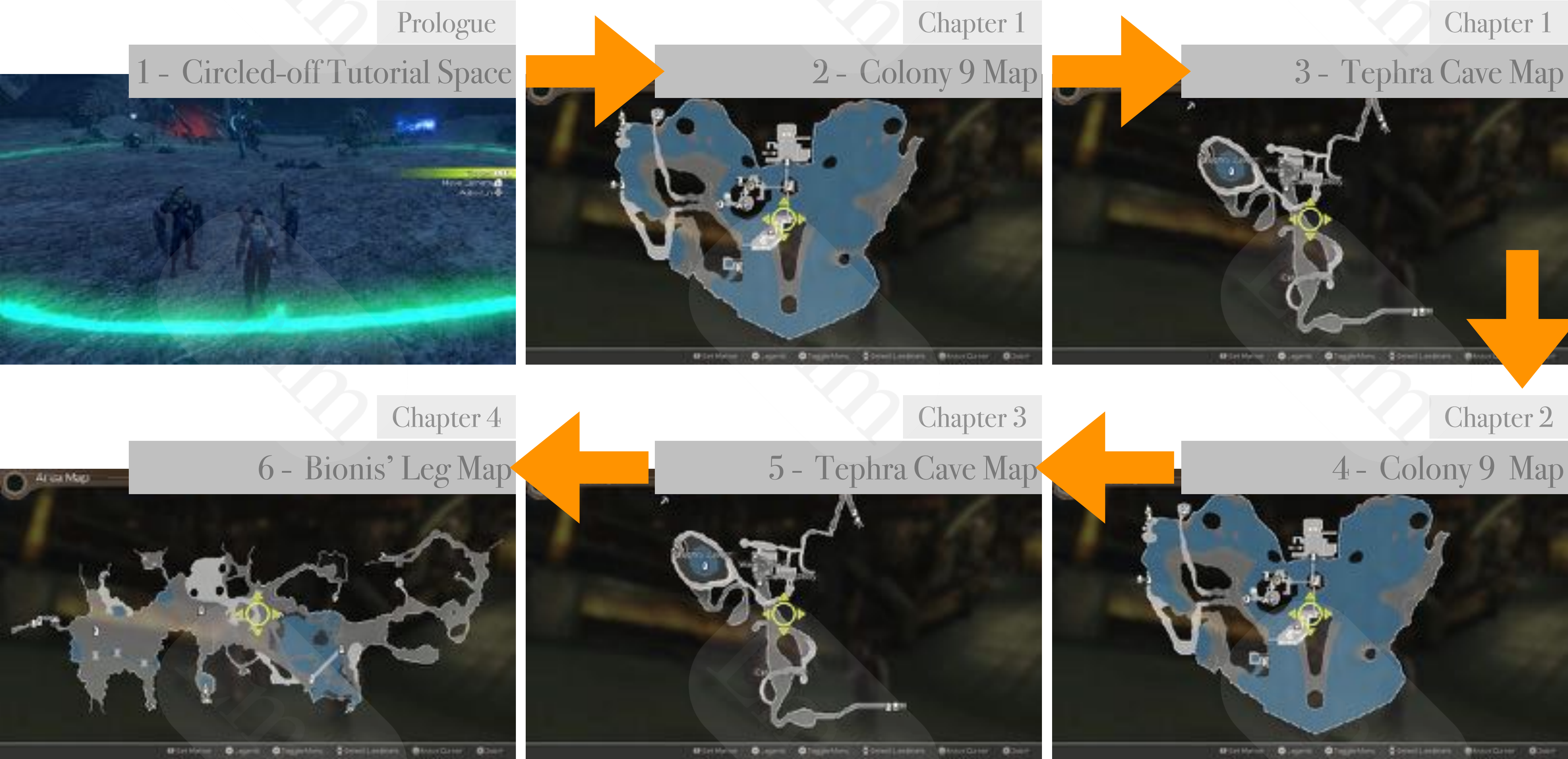


Figure 20: Xenoblade Chronicles Definitive Edition Map Sequences



**Maps not to scale*

Mit der kostenlosen Version von Watermarkly geschützt. Die Vollversion setzt dieses Zeichen nicht.

Figure 21: Xenoblade Chronicles Prologue - Chapter 4 Maps Narrowing and Broadening Visualization

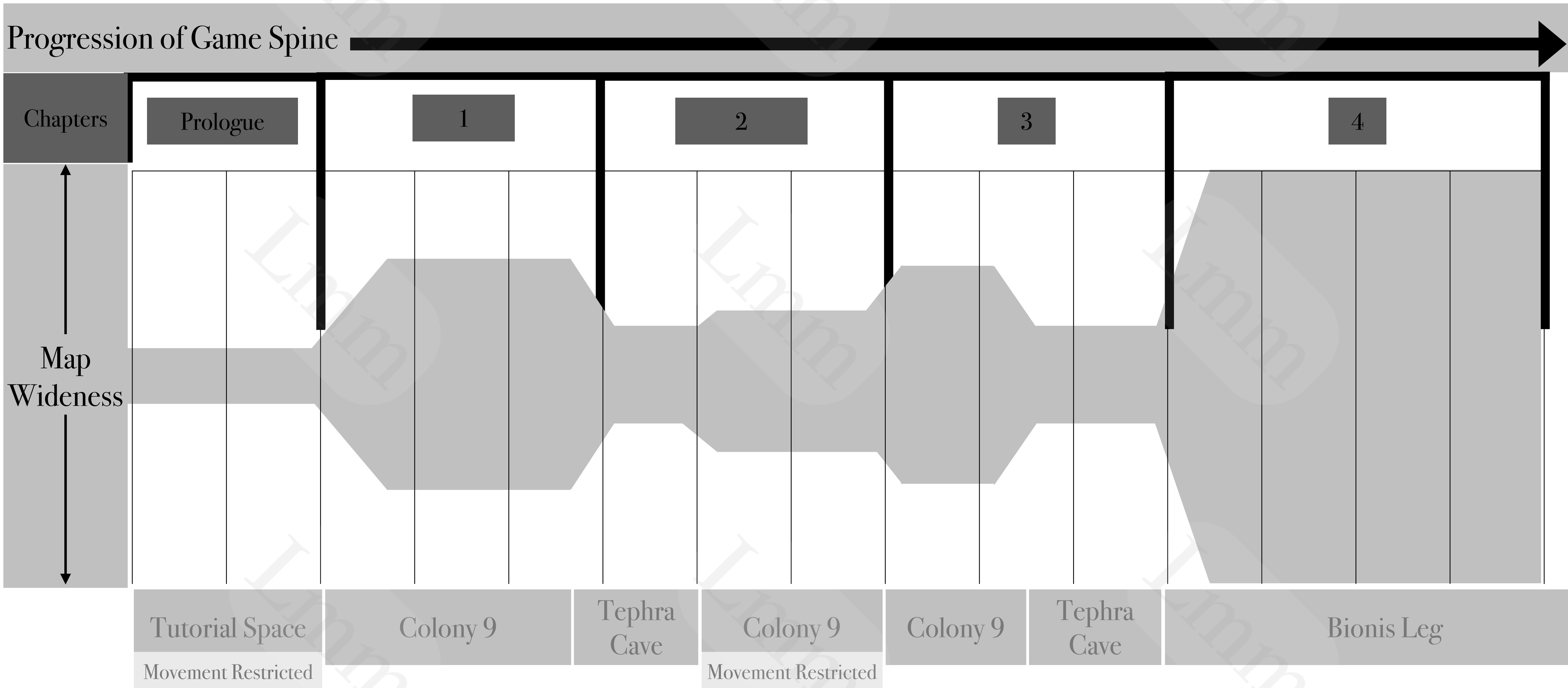


Figure 22 : Xenoblade Chronicles Definitive Edition Valak Mountain Maps

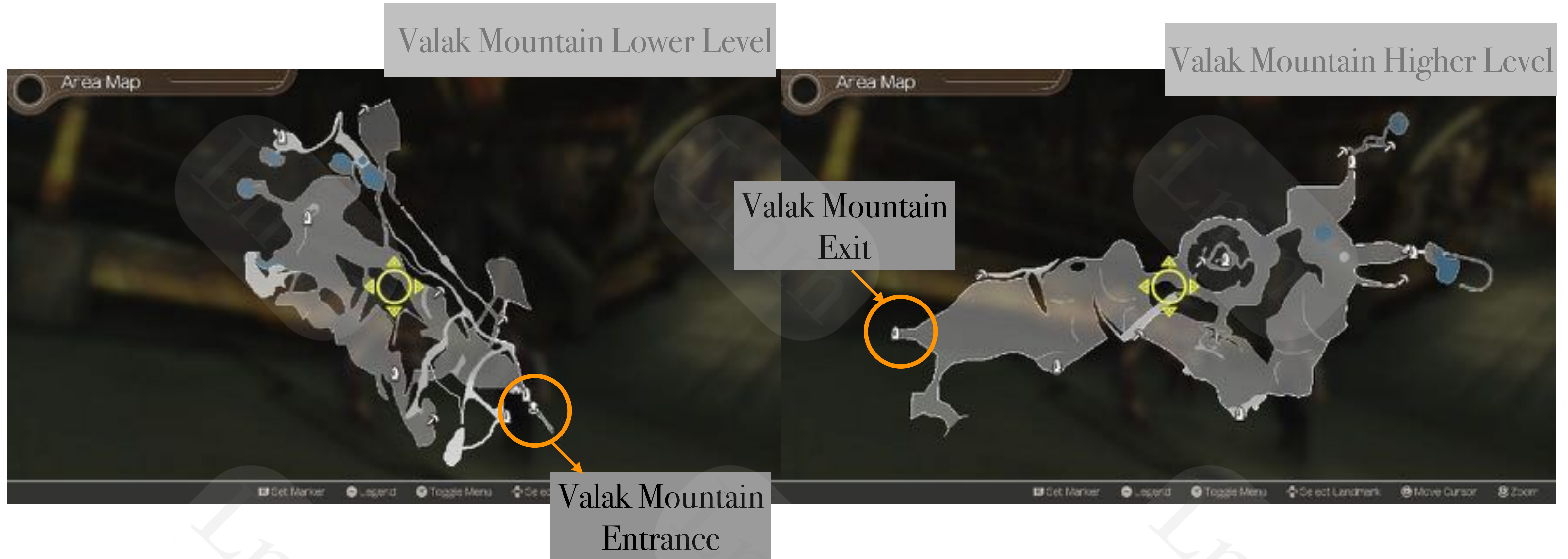


Figure 23: Heaven's Vault Ship Hub Dialogue & Transcript

Transcript:

Text on screen:

ABOARD THE NIGHTINGALE
We should sail to Iox and tell Myari what we've seen.

Six: A curious place, mistress.

Aliya: So much water! If we could ship it...

Six: You would be very rich.



Figure 23: Heaven's Vault Ship Hub Dialogue & Transcript (Continued)



Figure 24: Final Fantasy XV Act I Maps (Leide, Duscae, Cleigne)

Map of Cleigne

Map of Duscae

Map of Leide



Mit der kostenlosen Version von Watermarky geschützt. Die Vollversion setzt dieses Zeichen nicht.
image colouring has been altered to increase visibility.

Figure 25: Final Fantasy XV Act II Map (Altissia)



**Image colouring has been altered to increase visibility.*

Figure 26: Final Fantasy XV Act III Maps

Map of Magna Fortia Train Route



Figure 26.1

Map of Fodina Caestino



Figure 26.2

Figure 26: Final Fantasy XV Act III Maps (Continued)

Map of Zegnautus Keep Floor 2



Figure 26.3

Map of Zegnautus Keep Floor 3

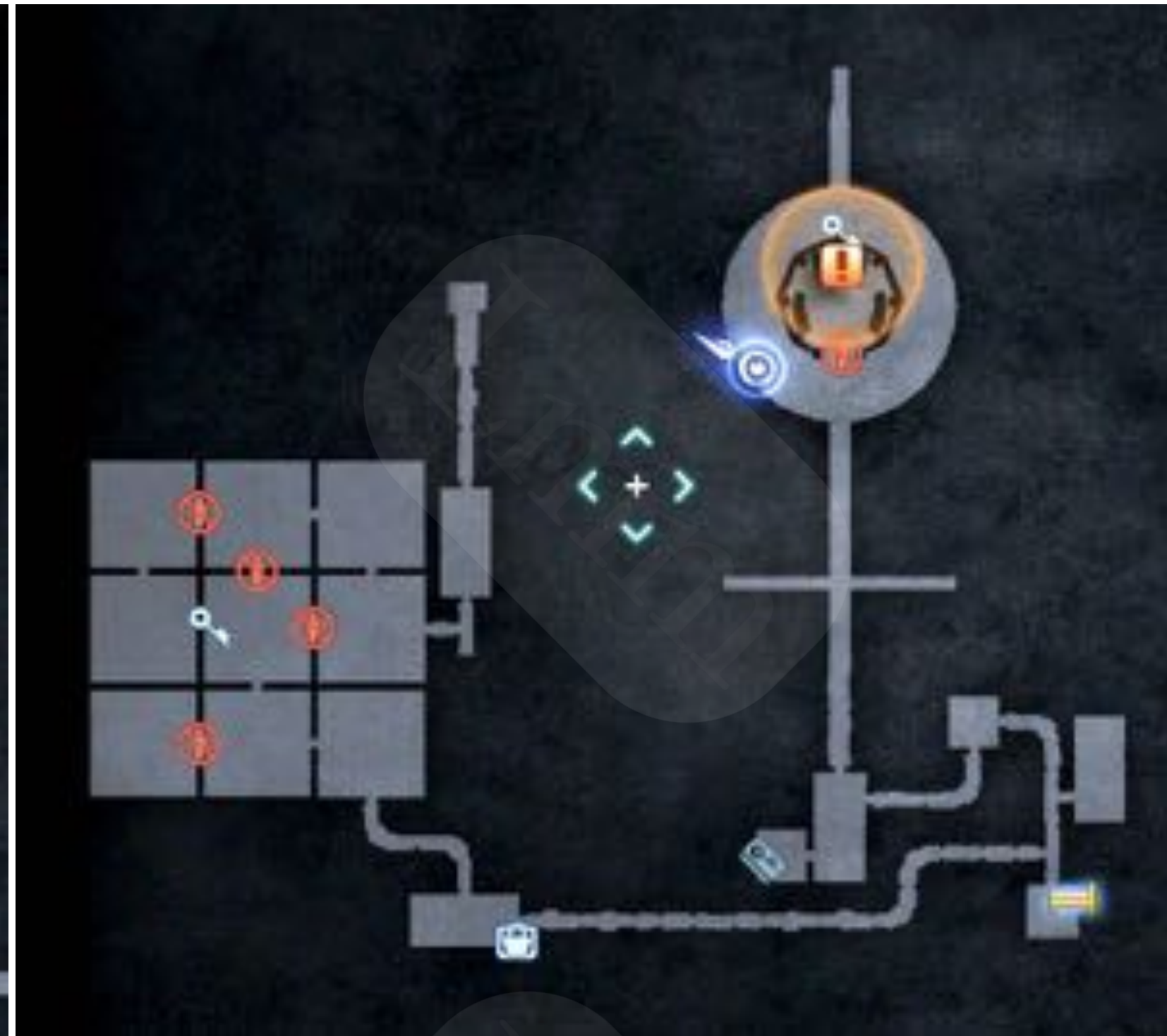


Figure 26.4

Map of Zegnautus Keep Floor 4

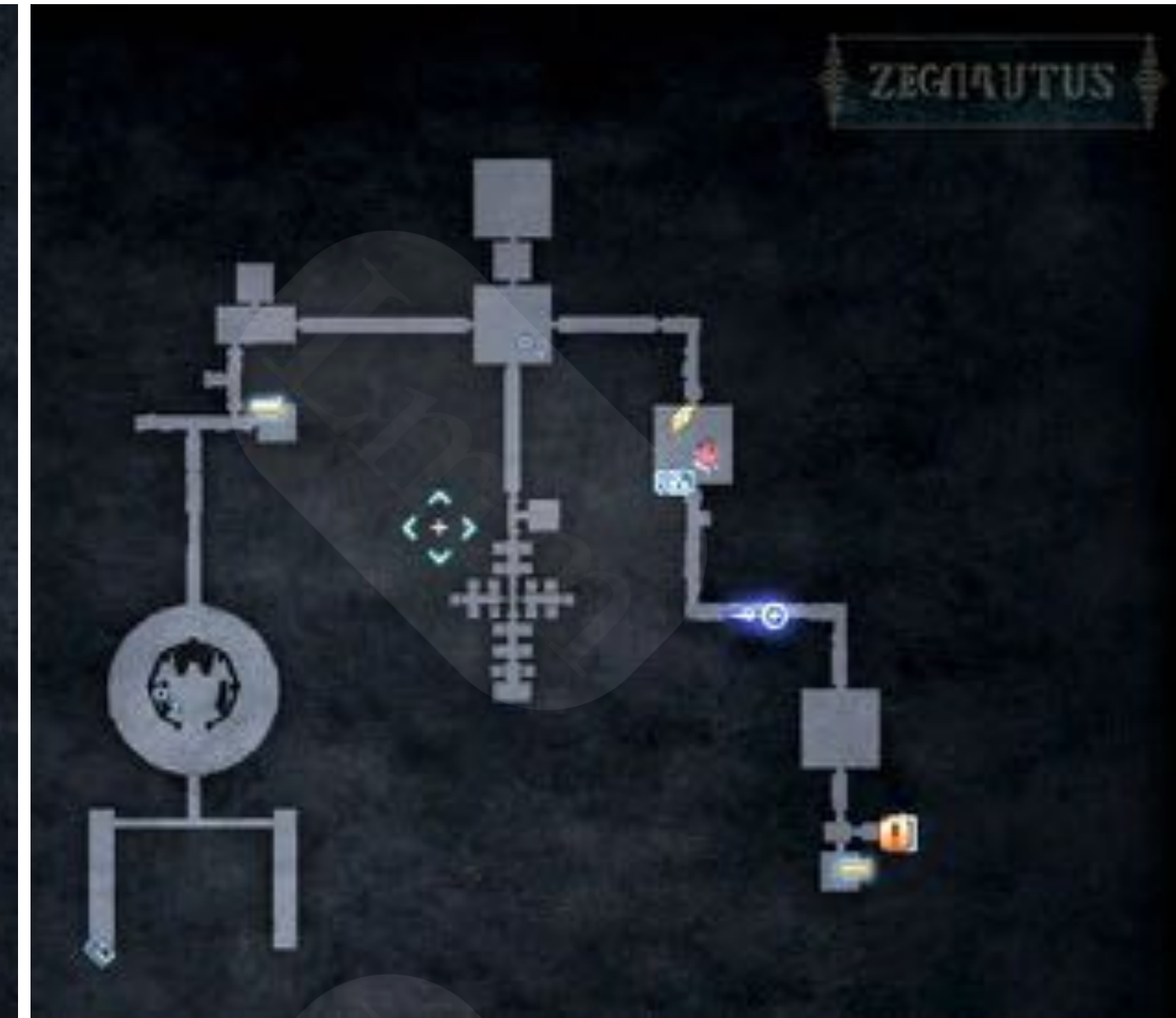


Figure 26.5

**Image colourings have been altered to increase visibility.*

Figure 28: Final Fantasy XV Maps Narrowing and Broadening Visualization

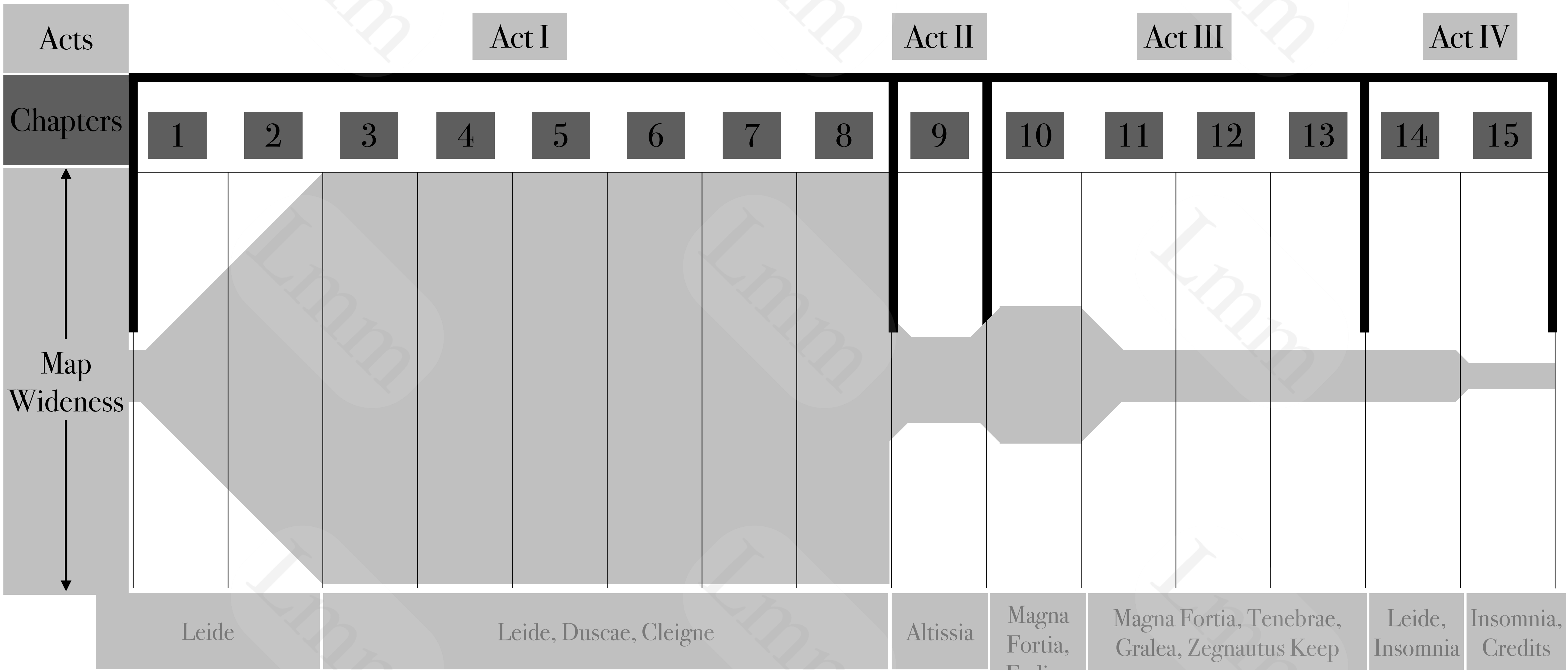


Figure 29 : Xenoblade Chronicles Visitable Locations Screenshots

