Video Game Narrative: Concepts and Practices for Structuring and Infusing Story in Games

Abstract
This chapter presents an overview of the concepts and practices of interactive narrative in the vast and heterogeneous context of video games from the perspectives of practitioners and researchers. The difficulties in harmonizing a pre-written fixed narrative with the freedom of gameplay are outlined and traced back to the role-playing game (RPG). The chapter offers three tools to grasp and work through these issues: the narrative programme, narrative structures, and narrative infusion. The narrative programme allows us to frame games as a-narrative, hypo-narrative, meso-narrative or hyper-narrative according to their ambitions regarding story elements. The chapter provides a synthesis of the structures of interactive narrative discussed by a dozen video game writers and academics, organizing and refining common terms like "branching trees" into a set of structural primitives that can be combined and reshaped across the temporal, spatial and virtual axes of video game narrative. Finally, the chapter proposes the concept of narrative infusion to account for the deployment of narrativity in video games outside of a formal narrative, including lore, environmental storytelling and worldbuilding. The three tools provide a vocabulary to discuss the multiple ways in which video games engage with narrativity, and can assist in the analysis or creation of games.

The birth of video games can be traced back to two distinct sociocultural contexts. The most well-known is the skill-and-reflexes arcade machines of the 1970s and 1980s, made famous in popular culture with *PONG* (Atari, 1972), *Space Invaders* (Taito, 1978) and *Pac-Man* (Namco, 1980). Skill-based games also appeared in the more obscure and earlier context of mainframe computers in university and research laboratories, complemented with a second genre of strategy and adventure video games, like *Hamurabi* (Dyment, 1968) and *Colossal Cave Adventure* (Crowther & Woods, 1976). In these games, players were offered descriptions ("You are standing at the end of a road before a small brick building."), made choices by typing instructions ("Go in"), and the machine relayed the results through text narration ("You are inside a building, a well house for a large spring. There are some keys on the ground here."). Text-based games and their progeny that would be called interactive fiction (IF) laid the foundations for narration and narrative in games, but the phenomenon vastly exceeds these preliminary steps. This chapter will expose three core concepts for understanding narration across the landscape of modern video games: the *narrative programme*, or the ambitions and relationship between a game's story and gameplay; the *narrative structure*, or the way the events and story's interactive nature are laid out in the game; and *narrative infusion*, or the ways in which games include narrative materials outside a formal, "proper" story or narrative.

Fundamentals of Interactive Narrative Design
The typical way of achieving interactive storytelling lies in the branching narrative, where a game offers players predefined choices to make in the story. If every choice impacts the story, however, then an additional parallel storyline must be crafted each time, which quickly becomes unmanageable. This calls for one of four solutions:

1. the story has a high degree of variability, but is short;
2. the story is long, but with few decisions to make;
3. the many choices offered do not significantly impact the story;
4. the many choices fold back into a limited number of main story branches.

These compromises all lead to a diminished sense of narrative agency, or control over the story. But before we get to the structures of narrative in games, we must address a more fundamental issue: the essential opposition between games and stories. This was a key aspect of the ludology/narratology debate which took the center place in the early days of game studies (see Pearce 2005, or Roth, van Nuenen & Koenitz 2018), but also a core concern among game developers. Costikyan (2000, 45), for instance, claimed that "To the degree that you make a game more like a story--a controlled, pre-determined experience, with events occurring as the author wishes--you make it a less effective game.

To the degree that you make a story more like a game--with alternative paths and outcomes--you make it a less effective story. It's not merely that games aren't stories, and vice versa; rather, they are, in a sense, opposites."

This tension between game and story is not unique to video games, but can be found in tabletop role-playing games (RPGs) that start with *Dungeons & Dragons* (Gygax & Arneson, 1974). Players sit around a table and are invited to imagine a fantasy world described through the words of the game or dungeon master, who acts both as narrator and referee. Players describe how their characters (whether an elf wizard, warrior or cleric) act and react, and the dungeon master determines the consequences. Characters have various statistics to govern their actions, and the rules found in the voluminous books provide ways to resolve most typical situations, often with dice rolls and adjustments based on their attributes or skills. The dungeon master is the prime narrative designer, responsible for coming up with a quest and a general storyline for the party of characters according to their personalities and motivations, while ensuring the story will progress.

Sometimes (and oftentimes) the players will act differently from what the dungeon master expected, which requires adapting, improvising, or reorganizing events on the fly. Anything is possible, and when a player declares "I run away and leave the helpless villagers to die", the dungeon master can't just say "No" or "You can't do that". This would break the sense (or illusion) of immersion that everyone strives to maintain and the ludic contract at the core of role-playing games, that players are free to exert their agency. Of course, this contract is socially situated and negotiated, and players are expected to engage with the materials proposed by the dungeon master proactively and earnestly to make the story work, and not fight against or destroy it. They are meant to engage in the active creation of belief, as Murray put it:

> The pleasurable surrender of the mind to an imaginative world is often described, in Coleridge's phrase, as "the willing suspension of disbelief." But this is too passive a formulation even for traditional media. When we enter a fictional world, we do not merely "suspend" a critical faculty; we also exercise a creative faculty. We do not suspend belief so much as we actively *create belief*. Because of our desire to experience immersion, we focus our attention on the enveloping world and we use our intelligence to reinforce rather than to question the reality of the experience. (Murray 1997, p.110)

Maintaining the immersive illusion can be difficult around a role-playing game table seating people that look nothing like their imaginary world counterparts. Video games may have an advantage here by virtue of being audiovisual experiences, but they also face a much bigger challenge: there is no dungeon master pulling the strings of the narrative in real-time and adjusting to the player's actions with the wit and flexibility of the human mind. Computers can't improvise or transform their planned events, at least not outside the procedural rules that humans have provided them through programming. They can't create new speech, characters, or environments, unless they can rely on robust programmed subsystems to generate sentences, villagers, families, forests or towns, which require linguistic, behavioral, geological and urbanistic models and simulations – and even with all that, there would still be a lot missing to simulate a living, breathing world. Without free reign over these building blocks of stories, narrative agency in video games can only exist as far as the narrative designers predicted or restricted (and as far as the game developers implemented the results of) the decisions players can make. There is always a risk that the interactive and narrative contents will clash in what game designer

Clint Hocking (2007) called "ludonarrative dissonance", for example by portraying a character as charming and heroic in the narrative while they murder hundreds of people gratuitously in the game because of a player's individual playstyle. Managing players' ludic freedom while ensuring the narrative remains relevant and impactful is the job of the game writer or narrative designer, who strives for ludonarrative *consonance* or *harmony* by structuring the authored contents of a story to mesh together with the player's agency so that they support each other, recognizing that the actions players undertake through their characters when they play a game form in themselves a certain kind of story.

Game writer Mary DeMarle's terminology (2004) is useful in describing these intersecting forms of storytelling. The actions performed by players, whether slashing with a sword, moving armies or selecting replies in conversation, build an "immediate-level" or low-level story, in the sense that every time a game is played, it unfolds differently. However different the details may be however, these actions will typically advance the "main", pre-scripted storyline – the high-level story. The fact that it is pre-scripted does not mean it is fixed; a game like *Red Dead Redemption* does feature a linear high-level story (peppered with a high amount of low-level stories that emerge as players ride their horse, get ambushed, hunt animals or explore the open-world environment), but one like *Mass Effect* offers different pre-scripted branches depending on player choices, delivering an interactive high-level story. DeMarle offers one more distinct term, interactive narrative, to account for games where player interaction does not impact the story itself, but the order in which the events are told or viewed (for instance, when players must accomplish a number of tasks in any order before the story can continue). This distinction is consistent with the concepts and terminology developed in classical narratology, whereby a "story" is a set of events happening to characters (fictional or real), and a narrative is "the textual actualization of story" (Ryan 2006, 7), that is, a synthesis of both the story and the discourse that communicates it.[1]

Video Games and the Narrative Programme
As video game writers, Dille and Zuur Platten (2007, p.19-21) distinguish between linear path, largely pre-scripted games as "writer-friendly formats", and open-ended or free-flow "sandbox" games, as well as role-playing games (RPGs) where players create their own character(s), as "writer-difficult formats" since many scripted events require providing a number of "alts" (alternatives) depending on whether a specific earlier event happened, which character is present, or what their current mood or state is. "Friendly" and "difficult" categories are helpful since one of the main problems we face when discussing games and narrative is that "video games" is a very large set, and many games have little or even no bearing on narrativity whatsoever. It is not that they fail to provide "good" high-level stories (which is a question of aesthetic merit), but rather that the experiences they seek to elicit essentially revolve around gameplay or low-level stories with a vague narrative background, such that there can be "too much story going on", detracting from the game's main objective. In other art forms, we typically have genre distinctions or other categories to account for these "narrative-detached" forms (i.e. poetry, dictionary or encyclopedia, abstract or experimental film and portrait painting, opposed to novel, biography, fiction film and history painting). While shooters or sports games may have minimal "ornamental" high-level stories that function well enough to provide justification for the action, and RPGs typically feature sprawling epics, this kind of generalization based on game genre masks the many forms narrative can take in video games, and at worst, limits the possibilities for game creators when

---

[1] For an efficient overview on narratology and its main concepts, I would recommend Marie-Laure Ryan's chapter « Narrative, Media, and Modes » from *Avatars of Story* (2006).

they are accepted as gospel. RPGs like *Darkest Dungeon* do not rely mainly on a pre-scripted story unfolding through the game, and sports games can have rich narratives, as evidenced by *Madden NFL 18*'s "Longshot" story mode that presents the tribulations of a quarterback trying to make it into the National Football League. We need some way to address this.

I propose the concept of *narrative programme* to frame the degree of importance given to the narrative in a game, *narrative* being understood as the textual discourse (whether written, spoken or audiovisual) that presents a high-level story, and *programme* as the series of events or activities planned by the game's creators for their players. The programme is useful to describe in broad terms a game's ambitions for communicating a high-level story through a narrative, before we get into detailed analysis of structures, scenes or plot points. A game can be described in one of four degrees: *a-narrative*, *hypo-narrative*, *meso-narrative*, and *hyper-narrative*[2]. To evaluate what kind of programme it offers, we need to ask questions on the importance it gives to the narrative:

- **Extensiveness**: Is there evidence of extensive work that has gone into the game's narrative? *Red Dead Redemption* has many cut-scenes[3] and long conversations as the characters travel between locations to establish the motivations and characterization of the protagonist John Marston, more than *Grand Theft Auto: San Andreas* did for Carl Johnson, and more than *Grand Theft Auto III* did for its unnamed protagonist.
- **Immediateness**: How much of the narrative experience are you missing if you watch someone else playing? Watching a video of someone playing *Uncharted* is clearly not a way to experience its action gameplay, but since the high-level story unfolds largely in pre-written cut-scenes, not much of the high-level narrative experience is lost, contrary to games like *Mass Effect* where much of the narrative is impacted by player decisions.
- **Compulsoriness**: Can you skip narrative segments, and if you do, how much of the experience are you missing? Can you progress through the game without paying attention to the story? Even though extensive work has gone into the writing of quests in *World of Warcraft*, players can skip through the text and get help from arrows, map trackers and pointers, along with bullet-point lists of tasks and steps to do.
- **Compellingness**: Is the game feeding your expectations and rewarding you for progress mainly through its narrative, its gameplay, or both equally? Would you keep playing if you lost interest in the narrative, or if you lost interest in the gameplay? It seems easy to imagine someone playing *Tom Clancy's Splinter Cell* for the pleasures and challenges of sneaking around and using gadgets even if they find the narrative cliché, heavy-handed or over-extended; conversely, it is hard to imagine someone persisting in playing *L.A. Noire* or *Heavy Rain* with this appreciation of their narrative, since everything players do in these games has to do with advancing the investigation and the narrative.

A game's narrative being extensive, immediate, compulsory and compelling (or not) provides guidelines in attributing a narrative programme. ***A-narrative*** games (the prefix *a-* meaning "not" or "without", denoting negation or absence) feature no high-level story at all, and thus no narrative. Abstract puzzle games like *Tetris* or *2048* are the prime examples of these, but we can also include for instance sports

---

[2] No relation with Katherine Hayles, Lev Manovich or Nitzan Ben Shaul's use of the term, which stems from hyperlinks and hypertext to make "hyper-narratives" database pieces loosely organized by links.

[3] Cut-scenes or cinematics are non-interactive segments that advance a game's high-level story.

games played in single matches without an overarching narrative. **Hyper-narrative games** (the prefix *hyper-* meaning "over" or "above", denoting excess or exaggeration) occupy the opposite end of the spectrum and feature so much high-level story that it may be too much for some players; the story takes the center stage and commands attention, eventually overshadowing the game elements as gameplay becomes, in essence, the means towards the end of advancing the story. Text or graphical adventure games and visual novels are two genres that typically feature hyper-narrative games, but Gerstmann (1998) hinted at this when reviewing the stealth game *Metal Gear Solid* (Konami, 1998): "If Hideo Kojima, the game's producer, was so set on this type of cinematic experience, he should really be making movies instead of games." In recent years, many games such as *Mass Effect* or *Final Fantasy VII Remake* have started offering a "story mode" difficulty setting, which essentially turns the game into a hyper-narrative experience.

Occupying a larger part of the continuum within the two extremes, we find our two last categories. In **hypo-narrative games** (the prefix *hypo-* meaning "under" or "beneath", denoting a lack or shortage) there is some narrative put forth, but it is lacking without the game segments; for instance, adapting it to a predominantly narrative form would require significantly expanding on the narrative elements. Some typical examples include Nintendo's *Super Mario Bros.* series, where each time Mario must rescue Princess Peach from Bowser; *Angry Birds*, where the pigs have stolen the eggs to be retrieved; and *DOOM*, where scientists on a research base in space opened a gate to Hell and demons are invading. There is no expectation for dramatic reversals, character growth, or intimate, introspective moments speaking of the human condition in these games; the high-level story acts as justification for the gameplay, perhaps providing some initial situation and perturbation that sets the course for action, and one or two pivots whose function is to generate more gaming situations.

The final category of **meso-narrative games** ("middle" or "intermediate", denoting moderation or balance) is probably (or arguably) the largest; it includes all games where there is some equilibrium between the gameplay and the narrative, so that any of the two can't be readily dismissed as being subservient to the other, because they are both necessary and complementary in fleshing out the game experience. Admittedly, this is a very large category spanning a number of game genres from open-world games like *Grand Theft Auto* or *Assassin's Creed* to action-adventure games like *Uncharted* or *Metroid Prime*, and the range covers everything with slightly too much narrative to fall into the hypo-narrative space, up to everything that has not quite enough story to enter the hyper-narrative space.

As we are dealing with individual perceptions, we may very well assess that *The Legend of Zelda: A Link to the Past* has a meso-narrative programme, while someone else would consider it as a slightly more detailed hypo-narrative variant of its predecessor, *The Legend of Zelda*. These disagreements are productive, as they force us to pause and reflect on what the game attempts to achieve with its narrative and that led us to our own point of view. The narrative programme helps us account for all types of games, from those that eschew narrative to those who couldn't be understood without it. When a video game does present a narrative, however, many other concepts must be brought into play to understand how it is structured.

Structures of Interactive Narrative, from Branching Trees to Open-World Games
There is a sizable professional literature on interactive narrative, with books and articles dedicated to video games or interactive fiction (IF) by writers and narrative designers. I offer here a synthesis of a dozen or so authors who introduced a number of similar "interactive narrative structures", with

flowcharts or graphs of nodes and links (see Table 1 below). As Wendy Despain (2008) explains, there is no fixed way to do so, in part due to games having such widely differing needs regarding narrative structure:

> These methods truly have no standard. (…) I've seen trees, webs, matrices, and spirals. Some writers say they can keep the narrative and all its branches straight just in their own head, but in game development you have to be able to communicate your vision to others, and sometimes there's nothing like a flow chart or diagram to get the point across. (Despain 2008, p.17)

Mary DeMarle and Richard Boon (both in Bateman 2004) have laid out four types of narrative structures and three types of interactive story structures. Marie-Laure Ryan (2006, p.100-107), as an academic studying narrative in general rather than a game writer, charts a high number of structures by examining other adjacent practices like interactive fiction, multimedia CD-ROMs and websites alongside video games, which yields a broader but more complex model that requires some reductive adaptation when we focus on games. In contrast, by concentrating on video games, Ince (2006, p.47-54) works out the narrative structure together with the gameplay structure, producing categories that can be more appropriate given that a number of games feature interactive gameplay segments but fixed cinematic sequences or cut-scenes to advance the narrative in a predetermined way, no matter how the player went about doing things in the game levels. More importantly, he notes that the structures are "not a definitive list", they can be mixed and hybridized, and "new structures are likely to emerge as we learn more about the possibilities that interactive storytelling offer us." (Ince 2006, p.54) Flint Dille and John Zuur Platten (2007) identify four types of branching narratives (where the story's main arc or *spine* is akin to the trunk of a tree, with various branches poking out according to a player's decisions) based on how clear-cut or diffuse the branches are, how far they stray from the story's spine, and how long they carry out their effects before merging back toward the spine. An additional category of "nodal storytelling" is provided to cover open-world games, where the story episodes are dispersed across different locations. Contributors to Despain (2009) discuss these realities in similar terms, while Sam Kabo Ashwell (2015) and Christina "Chride" Lassheikki (2021) approach branching narratives from the slightly different perspective of contemporary interactive fiction or CYOA (Choose Your Own Adventure) stories, such as *Counterfeit Monkey* by Emily Short (2013) or *Howling Dogs* by Porpentine (2012).

Table 1 presents the common basic structures of interactive narrative. I have elected to call these structures *primitives*, not as a value judgment, but rather as in the geometric primitives (sphere, cube, cylinder, cone, pyramid and torus) that are the foundation for computer graphics. Just as 3D modelers will seldom use a single primitive and call it a day, game writers usually combine, extend and reshape many of these primitives to structure the interactive narrative of a game. I provided a basic descriptor for each primitive, but I prefer (and suggest) referring to them by their associated Roman numerals. A quick look at the table will reveal how similar words are used in different contexts, making terms such as "parallel paths" or "story branch" confusing since we may not share the same terminology. They are organized in three groups governed by different metaphors, divided by dotted lines. If we wanted to seriously model the "storyspace" or "chronotope"[4] of a given game, we could map out a detailed

---

[4] Interested readers will find plenty to read from various researchers (too many to provide a quick overview here) who have used this term from Mikhail Bakhtin (developed in his 1937 essay "Forms of Time and of the Chronotope

representation of their interactive narrative structure in a three-dimensional space, with each of these groups distributed across an axis. In practice though, the primitives function well as quick sketches that provide loose basic building blocks.
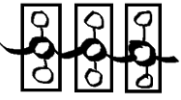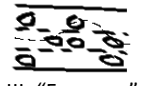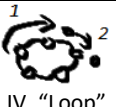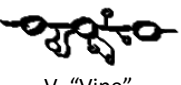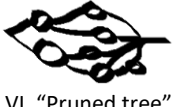
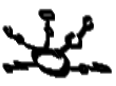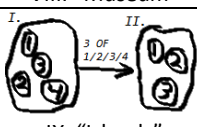|	Primitives	Authors → Bateman et al. (2004)	Ryan (2006)	Ince (2006)	Dille & Zuur Platten (2007)	Despain et al. (2009)	Ashwell (2015) (& Chride 2021)
TEMPORAL	I. "Footsteps"	Linear / Continuous structure (Boon)	State-transition diagram	Linear story	Linear story	Linear structure (Wessman, Suckling)	
	II. "Train"		Interplay of actual and virtual events	Linear gameplay, player-influenced story			Sorting hat
	III. "Freeway"		Track-switching	Parallel story and gameplay			Parallel storylines (Chride)
	IV. "Loop"		Network (looping chrono-logically)				Loop and Grow
VIRTUAL	V. "Vine"		Vector with side-branches		Critical paths	Main objectives and side-objectives (Saad)	Gauntlet, pruning branches (Chride)
	VI. "Pruned tree"	Parallel paths (DeMarle)	Flowchart		Limited branching	Branching structure (Wessman)	Branch and Bottleneck
	VII. "Shrub"	Branching story (DeMarle)	Tree	Branching story and gameplay	Open-ended branching		Time Cave
SPATIAL	VIII. "Museum"	Domain structure (Boon)	Sea-anemone + Vectors			Hub and spoke (Wessman)	Spoke and hub
	IX. "Islands"	Gated story (DeMarle)	Serial Networks or Mazes	Controlled branching story and gameplay	Funneling narrative (chokepoints)	"Pot-based" story (Suckling)	Quest or Open Map
	X. "Garden"	Contiguous structure (Boon)	Storyworld / Network + Flowchart + Maze		Nodal storytelling	Open-world structure (Wessman)	Open Map or Floating Modules

Table 1: Common structures of interactive narrative found across the professional literature on video game writing.

in the Novel") to envision the joint space-time nature of video games, some of them specifically for in-game narrative, others for games in general.

Figures I to IV are *temporal* and revolve around the metaphor of traveling a path. The episodes or story beats unfold in succession in the narrative (which usually means they unfold chronologically in the story, but not necessarily thanks to the twists and warps of narrative time, like flashbacks). *I (footsteps)* is simple linear events, each moment of interactivity leading to a narrative moment in preordained succession, so that we are walking along the footsteps left by the narrative designer. In *II (train)*, the narrative events are dispersed in the environment, which we traverse by sitting in a train. While the way forward is fixed and the general direction of the story is linear, we get to see different things – alternatives – depending on some initial choice(s) we made (aisle or window, front or rear car) that are quite removed from the consequences, so our impression of narrative agency is limited. Typically seen in interactive movies more than in video games, we can still find *II* in games where we must select our character's backstory or origins; in *Mass Effect*, some story episodes will vary depending on whether our character used to be a Spacer, Earthborn or Colonist. In *III (freeway)*, we advance through the narrative by driving a car in a multi-lane highway, which is linear, but we get to make small-scale decisions constantly. We may not know that the highway will split at some point in the future, but we can nevertheless evaluate our position within it as we steer towards one side or the other. This structure is favored in BioWare games, where we make choices and gain or lose points that steer our character between the Light side and Dark side of the Force in *Star Wars: Knights of the Old Republic*, the Way of the Open Palm and the Closed Fist in *Jade Empire*, or between Paragon and Renegade in *Mass Effect*, each choice cumulatively orienting the character towards one lane of the narrative over a long-scale, temporal process rather than a one-time decision point (which we'll see with the figures V to VII). *IV (loop)* is a structure that revolves around a cyclical process; as we repeat the same events (whether a day, a season, a year, or an attempt at achieving something), new events, characters or situations add something to the narrative. In *The Legend of Zelda: Majora's Mask*, we have three days before the world ends, and playing a song will take us back in time to the start of the 72-hour period. As we chart out more of the locations, events and characters' activities during these days, we uncover more episodes and progress in the narrative.

Figures V to VII are *virtual* and revolve around the widespread botanical metaphor behind "branching stories". The episodes or story beats are organized in alternatives that may or may not happen depending on our actions and decisions, and while not necessarily predictable or direct, we have some degree of narrative agency. In *V (vine)*, we follow a main stem towards narrative resolution, but we may choose to pursue some offshoot events along the way before returning to the main stem (a device found in many games in the form of "side-quests" that complement the "main quest", as when we decide to stop and help a lost traveler return home in *Red Dead Redemption 2* rather than pressing on to the next step of the main quest). In *VI (pruned tree)*, the decisions we make direct us along the branches of a tree of narrative possibilities. The branches of the tree are cut off or recombined along the way to keep the emergence of alternatives manageable, and the focus of the narrative remains along the main stem (the tree's trunk). In the opening scene to *Fahrenheit/Indigo Prophecy*, our character is unexplainably possessed and murders an innocent person in the toilets of a diner. We can escape by running away in a frenzy, discreetly leaving through the back door, or walking out; we may or may not wash our bloodied hands, bump into people confusedly, finish our meal, pay our tab or play a song on the jukebox, and we may return home by taxi or by subway. All these choices, however, do not explode into 16 different story branches, but are folded back into a single branch for the next episode, as detectives find clues pointing to our character, with the investigation being a little easier or harder depending on our prior actions. Without such management, we end up with *VII (shrub)* instead, which

differs from the pruned tree by the unmanageable multiplication of its stems and branches, to the point that it is impossible to distinguish a "main" stem amidst the lot. The shrub cannot grow too high without becoming a *VI*; 10 decision points between 2 alternatives that each lead to a different storyline will result in $2^{10} = 1024$ alternatives, a problem colloquially referred to as the "death tree". Even without modeling hundreds of storylines, it nevertheless illustrates the challenges posed by branching trees and narrative agency in video games: planning even two or three alternative storylines requires doubling or tripling the workload, for possibly small benefits (unless players are prepared to replay through the entire story again to see the different outcomes).

Figures VIII to X are *spatial* and revolve around the metaphor of organized spaces. The episodes and story beats are located or accessible somewhere in an environment under specific conditions, rather than occurring chronologically. In practice, we usually find hybrid or joint constructions; as seen in Ryan (2006), many open-world games will embed temporal structures (I-IV) into these spatial structures. *Grand Theft Auto* games may disseminate characters that give us missions all over the environment, but each of them typically offers a series of missions that develop a certain story arc over time. The *VIII (museum)* features a hub or central space that connects the various sub-locations (exhibits) hosting the events or narrative pieces. This is typically found in detective games like *L.A. Noire*, where we travel to different locations to gather clues or interrogate witnesses, returning in-between to our office to examine evidence or interrogate suspects. The *IX (islands)* model differs in that we must progress from each sub-location to the next by satisfying various conditions (typically, having experienced certain or all events), which unlock bridges to other islands – quite literally in *Grand Theft Auto III*: we begin in the Portland area and must complete all the missions there for a bridge to open to Staunton Island and more missions. Whereas *VIII* favors cycles and *IX* progression, *X (garden)* is less prescriptive: we can stroll, walk or run in a garden's alleys in whatever order we wish, even though some of the plots may be more organized than others. Such a structure works well in open-ended games like *The Elder Scrolls* series, where we may choose to wander around and resolve situations that occur around us, work for a guild, or pursue any number of quests in any order.

The ten primitives outlined above can be combined in various ways, and games will often tell their story through many such configurations. Player-characters may initially wander around a city of neighborhoods accessible from a home base (*VIII*), meeting two or three minor characters who provide them with optional side-quests (*V*) and a major character that offers quests chained as a string of pearls (*I*), perhaps with a major decision to make that offers two alternatives for the last of them (*VI*). When all quests are completed, the virtual lock on the city is lifted (for instance, players learn the identity of the evil leader), allowing players to leave that space and evolve in an open-world environment (*X*) filled with other quest-givers and other gated sub-locations (*IX*) such as cities, castles or caverns, as they advance through the main quest (*V*). It is common to reserve an open-ended branching tree (*VII*) for a game's ending for instance, where the vastly different consequences are left up to the player's imagination, or as an inverted figure to reduce an enormous space of possibilities into a small number of branches by tallying up the choices made during the experience. Emily Short (2016) calls this latter small-scale structure the "Endgame Time Cave", lifting the term from Sam Kabo Ashwell (2015) who identified "standard patterns" in choice-based games as large-scale templates to describe their overall organization. In some cases where a game keeps a rather homogeneous structure throughout, a larger scale can be more practical than the small-scale structures I have outlined here. These two scales are not contradictory in any case, as we could describe Ashwell's standard patterns as principally revolving

around some of the primitives outlined here: his "Time Cave" is based on *VII*, the "Gauntlet" on *V*, the "Branch and Bottleneck" on *VI* and *VII*, the "Quest" on *IX*, *V* and *VII*, etc. In time, we may analyze a given corpus of games or narratives within a range of games and develop a repertoire of compound structures, typical assemblages of primitives that would help scaling the discussion around narrative structures with ever sharper focus.

Beyond Formal Narratives and Stories: Narrative Infusion in Video Games
While structures are important to conceptualize the architecture of choices in video games, many practitioners and researchers observe that narrative choice in games is fragile and complicated, and that achieving the *illusion* of agency is the real objective. Maurice Suckling & Marek Walton (2012, p.85) refrain from exhaustive structure mappings and instead distinguish between *fractal* and *modular* game story structures, the former providing players with "choices that take the story and/or gameplay in totally new directions", the latter with "choices designed to give the illusion of choice and player agency but which, in reality, don't significantly change a story's main course". Clara Fernández-Vara (n.d.) proposes a taxonomy of narrative choices to address how games may (or not) allow "true" agency over the events. Choices can be:

- Unfair: "there's no way to know what the consequences will be". Open one of two doors without any contextual hint, behind which lie either horrible death or treasure;
- Fake: in *Dragon Warrior*, princess Gwaelin asks the player "Dost thou love me?", and if they answer "No", she replies "But thou must!" and get an endless loopback until they select "Yes";
- Invisible: "choices that the player is making but they don't know it's actually a choice". In *Chrono Trigger*, you bump into a girl at the market and she falls down, but something shiny falls in another direction; if you go pick up the shiny thing before checking up on her, witnesses will testify to your greedy behaviour during a court trial later on;
- Narratively weak: "the consequences are not very interesting". For example, choosing our weapon of choice in games typically has no impact over the narrative.
- Expressive: "doesn't really have consequences in the system, but it makes the players feel like they're in control and they can be themselves". Commander Shepard in *Mass Effect* can be male or female, and the choice does not change the story aside from romancing options. Even if they don't romance specific characters, players still feel that their choice of playing as either male or female Shepard does matter to them.
- Moral: choices are made with "very clear consequences – we are good or bad (or maybe neutral)", as in games that award points on a scale of "Good" to "Evil", seen in primitive *III – Freeway*.
- Dilemmas: "the kind of difficult choices that games should use more often. It's what "moral choices" pretend to be, but they're hard and they often make people feel bad." In the backstory to *Mass Effect*, the alien species of the galaxy uplifted a race of giant lizard warriors (the Krogan) from their harsh home planet and gave them advanced technologies, making them the perfect army to battle out insectoid invaders. After disposing of the threat, though, the Krogan became the new threat, with their aggressive nature, 1,000-year lifespan and annual 1,000-egg laying reproductive rhythm fueling their rebellions. To neutralize their incredible expansion, another race unleashed upon them the genophage, a genetic infection that effectively sterilized them. As they play through the games of the *Mass Effect* trilogy, players are given the opportunity to spread a cure for this plague – a choice that is far more involved than the quick

impression one may have reading this short summary, as players meet and talk with Krogans who, like anyone else, try to make the galaxy a better place and carve a future for their doomed species as best they can. It's up to the player to make the decision, and the game presents the reasons and issues efficiently (you must have the conversation with your own Krogan crew member) to stage a real dilemma that's not reducible to strategic considerations (i.e. curing it or not will not grant game upgrades or rewards that could eschew the moral or ethical quandary).

The question of whether in-game player agency actually translates to agency over the narrative itself is usually approached through narrative structures and decision points where clear "interactive storytelling" moments happen. But there are more hands-off approaches to interactive narrative, through techniques and strategies that I describe as *narrative infusion*. By this term, I refer to the use of discrete and diffuse narrative elements or qualities that can be added to a game's components without changing their interactive nature. These may not be full-grown narratives in themselves, but provided the right narratively-inclined player, they can blossom into full-bodied aromas and flavors that will render the game experience narrative[5] in the much broader scope of cognitive narratology advocated by Monika Fludernik (1996) and Marie-Laure Ryan (2006), which have both argued against the narrow definitions of narrative as a formal discourse relating past events, and in favor of an expansive definition of narrative as a pervasive phenomenon that is more or less typical and more or less constructed, opening the way, following Ryan (2006), for a transmedial narratology.

There are many reasons for the need to adopt a wider view of narrativity than that of classical narratology to understand video games. Many of them feature a minimal story, but a richly detailed world in which the action takes place, and the narrative experience becomes one of discovering the history of this world and getting to know the factions and people inhabiting it more than experiencing a thrilling tale through scripted events. The example of the genophage from *Mass Effect* is not unique, and in fact, the entire *Elder Scrolls* series was built on this premise, as Wendi Sierra (2020) explains. *The Elder Scrolls: Arena* and *The Elder Scrolls II: Daggerfall* present huge worlds of hundreds of thousands of square kilometers, with hundreds of towns and dungeons, non-player characters wandering around and dozens of houses lining the streets. These all contribute to the objective of simulating a *Dungeons & Dragons* role-playing game world: this is not your story and the world does not revolve around you, but this is a full-grown, autonomous world in which you are living out your own adventures. This highlights the spatial nature of video games and their reliance on world-building as much as storytelling, a phenomenon that has been studied by multiple researchers (see Wolf 2012, Jørgensen 2013, or more generally Boni 2017). Multiplying cities and the scale of cities beyond shops and key story characters only, providing a calendar with weekdays and holidays, a day/night routine with shops closed at night, and citizens discussing current world affairs or rumors all provide infusions of narrativity, a sense that the world is more than a door-monster-treasure series of risks and rewards.

Video games are also particular among narrative media in their ability to include narrative materials outside the bounds of the main experience. Typically, we think of narrative elements as being "on-line" or "intra-diegetic", that is, located inside the game's main experience or world. In many games however, players discover additional story and contextual narrative elements (sometimes quite substantial)

---

[5] See Roth, van Nuenen & Koenitz 2018 for an overview of the ludonarrative hermeneutic process through which players develop the "protostory" into "instantiated narratives".

through a variety of channels that are more or less closely connected to the main experience. Typically referred to as "lore" or "flavor text", De Fault (2021) explains it as "additional information about a game's world which fills out the illusion of an expansive, lived-in fiction", exemplifying: "audio or text that comes along with collectables, such as audio logs and notepaper left behind in gaming's post-apocalypses, or Lara Croft's interpretation of an old coin she just found". Many meso-narrative games will use these additional channels as a way to infuse narrativity without forcing it upon players who may not be that interested in it. In *Assassin's Creed II*, an in-game encyclopedia (fed by an in-game character in the game's fiction) offers background information on monuments, locations, and characters that the player encounters through the adventure; in *BioShock*, players can collect and listen to the audio logs recorded by the various characters that have died (or will die shortly) in the collapse of Rapture, offering additional information on the utopian city and the factions and events that led to it. Creative director and writer Ken Levine explained that this approach, which he terms the push/pull narrative, allows the game to push to players only the essential information required to understand what's going on and progress, while allowing intrigued players to pull at the environment for additional storytelling materials (Burch 2008). *Assassin's Creed II* and *BioShock* both offer narrative infusions to satisfy players seeking a hyper-narrative experience without deterring those content with a meso-narrative game.

De Fault also provides interviewed writer Casey Lucas-Quaid's examples of lore delivery: "weapon descriptions, level-select screens, narration voiceover, battle cries, and map annotations". The historical dimension and the diversity of platforms and contexts for video games, alluded to in this chapter's opening paragraph, also contributes to this, as many early video games relegated their story to the printed game manual, or even included pack-in comic books or novelizations that fleshed out the narrative beyond what their limited memory and technological restrictions allowed. These last cases are not exactly a form of transmedia storytelling, but rather a form of paratext storytelling[6], as the manuals and "goodies" were included in the game's packaging rather than being separate, autonomous media objects. Game narratives can be found anywhere along the margins of games, or even wholly outside them. But even in-game narrative can take on many forms depending on which materials will be infused with narrativity.

Henry Jenkins (2005) argued that game designers may not be storytellers so much as narrative architects, rooting storytelling in video games' spatial nature. In this, Jenkins (and I) follow a cue from Don Carson (2000), who explained the principles of environmental storytelling used in the design of Disney Park attractions as *infusing* story elements into the space that guests walk or ride through. For Jenkins, video game players experience four types of spatial stories: evoked (seeing a lightsaber evokes the previously-known *Star Wars* stories), enacted (broadly defined goals that can be carried out through the space; for instance, making it past a guard outpost in *Tom Clancy's Splinter Cell* will mean hiding in the shadows below, climbing up the visible pipe to the window, and knocking out the guard when he turns to the other side), embedded (as clues, elements or events placed through the environment that must be discovered or pieced together), and emergent (the events are not pre-scripted, but arise out of the interaction of rules to produce a story).

---

[6] The concept of paratext, developed by Gérard Genette in literary theory, has been used in game studies with differing implications; here I use it to mean the liminal documents and semiotic arrangements that surround a text and that help make it present (see Švelch, 2020), including title, packaging, manual, etc.

As spatial exploration is inherently non-linear, it naturally produces two distinct chains of events: the fixed high-level story from the game's narrative programme, and the fluctuating low-level story of the player wandering around and accessing the objects or events in whatever idiosyncratic manner. Since information that is placed in an environment may be missed or overlooked by players, DeMarle advises carefully planning the delivery channels for narrative information, saving critical data for mandatory cut-scenes and making sure that environmental storytelling contains only supplementary information that won't hurt the baseline narrative if it's missed. Bateman (2004, p.85-102) frames spatial exploration as a tension between maintaining player freedom and narrative clarity, since an open world of possibilities comes with the risk of losing sight of what needs to be done for the narrative to progress. He shares two techniques to keep players on track: *breadcrumbing,* that is, placing multiple bite-sized narrative elements to guide players along a trail instead of condensing a narrative episode in a single location, and *funneling*, which is guiding wandering players back onto the trail of breadcrumbs. Characters are one efficient way to restrain player freedom or, in the words of Murray (1997), scripting the interactor: if the characters are infused with narrativity (with a personality and backstory), and the story is about them and their problems, then players will accept doing what they need or want to do, and mold their agency accordingly. This is why video games have tended to rely on story archetypes such as the Hero's Journey (originally theorized by Joseph Campbell, but popularized through Hollywood by Vogler (1992) when he was consulting for Disney), or Manichean storylines: they provide clear objectives and familiar contexts for players to drop in and act according to the needs of the story. This works wonders for hypo-narrative games, and meso-narrative games can use these archetypes as a baseline with varying levels of narrative infusion as supplements.

There are many exciting research and creation trajectories awaiting in games and narrative. For lack of space, this chapter has not touched on the dynamics of procedural narratives and story generation systems, which a number of games have been exploring for decades now, either as a way to supplement their pre-written programme narrative with modular additions or randomized substitutions, or as the core principle of their experience entirely focused on immediate-level story. The question of characters continues to be debated: do we identify with them, control them, or do they become digital surrogate bodies, or prosthetic extensions of our cyborg selves? What are the mechanisms of operation for fully-fleshed characters, created avatars, non-player characters, and silent protagonists? I have outlined a set of narrative programmes, but it may be necessary to conceptualize sets of character programmes as well, ranging from the a-characterized to the hyper-characterized. These could be completed with a set of diegetic programmes too, from the a-diegetic to the hyper-diegetic gameworlds, to assemble a complete Triforce of narrative data fueled by characters, plot, and world. But as any Zelda fan will realize, the Triforce itself is but a small part of the overall adventure that awaits…

Bibliography
All online sources retrieved January 5, 2022.

Ashwell, Sam Kabo. 2015. Standard Patterns in Choice-Based Games. *These Heterogeneous Tasks*. Retrieved from https://heterogenoustasks.wordpress.com/2015/01/26/standard-patterns-in-choice-based-games/.

Bateman, Chris. 2004. *Game Writing: Narrative Skills for Videogames.* Charles River Media: Boston (MA).

Boni, Marta. 2017. *World Building: Transmedia, Fans, Industries*. Amsterdam University Press: Amsterdam.

Burch, Anthony. 2008. GDC 08: Storytelling in BioShock. *Destructoid*, February 20. Retrieved from https://www.destructoid.com/gdc-08-storytelling-in-bioshock/.

Carson, Don. 2000. Environmental Storytelling: Creating Immersive 3D Worlds Using Lessons Learned from the Theme Park Industry. *Gamasutra (Game Developer)*, March 1. Retrieved from https://www.gamedeveloper.com/design/environmental-storytelling-creating-immersive-3d-worlds-using-lessons-learned-from-the-theme-park-industry

Costikyan, Greg. 2000. Where Stories End and Games Begin. *Game Developer* magazine (september), 44-53.

Chandler, Rafael. 2007. *Game Writing Handbook.* Charles River Media: Boston (MA).

Chride (Christina Lassheikki). 2021. Branching Narratives. Experimental article part of the Playable Concepts project, Aalto University. Retrieved from https://sites.google.com/view/branchingnarratives/#h.grwtn8yt3iyk.

De Fault, Antony. 2021. Breaking the Lore. *Wireframe*, December 7. Retrieved from https://wireframe.raspberrypi.com/articles/breaking-the-lore.

DeMarle, Mary. 2004. Nonlinear Game Narrative. In C. Bateman (Ed.), *Game Writing: Narrative Skills for Videogames,* Charles River Media: Boston (MA), p.71-84.

Despain, Wendy (ed.). 2008. *Professional Techniques for Video Game Writing*. A K Peters: Wellesley (MA).

Despain, Wendy (ed.). 2009. *Writing for Video Game Genres: From FPS to RPG*. A K Peters: Wellesley (MA).

Dille, Flint & John Zuur Platten. 2007. *The Ultimate Guide to Video Game Writing and Design*. Lone Eagle: New York (NY).

Fernández-Vara, Clara. (n.d.). Taxonomy of Narrative Choices. *Itch.io*. Retrieved from https://clarafv.itch.io/taxonomy-of-narrative-choices.

Fludernik, Monika. 1996. *Towards a 'Natural' Narratology*. Routledge: New York.

Gerstmann, Jeff. 1998. *Metal Gear Solid* Review. September 25. Retrieved from https://www.gamespot.com/reviews/metal-gear-solid-review/1900-2546002/.

Gygax, Gary & Dave Arneson. 1974. *Dungeons & Dragons: Rules for Fantastic Medieval Wargames Campaigns Playable with Paper and Pencil and Miniature Figures.* TSR: Lake Geneva (WI).

Hocking, Clint. 2007. "Ludonarrative Dissonance in Bioshock: The problem of what the game is about." Retrieved from https://clicknothing.typepad.com/click_nothing/2007/10/ludonarrative-d.html.

Ince, Steve. 2006. *Writing for Video Games*. A & C Black: London.

Jenkins, Henry. 2004. Game Design as Narrative Architecture. In N. Wardrip-Fruin & P. Harrigan (Eds.), *First-Person: New Media as Story, Performance, and Game*, The MIT Press: Cambridge (MA), p.118-130.

Jørgensen, Kristine. 2013. *Gameworld Interfaces*. The MIT Press: Cambridge (MA).

Murray, Janet. 1997. *Hamlet on the Holodeck: The Future of Narrative in Cyberspace*. New York: The Free Press.

Pearce, Celia. 2005. "Theory Wars: An Argument Against Arguments in the So-Called Ludology/Narratology Debate". *DiGRA 2005 Changing Views: Worlds in Play Conference Proceedings*. Retrieved from http://www.digra.org/wp-content/uploads/digital-library/06278.03452.pdf.

Roth, Christian, Tom van Nuenen & Hartmut Koenitz. 2018. "Ludonarrative Hermeneutics: A Way Out and the Narrative Paradox". *International Conference on Interactive Digital Storytelling* (Lecture Notes in Computer Science), p.93-106. Retrieved from https://doi.org/10.1007/978-3-030-04028-4_7.

Ryan, Marie-Laure. 2006. *Avatars of Story*. University of Minnesota Press: Minneapolis (MN).

Sierra, Wendi. 2020. *Todd Howard: Worldbuilding in Tamriel and Beyond*. Bloomsbury Academic: London.

Short, Emily. 2016. Small-Scale Structures in CYOA. *Emily Short's Interactive Storytelling*. Retrieved from https://emshort.blog/2016/11/05/small-scale-structures-in-cyoa/.

Suckling, Maurice & Marek Walton. 2012. *Video Game Writing: From Macro to Micro.* Mercury Learning and Information: Dulles (VA).

Švelch, Jan. 2020. "Paratextuality in Game Studies: A Theoretical Review and Citation Analysis". In *Game Studies*, 20(2). Retrieved from http://gamestudies.org/2002/articles/jan_svelch.

Vogler, Christopher. 2007. *The Writer's Journey: Mythic Structure for Storytellers and Screenwriters*. Michael Wiese: Studio City (CA).

Wolf, Mark J.P. 2012. *Building Imaginary Worlds: The Theory and History of Subcreation*. Routledge: New York & London.