



DIGITAL ZOMBIES, UNDEAD STORIES

NARRATIVE EMERGENCE AND VIDEOGAMES

LAWRENCE MAY



B L O O M S B U R Y

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Introduction

Undead stories

At social gatherings of Parisian surrealist artists and writers in the 1920s, a number of collective parlour games were developed and defined – notable among them the *cadavre exquis* ('exquisite corpse'). Initially named *jeu des petits papiers*, the game typically involved four or more players, sheets of paper and tools for writing (and later for drawing). Words, phrases and sentences were written by participants and contributed to a hat to be randomly drawn and placed together to constitute unanticipated phrases and stories.¹ The game earned its more memorable name after the group's enthusiastic reception of the first sentence to be produced by this process of automatic writing: '*cadavre – exquis – boira – le vin – nouveau*' ('the exquisite corpse will drink new wine'). For André Breton, the founder of surrealism, the merit of this system of verbal construction 'was that they could not have been the fruit of one mind and that they were an infallible means of bypassing the critical faculty'.² By combining simple rules, textual inputs and the collective interactions of the players, the machinations of chance allowed narrative meaning to emerge in surprising ways, freed of the apparent limitations of individual motivations, perceptions and creative outlooks.

The corporeal connection was deepened in the visual variant of the game, in which each participant would, one by one, draw part of an image, fold the sheet of paper to conceal their design, and hand it off to the next player to make a similarly mysterious contribution. Guided by a simple compositional rule that participants' efforts were to mirror the anatomical structure of the body (the first participant was required to draw the equivalent of a head, the second the upper torso, shoulders and arms, the third the mid-section, etc.), players would work to generate drawn corpses which were often fantastic, bizarre and beautiful in nature. Humans, animals, plants, inanimate machinery and abstract

constructions would share limbs and sections of their bodies to make up the final, unanticipated assemblies. These were (and still are when drawn by participants today) undead stories of sorts – creating impossible corpses that could not find life in our biological worlds but are reanimated by fragments and combinations of user-generated story and jocularly. The composite figures, phrases and stories drew on the ‘pooling of mental resources and the chance associations of words or images’ in order to deliberately disrupt normal expectations of discourse and ‘to release clichés and automatisms of speech, by producing singular analogies and unprecedented association’.³ By drawing upon a simple rule structure, embracing chance and the variability of group collaboration in a context of interactive creativity, both the verbal and the visual versions of the *cadavre exquis* were games that generated early examples of *narrative emergence*.

‘Emergent’ game narratives are those that ‘are not prestructured or preprogrammed, taking shape through the game play’ and in which elements of the game’s design enable ‘the story-constructing activity of players’.⁴ Such emergence is possible in videogames because they function as complex systems and the interactions players have with these systems elicit ‘unpredictable narrative experiences’ unique to each player.⁵ In short, this phenomenon describes narrative content and experiences that develop organically through the highly variable processes and possibilities of play. This narrative–generative potential of gaming systems can contribute to players’ individual interpretations of game events and experiences and in turn inform their interaction with the text and their subsequent gameplay decisions. The focus of this book is on these moments of narrative meaning that game systems and players generate together in reaction to unpredictable experiences in multiplayer gameplay, either in the absence of or in addition to explicit, embedded narrative cues.

My opening connection to the evening parlour activity of the surrealists deliberately gestures towards the figure of another fantastic, grotesque corpse – the undead *zombie*. The use and experience of emergent narrative in the zombie genre of multiplayer videogames is distinctive and integral. Where emergent experiences in other game modes and genres are often coincidental, piecemeal and superficial (in the sense that they may add a *layer* of emergently generated story experience, or modify *part* of a game experience), in the zombie genre, emergence is located at the core of texts as a primary engine for multi-user narrative experiences. This is no coincidence, and it reflects the fundamentally emergent nature of both the fictional worlds and the narrative structures of zombie media outside of videogames.

'Emergent narrative' as a term has been subject to criticism in scholarship for its frequently vague application to games and a lack of conceptual completeness or cohesion. This reflects the phenomenon's status as a secondary or non-essential element of narrative design in many of the games discussed in existing literature. The combination of the zombie genre and the multiplayer mode gives us the chance to observe emergent narrative in a form where it has been granted textual primacy. By highlighting this genre, I intend to develop a more comprehensive and cohesive description of the emergent narrative phenomenon, its drivers, its functions and its outcomes, both for narrative and for player experience. Zombie videogames speak back to the wider genre of which they are a partial product, enacting and intensifying already present emergent tendencies. They also speak to videogaming more broadly, demonstrating the potential for emergent narrative to drive videogames rather than augment them.

The emergent process enables the individuals who play such games to participate in ongoing renegotiations of the narrative meanings of videogame texts. Users are able to participate in a potentially cyclical process which comprises play, experience of narrative emergence, the creative production of narrative artefacts, sharing artefacts to online player communities and consuming such artefacts in order to shape and guide future play experience (and consequent possibilities for narrative emergence). I also argue in this book that multiplayer zombie videogames, and the social and textual practices of player communities, illustrate a generative process of emergent narrative that is particular to the multi-user modality.

In order to develop this more detailed understanding of narrative emergence, I seek to find what leads to the player's experience of emergent narrative, how this narrative meaning is received and negotiated and how players capture, articulate and process such meaning. The production and consumption of emergent narrative by players, in their role as part of videogames' textual machines, is not merely possible or likely but deeply embedded in common, everyday gaming rituals and activities. In attempting to define the boundaries of the generative phenomenon inside multi-user contexts, I work to demonstrate that it is an experience frequently encountered by players across a number of communities with a wide variety of narrative and ludic consequences for them.

Existing literature is emphatic in its demonstration of the notion that digital games and their players are able to enter into a sort of cybernetic relationship where interaction with the videogame not only enacts textual meaning but, to varying degrees, defines it. It is also evident that scholarly consensus sees

players naturally and easily taking their participatory role in this relationship. I seek to uncover why players so readily engage in these productive partnerships with videogames, and to consider the self-reflexive nature of such engagement. Emergent narrative appears to allow players to 'fill in the gaps' in multiplayer game worlds that are defined more by the mechanics of their systems and rulesets than they are filled with accessible, embedded narrative cues. I explore the extent to which players are active and deliberate in their embrace of emergent narrative as a means to explain what they have experienced in an interactive environment as well as to inform their subsequent gameplay decisions and actions.

I also query the role of social activity in players' motivation to produce and consume narrative in emergent ways. While moments of emergent narrative might simply be internalized by players to inform their own gameplay behaviours, in other instances they might be reproduced and shared as artefacts for others to consume or respond to. Videogame players sometimes draw on the games they play to construct stories and narratives, with gameplay in this way becoming 'a resource for social performances'⁶ and 'the virtual material from which shared identities and realities are brought forth into life and sustained over time'.⁷ Moments of emergent meaning are reproduced and shared in artefactual narrative forms outside players' own minds, in order to facilitate social relationships, community building or cultural production, both during and away from multiplayer gaming sessions.

I unpack, to the extent that it is possible from the evidence I refer to, the interrelationships between different players' emergent fragments of narrative during sessions of multi-user gameplay (which can range in length from mere minutes to many hours). I examine ways the social connections and functions that are woven through multiplayer game modes not only help generate individual interpretations of textual experience and meaning but might also offer immediate opportunities for meaning to be shared, refined or challenged. To explore these types of player experiences, I examine practices of cultural production and dialogue in online communities that are associated with the book's case study videogames (which I detail in the following section of this chapter). A productive relationship exists between the two player realms, through which the meaning of individuals' emergent experiences is further negotiated and defined by the larger communities and text-specific cultures that surround the game text.

Returning to the ingame experience, I also show that, over multiple gaming sessions, emergent narrative can carry with it cumulative meaning. This

demonstrates the mutable, ongoing nature of game texts at an extreme, with a long ‘tail’ of generative activity and meaning following individual players and communities as they spend weeks, months and years playing their games.

Methodology

To explore and understand narrative emergence, I address three case study videogames in this book: *DayZ*,⁸ *Left 4 Dead 2*⁹ and *Minecraft*.¹⁰ The term ‘case study’ is used in this book to encapsulate more than just the analysis of the videogame texts in question (as they exist as discrete objects of software installed on users’ computers or gaming consoles) and also includes elements of the online player communities that exist surrounding each game and the textual negotiations that occur in these threshold spaces. Observation and analysis of community practices and online narrative artefacts form the most substantial qualitative dataset for my analysis. I define ‘narrative artefacts’ as the wide range of narrative and media objects users can share with online communities by submitting (either directly as embedded media, or hyperlinked within posts) to online fora and web 2.0 social platforms (specific examples are detailed shortly). My own gameplay supplements this data source and provides textual and structural readings of the case study videogames and self-reflective impressions of the potential operation of the emergent narrative phenomenon.

Two of the case study texts come with important considerations to note, which relate to the fluidity of their status as discrete ‘texts’. In the case of *Minecraft*, its status as a game under ongoing development must be noted. Released in 2011, the game has received continual and frequent updates and still does today. Some of these are minor – technical tweaks – while others are more profound adjustments to the game’s rules or practices of play. The artefacts gathered and analysed stretch across the years of the game’s existence, and as such, inconsistencies and contradictions between individual users’ time-bound experiences of play are legible. Likewise, *DayZ* is a game lacking fixity as a text. Released initially as an unofficial modification for another game – *ARMA II*¹¹ – *DayZ* was subsequently developed as a separate, standalone game with a dedicated development team and commercial support. In terms of the textual, ludic and programmed nature of the two videogames, there is contiguity between the modification and the standalone product. The discourse of players and staff involved in the games’ design treats the two texts as elements of a single,

unified development process. As with *Minecraft*, the distinctions between these two phases of development are, however, occasionally visible in the artefacts I discuss. In the case of *Minecraft* and *DayZ*, the distinctions between particular versions are collapsed, as the focus of the discussions in this volume are the ways in which game elements and player practices combine to generate narrative emergence in different moments of play, and such analysis does not necessarily require a fixed and stable text to address.

My first approach to data collection responds both to the position of videogames as experiential texts and to the requirements of methods suggested by researchers such as Espen Aarseth, who notes that active gameplay by the researcher is 'essential',¹² and Torill Mortensen, who notes that it is impossible to comprehend what players are doing and what to investigate in their activity without immersing oneself in the text.¹³ To study an enacted text the researcher must, to some extent, enact the text and be able to experience it and its interactivity from within the textual machine. This approach bears some similarity to the practices of analytic autoethnography, where the researcher has 'complete member researcher status', demonstrates 'analytic reflexivity' and deploys personal experiences as part of their discussion.¹⁴ The similarity ends at autoethnography's attempts to illustrate the nature of particular groups of people through analytical play and its positioning researchers as representatives of these subcultures. Nonetheless, the practical elements of my methodology in the recording of self-observational data are alike.

My gameplay and multiplayer session experiences were recorded in the form of diarized notes and screenshots of ingame events where necessary to provide first-hand primary data. As Lisbeth Klastrup also observes, since a multiplayer videogame is a 'social text, and social interaction is an intrinsic part of it, likewise social interaction becomes a necessary part of the study',¹⁵ and the three case study videogames were all played in a combination of single and multiplayer sessions with other users to guide my understanding of the games' social dimensions. Auto-analysis of gameplay serves to provide textual and structural readings of the case study game texts. These analyses provide initial observations of each text's distinctive potential for enacting (and limiting) emergent phenomena, shape the development of a framework for analysis (in Chapter 3) and add textual and ludic context to analysis of user artefacts in later chapters.

The bulk of this study's primary research material is in the form of discourse and textual analysis conducted in online social spaces associated with the

project's case studies (the process related to this is discussed in the 'Artefacts' section below; the specific online communities addressed are identified in the Appendix). The particular types of digital objects collected and analysed (which I term, collectively, 'narrative artefacts') include the following:

- text-posts containing reflective narrative written by users
- text-posts containing questions, queries or prompts to the wider community
- screenshots captured within gameplay sessions (often hosted on platforms external to the fora in question – for example, on [Imgur.com](https://imgur.com) – and hyperlinked within a submission)
- animated GIF images captured within gameplay sessions¹⁶
- videos captured within gameplay sessions (also most often hosted externally – for example, on [YouTube.com](https://www.youtube.com) – and hyperlinked)
- images and videos of gameplay modified, post-processed or assembled by users employing image-editing or video-editing software
- original artistic creations by users (illustrations or animations, e.g.)

Because of the nature and design of online forum software, each of these narrative artefacts is accompanied by evidence of person-to-person interactions in the form of 'threads' of text, image or video comments or replies by other users. These user-to-user discussions can span everything from single comments to dozens, or even hundreds, of submissions sustaining detailed conversations. These are also considered a part of the narrative artefact in question.

The centrality of user-shared narrative artefacts and discussion threads to this methodology is influenced by practices of digital ethnography,¹⁷ which are motivated by the fact that 'digital media and technologies are part of the everyday and more spectacular' experiences of people¹⁸ and the need to respond to these technologies' pervasive presence in 'the material, sensory and social worlds we inhabit'.¹⁹ The individual digital experience is difficult to render visible and tangible for research purposes, and so the artefact becomes the key piece of evidence – the end result of an experience, or series of experiences, within a game text and its associated online communities. Pink et al. note that 'taking a digital approach enables us to acknowledge and seek out ways of knowing (about) other people's worlds that might otherwise be invisible and that might be unanticipated by more formally constituted, and thus less exploratory' approaches to research.²⁰ I conduct textual analysis of the artefacts collated for the study (the process of collation itself is discussed in the next section, 'Artefacts') to demonstrate the nature of the textual, ludic and community experiences

that have contributed to the moments of play captured in the narrative and media objects that comprise these artefacts. By engaging with the user-to-user comments appended to these objects I also conduct discourse analysis to trace the communal negotiations and social connections that form between artefacts, play experiences and creative practices. In videogame texts that lack definitive fixity, the narrative artefact grants access to a snapshot in time that captures the narrative, ludic and personal drivers of a particular gameplay moment.

Artefacts

Nine sources were identified from which to gather narrative artefacts produced and shared by players, each of them an online forum or a web 2.0 social platform (detailed in Appendix). The user populations of online fora are not necessarily representative of the actual play communities of the videogames, and even in terms of raw population size likely only represent very small fragments of the larger player bases in question. However, in this book I do not seek to account for or provide a summary view of *all* players' experiences in these case studies. To address the process of capture, sharing and consumption of emergent narrative experiences is to address a particular subset of videogame players. The intention in drawing upon these nine research sources is to provide access to a figurative *slice* of multiplayer users engaged in these creative and textual practices across the three case studies (themselves a slice of the larger player population) rather than attempt to make totalizing claims about entire communities. By drawing together the three most-subscribed online social platforms for each game, I aim to provide a reasonably representative sample of these subset communities of players.

The process of data gathering and analysis (described in detail in Appendix) aimed to gather a wide range of popular user-generated artefacts across these videogames' online player communities. Exclusions were made of administrative, technical, spam and otherwise non-narrative postings in these fora, leaving a total of 404 artefacts related to *DayZ*, 307 related to *Left 4 Dead 2* and 511 related to *Minecraft*. These 1,222 artefacts, and the associated chains of comments and discussion between users that appear with these media objects on these online platforms, form the basis of the discussion in this book – particularly in Chapters 4, 5, 6 and 7. This volume, however, is by no means a quantitative exercise in itself. The purpose of outlining and quantifying the data gathering

process here and in Appendix is also to indicate that I have not been able to acknowledge and discuss every artefact in detail. I have, by necessity, offered and analysed small numbers of artefacts as being representative of larger trends and tendencies in the player communities being discussed. In every instance of direct analysis of artefacts, the specific data presented has been selected because I believe them to be most characteristically representative of several, dozens or even hundreds of other items of evidence.

In the context of the internet, where ‘individual and cultural definitions and expectations of privacy are ambiguous, contested and changing’,²¹ it is important to detail the considerations made with respect to individual identification in this study’s data. The user names that community participants select for themselves in online fora range from those that reflect their actual first names and surnames to those that are entirely fantastic and seemingly disconnected from offline identities. One of the complications the Association of Internet Researchers (AoIR) identifies for those engaged in research within digital communities is the question of personhood and whether to consider ‘one’s digital information an extension of the self’.²² My answer is an emphatic ‘yes’. With this in mind the vast majority of narrative artefacts I address are de-identified as I describe, excerpt or otherwise integrate them into my discussion. The usernames of the players who have shared these objects, those who have posted replies in associated comment threads and those who feature as players within any specific game session content are either excluded or obscured. The AoIR remarks in its most recent ‘Internet Research: Ethical Guidelines’ report that ‘user-generated content is generally published in informal spaces that users often perceive as private but may strictly speaking be publicly accessible’²³ and that researchers need to exercise caution if intending to repurpose such material for research purposes. In spite of the public accessibility and visibility of many online fora and social media platforms, users (especially younger people) ‘often nonetheless expected that these exchanges were somehow private . . . even though these expectations were not warranted by the technical realities’ of the platforms in use.²⁴ As such, AoIR proposes ‘protecting these exchanges as anonymous or pseudo-anonymous’.²⁵

There are three notable exceptions I make to this de-identification of artefacts. In Chapter 4, I make reference to replies made in a comment thread by Eugene Harton, *DayZ*’s lead producer. In this instance, owing to the content of these posts, I consider the user’s contribution to the discussion to be a public statement made in their (commercial) capacity as a representative of the game’s

development team rather than a contribution made as a private user with an expectation of privacy. Likewise, across Chapters 4 and 5 I make references to comments made by Dean Hall, *DayZ*'s creator, in a comment thread, in a message posted to Twitter and in a standalone forum post. My evaluation in these instances is again that these are materials posted on the internet for the purpose of wide public consumption for commercial purposes. Finally, in Chapter 7, I retain the username of a player whose actions are described by another user in a short story. In this case, the identified player and their story are well-known elements of the online fan culture surrounding *DayZ* and its players.

While the users who have authored or feature in the content of these media objects are not directly identified, the narrative artefacts themselves could still be found by motivated readers. This could be achieved using a combination of the descriptions or excerpts I provide, and the more detailed explanation of research design I provide in the Appendix. Indeed, because my methodology for collating these artefacts from the source communities uses the overall popularity of posts and submissions to each forum as its starting point, a reader browsing any of the nine sources I draw upon might come across artefacts I have described entirely by chance. I do not consider the relative ease with which artefacts could be located (and their creators thus identified) to be antithetical to my efforts to anonymize them in use. I am guided in this judgement by Helen Nissenbaum's concept of *contextual integrity*, which challenges researchers to be cognizant of the contextual norms of communities that dictate the appropriate *flow* of information and to consider the impact of the use of evidence in published research on the interests and preferences of affected participants.²⁶ The nature of these platforms encourages the consumption and sharing of artefacts, and as discussed in later chapters, users often acknowledge and illustrate the connections between their own contributions and those of other users. To take the effort to locate and view the artefacts I have discussed in their original setting in online platforms is to ensure an adherence to the contextual integrity of these user-generated materials. The 'transmission principle'²⁷ of play communities such as these is one of broadcast, and a reader who chooses to locate these narrative artefacts would be joining the originally intended audience of these contributions by entering the collective cultural space of an online play community on its own terms. The flow of personally identifying information attached to narrative artefacts would, in such a scenario, be limited to its original imagined audience. For users who have cause to be concerned about their association with materials posted, the contextual norms of these fora already allow individual obfuscation where

required (anonymous posting, the retroactive deletion of user accounts and the use of ‘throwaway’ user accounts that are differently named and disconnected from the identity of a participant’s primary online avatar). With all this in mind, the impact on the authors of artefacts that feature in the discussions contained in this book is presumed to be negligible if they are ‘tracked down’ and viewed in their original context. I summarize, describe and provide quotes from a range of creative artefacts, each a fascinating and original reflection of videogame play experience and many the product of significant user labour. In some instances there may be opportunities for readers to acknowledge the work and creators, to contribute to ongoing discussions as fellow players or to otherwise ‘give back’ to the communities they enter in the process of locating relevant narrative artefacts.

The nature of online discourse between online forum users and videogame players necessitates some cautionary notes for readers. Frequently, written communication in these social spaces (and many of the artefacts I analyse in this book) features typographical errors, grammatical mistakes, colloquial language, abbreviated shorthand and chat acronyms. In a number of the artefacts that I discuss in detail, these tendencies are highly evident. I have erred on the side of readability when quoting excerpts from narrative artefacts. In cases where the written expression of an artefact has worked to make its meaning confusing I have modified the content with supplementary information to provide clarity. In other instances, where the overall meaning or readability of an artefact is not compromised by these mistakes or the use of colloquialisms, I have left artefacts in their original state. Another common feature of online discourse between forum users is the use of profanity, both as part of the core storytelling of an emergent narrative artefact and in individual comments directed at other users in the social space. These expressions have also been retained where they appear in presented artefacts.

Structure of this book

Adopting the methodologies described in this introduction, I address a series of undead stories in the chapters that follow. The first are those of the *zombie* itself, whose shuffling and abject form, neither completely human nor completely monstrous, acts as a metaphor and mascot for the emergent narrative process. This figure – intense, delicate and visceral – beckons players into textual assemblages within which the videogame system and the player trade agency and

narrative motivations with one another. The zombie also taps into the cultural traditions of a monster that is fundamentally emergent in nature, mediating between chaos and rule-driven predictability and whose storytelling across media has often embraced chance and ephemeral disruptions to narrative and biological order. The resultant experience for players is another sort of digital zombie: the emergent narrative. Born of unanticipated combinations of rules and actions, and drawing on the latent potential of the textual machine that player and game text form through interaction, this undead form of story has no authorial parent and lurches in and out of existence, sometimes a fleeting and ephemeral experience for players. Together, these figurative corpses speak to the centrality of narrative emergence to both multiplayer gameplay and the zombie genre itself.

In Chapter 2 – ‘Stories of the Undead’ – I establish in detail what *narrative emergence* is and position its origins within studies of complexity and complex systems, narratological theory and game studies. The analytical value in addressing a type of narrative experience that is both exciting in its unpredictability and mundane in its familiarity to most videogame players is established, as well as a scarcity in existing scholarship addressing the phenomenon in thorough detail. At the same time, this chapter also traces the figure of the zombie and its various media histories from West African folklore, to Haitian Vodoun beliefs, to the racist unease of early Hollywood, through to the capitalist angst of Romero and his successors, and into interactive media. Trading in chaos, decay, mutability and unpredictability, the zombie is itself illustrated as an emergent being and one whose ludic presence, I begin to argue in this chapter, helps to accelerate player engagement with narrative emergence.

Chapter 3 – ‘Rules of Emergence (and the Emergence of Rules)’ – sets out an approach to redress the lack of detailed and rigorous analysis of narrative emergence in action. The various types of rules and rulesets that exist within videogames are discussed. This background is used as the basis of a framework to describe the *rules for emergence* – the five layers of programmatic and representational rules that game experiences and emergent moments are built from. The five pillars of this typology are individually elaborated by brief textual analyses of four videogames – *DayZ*, *Minecraft*, *Left 4 Dead 2* and *Grand Theft Auto V*.²⁸ The chapter then moves to establish multiplayer videogames, where a paucity of predetermined storytelling makes for a fertile emergent ground, as the focus of this framework’s application in the book’s following chapters. The challenges of studying multiplayer environments are discussed, where play

experiences change week-to-week, day-to-day or even moment-to-moment as games are patched and updated, fan cultures and play practices constantly shift and players come and go from online sessions.

Each of the framework's five rules are elucidated through discursive and textual analyses of game systems and user-generated artefacts. In Chapter 4 – 'Familiar Storytelling and Popular Memories' – two of these rules are addressed: *embedded narrative* rules (plot, character, setting and any other elements of designed storytelling) and the *game world* rules (the spatial, temporal, physical rules and characteristics of the virtual world that players and their avatars participate in). These are shown aligning emergent narrative experiences with players' popular cultural memories of the narrative and aesthetic history of zombie media – including the reproduction of zombie-conflict imagery, the construction of elaborate exercises in backstory or 'lore', efforts to preserve and memorialize elements human life and player activities that undertake the post-apocalyptic work of rebuilding and restoring human society and culture. I trace elements of the *embedded narrative* and *game world* as diverse as character design, the colour and texturing of three-dimensional cubes, the contours of landscapes and micronarrative fragments from their presence in the game system to their refraction into user accounts of gameplay and emergent experience. In this chapter I also distinguish a temporal dimension to the examples of emergence I address, identifying them as representative of a *real-time* emergence. It is 'real time' because, in evaluating the way players interact with their virtual physical environs and the immediately available narrative assets the game presents to them, we are witness to emergence as it unfolds. It is expeditious storytelling, where connections between images, sounds and impressions are made quickly, memories are stirred and stories are initiated.

Chapter 5 – 'Making, Breaking and Bending Rules at the Textual Margins' – addresses the *directive* and *systemic* rules within games, rulesets by which videogame systems tell their players *how* to play and to what end. The *directive* rules are overt and explicit directions, instructions and expectations articulated within a game, while *systemic* rules are the means by which virtual physical and logical laws are maintained ingame, and typically become knowable through the player's extended engagement with the game system and their cumulative learning of its possibilities and limitations in relation to their (and their avatar's) agency. In this chapter I address user-generated media and ephemera related to their gameplay (known as 'paratexts') as viable and meaningful fragments of narrative, and illustrate the capacity of user-generated narrative artefacts to

modify interpretation of, and engagement with, the original game texts once they are subjected to user-to-user commentary and interaction in online fora and social media. This is shown in a variety of examples within the player communities studied, including frequently polarizing debates regarding individual role-play identities, pedagogic efforts by players to share play advice and communal development of finely detailed understandings of mastering various systemic affordances within the texts. The outcome of these user-to-user interactions, and the sharing of artefacts by players, is the social production of *directive* rules that can then be taken into gameplay by users and further shape future emergent narrative experiences for each player. For those users who consume and internalize *directive* rules generated in these online social spaces, emergence takes on an *anticipatory* temporal quality: the process begins prior to actual play sessions (and possibly a considerable amount of time beforehand). For those capturing and sharing artefacts and working to explain, negotiate and modify communal understandings of *directive* and *systemic* rules, a *delayed* process is at work in which the activity *follows* play and the experience of real-time and ‘in the moment’ emergence.

In Chapter 6 – ‘Unstable Media, Infectious Stories and Migratory Rules’ – the last of the five layers in the book’s framework for analysing and understanding narrative emergence is considered: *constitutive* rules. This ruleset is situated deep within the emergent system, taking in the very programming and code of the videogame system as it works to generate experience and emergent narrative for player. *Constitutive* rules, for most players, are distant and opaque logical plane, obscured by layers of narrative, objectives and virtual environments. However, this chapter identifies various ways in which the case study games grant visibility and a degree of access to the workings of their engines. Critically, in this chapter I also address the appearance of malfunctions and errors – in the domain of the game server and associated network infrastructure, in the screeds of code that comprise artificial intelligence systems, within graphics-rendering engines, and as a consequence of the practices of hackers and speedrunners – which all work to further expose the deepest inner workings of these games. The figure of the zombie itself is defined by rupture, chaos and decay, and this chapter argues that such dysfunction in game systems heightens and extends player experiences of the imagined apocalypse. Glitches in artificial intelligence engines provide for unanticipated and diverse moments of savagery, visual display errors for monstrous myth-making and connectivity errors for the player sensation of participating in a disconnected, unthinking and

‘undead’ system of code. Hackers contribute to the ongoing development of the apocalyptic experience as a domain of aberrant terror, and in speedruns scripted meaning and intentionality fall away, replaced by the chance and ephemeral. This also reinforces the significance of the *real-time* emergence I describe in Chapter 4. Innumerable individual components of engines, pieces of computer and networking hardware and lines of code collide and coalesce moment-to-moment during play, and the slightest misfire in these delicate combinations can translate into trembles, tremors or chasms in the broader textual assembly.

Chapter 7 – ‘Delayed Apocalypse, Deliberate Design’ – analyses in further detail the occurrence of what I have described previously as *delayed* emergence, showing players of the case study videogames taking the time, and investing the creative energy required, to self-consciously and deliberately design, post-process and give formal shape to media objects that capture prior emergent experience. These past-tense narrations of play experiences work to define the overall game text from the thresholds at its edges. Some of the creative approaches to user storytelling examined in this chapter pay homage to the videogame zombie’s media antecedents, including the cinematization of virtual experience through post-production and ingame orchestration, aural design, the adoption of documentary conventions to reinforce individual role-play identities, historical meta-quotation and visual efforts to render audience access to the everyday chaos, rupture and violence of the apocalypse immediate and visceral. Other approaches break from this monster’s generic traditions, and instead pursue practices of post-processing artefacts to emulate analogue media, digital orality and anecdotal forms of text-based narrative, illustrations and artwork that connect to cultural practices in internet fandom and the functional affordances of web 2.0 platforms. By analysing the formal decisions users make in the post-play phase of emergent narrative, I am able to ‘close the loop’ of the model of narrative emergence I have established. These artefacts function to initiate and provide fuel for the *anticipatory* process, creating the narrative objects that inspire, provoke and possibly guide other users in their play, and this reveals narrative emergence as a potentially cyclical, unending creative and experiential process.

The eighth and final chapter, the Conclusion, revisits the model for the *rules for emergence* that I establish earlier, in Chapter 3, and work through in Chapters 4, 5, 6 and 7. Drawing on the case study analyses I undertake, and the history of the mediated zombie as explored in Chapter 2, I reflect in the Conclusion on the overall model of narrative emergence I have proposed in operation, its strengths

and some of the limitations of this approach, and I suggest an understanding of what could be considered the contemporary tendencies of zombie storytellers and storytelling. This concluding chapter also considers recent tendencies in videogame development and digital cultures that are intensifying and entrenching the role and significance of narrative emergence for players of a range of videogames and genres beyond the multiplayer zombie experience.

Notes

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