

Situating Machinima in the New Mediascape

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Abstract

This article investigates the emerging internet phenomenon of machinima, which has been described as an example of the convergence occurring between computer games, films and the Web. Looking both forward and back, machinima uses 3D game engines and networked environments to produce work that is primarily traditional, linear and narrative. The use of the internet by the machinima community to promote the form was evaluated and the apparent conservatism of machinima's approaches to visual storytelling was considered. Through my research, which combined a critical viewing of key works, a review of relevant literature and a practice-based component producing a machinima work entitled 'Ending With Andre' – which screened at the 2005 Machinima Film Festival in New York – I have argued that one of the most distinctive features of the form is not apparent in the finished work but occurs during the production process, in the ways the user/filmmaker interacts with a 3D game environment.

Keywords: Machinima; convergence; prosumer; alternative media; N Katherine Hayles; Bourdieu.

Introduction

Machinima (muh-sheen-eh-mah) is filmmaking within a real-time, 3D virtual environment. In an expanded definition, it is the convergence of filmmaking, animation and game development. Machinima is real world filmmaking techniques applied within an interactive virtual space where characters and events can be either controlled by humans, scripts or artificial intelligence. By combining the techniques of filmmaking, animation production and the technology of real-time 3D game engines, Machinima makes for a very cost- and time-efficient way to produce films, with a large amount of creative control (Dellario & Marino 2003: [1]).

What is Machinima?

The various machinima communities on the Web offer some definitions of the practice, including the one in the quotation at the start of this article, which emphasise its newness, relevance and significance (Machinima.com 2001). The definition I propose is more circumspect in tone but perhaps more easily understood: machinima is where 3D computer animation gameplay is recorded in real time as video footage and then used to produce traditional video narratives.

Machinima is a term created by two prominent practitioners (Hugh Hancock and Paul Marino) to describe what they claim is an important new media form (Marino 2004: 1). Machinima communities are active on the Web and in the wider media, showcasing work, issuing manifestos, publicising the scope of the practice and making claims for its future.¹

In this article, I discuss the practice of machinima and suggest some possibilities for assessing its significance. Based on my experiences producing a machinima work entitled 'Ending With Andre' (Berkeley 2005), I argue that one of the most distinctive features of the form is not apparent in the finished work but occurs during the production process, where the user/filmmaker can interact with a programmed game environment that is sufficiently complex to have substantial elements of uncertainty and randomness structured into the gameplay experience. This creates a filmmaking approach that is located within a documentary or improvised drama model not normally associated with animation production, an approach that offers some distinctive new possibilities for creative audio-visual narrative production.

Machinima has a few different forms. One key distinction is between machinima where the maker creates new assets (for example, characters, props, environments) and machinima where the maker uses existing assets provided by the game.² Machinima can also be a networked and collaborative activity, where participants on different computers in a multiplayer game environment all control individual characters that interact with each other, or it can be a solo production process. It can also be a highly controlled and considered creative process or a more speculative and exploratory one. In all cases, the video material is recorded in real time.

As a practice, machinima can be seen as an offshoot of the broader phenomenon of game modding, where fans seek to modify game engines to extend and customise their gameplay experience (Polak 2004; Humphreys et al. 2005). It can also be placed within a history of gameplay demos, replay and recam production, where players seek to record their gameplay to celebrate or share their experiences (Marino 2004: 1-21). Game design theorists, Salen & Zimmerman (2004: 412-415), argue that the ability to replay gameplay, where the narrative

experience for the player moves from being *within* the game to being *about* the game, is an essential element of game design. The appeal of this narrative extension of gameplay has been recognised by major game developers since the early 1990s with the provision of tools to facilitate this process, supported on the basis that it deepens player involvement with the game and extends the game's commercial life (Jenkins 2001). Computer games, as Humphreys et al. have described, 'have a history of strong fan communities, which have often been active in creating new content' (2005: 17).

But How New is it Really?

Machinima communities commonly make two claims for the importance of the form, both contained in the quotation at the start of this article. The first is its status as a new form resulting from a convergence of animation, filmmaking and 3D computer games. The second is the opportunity it offers filmmakers with limited resources to enter the previously inaccessible, big budget world of 3D computer animation. Machinima.com makes similar claims in a more overstated style:

An artform come out of nowhere. Films that use computer game technology and look like 'Toy Story'. Zero-budget film-makers making films that would stretch the biggest of Hollywood studios (Machinima.com 2001: [1]).

While these claims have a degree of transparent self-promotion about them, the broader attention machinima has received from a diverse range of critics and commentators suggests that the form deserves a greater degree of critical evaluation.³

On first being introduced to machinima as a new media form, I was struck not by how new it seemed but rather by how conservative and unadventurous the storytelling was. In an era where the narrative possibilities of interactive, hypertextual and virtual environments are opening up but have only been tentatively explored, machinima most commonly makes use of the increasingly sophisticated interactive features of recent 3D computer games to produce texts that are predominantly traditional linear narratives. It is a strangely hybrid form, looking both forwards and backwards, cutting edge and conservative at the same time.

Bolter & Grusin (1999) stress how the relationships between new and old media forms are more complex and contradictory than suggested by the technologically utopian discourses found so often in the popular media. It is not simply a matter of a new form appearing and suddenly replacing its predecessor. They stress how new forms can only be understood with reference to existing media and old forms remake themselves to resist the challenges of the new. In an increasingly fragmented and converged media environment, machinima can validly be seen as a site where newer and older forms of narrative audio-visual communication are being contested. Despite the economic and cultural challenges posed by the emergence of computer games, machinima offers evidence for the continuing cultural influence and pervasiveness of cinematic and televisual forms of storytelling. Machinima works certainly present as highly remediated – the most popular series, such as Rooster Teeth's productions 'Red vs Blue' and 'The Strangerhood', are explicitly modelled on television sitcoms, this influence extending from narrative design and camera style to the use of 'live' laugh tracks in some episodes (Rooster Teeth Productions 2006).

Machinima also exhibits many of the features more broadly associated with digital media. The 'volatile signs' (Ryan 2004: 338) and 'modularity' (Manovich 2001: 30-36; Ryan 2004: 338) characteristic of digital media facilitate the fluid repurposing of images and sounds from within computer game environments to elements within video production and post-production processes and then creative works distributed and exhibited on the Web.

While an individual machinima work does not need the internet, I would suggest any understanding of machinima in relation to convergence would be inadequate without considering the role of the Web in the development of the form. In the mid 1990s, Poster questioned whether the internet was fostering 'new forms of power configurations between communicating individuals' (1996: [2]). In critiquing technologically determinist positions, he argued that the internet is more like a social space than a technical tool or, to use his slightly unconventional analogy, the internet's effects:

are more like those of Germany than those of hammers. The effects of Germany upon the people within it is to make them Germans (at least for the most part); the effects of hammers is not to make people hammers, though Heideggerians and some others might disagree, but to force metal spikes into wood. As long as we understand the Internet as a hammer we will fail to discern the way it is like Germany (Poster 1996: [2]).

In this regard, it is hard to separate a discussion of machinima from the activities of the various online communities associated with it, who have used the Web effectively for the distribution of content, the growth in the form's following and its increasing cultural impact.⁴

The Social Context

Struggles for Recognition

Bourdieu's ideas around the struggles within the field of cultural production for recognition and the 'power to grant cultural consecration' (Bourdieu 1993: 121) would also seem to be highly relevant to an analysis of the emerging machinima phenomenon. What distinguishes Bourdieu from a theorist such as Foucault is the shift in emphasis from within discourse to the area of social relations. Bourdieu's ideas seem particularly useful in investigating the struggle for recognition and legitimation between mainstream and marginal producers within the field of cultural production (as located in what he defines as the sub-fields of large-scale and restricted production), as well as the constantly shifting positions of individual agents within these sub-fields. While Sterne (2003) suggests that caution should be used in haphazardly applying the ideas of Bourdieu to every contested social space, the struggle of the machinima community to break from the marginal position it occupies in relation to the Hollywood system through a contradictory mixture of rebellious rhetoric and big studio hero worship, can be better understood within this framework of ideas (Bourdieu 1993: 58). These contradictions reflect both an attempt to increase the symbolic capital of the movement (the only capital available to them from their position within the field) but also reveal a disposition towards the large-scale production of the dominant Hollywood producers that is currently being denied them.⁵

While Bourdieu's writings predate the emergence of the internet, the assertions of newness by the machinima community can be seen as a long-standing strategy within the field of cultural production employed by young producers, who seek to distinguish themselves from the established dominant forms by taking up the position of the heretical newcomer (Bourdieu 1993: 82-83; 106).

The tensions within the machinima movement between positioning the form as a grass roots (if not guerrilla) practice and a romantically idealised view of their work as a stepping stone to Hollywood, is apparent in the community's views around the issue of copyright; which could reasonably be regarded as the greatest obstacle to machinima increasing its impact as a creative form (Hancock 2003). It is clear that machinima is an example of how digital

technology has shifted power structures in the media towards the increased accessibility of production and distribution technology. However, machinima makers do not have the right to commercially exploit their work. Under a strict legal interpretation, this applies even if they have used a proprietary game engine but changed all the assets, resulting in a creative work that has no recognisable connection with the original game. The sense of disempowerment expressed within the community on the issue of copyright seems to primarily derive from this inability of producers to commercially exploit their work, a frustration that is compounded by the game manufacturers simultaneously encouraging machinima practice while seeking to constrain it within the boundaries of official fansites.⁶ These tensions are captured by Silverman (2005) in *Wired News*, who quotes Doug Lombardi, the director of marketing at Valve (a games software and technology licencing company associated with the machinima movement):

Intellectual property holders "are overly paranoid about what may happen if someone else plays with their props and toys," Lombardi said. "But if Lucas or any similar IP holder released some of their digital assets to the community for noncommercial use, there would be at least a dozen new Jedi adventures that surpass anything that's come off (Lucas' Skywalker) Ranch in recent history. But perhaps that's why they are so panicked" (Silverman 2005: [1]).

Humphreys et al. (2005) have also investigated both the productive and uneasy relationship that can occur between computer game developers and those fans whose interest in the game extends to active content creation. 'The distributed production process harnesses the creativity, innovation and labour of the end-user. So who should own it?' (p.18). While discussing the often sophisticated understanding fans have about their activities in this context and cautioning against a simplistic view of the relationship as a purely exploitative one, they also describe how 'The power of the various stakeholders in this situation is not necessarily balanced, with the publishers or developers most often seeking to retain control in whatever ways possible' (p.18).

Jenkins also explores the tensions and contradictions in relation to intellectual property law that have developed around the internet. He sees the culture of the Web as a 'traditional folk process working at lightning speed on a global scale. The difference is that our core myths now belong to corporations, rather than the folk' (2000: 2). While Bolter & Grusin assert that 'convergence is remediation under another name' (1999: 224), Jenkins has highlighted how the concept of media convergence can better be understood as at least five different processes, extending beyond the technological to include economic, social, cultural and global processes. He describes cultural convergence as:

The explosion of new forms of creativity at the intersections of various media technologies, industries and consumers. Media convergence fosters a new participatory folk culture by giving average people the tools to archive, annotate, appropriate and recirculate content (Jenkins 2001: 93).

This feature of media convergence is evident in the way machinima communities promote the accessibility of the form and the ease with which any game player can turn into a machinima maker – making it possible and affordable for virtually anyone to get into 3D animation, rather than the experience being limited to large, corporate, studio-style organizations such as Pixar or Dreamworks (Machinima.com 2001; Dellario & Marino 2003). It has been widely noted how networked digital media environments encourage a breakdown in the traditional distinction between producers and consumers (Humphreys et al. 2005; Hartley 2004; Deuze 2005; Bruns 2003). In discussing the development of the 'prosumer' in the media and the need for prosumer behaviour to occur more widely in the journalism and

advertising professions, Deuze (2005) outlines the breakdown of previously closed professional environments in the face of low cost and accessible digital media technology:

As storytelling through the media is becoming an increasingly participatory experience, the professional storytellers in journalism and advertising cannot claim control nor dominance anymore over what Carey (1989) called the conversation society has with itself (Deuze 2005: 10).

Deuze outlines a history of 'participatory media culture' (2005: 8), explicitly singling out the computer game industry for its interactive engagement with its customers in the development of its products. This can be seen in a wider context of user-centred design, a context which, despite what Deuze perhaps idealistically hopes could involve media companies having a peer to peer relationship 'with the former audience beyond strictly commercial or economical aspirations' (2005: 10). Nevertheless, he recognises that this can also involve 'media companies retaining control over the storytelling experience by co-opting the bottom-up narratives into their praxis' (Deuze 2005: 10).

In this regard, machinima highlights both an increased blurring within society of the relationship between producers and consumers, as well as the influence of prosumers (Deuze 2005), pro-ams (Leadbeater & Miller 2004) or produsers (Bruns 2005) within the economies of contemporary post-industrial societies. It can also be seen as expressing the participatory nature of digital media in networked environments and the tensions that emerge when that participation is constrained by existing principles of copyright law. These tensions suggest that, at least in the short term, machinima may be limited to a fringe role within a broader mediascape. If that is the case, what then does it have in common with other forms of marginalised media?

Machinima as Alternative Media

Atton (2001) applies some of Bourdieu's concepts to his overview of alternative media and his attempts to develop a comprehensive theory for this form of production, which includes the media of the radical political right and left, as well as a wide range of special interest groups and communities who believe they are denied a voice in mainstream mass culture. In surveying the range of previous attempts to theorise what Atton argues is a neglected area of media research, he considers to what extent an alternative media requires content that engages with ideas of social change, formal innovation or participatory relations of production. In many respects, this discussion seems relevant to machinima, which could at least partly be located in the tradition of fanzine culture. In his discussion of the work of Duncombe in relation to American fanzines, Atton describes how the content of many zines 'is hardly politically or socially transforming in itself' (2001: [20]). Rather, they can be described as radical in relation to their production processes and their position within the overall relations of production within society. Machinima emerged as an essentially unplanned consequence of user interaction within the developing computer game industry. It can thus be directly linked to the zine tradition, with its origins in fan culture. With some exceptions, such as the widely publicised machinima about the French race riots of 2005, 'The French Democracy' (2005), machinima works can rarely be described as alternative in terms of any explicit political or social content, or indeed in relation to visual style, which is predominantly influenced by accepted cinematic and televisual conventions.⁷ However, according to Atton, Duncombe argues for the radical nature of fanzines to be evaluated on the basis of three characteristics – that producers are amateurs, that their work is cheaply and easily circulated, and that 'the distinction between producer and consumer is

increasingly blurred' - all strong characteristics of the machinima phenomenon (Atton 2001: [20]).

'Ending With Andre'

Filmmaking in a Game Environment

My initial motivation for making a machinima project was to investigate its potential as a form of accessible and alternative media production, exploring through my own creative practice many of the issues discussed previously in this article. As an independent filmmaker who has wrestled with the difficulty of financing stories that deal with unfashionable characters and themes, machinima appealed to me as an opportunity to produce a fictional screen drama with few resources and considerable creative freedom, while being fully aware at the same time that I had no ability to commercially exhibit the work. In relation to the machinima field as a whole, I also felt there was an opportunity to produce a work that offered a different type of story – moving beyond the limited range of media satire, sci-fi and fantasy genre productions that dominate the machinima community's online offerings.

I went into the process with little experience of computer games but a long background in low budget film and video drama, with a particular interest in the creative possibilities of improvisation in both performance and camerawork. I chose the recently released game *The Sims 2* as the environment for my machinima production.⁸ This decision was informed by the inbuilt video capture feature within the game and its status as a simulation game which takes place in a recognisably contemporary suburban environment, the kind of environment much of my previous work in film drama has been located in. In simulation games, the role of the player is essentially to manage resources, which in the case of *The Sims 2* includes the psychological and emotional well-being of the characters as well as their physical environment (Frasca 2001). *The Sims 2* has a number of distinctive features as a computer game and choosing it as the game environment had a number of consequences for the machinima work I was producing, which would not necessarily have occurred within another game environment. *The Sims 2* is notable for being a game where there is no "winner". It is a single player game with a third person viewpoint and allows the player to create characters with quite sophisticated control over their appearance, and a lesser degree of control over their personality and behaviour. Once created, the player manages the characters' lives but, through the game engine, this 'management' is an interactive process where the characters can react in a range of unpredictable ways that are independent of the player's attempts at control.

To briefly outline the production process for my machinima work 'Ending With Andre', I created a solitary female character, designed her appearance and selected psychological attributes. To keep things manageable for an inexperienced user, I focused on keeping her life simple (eating, reading, sleeping) and trying to master the camera controls so I could record her experiences. As the days passed, unexpected things started to happen. For instance, an angry man dressed in black accosted her at a shopping centre. Shortly after, he arrived at her house uninvited, upsetting her greatly. On the basis of this gameplay material, I created a story for my machinima where the man in black was a violent ex-boyfriend she was hiding from. I wrote a voice-over to dramatise and elaborate this story and edited the video captured from the gameplay consistent with the script. My experience producing a machinima work raised a number of key issues about the form.

Camera

Machinima highlights the similarities and differences between computer games and film production in relation to the use of the camera; to this point an area that has not received much attention. My experience of being a player in *The Sims 2* was essentially functioning as a camera operator, with a key element in the gameplay being the positioning of the view/camera to observe the action unfolding in 'live mode'. Camera controls generally parallel the moves capable in the filming of traditional film and video productions, including tracking and zooming. Circular tracking (as distinct from lateral) and zooming (where the camera moves through walls) are possible in traditional production but rarely used; whereas in *The Sims 2* they are common techniques for repositioning the camera and covering the action. Being able to move the camera in a vertical plane is as relevant as a horizontal one and observing the action from a high angle has some advantages in the game environment, where monitoring everything that is going on is a key issue.

Editing

Any analysis would also have to consider the concept of editing, which in film production is closely related to camerawork in structuring time and space within the screen text. *The Sims 2* game play experience does not seem to have an equivalent to the 'cut', with the user's experience unfolding in real time. In this regard, if the user has difficulty with the camera controls and can't position the view effectively, the action of the game proceeds regardless and only stops if the user chooses to leave 'live' mode. For the purposes of recording material for 'Ending With Andre', the game play experience was more closely related to the experience of recording a live event, either for television news or documentary purposes. There is a range of camera techniques and strategies appropriate for this environment and I employed these. Machinima can be characterised as applying these film production and post-production concepts to the real time environment of the game or, expressed in another way, applying a documentary production paradigm to an animation environment.

In relation to 'Ending With Andre', as is commonly the case with machinima, the narrative was completely reconceived at a later stage. Film production concepts of editing and sound post-production were then applied to it, using techniques more relevant to television news or documentary production than drama, although these same techniques are commonly used in the context of dramatic improvisation using actors, where the behaviour of characters has an element of uncertainty.⁹

Dialogue

At the time of making 'Ending With Andre', the single greatest limitation facing me as a machinima maker was the inability to have my characters speak lip-sync dialogue, hence the soundtrack was entirely structured around voice-over and music. However, software tools to overcome this limitation have emerged. In both this and several other areas, the 3D game engines that machinima 'feeds' off and third party technology supporting machinima practice are developing rapidly, so the ease of the production process and the creative sophistication of the work can be expected to significantly improve in the immediate future (Strange Company 2003; Slashdot 2005).

Human and Non-Human Actors

As a filmmaker, a significant issue for me in producing 'Ending With Andre' was exploring the expressive possibilities of animated game characters compared to human actors/subjects. Within a game like *The Sims 2*, the range of emotions and actions conveyed by the

characters is not as complex as a photographed human being but is a considerable development over earlier generations of games. Viewed in isolation, the means through which these characters express emotion can seem crude and limited. For example, the main character in 'Ending With Andre' would express her unhappiness by theatrically waving her arms around or throwing her head into her hands to weep. However, when integrated into the edited film and framed by the narration, I felt these emotional moments were surprisingly effective. Scott McCloud, in his book 'Understanding Comics: The Invisible Art', talks in detail about the expressive power of cartoon images over realistic ones and how the greater level of abstraction in cartoon images increases the level of viewer identification:

When you look at a photo or realistic drawing of a face you see it as the face of another. But when you enter the world of the cartoon you see yourself (McCloud 1993: 36)

Forms of Machinima Production

In comparison with animation, where the author/producer has total production control over the text, my machinima work proceeded from the principle of recording an unpredictable narrative event unfolding in real time. It should be stressed that there are a range of ways to approach the machinima production process, which are determined both by the game platform used and the creative objectives of the maker. The collaborative possibilities of machinima in a networked environment can give it a live performance dimension that is closer to a real or virtual theatre experience (Hancock 2001; Ill Clan 2006). There is a significant part of the machinima movement that is interested in developing the form towards greater levels of production control and thus moving the production process closer to that of traditional film drama methods (Planet The Movies 2006), with full scripts written in advance, multiple takes and careful control over camera, staging and performance. However, I would argue that the 'documentary' approach I applied offers some novel creative possibilities that are not readily achievable in either traditional animation or film drama. While not wishing to overstate the significance of these creative options, they do add some weight to a judgment that machinima can be described as an authentically distinct media form.

Randomness and Complexity

As an experience in audio-visual narrative production, I felt the issue of interacting with an unpredictable game environment in real time emerged as the most significant element in the production of 'Ending With Andre'. This occurred primarily during the incidents of the 'man in black' appearing and accosting the female character I had created. It was in relation to these incidents that machinima seemed fundamentally different from animation and offered creative possibilities for audio-visual storytelling that may have not been previously available.

My experience of contemporary game environments such as *The Sims 2* or *Grand Theft Auto 3* is that they are sufficiently complex to parallel the daily world many people experience, in relation to the number of people and places they can encounter, as well as the potential for uncertainty and unpredictability in these encounters. When these encounters can be recorded using movie capture tools, there seem clear parallels with documentary or improvised drama approaches to film production. However, the fact that the filmmaker is interacting with a programmed computer environment rather than the social world of living human beings is obviously significant.

Tensions relating to control and complexity were central to my experience of machinima production. Within the context of media entertainment, 3D games exemplify the complex systems computer technology is increasingly capable of creating. Related to the issue of

complexity was the experience of randomness in the gameplay process. While unexpected developments are common in traditional linear narratives, within film and television these developments are almost always explained later within the causal chain of the narrative. The unexpected developments in my gameplay experience of *The Sims 2* were not apparently occurring within any overarching narrative.

The relationship between narrative and gameplay has been the source of much discussion within the games studies field (Aarseth 1997; Juul 2001; Murray 2004) especially around the usefulness and validity of conceiving of the gameplay experience as a narrative one. While this relationship also seems fundamental to an adequate understanding of machinima as a converged media form, machinima would commonly be regarded as an extension of gameplay and a repurposing of the gameplay experience for often unrelated narrative purposes, that derive more from the motivations and practices associated with filmmaking. So while machinima is not necessarily concerned with any narrative components within the game, the extent to which the gameplay supports the development of narratives beyond itself is a central issue. Janet Murray (2004) has specifically argued that the simulation world of *The Sims* is 'neither game nor story'. Rather it is 'a collaborative improvisation, partly generated by the author's coding and partly triggered by the actions the interactor takes within the mechanical world' (Murray 2004: [3]). Certainly my own experience with *The Sims 2* supports Murray's view that the improvised aspects are a key feature of the experience. Despite being a single player game, I also believe it is worth considering the extent to which the gameplay experience in *The Sims* can be regarded as a collaborative one, an issue that has been explored in the work of N. Katherine Hayles.

Narrative and Virtual Worlds

The role of narrative in virtual environments is explored by Hayles in her article 'Simulating Narratives: What Virtual Creatures Can Teach Us' (1999a), where she discusses the construction of narratives by viewers watching a display of virtual creatures that are programmed to simulate the evolutionary process. The creatures are programmed to react to external stimuli according to simple rules of behaviour. Intent and motivation are not issues. However, viewers of the creatures often interpret their behaviour within a more elaborate narrative framework. The developer of this simulation is (coincidentally) named Karl Sims.

When we attribute to Sims's virtual creatures motives and intentions, we interpolate their behaviors into narratives in which events are causally related to one another and beings respond to their environment in purposeful ways. As Alex Argyros, among others, has suggested, the creation of narrative may itself be an evolutionary adaptation of remarkable importance. Narratives, with their emphasis on causality, meaningful temporal sequence, and interrelation between behavior and environment allow us to construct models of how others may be feeling and acting, models that coevolve with our ongoing interior monologues describing and interpreting to ourselves our own feelings and behaviours (Hayles 1999a: 8)

Hayles offers a framework of ideas within which the gameplay experience of *The Sims 2* may be better understood, as well as the desire of machinima makers (who are also game players) to construct narratives from the surface complexity and programmed randomness of the game environment. While on one level, the impetus driving machinima makers can be considered as a nostalgic desire for a cinematic linear narrative within the complex interactive environment of contemporary computer games, Hayles' ideas suggest that when

humans interact with complex virtual worlds that contain random actions programmed into them, the creation of narratives can also be seen to have a wider significance:

The narratives we create typically inscript actions into a set of more or less canonical stories that invest actions with meaning. When Joan Lucariello studied which stories stimulated the most vigorous creation of narratives by young children, she discovered that nonexpected actions gave rise to the most stories in response (Hayles 1999a: 10).

Hayles, who has written extensively on what she argues is an 'ongoing transition from the traditional liberal human self to the contemporary posthuman subject' (Hayles 1999a: 2), sees a related shift in emphasis from concepts of presence/absence to those of pattern/randomness in this process (Hayles 1999b: 32-34). Her discussion of mutation as a form of randomness (that can also reveal its productive potential) is useful in developing an understanding of the narrative development process that unfolded through the production of my machinima, when unpredictable events like the 'man in black' occurred, sending the story off in a creatively rewarding direction:

Mutation is crucial because it names the bifurcation point at which the interplay between pattern and randomness causes the system to evolve in a new direction (Hayles 1999b: 33).

It is conceivable that as computer games develop in complexity, machinima may become increasingly appealing as a creative environment where human producers interact with a game environment to develop original stories. At a minimum, it can be seen as a means of facilitating and accelerating the creative story development and storytelling process. The significance of Hayles's ideas is in conceiving of the creator in this situation as not being the human machinima maker in isolation but rather what she describes as a 'distributed cognitive system' that includes the creator of the game, the computer and the game as well. She argues that expanding the boundaries of the 'system' is necessary for an adequate account of what is occurring, and the creation of narrative by a human participant can be seen 'as part of a dynamic evolutionary process in which we are coadapting to other actors in the system,' including the nonhuman ones. (Hayles 1999a: 8)

In exploring the implications of this further, Hayles discusses the work of Mark Poster, who argues that 'digital technologies and culture are bringing about a significant reconfiguration of contemporary subjectivity. To illuminate this shift, Poster posits two different kinds of subjects: analogue and digital' (Hayles 1999a: 12-13). To Hayles, the assertion of copyright in creative work, which as we have seen is a central issue in relation to machinima, is also a general feature of analogue subjectivity, along with the historical dominance of print culture and the cult of the author (Hayles 1999a: 13-14):

The analogue subject implies a depth model of interiority, relations of resemblance between the interior and surface that guarantee the meaning of what is deep inside and the kind of mind-soul correspondence instantiated by and envisioned within the analogue technologies of print culture (Hayles 1999a: 15).

In contrast, Hayles' description of digital subjectivity explains many of the features apparent in my experience of 3D computer gameplay and the machinima production process that followed, including its surface complexity, the randomness of behaviour within the characters of the game and the creative potential of interacting with those characters in the process of developing a fictional narrative:

The digital subject implies a surface complexity that is related through hierarchical coding levels to simple underlying rules, a dynamic of fragmentation and recombination that gives rise to emergent properties, and a disjunction between surface and interior instantiated by and envisioned within the digital technologies of computational culture (Hayles 1999a: 15).

Conclusion

As practitioners of an emerging media form, machinima communities are seeking greater prominence and recognition for their activities. However, claims for the significance of machinima need to be put into perspective. As a media form, machinima can be understood as a convergence of 3D computer games, filmmaking and animation, but I have tried to suggest a range of possibilities for providing a more complex and balanced means of evaluating its status. While machinima communities assert the 'newness' of the form, completed machinima work usually presents as a traditional linear narrative. The elements of the form that make use of new developments in media technology occur at an earlier stage – during the production process – a stage that is not apparent to the viewer. Its appeal, as an accessible form of audio-visual narrative production for producers with few resources wishing to work within the expensive and technically complex 3D computer animated environment, are clear. However, the creative opportunities afforded by this accessibility are constrained by existing copyright law, which prohibits the use of most machinima for commercial purposes.

Machinima is a marginal presence on the Web but one which I would suggest highlights the contested nature of the internet – between existing and emerging media forms, between consumers and producers, between marginal and dominant producers, and between network models that stress either active and democratic user participation or commercial control.

From the perspective of a creative media production experience, the most distinctive feature of machinima is the way in which the player/producer interacts with a complex game environment, where random events can occur at any time. While this has some parallels with existing film documentary and improvised drama practice, the non-human aspect of the environment is significant. The work of N. Katherine Hayles provides a framework of ideas within which the construction of narratives from interacting with complex virtual environments can be seen as a form of emergent behaviour highlighting the complex relationship between human and non-human systems of communication. Within this framework, the status of machinima as a hybrid form using complex 3D virtual environments to generate traditional linear narratives and delivered on the internet, can be viewed not as an aberrant or marginal activity in the development of new media but as an expression of broadly significant tensions in human communication in the transition from an analogue to a digital world.

Endnotes

¹ For a machinima 'manifesto', see Moller N. (2004) The Machinima Standard <http://www.machinima.com/article.php?article=423> Date accessed June 12 2006

² For a machinima made with original assets, see Machinima.com: Ill Clan Hardly Workin' DivX version (2002) <http://www.machinima.com/films.php?id=9> Date accessed June 12 2006

For machinima work using existing game assets, see two series produced by Rooster Teeth Productions: Red vs Blue and The Strangerhood. Rooster Teeth Productions (2006) <http://rvb.roosterteeth.com/home.php> Date accessed June 12 2006

³ Articles on machinima have appeared in The Economist, the New York Times, Variety and Wired Magazine: Special section (2004) 'Deus ex machinima?', Economist, September 18th, Vol.372 Issue 8393, p.3; Mirapaul M. (2002) 'Computer Games as the Tools for Digital Filmmakers', The New York Times, July 22nd, pB2(N) pE2(L), col 3 (35 col in); Bloom D. (2002) 'Gamers fine-toon new pic form in machinima', Variety, August 12th, v387 i12, p.6 (1); King B. (2002), 'Machinima: Games Act Like Films', Wired News, July 23rd. The game design theorist Katie Salen has also been prominent in promoting the potential of machinima and has curated machinima programs at the Lincoln Center, Cinematexas, The Rotterdam International Film Festival, and the Walker Art Center

⁴ The machinima community currently has two major showcase sites on the web: www.machinima.com and the Academy of Machinima Arts and Sciences. These sites seek to support and extend the community of users and function as portals for information about the machinima form. Machinima.com (2004) <http://www.machinima.com/> Date accessed June 12, 2006; Academy of Machinima Arts and Sciences (2002) <http://www.machinima.org/> Date accessed June 12, 2006

⁵ Totilo S. (2005) 'Machinima Film Festival: A Sundance For Video Game Set', MTV News, 17 November 2005 http://www.mtv.com/news/articles/1514002/11172005/id_0.jhtml Date accessed July 30, 2006. This article conveys both the mainstream aspirations of successful machinima makers, as well as the aura of guerrilla filmmaking practice associated with machinima that I have referred to:

Many of the field's filmmakers are doing their projects on the sly: After all, the movement was founded on hacking code and using games for things they weren't designed to do. There's an independent spirit that Matt Hollum from "Red vs Blue" likens to "the early days of sampling music for hip-hop" (Totilo 2005: [2]).

⁶'EA Tools & Materials End User license' (2004), *The Sims 2 Body Shop Manual*, Electronic Arts Inc., p. 16. An excerpt from *The Sims 2 Body Shop Manual* highlights the limits on the use of game assets sourced from *The Sims 2*: 'You may include materials created with the Tools & Materials on your personal noncommercial website for the noncommercial benefit of the fan community for EA's products'.

⁷ It has to be said that machinima as a form is still in its very early stages and there is evidence of a developing sophistication both in narrative content and style.

⁸ Release date: 14 September 2004. See *The Sims 2 Review* (2004), [pc.games.source http://www.pcgamesource.com/reviews/s/sims21.php](http://www.pcgamesource.com/reviews/s/sims21.php) Date accessed June 22, 2005

⁹ I have some experience with working with actors in this context, most substantially in a production called 'Stargazers', which screened at the Melbourne Underground Film Festival in 2005. 'Stargazers' was an extended experiment in improvisation, involving six actors and myself, that produced a 310 minute dramatic video as an outcome. See The 6th Melbourne Underground Film Festival (2005) Avant Muff: Xtreme Narrative <http://www.muff.com.au/2005/content/avant.html> Date accessed June 12, 2006

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AJETS Vol. 4, No. 2, 2006, pp: 65-80

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