How Story Can Tell Games: Narrative and Micronarrative as Components of Game Experience

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Introduction

The discourse on electronic game design demonstrates strong disagreement whether games are sites for narrative and, if so, how 'natural' that fit is. This debate can often seem to have the character of a nothing-or-all dilemma. Fiercely determined ludologists can take the position that no games are narratives; that attempting to think about games in terms of narrative is a misapplication that distorts, a colonization of games by narrative.

Equally determined narratologists exist who take a somewhat severe view of games as a wanting narrative form at worst, an incunabular one at best. The hard-to-elude implication is that games 'yearn' (or at least these analysts yearn for games) to be more fully expressive vehicles for sophisticated storytelling, benchmarked against modern long narrative forms such as the novel.

Other analysts essay positions in the middle: some contend that narrative in games or games as narrative is a matter of degree; others that narrative can emerge out of game-play *after the fact*; and still others that in games that are narrative, spatialization has displaced temporality as the centerpiece of narrative as we have come to know it.

An operational approach to investigating this problematic can be founded on the related questions "Why do game producers strive to incorporate narrative?" and "What functions does narrative serve in developing player experience?" An analysis that is both sound and elegant can be achieved by taking a deliberately narrow focus on first-person shooters; this is because while it *appears* difficult to make strong narrative arguments about these, narrative underpinning is in fact fundamental to their user experience.

Having said this we wish to declare at the outset something which will then, prima facie, appear paradoxical: games as such are not narratives; they do not tell stories.

They are not designed to do so.

However, first-person shooters typically *reference* story and *rely* on it to help users play the game, and as a factor in players' enjoyment of the experience. Various other types of electronic games, though not all, also refer to story. To understand what it means for a game to reference story, how that works, and why at least first-person shooters depend on story, it's necessary to understand how 'directly narrative' forms such as novels also reference story, but in a way so that a story can be told through them. Understanding the somewhat different way that narratives and games are related to story explicates why games don't tell stories but why the ways they reference them are nonetheless best taken as being *narrative elements of games*.

Narrative Elements and Their Functions in Games

Abstraction in Game System and Game

Game settings and characters that appear in them are elements that under considered examination should be seen as referencing story and therefore productively understood as 'narrative elements of games.' At first glance, this would seem to run counter to the conventional understanding of the hardcore ludologist position that story is external and/or extraneous to 'pure game-play.' In fact, our own position is that while the overall experience of first-person shooters relies on story, that because games are by their nature abstractions—and electronic game systems by nature radical abstractions—significantly concretized representations such as settings and characters can and in one sense should be seen under rigorous analysis to be 'extra-ludic.' To clarify this, we will indulge in a bit of unrigorous pseudo code.

Take as an example the essential motif or action sequence of a first-person shooter (in passing, note that this label is itself a 'significantly concretizing representation' for what follows). Instead of rendering this action in normal descriptive language we'll present it as (a form of) pseudo code, an abstraction that while it more closely approximates the even more highly abstract programming languages electronic games are actually written in, is sufficiently concrete that non-programmers can make sense of it. (Note also in passing that programming languages are themselves compiled into even more abstract binary, hexadecimal machine code, which is the 'substance' that actually runs games, or 'game' systems as they are more properly understood at this level.)

```
on mouseClick

    get 'Cursor Coordinates'

    get 'Target Coordinates'

    if 'Cursor Coordinates' = 'Target Coordinates' is True

        increment numerical value at memory address <some value>
```

This of course reflects the pointing (interpreted as aiming) and clicking (interpreted as shooting) that the player actually carries out in the computer interface, the result of which the system interprets for the player in terms of his 'score' (and likely in terms of ammo inventory, no matter whether he hits the target or not).

Note that while in pure game system terms the cursor coordinates are a single point and the target coordinates could also be a single point, the reciprocal relationship between player perception and computer input/output devices requires a minimal degree of representation in the game itself that exceeds this. Specifically, the representation of the cursor on the screen requires multiple pixels in order to be effectively perceived and manipulated; the target, to be perceived, and to be effectively 'acquired' using the cursor, also needs to be multi-pixel (thus a shape).[1]

At this stage, any actual game supported by the abstract game system will be truly pure game-play, an exercise in target-'shooting' skill. At this stage of abstraction, the game has no narrative elements; it has not been designed to reference story. Still, while such a game has not been 'narrativized' in 'design-time,' there is nothing to prevent a player, in play-time, from interpreting the targets and the act of clicking on them, even if the result is nothing more than adding to his score, as referencing story actors and events.

In practice in fact, game designers are highly prone to concretize their games; they do this by providing representations that give players 'handles' on the game system's abstractions: the cursor is represented as a crosshairs, the targets as ducks, or people. And while these representations are 'pointers' to abstractions in the game system, they also point in another direction, to a story-world conjured by them. This concretization and ensuing narrativization is not a logical necessity of game systems or games; abstract games—*Tetris* is an oft-cited example—can be highly engaging and compelling without any such concretization or reference to story.[2]

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[1] So, while digital (en)coding facilitates radical abstraction, the materiality of computer I/O devices precludes 'pure' abstraction.

[2] The 'handles' need not be graphical representations; Jesper Juul provides an example of this, illustrating the power of references that point between game and story:

> …modern pinball games, whose basic rule continues to be "hit all the flashing things,"…now augmented by a small display sending the player on "missions." The 1993 *Star Trek: Next Generation* contains (among others) a "destroy the asteroid" mission, where an asteroid threatens "the ship," and it is the player's job to destroy the asteroid...by hitting a flashing thing with the ball. There is no way that we can believe in a connection between the player's shooting the ball around and the story happening on the display, but it does not seem to matter. ([6])

The flashing target need not be directly graphically represented as an asteroid nor the ball as some sort of futuristic weapon; presented with a story in conjunction with the ordinary pinball apparatus, the player draws the correlations. And of course it's not about believing that shooting the ball is firing at an asteroid, but rather about the *willing suspension of disbelief.*

Game, Concretizing Representation, Story

So if concretization is unnecessary to pure game-play, why build game engines that represent the abstractions of their algorithms as people and places rather than plainly geometric shapes, especially when there are significant computational costs in doing so?

While not a logical necessity, it appears to often be a practical one. In practice, game designers are prone to concretize their games because game systems that can support engaging and compelling games are very hard to write the algorithms for; because of this, many games are built on similar underlying systems or engines. The specific concretization and narrativization are then what characterizes one game as being distinct from another, and arguably most of what game designers do in such a case.[3]

There is a tendency on the part of some game analysts to decry what they see as a focus by game producers on out-marketing rather than out-innovating each other through experimenting with game design as such. Speaking of the "marriage of storytelling and gaming," Jesper Juul ([7] p. 155) expresses agreement with Chris Crawford, who he says has "attributed what he sees as the sorry state of the industry to the 'cinematic game' *Wing Commander*™."

There are, however, less ulterior and perfectly valid reasons that game designers build narrative elements into their games. These fall into two broad categories of supporting players' cognitive and psychological engagement and improving their gaming experience.

In first-person shooters, narrative elements usually function to replace complex rules for players. As we have outlined above, electronic games are based on a game system or process, governed by algorithm. In fact, as we have also noted above, all games are essentially systems and abstractions to greater or lesser degrees; thus, by analogy, they may be said to be algorithmic. For games that are significantly abstract, algorithms can be encoded for the players as formalized rules. Soccer, though a physical game, is nonetheless fundamentally abstract in that it doesn't closely mirror any non-game activity; as such, players are initiated into it by being acquainted with at least the basics of its relatively complex body of rules. Of course if a game is embodied in some kind of artifact, it may be possible to fathom its rules—its algorithm—by trial and error. This is the very nature of some game types. But for others (and arguably for first-person shooters), having to pay too much attention to discovering all the rules can interfere with particular types of challenge that players consider core to those games, preventing a player from getting into the sweet spot of 'flow' as described by Csikszentmihalyi.([3]) At one level with first-person shooters this—by definition—never presents a problem; on another, it certainly can. Lev Manovich describes the way genre conventions on the one hand, and game specificity on the other, operate. In the typical 'shooter' script, you must "kill all the enemies on the current level, while collecting all the treasures it contains; go to the next level and so on until you reach the last level." ([8] p. 222) But games also typically have a certain degree of algorithmic specificity:

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[3] Just as all pinball games are built on the same basic 'algorithm/engine.'

> As the player proceeds through the game, she gradually discovers the rules that operate in the universe constructed by this game. She learns its hidden logic—in short, its algorithm….She is discovering the algorithm of the game itself. I mean this both metaphorically and literally. For instance, in a first-person shooter such as *Quake* the player may eventually notice that, under such and such conditions, the enemies will appear from the left; that is, she will literally reconstruct a part of the algorithm responsible for the game play. ([8] pp. 222–223)

Such specificity can lend itself in highly 'natural' ways to narrative treatment. The concrete representations game designers select for the shooter's 'enemies' jumpstart a player's understanding of the game system's behavior. To consider a slightly more 'realistic' example than set out in the preceding quote, let's compare two ostensible games whose themes are respectively World War I trench warfare and contemporary mechanized war-fighting.

In the former, a player who personified a sniper could expect his typical targets to be enemy soldiers who pop up briefly from their trench to shoot at him; his own behavior would then anticipate and react to this pattern. In the latter case, the game might be interestingly differentiated with a small algorithmic change that let targets pop up higher, and by representing them as helicopters; it's in fact a common military helicopter tactic to hover out of sight behind a tree line, pop up to shoot at targets, then 'duck' behind the covering trees again. Thus an algorithmic adjustment and two graphic changes—from soldiers to helicopters, and trench to trees—provide a player with references to the tactics embodied in two variations of war story. And as the astute player will anticipate, or the one less-experienced in the lore of modern war will learn, the variation is significant—helicopters will sometimes pop out laterally from behind a stand of trees, catching by surprise the player who has come to expect them to appear vertically.

One of the roles narrative serves in life is to permit us to learn some things without having to experience them firsthand. If having to learn everything by trial-and-error is the equivalent of Jorge Luis Borges' story about a map the same size as the territory it represents, narrative elements of games can provide a more compact guide. Henry Jenkins describes the way mental mapping operates:

> In games, players are forced to act upon those mental maps, to literally test them against the game world itself. If you are wrong about whether the bad guys lurk behind the next door, you will find out soon enough—perhaps by being blown away and having to start the game over. The heavy-handed exposition that opens many games serves a useful function in orienting spectators to the core premises so that they are less likely to make stupid and costly errors as they first enter into the game world. ([5] p. 126)

This pointing to story outside the game (in this case using a pre-game cut scene) is not only a very economical and engaging shorthand for indicating the 'rules' to players, but can also optimize engagement along another dimension of gaming experience. Story motivates the game-world *and* the player's action in the game. The appearance of the game-world and the behavior of objects in it make sense by pointing to familiar forms of story; flow and pleasure are optimized by inflecting the game's learning curve for players. In addition, concretizing the abstractions of the game can increase the player's

order of interest beyond that afforded exclusively by the game system's skill-based instrumentality.

Game play is about doing, and doing well. But narrativization not only helps players do and do well, it can also make them feel they have a stake in why they're doing it. Thus it supports both competence and motivation, two key aspects of flow and game-play.

To fully comprehend the role narrativization plays in motivation, imagine a shooting-type game stripped of all narrative elements, a *Matrix* uncloaked, if you will. The first impulse is to think one wouldn't even know what one was doing in such an environment, a game-space of the most extreme sparsity. But that's because the conception of electronic games as being purposive, even teleological—rather than simply instrumental—is taken as second or even first nature; in fact, and ironically, one would know 'too well' (*i. e.*, in a completely unmediated way) that the exercise was one of trying to click on abstract targets, without any apparent purpose beyond.

Whereas such lack of mediation affords no more than a pure test of skill, richer experience is often sought in games through the mediation of narratively-inflected interface and interaction design that produces a blend of action and immersion imbuing game play with a sense of purpose beyond the instrumental. Rather than just maximizing his performance, a player can experience the sense of offing bad guys, or, in the best-selling shooters of all, being the baddest dude himself.

Marie-Laure Ryan distills much of the foregoing thusly:

> …if narrativity were totally irrelevant to the enjoyment of games, why would designers put so much effort into the creation of a narrative interface? Why would graphics be so sophisticated? Why would the task of the player be presented as fighting terrorists or saving the earth from invasion by evil creatures from outer space rather than as "gathering points by hitting moving targets with a cursor controlled by a joystick"? The narrativity of action games functions as what Kendall Walton would call a "prop in a game of make-believe." It may not be the *raison d'etre* of games, but it plays such an important role as a stimulant for the imagination that many recent games use lengthy film clips, which interrupt the game, to immerse the player…. The fact that it is necessary to temporarily remove control from the user to establish the narrative frame brings however further evidence to the claim that interactivity is not a feature that facilitates the creation of narrative meaning. ([10])

Knowing as they do, instinctively, that narrativizing their games can produce salutary effects vis-à-vis player competence, motivation, and enjoyment, game designers could be content to treat narrativization as something of a success recipe: take a decent algorithm, add one part setting, populate with appropriate characters, and toss in a few cut scenes to catalyze the whole thing.

Or, more interestingly, game producers and game analysts could work in tandem to move understanding of the ways gaming, story, and narrative interact from the craft plateau it has attained towards a more organized theoretical footing. One advantage of theory over craft is that it has predictive as well as descriptive power, something essential to addressing a situation that both ludologists and narratologists ([7] pp. 155–156; [10]) decry—the fact that the standard very significant cost of producing electronic games

militates against innovation, unless such experimentation can be grounded in valid theory.

We believe a key thrust in distilling supportable theory in this domain is to examine the mechanics of narrative theory, not to see how the very real relationship that exists between game and story might be interpreted as being intermediated by fully-fledged narrative, but rather how a game can employ narrative elements such as characters and setting to establish its own direct relationship to story.

Understanding this can help us push the envelope across the gaming spectrum, both in games that are currently narrativized to a lesser degree and in those where narrative potential is perhaps at its greatest. With this approach, narrative need not dominate—gaming and narrative can find their own levels with respect to each other.

How Narrative Relates to Story…How Game Relates to Story

In what can broadly be termed the mainstream of narrative theory, both among those who analyze games and those whose analysis focuses more on literature and film, there is considerable 'structural' if not terminological agreement. For instance, Marie-Laure Ryan, an analyst of interactive media, says in her definition ([10]) that "A narrative is a sign with a signifier (discourse) and a signified (story, mental image, semantic representation). The signifier can have many different semiotic manifestations."

This tripartite model is reflected in the theory of Gérard Genette, which several of the key contemporary narratologists who have made reputations analyzing literature and film give considerable weight to. Genette ([4] p. 27) describes the three parts of the model as "*narrative*…the signifier, statement, discourse or narrative text itself," "*story*…the signified or narrative content," and "*narrating*…the producing narrative action and, by extension, the whole of the real or fictional situation in which that action takes place."

Seymour Chatman (one of the narratologists alluded to in the paragraph above), although declaring himself ([2] p. 9) a dualist in keeping with the distinction made by the Russian Formalists between "the 'fable' (*fabula*), or basic story stuff," and "the 'plot' (*sjuzet*)" (pp. 19–20), effectively reconciles with the three-part model by declaring (p. 22) that "Narrative discourse…in turn divides into two subcomponents, the narrative form itself…and its manifestation." He (p. 24) further explains: "'What does narrative itself (or narrativizing a text) mean?' The *signifiés* or signifieds are exactly three—event, character, and detail of setting; the *signifiants* or signifiers are those elements in the narrative statement (whatever the medium) that can stand for one of these three."

In the case of narrative, an author in effect *selects* setting(s), characters, and events from the 'basic story stuff' and *orders* their presentation into a plot. Of course in the case of game, as Marie-Laure Ryan ([10]) says, "Of the three traditional components of narrative—setting, character, action—only the first two provide useful design elements. The third, action, is left to the user." Thus, game designers have considerably less control over what happens in a game (they can only procedurally constrain what players 'select' to have happen from the possibilities game design makes available)—over whether and

when (in what order) its settings, characters, and events are presented in accordance with what a player does or doesn't do (and in what order).

This difference is key to why it is possible to design a narrative to tell (narrate) a story while games can only reference story: an author's power to select events can determine whether there is an 'up' or 'down' ending for the protagonist character in a narrative, but in a game, player agency has a significant effect on the outcome.

Ryan makes this last point in her description of the limitations and opportunities that face game designers in terms of what they have available to select from:

> At the present time, the thematic and structural repertory of ["computer games of the action and adventure type"] is quite limited. Adventure and role-playing games implement the archetypal plot that has been described by Joseph Campbell and Vladimir Propp: the quest of the hero across a land filled with many dangers to defeat evil forces and conquer a desirable object. The main deviance from the archetype is that the hero can lose, and that the adventure never ends. In most action games, this archetype is further narrowed down to the pattern that underlies all wars, sports competition, and religious myth, namely the fight between good (me) and evil (the other) for dominance of the world.
>
> As was the case in Propp's corpus of Russian fairy tales, individual games differ from each other through the concrete motifs that flesh out the archetypal structure. ([10])

This also helps elucidate what is meant by the term *story* in this context, a meaning that is not shared by all narrative theorists. According to Henry Jenkins ([5] p. 123), experiences such as certain types of games "…remediate a preexisting story…or draw upon a broadly shared genre tradition…." When games reference story, they may not point so much to a particular story as at the *one* story, the 'monomyth,' the ur-literary, Jungian archetype, the 'basic stuff of story' with 'one hero that can have a thousand faces.'

Jenkins (p. 124) defuses an argument by Jesper Juul about differences between games and narrative by making his (Jenkins') own apposite argument about "transmedia" storytelling; in countering Juul's point that "you clearly can't deduct the story of *Star Wars* from *Star Wars* the game" it is made apparent that the point is not to deduct the story from the game, but the game from the story, *i. e.*, what the game is, in fairly broad terms, *about*, based on the transmedia *Star Wars* story complex. Of course the *Star Wars* ur-story (nine prequels and sequels in length even before production of the 'original' movie) itself stems from Campbell's *The Hero with a Thousand Faces*. ([9] p. 186)

Having observed how the mechanisms of story vis-à-vis narrative and game are both similar and different, we can productively examine what features these produce in narrative and game; a comparison of similarities and differences between these features should suggest specific heuristics regarding how narrativization can contribute to gaming experience. We will attempt this with reference to another narrative theorist who has compellingly outlined spatial and temporal features of narrative that most closely resemble those found in first-person shooter and similar games.

Setting and Character: Towards a Poetics of Game and Narrative

In an essay titled "Forms of Time and of the Chronotope in the Novel," Mikhail Bakhtin ([1] pp. 84–258) describes how the spatial and temporal 'indicators' of a work determine a set of features: "the chronotope that defines genre and generic distinctions." (pp. 84–85) He does this largely in the context of what he calls the "Greek romance," or the "adventure novel of ordeal." (p. 86) Bakhtin is careful to point out that "antiquity did not produce the kind of novel that we (in our terminology) would call a 'novel,' that is, a large fiction influenced by biographical models." (p. 130) However, in case we might think that works manifesting the features of Greek romance are purely historical artifacts, he (p. 87) adds that "adventure-time and the technique of its use in the novel is so perfected, so full, that in all subsequent evolution of the *purely* adventure novel nothing essential has been added to it down to the present day." He also describes the selection and ordering processes we have talked about above and that are clearly recognizable in contemporary artistic and entertainment works such as highly generic literature and electronic games:

> The plots of these romances (like those of their nearest and most immediate successors, the Byzantine novels) are remarkably similar to each other, and are in fact composed of the very same elements (motifs): individual novels differ from each other only in the number of such elements, their proportionate weight within the whole plot and the way they are combined. One can easily construct a typical composite schema of this plot, taking into account the most important individual deviations and variations…. (p. 87)

We must point out here what Bakhtin means by 'plot,' and that it is not the carefully constructed sequence of events in time and space rigorously governed by an entailing chain of causality that has come to be taken as the modern manifestation of that concept. For while

> all action in the novel unfolds between…the poles of plot movement…themselves crucial events in the heroes' lives…it is not around these that the novel is structured; rather, it is around that which lies (that takes place) *between* them. But *in essence* nothing need lie between them…The gap, the pause, the hiatus…in which, as it were, the entire novel is constructed…changes nothing in the life of the heroes, and introduces nothing into their life…. (pp. 89–90)

Whereas—'classically'—the sequence of events in the overall dramatic arc of literature is designed to cause character transformation, in this genre the action "leaves no *trace* in the life of the heroes or in their personalities." (p. 90)

Instead of an inexorable causal chain that entails a specifically ordered sequence of events designed to produce significant transformation, what happens in this genre (pp. 92, 94) arises from a "logic of random contingency," a "compositional-organizing device of *testing* the heroes" (p. 106):

> Greek adventure-time as we already know, leaves no traces—neither in the world nor in human beings. No changes of any consequence occur, internal or external, as a result of the events recounted in the novel….And yet people and things have gone *through* something, something that did not, indeed, change them but that did (in a manner of speaking) affirm what they…were….The hammer of events shatters nothing and forges nothing—it merely tries the durability of an already

finished product[4]….Thus is constituted the artistic and ideological meaning of the Greek romance. (pp. 106–107)

This might also be said to constitute the artistic and ideological meaning of the first-person shooter. In addition, the operation of contingency is similar in both Greek adventure and first-person shooter games in determining the nature of spatiality; it is especially fundamental to the functioning and importance of spatiality/setting in the absence of closely-constrained selection-ordering of events in gaming. Bakhtin (p. 99) says that "for Greek adventure-time to work, one must have an *abstract* expanse of space….the contingency that governs events is inseparably tied up with space." But here again, as with 'plot,' we must point out what is meant by 'abstract.'

Before setting out the requirement for abstraction above, Bakhtin asserts that characteristically in Greek adventure:

> There are descriptions, often very detailed, of specific features of countries, cities, structures of various kinds, works of art (pictures, for example), the habits and customs of the population, various exotic and marvelous animals and other wonders and rarities….Compositionally, therefore, the Greek romance strives for a certain encyclopedic quality, a quality that is characteristic of the genre. (p. 88)

This sounds much like the literary equivalent of the concretizing representational elements, in terms of both setting and character, that we have argued for above.[5] Bakhtin, then, actually means two different things by abstraction, as explained in adjoining paragraphs in his essay. In the first (p. 100), he establishes that "All adventures in the Greek romance are thus governed by an interchangeability of space; what happens in Babylon could just as well happen in Egypt or Byzantium and vice versa." This is the literary equivalent of the 're-skinability' principle we have alluded to on two separate occasions above. It is the relatively abstract nature of pinball machines that allows 'different' pinball games to be skinned onto the same platform. It is also the abstraction of the algorithms comprising game engines that allows the same algorithms to be concretely represented by helicopters popping up to be shot at, or by hummingbirds popping up to be photographed. Thus, just as similar plots can unfold in the different filmic settings of *High Noon*'s mythic American West and *Outland*'s equally mythic space station, similar games can be played in computer-rendered spaces that represent a semi-arid geography full of cacti, or a moon base.

Regarding the second meaning of abstraction, Bakhtin explains that:

> In this chronotope all initiative and power belongs to chance. Therefore, the degree of *specificity* and *concreteness* of this world is necessarily very limited. For any concretization—geographic, economic, sociopolitical, quotidian—would fetter the freedom and flexibility of the adventures and limit the absolute power of chance. (p. 100)

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[4] "Courage, strength, fearlessness, and—more rarely—their intelligence" may be tested. ("Forms of Time and of the Chronotope in the Novel", p. 106)
[5] And like the 'encyclopedic' property that characterizes digital environments in general, according to Janet Murray. ([9] pp. 83–90)

In Greek adventure, spatial concreteness *is* limited by the contingency that governs events in that genre. But to understand the exact nature of that limitation, we must compare Greek adventure to modern literary forms. As we have said above, in the latter forms events are selected and ordered in accordance with an entailing chain of temporal-spatial causality. Because of this, modern novel and film forms skirt obvious violations of continuity of space (and time) to prevent disrupting audience immersion. By contrast, the author of Greek adventure can put his characters 'here and now' on one page, suddenly then and there the next, to suit the purpose of the adventure. This is achieved by maintaining sufficient abstraction with respect to connections between the realistically described nodes (settings) in the space in which the adventure takes place. In short, Greek adventure requires discontinuous space (what Bakhtin means by an '*abstract* expanse of space'). First-person shooters also employ discontinuous space, which is reflected by and completely in keeping with the concept of 'levels' in those games.

As with Greek adventure, there is an element of contingency operating in games with respect to what happens in them. But contingency operates differently in games: there are different constraints on selection and ordering by game designers than by Greek adventure authors.

As we saw above, games procedurally constrain what players 'select' to have happen from the possibilities game design makes available. Game design systematically 'prompts' player 'input' and responds with outputs; cycles of player action and system-generated results leading to further player action constitute the events of the game.

So whereas in narrative forms (both Greek adventure and modern forms such as novel and film) the author does the selection and ordering, in games there is a primary process of selection and—often conditional—ordering by the game designer, and a secondary process of selection-ordering by the player. The combination of these primary and secondary processes is the correlate of the events of a narrative, and concretization of particular game settings is an important means of suggesting and constraining player action apropos of the design vision of game producers.

Thus, spatialization in both Greek adventure and in games is a product of the respective kind of contingency operating in them; in the case of each it can also be said to be 'action-driven,' but top-down and bottom-up respectively. Greek adventure requires the ability for characters to move very freely in the world, *i. e.*, in ways not strongly constrained by natural laws of space and time (distance and duration); thus, the action this form is based on requires discontinuous space. While some games also employ discontinuous space (such as levels), within particular nodes or settings concrete spatial details indicate appropriate action in terms both of physical laws such as gravity and of pertinent genre conventions. Of course these two are very often closely fused, as in a moon base setting that allows low gravity jumping but constrains players to wear a spacesuit when venturing outside.

While spatialization acts to constrain what players do in games, and also as a 'recommender system' regarding their actions, it is not the only nor even the most

important agent of the latter. This is because in games, space is best-suited not to indicate to us (exactly) what to do so much as *how to act*; it is space's companion narrative element, 'character,' that often has more clout in indicating specific *what* and *why* of action.

In probably the most straightforward case of this, in a first-person shooter we recognize an enemy—perhaps by creature type, or uniform worn, or behavior—and shoot at it *because we recognize it as being such*. Obviously character, action, and relationships between them are often more complex, even in first-person shooters. We should, however, exercise caution in rushing to inappropriately measure character in game against the highly sophisticated character development often found in novel and film.

Speaking of the types of literature that most closely resemble games, Henry Jenkins ([5] p. 122) says that "In many cases, the characters—our guides through these richly developed worlds—are stripped down to the bare bones." And even in terms of the character that the player inhabits in a first-person shooter, Marie-Laure Ryan ([10]) suggests that what is appropriate is a "rather flat character whose involvement in the plot is not emotional, but rather a matter of exploring a world, solving problems, performing actions, competing against enemies, and above all dealing with interesting objects in a concrete environment." Personification in game is a device for instrumentalization, not full embodiment. Understanding this, limitation of character is less a game shortcoming, narratively speaking, than a functional heuristic guideline for successful game design.

As Lev Manovich ([8] p. 210) says of first-person shooter-type games, "In this art form, the roles of viewer and actant are blended perfectly—but there is a price to pay. The narrative is organized around a single and clearly defined goal—staying alive." Part of the price paid in this 'high-threat,' jolts-per-second environment is paid in the coin of character. As we have argued above, optimizing player competence and motivation are key reasons that games are narrativized; thus, narrativization should not come at the expense of such game competence. The degree to which such narrativization will optimize player experience depends in turn on a player's 'narrative competence.' Narrative competence is a common concept in narrative theory; Gérard Genette ([4] p. 77) talks about it in this manner: "…narrative *competence* of the reader, arising from practice, which enables him to…decipher more and more quickly the narrative code in general or the code appropriate to a particular genre or a particular work." The degree of narrative competence required to 'decipher the narrative code' of character elements in game should not conflict with game competence, *i. e.*, narrative elements should focus, not diffuse (for example, through unnecessary complexity or ambiguity) player motivation.

Conclusions, and some Heuristics

Game designers can (perhaps even should) aspire to usefully employing more elaborate characterization. In doing so, they can follow Bakhtin's succinct analysis of the challenges and potentials for characterization within the boundaries of the Greek adventure genre. According to Bakhtin,

the world of the Greek romance is an *alien world*: everything in it is indefinite, unknown, foreign. Its heroes are there for the first time; they have no organic ties or relationships with it; the laws governing the sociopolitical and everyday life of this world are foreign to them, they do not know them; in this world, therefore, they can experience only random contingency. ("Forms of Time and of the Chronotope in the Novel", p. 101)

This makes the 'hero' character and his situation strikingly post-modern; he is "a solitary man, lost in an alien world." (p. 108)

Given this, Bakhtin muses (p. 105): "How indeed can a human being be portrayed in the "adventure-time"…where events have no consequences…? In other words, how to paint interesting character in an actor that "plunges headfirst into adventures as if they were his native element…an adventurer, but a disinterested one." (p. 152) He does, however, hold out a prospect. We have already seen him say that Greek adventure is not a modern novel form as we understand novels, *i. e.*, it is not 'biographical' in the sense that it displays the wholeness (or illusion of wholeness) of an overall dramatic arc that causes significant character transformation. However, he maintains that in lieu of such transformation:

> Metamorphosis serves as the basis for a method of portraying the whole of an individual's life in its more important moments of *crisis*….We are offered various sharply differing images of one and the same individual, images that are united in him as various epochs and stages in the course of his life. There is no evolution in the strict sense of the word; what we get, rather, is crisis and rebirth. (p. 115)

In other words, rather than 'analog' transformation, adventure characters undergo 'discrete' metamorphosis, a form more naturally in keeping not only with a general motif of 'testing,' but also with state change typical of a binary system. Obviously, this is a mechanism suited to patterns in the systems underlying electronic games, in which it is well-formalized at the level both of deep structure (player input and system evaluation-response) and of surface manifestation (granting new powers or other characteristics to players on achievement of a game level).

However, the overall paradigms of game characterization shift over time. Characterization in some recent games appears less totally conditioned by a model of 'micronarrative bursts' by dint of which powers and characteristics are 'bestowed' at discrete points in time. This can be seen with the advent of first-person shooter scenarios as multi-player games that move the genre away from its origins towards the model of EverQuest

Phenomena such as collaboration, persistence of existence in a game over multiple sessions, and 'irreversibility' of consequences in games such as Halo 2 and MechAssault 2 are addressing limitations of character that both Bakhtin's adventure novels and many computer games in the past were prone to. ([11]) These phenomena build "organic ties" with a game-world so that players and their character are less and less 'a solitary man, lost in an alien world.'

The challenge for a theory of poetics involving narrative elements such as character and setting in game is to be able to predict—and then test the validity of such predictions—

exactly how games will change when elements such as character and setting are manipulated as variables in their design. In closing we propose the following heuristics, based on observations in this paper, towards such a poetics.

> *Narrativization should reveal aspects of the game algorithm in the appropriate degree to engender 'flow.'*
>
> *Because that degree will vary over a range of players, the narrativization should support a variety of 'depths in reading' to support the needs of different players.*[6]
>
> *The less likely players are to have real-life experience with respect to the designed action of the game, the more extensive narrativization should be.*[7]
>
> *The degree of narrativization (as reflected in the narrative competence required on the part of a player) must not interfere with optimizing player game competence. In other words,* 'Better story shouldn't be sought at the cost of poorer game.'

# # #

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[6] For example, some players, especially more experienced ones, will skip the introductory and interval cut scenes, relying only on narrative elements of setting and character; less experienced players will require, and therefore pay closer attention to directly narrative offerings such as cut scenes.

[7] As Ryan ([10]) points out, although it has become naturalized by the first-person shooter genre, "few of us have actually hunted and shot bad guys."

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