BELIEVABILITY, ADAPTIVITY, AND PERFORMATIVITY: THREE LENSES FOR THE ANALYSIS OF INTERACTIVE STORYTELLING

by

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ABSTRACT

In this thesis I present a methodology for performing analyses of Interactive Narrative experiences, and use this technique both to explicate a particular game—*The Elder Scrolls IV: Oblivion*—and to demonstrate the utility of approaching the game via three different analytical perspectives. This methodology is a form of close reading, a technique which was developed in literary theory for the explication of narrative experiences, with roots in earlier epistemological practices such as theological exegesis and hermeneutics. I have focused this thesis on examining and clarifying a *technique for reading and explicating* these experiences. Interactive Narratives are problematic due to their indeterminate nature and often unwieldy scope; in this thesis I propose a solution to these two problems. My solution takes the form of a series of constrained readings, which I argue allows me to productively explicate specific aspects of my play experiences. By using the notion of analytical lenses to filter my playings, I hope to simultaneously overcome issues of indeterminacy by narrowing the focus of my playing to observations of specific phenomena within the game, and also address issues of scope by reducing the undifferentiated experience of the game to a series of more readily assimilated sub-experiences. I believe that the method demonstrated within this thesis has utility for theorists of Interactive Narrative and Games, and I contend that the lenses presented herein provide three good examples of possible “constrained close readings”.

**Keywords:**
Interactive Narrative; Game Studies; Close Reading; Believability; Adaptivity; Performativity

**Subject Terms:**
Storytelling; Computer games; Literature and technology; Belief, Problem of (Literature); Improvisation (Acting); Adaptive computing systems
For Karen; my collaborator, my co-conspirator, and my partner in all things, without whose support, I would never have even made it in the door here.
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1: INTRODUCTION

1.1 Why Interactive Storytelling?

“‘Once upon a time there was a little Princess named Nell who was imprisoned in a tall Dark Castle on an island—’
‘Why?’
‘Nell and Harv had been locked up in the Dark Castle by their evil stepmother.’
‘Why didn’t their father let them out of the Dark Castle?’
‘Their father, who had protected them from the whims of the wicked stepmother, had gone sailing over the sea and never come back.’
‘Why did he never come back?’”(Stephenson, 1995)

A storyteller begins his tale only to be interrupted by his young audience. “Why?” she asks, and the destiny of the story is no longer in his hands alone, but instead a shared creation that emerges from their mutual participation. This exchange could come from any bedside telling of a fairy tale, in any culture, at any point in human history. Storytelling has been an interactive, participatory medium for longer than it has been a static medium. Long before writing, there was story, and even after stories began to be written down, they continued to be told, re-told, and re-imagined in the telling and in the hearing.

Recent human history has been dominated by narratives of a less interactive variety. There is a notion of storytelling as a formal, trained skill that professional storytellers practice, and which is consumed by the rest of the population. We turn authors, directors, and designers into celebrities, recognising an ability to tell us stories that are compelling and resonant with our experiences and our dreams. The notions of authority and of author are linked by more than just a shared linguistic root, and the power to tell a compelling story has often been granted a place of respect in human cultures and communities. Even as we elevate formal storytelling onto a pedestal, we
continue to use story in our daily lives as a means of structuring our experience, and communicating that experience to the people around us. This manifests in the informal storytelling that permeates human experience; we tell stories to each other, and we tell stories to ourselves in order to better understand our lives. We continue to tell bedtime stories to our children, who continue to ask “why?”

The opening quote of this chapter, taken from Neal Stephenson’s science fiction novel *The Diamond Age*, evokes the archetypal experience of the bedtime story. But this bedtime story is not, perhaps, what it appears to be when taken out of context. For one thing, the storyteller is not a loving parent or a respected elder in the community, or a professional author, or even a human at all. The storyteller is a sophisticated, interactive, digital storybook. The story is not a generic, pre-recorded bedtime story, but instead an interactive, personalized experience. Neither is it a game, at least not in the sense that we understand games to be today. The content is not encoded by an author and then recited by the digital system upon access, although perhaps the value systems that underlie that content are encoded into the book’s intelligence. In the world of the story in *The Diamond Age*, the Dark Castle is a common fairy tale trope; it is also a metaphor for the home life of Nell, the young reader for whom this story is being crafted. Nell does not select from a set of predetermined choices like a reader of a hypertext novel. Instead, the book observes her environment and her behaviour, and it incorporates them into the story it tells, weaving a tale that is personal to her, while still conveying the narrative intent of whatever author or designer initially created the book. Between the two of them—the storybook and the reader—a meaningful narrative is negotiated.

With the advent of the computer age, and the cultural transformation from an industrial society to an information society, a new medium for storytelling has emerged in the form of the digital computer. In a world where we expect our formal experiences of narrative to be crafted by trained authors, directors, and designers, the story as an interactive experience is one which we are only beginning to understand with the same degree of sophistication. However, as the computer mediated story has become more
prevalent, we are discovering that the things that human storytellers do are difficult to reproduce algorithmically, such that many now would argue that there is a fundamental tension between interaction and story. And yet, there are dreams of an interactive narrative experience; dreams which drive the pursuit of storytelling using the power and promise of computational mediation. Interactive Narrative research investigates the potential of an interactive story that partakes of the pleasures of more formal narrative, while permitting, and encouraging, the reader to ask “why?”

Stephenson conjures up one facet of the dream of Interactive Narrative: a story that emerges from the participation of an engaged reader with an intelligent digital storyteller. The storybook from *The Diamond Age* is one of many possible forms that research into Interactive Narrative might one day realize. Stephenson’s fictional example treats the interactive storybook as a surrogate for an absent parent, a teacher for a child with no education, and a friend in a friendless world.

While this hypothetical interactive storybook still seems a long way off, there is no small amount of research occurring in a number of disciplines to explore and illuminate this emergent narrative form. In this thesis I will be looking primarily at the *theoretical* work that has been done in Interactive Narrative research. *Theoretical* research in Interactive Narrative has roots in the humanities traditions and in comparative media studies. It often draws on metaphors like Stephenson’s digital storybook in order to describe an imagined, or desired, computational narrative space. This research is deeply enmeshed with the study of videogames, which represent one of the primary points of contact between the scholarly perspective on digital media and a popular culture that hungers for new mediated experiences.

There is also a rich body of applied work relevant to the field in areas such as artificial intelligence, computer science, and computer graphics research. *Applied* research in Interactive Narrative is also entangled in the study and design of games, but where the epistemological stance of the theoretical research arises from observation and comparison, researchers doing *applied* work use the creation of software and
hardware prototypes to ground their knowledge creation. Both of these draw on techniques and perspectives from a wide range of discourses.

1.2 The Scope of this Work

In this thesis I present a methodology for performing analyses of Interactive Narrative experiences, and use this technique to both explicate a particular game—The Elder Scrolls IV: Oblivion (Bethesda Softworks, 2006)—and to demonstrate the utility of approaching the game via three different analytical perspectives. My methodology is a form of close reading: a technique which was developed in literary theory for the explication of narrative experiences, with roots in earlier epistemological practices, such as theological exegesis and hermeneutics. In my methods section I discuss the details of this approach, and show how it may be applied to digital texts, before describing my own approach to the creation of knowledge in Interactive Narrative research.

Close reading is a methodology that has grown and changed much in the years since its original formulation. One thing that distinguishes its current form from previous incarnations is the post-modern emphasis on the explication of the bias of the reader. Close readings are seldom performed under the guise of presenting a neutral, objective view of a work anymore. Instead, practitioners of close reading select a particular perspective from which to read; thus we see feminist readings or Marxist readings of texts. In the case of this thesis I have chosen three separate perspectives from which to read, grounded in concerns that have arisen as a result of my literature review within the field. The first perspective is my own approach to the body of research surrounding character and narrative believability, the second draws on research in adaptive systems and user modeling, and the third looks at the game through the lens of improvisational theatre and performance. I have selected these three lenses both because they are distinct and self-contained, and because they each touch on issues that I see as reoccurring concerns for new research into Interactive Storytelling. That being said, I should note that these three approaches are
complimentary to each other, and that insight gained in each can be applied to understanding the others.

In the second half of this thesis I explore the utility of these lenses as analytical tools by applying them in a close reading of *Oblivion*. I have selected *Oblivion* for this reading for a number of reasons. *Oblivion* is a critically acclaimed computer role playing game (CRPG), known for its expansive virtual world, rich narrative content, “next generation” graphics, and sophisticated goal-driven AI system for the non-player characters (NPCs). Due to a combination of newness to the market, size, and complexity *Oblivion* has received relatively little attention from the field when compared to games like *The Sims* (Maxis, 2000) or *Half-Life* (Valve Software, 1998). My intent with this reading is threefold: first, I intend to demonstrate the value of each of these lenses through practice; second, I will draw out and explicate elements of *Oblivion* as a narrative and ludic experience and draw some conclusions about the game itself; third, I hope to demonstrate not just the value of this approach but the need for more readings like this in games and narrative scholarship. It is my intent in this work to demonstrate how, through the careful and explicit construction of constrained and specific analytical lenses, the technique of close reading may be used to enhance our understanding of Interactive Narrative experiences.

One of the problems facing Interactive Narrative research arises from the “slipperiness” of the artifacts around which the domain is centred. Interactive Narratives suffer from a certain degree of indeterminacy: one cannot guarantee that two theorists will encounter the same media assets while interacting with a game, or that they will experience them in the same order. Nor can one guarantee that they will observe and attend to the same details of the experience. As if this were not already problematic enough, the very size of many of these Interactive Narrative experiences often defies rigorous explication, with some CRPGs requiring upwards of 400 hours of gameplay time to traverse the narrative from beginning to end. Because Interactive Narrative is such an interdisciplinary field, a number of approaches and epistemological
stances exist for dealing with these issues of indeterminacy and scope.¹ One commonality that most theoretical approaches to Interactive Narrative share is a desire to ground their work in explications of the artifacts and experiences of Interactive Storytelling. However, for the aforementioned reasons, reading and describing Interactive Narratives is a highly subjective process.

For this reason I have focused this thesis on examining and clarifying a technique for reading and explicating these experiences. In this thesis I propose a solution to the two problems of indeterminacy and scope. My solution takes the form of a series of constrained readings, which I argue allows me to productively explicate specific aspects of my play experiences within a game that suffers more from these two issues than many games currently on the market. By using the notion of analytical lenses to filter my playings, I hope to simultaneously overcome issues of indeterminacy by narrowing the focus of my playing to observations of specific phenomena within the game, and also address issues of scope by reducing the undifferentiated experience of the game to a series of more readily assimilated sub-experiences. I believe that the method demonstrated within this thesis has utility for theorists of Interactive Narrative and Games, and I contend that the lenses presented herein provide three good examples of possible “constrained close readings”.

1.3 Reader’s Guide

This section provides an outline of the structure of the rest of this thesis and an overview of the central argument.

1.3.1 Chapter 1 - Introduction

In this chapter I discuss the reasons for this work, and provide a brief overview of the thesis structure in order help the reader become situated in the thesis.

¹ For a more detailed discussion of the various disciplinary traditions and epistemological stances that contribute to Interactive Narrative research please see Chapter 3.
1.3.2 Chapter 2 – Methodology and Approach

This chapter is a discussion of the process and method that underlies this inquiry. I look at the technique of close reading from literary theory, and argue for ways in which it can be applied to Interactive Narrative. I discuss how digital media artifacts can be treated as texts to be read closely, and draw on ideas from hermeneutic inquiry to help frame the notion of an imagined naïve reader which I will employ during my own close readings.

1.3.3 Chapter 3 – Literature Review

In chapter 3, I provide an overview of the history of the field, and a discussion of the key concepts and literature that will be informing my argument in this thesis.

In section 3.1, I present a rough chronology of the evolution of Interactive Narrative research from its roots in formal narratology, through literary theory, philosophy, new media studies, and finally game studies. This section touches on some of the most referenced works in these fields, with the understanding that anything more than a cursory discussion of such a broad set of domains is beyond the scope of this thesis.

In section 3.2, I discuss some of the key concepts in Interactive Narrative research. This collection of critical vocabulary is the source of much ongoing debate in the field. These concepts include interactivity, the emergent/embedded distinction, immersion, games and play. I present a discussion of the main perspectives that drive these debates, and identify which perspectives I will be drawing on for this thesis.

In section 3.3, I take a closer look at five different analytical frameworks and tools that are widely used in the discourse of Interactive Narrative. I will continue to refer back to these analytical perspectives throughout my discussion.
1.3.4 Chapter 4 – Analytical Lenses

In chapter 4, I propose three new analytical lenses derived from my review of the literature in chapter 3 and informed by additional research that has traditionally been outside the discourse of Interactive Narrative.

In section 4.1, I present the first of these lenses: *Believability*. Where Interactive Narrative research has traditionally focused on believability as a *property* of a character or a narrative artifact, I instead propose a perspective on believability that considers it as an *experiential* phenomenon. I propose a simple, philosophically grounded discussion of the nature of belief, and then consider how this can be used to frame a discussion of characters in narratives as believable from the reader’s perspective.

In section 4.2, I discuss my second lens: *Adaptivity*. Unlike believability, adaptivity is a notion that has not been the subject of as much discussion within Interactive Narrative research. I propose an appropriation of the vocabulary and theoretical notions of adaptive systems theory into the domain of Interactive Narrative, in order to better describe and understand this common component of current digital systems for storytelling.

In section 4.3, I present my final lens: *Performativity*. There is a subset of Interactive Narrative research, known as Interactive Drama or Cyberdrama, which has long used theatrical performance as a metaphor for Interactive Narrative systems. In this section I take a closer look at theories of improvisation and performance in order to craft a lens for evaluating Interactive Narratives as performances between a reader and a system.

1.3.5 Chapter 5 – Understanding Oblivion

In this chapter I present an overview of *Oblivion*, discussing the narrative and statistical elements that make up the game and some of the technology that drives it.
1.3.6 Chapter 6 – Believability in Oblivion

In chapter 6, I consider *Oblivion* from the perspective of believability as described in chapter 4. I draw on high level, narrativised playings of the game to understand how *Oblivion* works as a believable world, inhabited by believable characters.

1.3.7 Chapter 7 – Adaptivity in Oblivion

In chapter 7, I consider the ways in which *Oblivion* functions as an adaptive system, looking in depth at the opening sequence of the game and discussing the adaptive difficulty mechanism used throughout the game.

1.3.8 Chapter 8 – Performativity in Oblivion

In chapter 8 I look at *Oblivion* from the perspective of performativity and explicate the affordances for performative play with the system.

1.3.9 Chapter 9 – Conclusions

In the final chapter I summarize the ideas that have arisen through the creation and application of these three lenses. I discuss what it means to design theoretical tools and present some thoughts on the future of this work.
2: METHODOLOGY AND APPROACH

The purpose was to see beyond the entertainment value each film possessed, to see the seams, to see how all the elements came together to create a unified entertainment experience. If you can get to the point where your favourite game no longer entertains you, you will have taken a crucial step toward understanding how it worked its magic. It can be a sad moment and an exhilarating one all at the same time. (Sheldon, 2004)

Lee Sheldon describes here the paradox of criticism; the tension that comes from turning a critical lens on a well loved work until it is impossible to see it with innocent eyes. In this thesis I employ the method of close reading in order to explicate and support the formulation of my analytical lenses. Close reading is a technique from literary theory that has evolved over the years since its early formulations by John Crowe Ransom and the other “New Critics” in the late 1930s and early 1940s. In this chapter I touch on several issues that I have encountered in attempting to employ close reading for Interactive Narrative research. I open with a discussion of reading as a phenomenon and of close reading as a technique. I follow this discussion with a look at the notion of text and show how the qualities of textuality can be extended to include electronic media and multimedia forms. I close with a discussion of the notion of an imagined naïve reader, which draws on previous close readings of Interactive Narratives as well as techniques from hermeneutic inquiry.

2.1 Reading and Close Reading

Within literary theory, the act of reading is a complex phenomenon; reading is a gateway into a rich philosophical morass of meaning making, reinterpretation, and prognostication. Reading is an epistemological act, in which new knowledge bubbles to the surface, before being stirred back into the potentialities of future readings. Reading is a continuous process of creating contingent meaning from potential meaning. Julian Wolfreys uses the metaphor of the haruspex for the reader, (haruspicy being the
divinatory practice of interpreting the entrails of sacrificed animals in order to predict the future), thus treating the reading of a text as an act of precognition.

Reading, therefore, is always—always already—connected with some mystical or perhaps telepathic possibility, with the desire to translate in ways which are not reducible to matters of logic or rationality, so as to make sense of events or, in some other fashion, to make sense of events yet to occur...All subsequent acts of reading therefore seek to retrace the traceries of veins, arteries, vessels, and other means of communicative tissue in the form of textile, textured exegesis. And that we term this exegesis suggests, through its classical form, that we wish to rationalise and distance ourselves from the moment of psychic consumption. The grotesque, corporeal aspect of reading is cleaned up, the act aestheticised, given a refuguration in a clean light. Yet in reading there is still, always, regurgitation. In our acts of reading, research comes back via the bodily ruins we call citations.(Wolfreys, 2000)

The notion of reading as exegesis is a potent and a relevant one: exegesis involves the critical explanation or interpretation of a text, and is often connected to the reading of a spiritual or theological work. Exegesis is connected to hermeneutics, which also deals with the methodological principles of the interpretation and reinterpretation of texts, and which arose initially in the study of religious texts. One place that this is perhaps best exemplified is in the practice of reading and interpreting the Torah in Jewish tradition. Judaism has developed a tradition of exegetical discourse surrounding the Torah known as the Talmud, in which Rabbis and scholars interpret and reinterpret the text in an ongoing discussion that is second only to the Torah itself in importance within the religion.

At the heart of these complementary philosophies of the act of reading is the notion of reading to make a momentary meaning, and then of reading again to make a new meaning, and then of reading again, to make another meaning, in a cycle that can not, and should not, be completed or closed. This hermeneutic circle denies the possibility of reaching a final “true” reading, which is indeed counter to the act of reading. Reading is present tense and continuous; to say something has been “read” is to suggest that is has been consumed and that the possibility of meaning creation has been exhausted.
The bad reader (whom Derrida admits to loving, by the way) is the one who rushes with indecent, even journalistic haste, to decision, to decide on a reading, and thereby have done with reading, once and for all. Bearing this in mind, and seeking all the while to avoid becoming the bad reader, to have the last word or to close the book on reading, how do we read so as to avoid having read? How do we learn to read patiently, rigorously, in such a manner that we know all the while that we have not yet read, we have not yet done (with) reading...all we can do is practise acts of strong reading which will be, inevitably, misreading. (Wolfreys, 2000)

New Criticism introduced a form of reading that placed all critical emphasis on the text itself, rather than contextual elements of the text, such as historical context and authorial intent. As James Inman writes:

Although the concept of close reading may be said to have broad historical roots, its rise to prominence clearly came in the mid-20th century American academy with the emergence of the New Critical school of textual interpretation...The New Critical approach suggests more or less that text may be analyzed as an object itself and, thus, that it is best understood in terms of its central elements, like symbol and image—these are, so the thinking goes, what holds any text together. The identification of these elements, then, is close reading, and the implicit suggestion is that history, economy, and other human conditions are less important in any interpretive transaction. (Inman, 2003)

The technique of close reading changed as literary theory grew and evolved. In more recent times, close reading has been turned back towards an investigation of the text in context, with approaches that draw on feminist theory, Marxist criticism, and post-colonialism. These approaches take a particular perspective or filter and apply it to a text, looking at specific themes within the text such as the treatment of women or of ethnic minorities.

With the additional incorporation of the techniques of deconstructionism, developed by Jacques Derrida, close reading once again becomes hermeneutic exegesis, but a secularised hermeneutics.

In essence, deconstructionists practice close reading by searching for and locating moments at which a text appears to contradict itself; many times, this questioning and dismantling involves the problematizing of
binaries, such as the man-nature and self-other, or even something more seemingly simplistic like large-small and outside-inside. (Inman, 2003)

This perspective on close reading returns to the idea that opened this chapter: Lee Sheldon’s observation that achieving a critical awareness of a media object can be both “sad and exhilarating.” (Sheldon, 2004) Sheldon’s remark is perhaps most useful for its implicit treatment of film and games as texts to be read critically. In order to perform a close reading of a digital media artifact such as a game, an Interactive Narrative system, or a piece of new media art, it is necessary to consider how these forms can be considered texts to be read.

2.2 Digital Media as Text

2.2.1 A Question of Medium

Changes in the medium of communication result in changes to the types of messages that it can transmit. This was observed by Harold Innis in the 1950s, and was later deployed by his student, Marshal McLuhan in the now well known concept of the “medium as the message”. (Innis, 1991; McLuhan, 1995) Literary theory has long been concerned with the formal aspects of a text. Narrative formalism focuses on structure (form) over content (meaning), and is thus related to the media scholarship advanced by McLuhan and Innis. (Bertens, 2008) If we approach media from a formalist perspective, then it seems that new digital media technologies must be treated differently from old media technologies, in the sense that the form varies wildly with the introduction of computational mediation. However, work has been done that supports the possibility of extending the notion of textuality to media technology, even if the narrative content of some digital media never manifests as literal, written text. Geoffrey Winthrop-Young frames this as a relationship between narrative and media technology. His use of the term narrative in this setting is roughly congruent with the notion of textuality from literary theory.

Briefly put, the relationship between narratives and media technology can be summed up in three points: (1) narrative is a media technology;
narratives depend on media technology; and (3) narratives deal with media technology, particularly their own.

Narrative is a technology because it is an operation involving the selection, combination, transmission, and reception of data. It is a pretty sophisticated type of information processing that requires the other end to have received sufficient training in the corresponding techniques of reading, listening, and experiencing. Second, narratives depend on hardware, and whether they appear on paper, screens, or cuneiform tablets, they once again require a certain technical expertise...

The third point: from Plato’s look back in philosophic anger at the Athenian shift from body-based orality to text-based literacy all the way to William Gibson’s uneasy anticipation of the bodiless exultations of cyberspace, writing—that peculiar activity promoted by storage media—has paid special attention to its technological makeup as well as to other “competing” technologies. These concerns are especially present in times of media change, when societies undergo information revolutions that promote new media technologies and demote others (Winthrop-Young, 1997)

Winthrop-Young’s treatment of media technology as a broad term that can encompass “hardware” ranging from cuneiform tablets to computer screens is an important first step in looking at digitally mediated narratives as texts. His initial claim that “narrative is a media technology” is perhaps too loose a definition of media technology; however, his conflation of narrative (message) with technology (medium) is a useful concept in that it provides grounds upon which to consider mediated experiences as whole experiences, rather than as two separate phenomena, such as “story” and “text”. This notion is compatible with McLuhan’s claim that the medium is as salient to the experience as the message which it communicates, if not more so. When applied to new media artifacts, such as games, it is a persuasive argument for considering the experience as the sum of all its parts, including but not limited to: interaction, story, media, computation, hardware, and software. I also take this perspective as the basis for treating interactive and rich media artifacts as texts to be read, and re-read.
2.2.2 Close Reading Digital Media

In his essay on *Electronic Texts and Close Reading*, James Inman proposes several key consequences of the close reading of digital media, which he derives from a set of collaborative close readings of web pages, held in an online chat room among fellow scholars and other participants. Some of his observations, such as the social nature of close reading, do not provide much leverage for understanding how an individual would undertake a close reading of a digital artifact, but other aspects of his study call attention to some interesting particularities of digital close readings.

- “Access matters, both in the way readers physically encounter electronic texts and in how they function within various discourse evident.
- Close readings are social in nature
- Reading is as much about the “shape of the page” as it is about any individual elements in a page
- Multimedia, like graphics and audio files, may draw significant attention from close readers, whether intended for such scrutinization or not.” (Inman, 2003)

I will return to some of these ideas in later sections of the thesis, particularly the discussion of access, but for now this list is sufficient to begin understanding how digital media artifacts can be read closely, provided that the particularities of the medium are taken into account in the reading. Inman proffers the following explication of the relationship between close reading of traditional texts, and close reading of electronic media:

The brief conclusion I offer is to remind readers that the contemporary close analysis of electronic texts intersects with print-based close reading practices, giving the two a rich and diverse shared tradition, not erasing either from disciplinary consciousness or memory. More, the two are mutually informing. An individual who has performed close analyses of both print and electronic texts will be a much different reader than some who has only done one or the other; I strongly advocate that everyone finds value in both. (Inman, 2003)

Within the canonical work of Interactive Narrative studies and New Media theory there is plenty of evidence of hybrid readings that draw equally on more
traditional narrative texts in order to explicate digital media. For instance, Janet Murray, author of *Hamlet on the Holodeck*, has a background in Victorian era literature. Lev Manovich, author of *The Language of New Media*, is a scholar of film in addition to being a classically trained artist and graphics programmer. Both of these authors use previous media as touchstones for their discussion of the emergent digital forms. Murray uses the metaphor of the Holodeck from the TV show *Star Trek* as her prototypical future media experience, but she also often turns to her roots in literature to describe her vision of the future, dedicating lengthy discussions to the implications of the lives and writings of the Bronte siblings. (Murray, 1997) Manovich uses Russian filmmaker Dziga Vertov’s *Man with the Movie Camera* to guide his discussion of new media forms. (Manovich, 2001) While these works do not devote very much discussion to the epistemological stance of the authors, the practice of close reading can be observed at the heart of their analyses.

### 2.2.3 Reading and Perspective

Jim Bizzocchi describes an approach to close reading digital media in his thesis on *Ceremony of Innocence* (Real World Multimedia, 1997), a CD-Rom adaptation of Nick Bantock’s *Griffin & Sabine Trilogy*.

The heart of the quest is the close reading of *Ceremony of Innocence*. For a close reading, the traveler becomes a hunter, a tracker seeking clues and signs in the details of the work. Based on this sharp look at the territory, the hunter begins sketching a map for the rest of the journey. Close reading helps ensure that this conceptual map is firmly grounded in current practice, and that it will inform future practice. The journey includes several variations on close reading methodology. Some are close readings in the classic sense, and concentrate on an exhaustive look at an individual puzzle-card. Other readings are not quite so close, but examine the flow of detail across several adjacent puzzle-cards. Finally, some of the readings combine breadth of scope with fine detail, looking for individual reflections of broad themes that cut across the entire work. Despite these differences, all of the close reading paths share a similar approach. Each looks for the trace of narrative concerns (plot, story, character, emotion, theme) as instantiated in the work. Each concentrates on the nature of the instantiation: what is actually
happening, what does it feel like, what is its role in the work. Finally, each looks for the relationship between interactive craft and narrative. These close readings become data, which forms the background and provides the raw material for the theoretical work of the thesis. (Bizzocchi, 2001)

Bizzocchi’s approach to the close reading of digital media is valuable because it addresses the issue of “closeness”. Digital media texts can be rich with data to be observed, and the multimediated nature of these artifacts introduces questions regarding the granularity of observations. It is possible, for instance, to strip a digital text down to its most basic level and consider it in terms of every pixel on the screen, every individual line of code, and every discrete audio waveform that it emits. This is tantamount to reading a book by discussing every individual letter in isolation, focusing only on the ink used in the printing, or on the process by which the paper was manufactured. While these are elements of the experience of the text, they represent a reading that is *too-close*. With any reading, but with digital media more than other texts, it is necessary to find a productive distance from which to read the text. One technique for achieving this distance is to read from the perspective of an imagined reader.

### 2.3 The Imagined Naïve Reader

Digital texts introduce a new element into the process of close reading: variability. In traditional literary discourse, the text is a fixed point to which the critic may safely refer. ² Digitally mediated texts, on the other hand, have the potential to shift aspects of their form, making it problematic to refer back to any element of a reading as representative of a singular, unified text. This may take the form of changing the ordering of a reading, as is the case in hypertext fiction, or it might take the form of traversing a virtual environment in a different way on different readings. In a digital text, the reading must be able to account for the indeterminate nature of the

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² This is only in comparison to a piece of digital media. Readings of print media *can* suffer from a shifting point of reference, such as multiple editions and translations of the same material, however, the variability is not implicitly built into the work, as it is in digital media.
experience. This indeterminacy is a different phenomenon from the notion of shifting interpretations and readings of the same content discussed in the above section. Rather, the instability of digital texts is rooted in an explicit and literal restructuring of the content and presentation of the experience in conjunction with a shifting set of reader interpretations.

One solution to this dilemma is to take an empirical approach to readings of the text by observing readers in action and performing a mixed methods evaluation of their choices and responses. (Gardner, 2003) However, this approach moves away from the notion of reading as an interpretive act, and treats it instead as a mechanical interaction to be observed and measured. A different approach to this issue is for the theorist to construct a phenomenological study of an imaginary reader or interactor.

My observations form the basis for the Close Reading sections that follow. The observations can be treated as a data set built through multiple reviews of the books and the puzzles, constant referencing and modification of my notes, and repeated screenings of a videotape of the cut sequences. Despite the considerable amount of information I had at my disposal, I tried to write the descriptive sequences of the close reading sections as if they represented the perspective of a naïve interactor. The naïve interactor whose voice I created is someone who has not read the books, and is playing the game for the first time. These descriptive sequences therefore represent a constructed phenomenology. It is completely based on my own experience, but it approximates the experience of a different and theoretical interactor. This theoretical interactor is far less informed than I was, but has considerable power to observe and comment in detail on his own reactions to the event. (Bizzocchi, 2001)

By creating an imagined reader, a theorist is able to address issues of variability and of perspective in a close reading of a digital text. This theoretical interactor is imagined as an individual who has not yet encountered the text, and who is interacting with the digital environment as someone exploring a new experience. This naïve interactor has the freedom to shift his perspective from a broad evaluation of the experience to a narrow look at details that compel him. By imagining the reading from the point of view of a naïve interactor, theorists can avoid the temptation to shift
perspective away from the experience of reading and toward mechanical details of the medium, except where they are of relevance to the experience.

Close reading using this approach remains a phenomenological investigation of the critic’s reading process, but as Bizzocchi points out, it is a constructed phenomenology; it is a reading of a performative experience. It represents a single reader’s experience of an artifact that can conceivably generate an infinitely varied set of possible experiences and readings.

### 2.4 Close Reading in this Thesis

Having presented the theoretical work that underlies my approach to this material it now only remains to describe how I have employed these ideas within this work. The core research in this thesis takes the form of a close reading, drawing on the deconstructionist and hermeneutic traditions to strip away layers of the experience of playing *Oblivion*.

Close reading is an epistemological stance that treats knowledge as arising from the act of reading. As a methodology, close reading is often practiced in conjunction with a critical lens or perspective. In this thesis, the three analytical lenses I propose each constitute a different perspective from which to read an Interactive Narrative. The subsequent close reading of *Oblivion* can be seen as three separate hermeneutic readings of the game experience as text, each one providing an interpretation from a particular perspective.

Each lens affords a different perspective on the experience; *believability* allows me to take a broad overview of the behaviour of the characters within the game world; *adaptivity* is explored via a series of very close play-throughs of a small portion of the game; and *performativity* takes a look at the experience from a first-person perspective that relies on the notion of imagined naïve reader. These three readings together represent a qualitative evaluation of my game experience. The value of this critique is in the demonstrated utility of each of the three lenses.
2.4.1 Data Gathering

Although close reading is primarily a qualitative method, it is a method rooted in observation and explication. While the choice of what to observe is highly subjective, this does not mean that it need be inconsistent or without rigor. In the case of my close readings of Oblivion, I have approached the task of gathering data from two different perspectives. The first is a low-granularity approach, wherein I have recorded my high-level observations of the experience of playing the game. The data generated through this approach takes the form of a personal narrative of play experience.

The second type of data gathered is in the form of a high-granularity, mixed-methods approach that treats observable actions and statistical increases in skills and abilities as data. This information reflects the progress and choices of the player through the opening sequence, and is intended to explicate some of the underlying mechanisms of the game engine through play. This second type of data has been recorded in an extensive spreadsheet. [Figures 2-1, 2-2]
Figure 2-1 – Representation of Complete Spreadsheet of All Data Gathered
Figure 2.2 - Closer Look at Data Gathered for Two of the Play Sessions

These two figures are presented to give a sense of the scope of the data gathered, and the level of detail in the observations. The size and complexity of this record defies inclusion in this thesis and so I have summarized much of the data from this spreadsheet into tables found throughout Chapters 5 and 7, and the Appendices.
3: LITERATURE REVIEW

In this chapter I explore the theoretical work in which this research is grounded. Due to the interdisciplinary nature of Interactive Narrative research there is a near limitless body of discourse from which insight might be gleaned. In this chapter I provide a selection the work which is of greatest relevance to my own investigations. Due to the size of this domain, I have divided this chapter into four smaller sections.

3.1 Cross Disciplinary Literature – This section provides a roughly chronological overview of the scholarly traditions that have shaped my understanding of Interactive Narrative. Beginning with the study of formal narratology, I trace Interactive Narrative research through literature, philosophy, new media studies, and finally game studies.

3.2 Key Concepts – There are a number of theoretical ideas that are central to my understanding of Interactive Narratives. Most of these notions are the source of much debate within the current discourse of the field. In this section I discuss four of the central themes of Interactive Narrative research: Interactivity, the Emergent/Embedded distinction, Immersion, and Games.

3.3 Specific Analytical Tools – One of the goals of this thesis is to propose three analytical lenses for Interactive Narrative. In this section I examine four existing analytic frameworks, in order to explicate several more details surrounding the phenomenon of Interactive Narrative, but also to explore the types of frameworks and tools which are currently employed within the field. The four frameworks under consideration in this section are Janet Murray’s “Core Aesthetic Principles”; Jim Bizzocchi’s “Analytical Framework for Narrative in Games; Celia Pearce’s “Six Narrative Operators”; and Scott McCloud’s “Closure. (Bizzocchi, 2007; McCloud, 1993; Murray, 1997; Pearce, 2004)

3.4 Interactive Narrative Forms – In this section I consider several important forms of Interactive Narrative from popular culture. In this section I consider a few
specific examples of Interactive Narrative, looking at Interactive Fiction, Hypertext Fiction, and Games.

3.1 Cross Disciplinary Literature

Interactive Narrative research spans a number of disciplines, including games, new media, film, literature, philosophy, human computer interaction, and artificial intelligence. Much of this research is specifically interested in the possibilities of using computers to tell stories; however, the field also touches on questions of human cognition, perception, and communication. Research into digitally mediated narrative experiences has been used to explore the nature of narrative as a phenomenon, while also exploring new techniques for game design and AI. As a cross-disciplinary field, Interactive Narrative requires not only skilled theorists, but also capable programmers and talented artists. In many ways, Interactive Narrative research is exploring a new medium as it emerges and takes shape in a world where digital technology more and more frequently mediates our experience of the ancient arts of story.

3.1.1 Clarification of Terminology

Theorists across the varied disciplines doing research into new narrative forms have coined a number of terms to describe this new storytelling medium. Some of the more common terms include:

**Cyberdrama** – Coined by Janet Murray in her 1997 book *Hamlet on the Holodeck*, cyberdrama reflects Murray's framing of new digital stories as implicitly participatory, and distinct from previous narrative forms. (Murray, 1997)

**Ergodic Literature and Cybertext**– Espen Aarseth coined these two terms in 1997 to describe texts that required “non-trivial” effort in order to traverse. Cybertext specifically refers to texts whose final instantiation relies on explicit creative choices made by the reader that play a part in crafting the eventual textual output. The phrase *ergodic literature* comes from a term in physics which is derived from the Greek words *ergon* and *hodos*, for “work” and “path”. (Aarseth, 1997)
**Interactive Storytelling** – Interactive Storytelling (often abbreviated as simply IS) is one of the more common terms used in the field, and has been the subject of much discussion as a result. Two of the biggest proponents of the term are Chris Crawford and Andrew Glassner, both of whom have written recent books which prominently feature the phase in their titles. One of the things that distinguishes both Crawford and Glassner’s perspectives from previous theorists is their emphasis on the role of the author or “storybuilder” in interactive storytelling. (Crawford, 2005; Glassner, 2004)

**Interactive Drama** – Interactive Drama is an idea originally envisioned by Brenda Laurel in 1986 (Laurel, 1993) rooted in the structures of formal Aristotelian Drama. The term was more recently popularized by Michael Mateas (Mateas, 1997, 2004b), who reframed both Laurel and Murray’s ideas in what he described as a *neo-Aristotelian interactive drama*. This particular subset of Interactive Narrative places the reader into the first person role of the lead character of a dramatic story, while also following classical rules for plot development that are derived from Aristotle’s *Poetics*.

In this thesis I have defaulted to the term Interactive Narrative as a generic descriptor. The above terms deal with narrative experiences as digitally mediated by computers but they might also be used to describe narrative experiences that are human mediated. There is much less work being done on “unwired” interactive storytelling techniques, but human mediated narrative systems often serve to inform the design of digital systems, as is the case with improvisational theatre and Live Action Role Playing Games. I prefer Interactive Narrative to the above listed terms because it can be used to describe both of these modes of narrative experience. Interactive storytelling is similarly neutral, but I tend to reserve it for discussions related to the task of *authoring* or presenting a story, rather than for discussions of the larger phenomenon. Where appropriate, I use the above listed terms in conjunction with those theories and artifacts to which they are connected.
3.1.2 Formal Narratology

Narrative has been the subject of human enquiry for thousands of years. Ken Newman argues for framing narrative as a cognitive predisposition that humans as a species have evolved over time. He identifies three themes that occur across narrative research and psychology to describe this phenomenon:

1. There is a species-wide predisposition for and capability for narrative.
2. Because all humans develop at an individual level, humans don’t all develop the same level of narrative inclination or ability.
3. There is a case for a set of species-wide archetypal narrative scripts embedded in the human psyche. (Newman, 2005)

Newman claims that our brains have become “hardwired” for narrative by archetypal narrative “scripts” that have become embedded in our consciousness, as a result of thousands of years of repetition. (Newman, 2005) It does not seem unreasonable to think that narrative forms and structures can perpetuate themselves through repetition and conditioning. The formal study of these narrative structures can be traced back to Aristotle, whose writings on the structures of the comedies, dramas, and epic poetry of his day framed much of our elementary understanding of how stories work. Many more theorists would follow in his footsteps, and it is a select few of these that this section will discuss.

3.1.2.1 Aristotle’s Poetics

Aristotle’s Poetics was the basis for some of the earliest work in interactive drama, including the work of Brenda Laurel in the 80s (Laurel, 1993) and the subsequent work on interactive drama that grew out of Carnegie Mellon University’s Oz project. (Mateas, 1997; Reilly & Bates, 1993) Aristotle codified and formalized certain ideas about narrative structure that have since become quite common. For instance, in Poetics he says

Now, according to our definition Tragedy is an imitation of an action that is complete, and whole, and of a certain magnitude; for there may be a whole that is wanting in magnitude. A whole is that which has a beginning, a middle, and an end. A beginning is that which does not itself
follow anything by causal necessity, but after which something naturally is or comes to be. An end, on the contrary, is that which itself naturally follows some other thing, either by necessity, or as a rule, but has nothing following it. A middle is that which follows something as some other thing follows it. A well constructed plot, therefore, must neither begin nor end at haphazard, but conform to these principles" (Aristotle, 1951)

The notion of a story having a beginning, middle, and end is one which is deeply embedded in our understanding of narratives as a linear form. Aristotle’s complete formulation of the sequence of events in a plot over time is known as the dramatic arc. [Figure 3-1] Even as dramatists and storytellers in the Western world have developed new, more sophisticated frameworks to structure narrative, it is difficult to find a narrative work that is not built on the foundations laid by Aristotle.

![Figure 3-1 - Aristotle's Dramatic Arc (image from Riedl, 2004)](image)

3.1.2.2 Freytag’s Technique of the Drama

One relatively recent reformulation of the dramatic arc set out by Aristotle was performed by Gustav Freytag in 1863. In his Technique of the Drama, he took the Poetics, in conjunction with readings of more recent dramatic works, such as those of Shakespeare, and constructed an extension of Aristotle’s plot structure now known as Freytag’s Pyramid. [Figure 3-2]
Through the two halves of the action which come closely together at one point, the drama possesses—if one may symbolize its arrangement by lines—a pyramidal structure. It rises from the introduction with the entrance of the exciting forces to the climax, and falls from here to the catastrophe. Between these three parts lie (the parts of) the rise and the fall. (Freytag, 1968)

Freytag’s more symmetrical Pyramid structure is one of the most popular reformulations of Aristotle, and is still one of the most commonly taught narrative structures.

3.1.2.3 Propp’s The Morphology of the Folktale

Another oft-cited work of narrative formalism comes from the Russian formalist Vladimir Propp, who created a formal system for diagramming fairy tales called The Morphology of the Folktale. (Propp, 1968) Propp analysed an extensive corpus of Russian fairy tales, and identified a sequence of narrative functions that each story shared to some degree. When converted to symbols, these functions allowed Propp to develop equations which represented the events and actors in the story. Propp’s narrative “morphemes” served as one of the primary inspirations for an entire school of thought around story generation rooted in the search for, analysis of, and creation of formal “story grammars”. Propp’s Morphology is particularly appealing to researchers working with automated story-generation, as it reduces narrative structures to an algorithm.
3.1.2.4 Egri’s *The Art of Dramatic Writing*

A third, and more recent approach which has seen quite a bit of use in Interactive Drama research is the work of Lajos Egri. In his book *The Art of Dramatic Writing*, Egri lays out a semi-formal framework for understanding narrative as a system structured around thematic devices and character structures. Good playwriting, according to Egri’s framework, is rooted in properly motivated characters following a clear premise. He builds his argument through a series of close readings of significant plays from when the book was written in 1946, including Ibsen’s *Doll’s House* and *Ghosts*, and Moliere’s *Tartuffe*. Where Propp and Aristotle represent formal approaches to narrative as a sequence of events, Egri’s work instead approaches narrative as emerging from the craft of character construction and motivation. This has become the basis for computational work on what has been characterised as *emergent narrative* or narrative that emerges from the interactions of characters.

3.1.2.5 Bordwell & Thompson’s *Film Art*

One area where formal narrative studies have seen a recent resurgence is in film studies, particularly in the writing and analysis of mainstream Hollywood cinema. Film theorists David Bordwell and Kristen Thompson provide an excellent introduction to the formal study of film narrative in their book *Film Art*. Their definition of narrative as “a sequence of events, in cause-effect relationship occurring in time and space” (Bordwell & Thompson, 1997) has its roots in the Aristotelian narrative arc, but is informed by close study of narrative structures as they have occurred in movies over the last century. *Film Art* further decomposes filmic narrative into several smaller properties such as: plot and story, cause and effect, time and space, range and depth, motivation, narration, parallelism, and progression.

Where classic Hollywood narrative analysis has maintained a “three act” structure that corresponds to Freytag’s Pyramid, Thompson makes a convincing argument for understanding film narratives as having *four* distinct phases: the setup, the complicating action, the development, and the climax. (Thompson, 1999) This four part
structure more accurately describes the actual structure that films have tended to take as the medium has grown into a sophisticated storytelling form. Bordwell and Thompson’s work provides a useful modern perspective on the classical narrative structures of Aristotle, while also calling attention to how deeply rooted our narrative expectations are in those structures.

A number of these formal narrative schemas have been adopted by the Interactive Narrative community over the years. The appeal of formalizing stories into a set of fundamental components and criteria should be apparent when considering the problem of storytelling from the perspective of a computer scientist. Computational media require their subject matter to be computable, and as the field of AI has known for years, human activities and thought processes often defy being decomposed into a computational form. For this reason, narrative systems like Aristotle’s and Propp’s are very popular in the computational narrative field, both as design metrics, and as mechanisms for evaluating success or failure.

3.1.3 Literature and Philosophy

In addition to formal studies of narrative, much discourse in philosophy and literary theory has contributed to the field’s understanding of narrative. Work in these areas has largely been concerned with questions around the semiotics of narrative. How and where is narrative meaning constituted in a mediated experience? How does language affect the experience of story?

3.1.3.1 Bakhtin’s Discourse in the Novel

In 1935 Mikhail Bakhtin helped lay the groundwork for most modern and post-modern understandings of narrative in his essay Discourse in the Novel. Bakhtin introduced the concept of heteroglossia for evaluating the different perspectives and conventions of language use that are evident in the experience of reading a novel. Bakhtin conceptualized language as socially stratified, framing the novel as the intersection of multiple social voices both centripetal (seeking a unified or common
center) and centrifugal (diversifying and spreading outward). In order to evaluate the Novel as a multi-linguistic phenomenon, Bakhtin introduced the idea of active understanding. Bakhtin described active understanding as a dialectical phenomenon that grows out of everyday conversation and dialogue. He used this metaphor to illuminate his ideas about the emergence of linguistic meaning.

But no living word relates to its object in a singular way: between the word and its object, between the word and the speaking subject, there exists an elastic environment of other, alien words about the same object, the same theme, and this is an environment that it is often difficult to penetrate. It is precisely in the process of living interaction with this specific environment that the word may be individualized and given stylistic shape. (Bakhtin, 1981)

The meaning of any given word is dependent on the relationship between the word and the environment: an environment populated by other words, potentially about the same object. (Bakhtin, 1981) It is only in negotiating this relationship that a word’s meaning takes shape. By treating the meaning of words as context dependent, Bakhtin laid the foundation for an understanding of narrative meaning as an interpreted or decoded phenomenon, rather than a static, encoded one.

3.1.3.2 Eco’s Poetics of the Open Work

Almost 30 years later, Umberto Eco discussed this idea more explicitly in his 1962 book The Open Work. Inspired by the recent rise in experimental and indeterminate musical compositions, Eco went on to describe all artistic experiences as “open”. The pieces Eco uses as his examples are explicitly “open” works because they are rules based: they rely upon the interpretation of the performer and the audience in order to be experienced and “closed”. Eco takes this as a starting point for making an argument about the “openness” of all mediated experiences.

[a reader’s] comprehension of the original artifact is always modified by his particular and individual perspective. In fact, the form of the work of art gains its aesthetic validity precisely in proportion to the number of different perspectives from which it can be viewed and understood....A work of art, therefore, is a complete and closed form in its uniqueness as a balanced organic whole, while at the same time constituting an open
product on account of its susceptibility to countless different interpretations which do not impinge on its unadulterable specificity. Hence, every reception of a work of art is both an *interpretation* and a *performance* of it, because in every reception the work takes on a fresh perspective for itself. (Eco, 1989)

Eco’s concept of the Open Work is in keeping with Bakhtin’s framing of the novel as a dialectic, but instead of using conversation as the metaphor, Eco uses live performance to illustrate his point.

### 3.1.3.3 Barthes’ *Death of the Author*

By contrast, Roland Barthes makes a significantly stronger claim about narrative meaning. Although still rooted in Bakhtin’s ideas of heteroglossia and discourse, his 1967 *Death of the Author* regards textual meaning as elusive and unsignifiable. The Author, in Barthes’ opinion, is merely a “scriptor”, arranging and re-arranging text from a limitless “ready-formed dictionary”, making it impossible to author meaning via language. The sole responsibility for meaning creation lies in the hands of the reader.

Thus is revealed the total existence of writing: a text is made of multiple writings, drawn from many cultures and entering into mutual relations of dialogue, parody, contestation, but there is one place where this multiplicity is focused and that place is the reader, not, as was hitherto said, the author. The reader is the space on which all the quotations that make up a writing are inscribed without any of them being lost; a text’s unity lies not in its origin but in its destination. (Barthes, 1977)

Barthes further advances and refines this argument in his 1970 reading of Honore de Balzac’s *Sarrazine*. In *S/Z* Barthes treats the original short story as a terrain to be traversed in explicit detail, resulting in what has been described as the “most sustained yet pulverized meditation on reading...in all of Western critical literature” (Barthes, 1970) In *S/Z*, Barthes identifies five distinct codes, or groupings, of textual signifiers, the Hermeneutic, Semantic, Proairetic, Cultural, and Symbolic.

Each code is one of the forces that can take over the text (of which the text is the network), one of the voices out of which the text is woven. Alongside each utterance, one might say that off-stage voices can be heard: they are the codes: in their interweaving, these voices (whose
origin is “lost” in the vast perspective of the already-written) de-originate the utterance: the convergence of the voices (of the codes) becomes writing, a stereographic space where the five codes, the five voices, intersect... (Barthes, 1970)

A full discussion of the differences between these five codes is outside the scope of this thesis, but Barthes’ overall conception of the reader’s role in the creation of meaning is an important evolution of his earlier ideas because it more directly maps back to Baktihn’s concept of heteroglossia. Barthes is arguing for an understanding of a text as a multi-voice, interpreted experience, where denotational meaning is continually fracturing under the lens of connotational meaning.

Barthes’ approach to narrative meaning has given rise to an entire subset of interactive narrative research that treats narrative as an exclusively interpreted phenomenon. While the human capacity to perceive narrative meaning in otherwise unrelated events is remarkable, I tend to regard this approach as avoiding the more interesting challenges inherent in authoring interactive stories. What Barthes discounts with this argument is the responsibility of the author to the quality of the narrative experience. While this view offers the reader greater freedom and responsibility for the narrative experience, it does not account for the difficulties inherent in any creative endeavour, and it does not provide the basis for any aesthetic or design criteria that might allow designers of interactive narratives insight into how to improve their craft.

These three theorists represent the evolution of an important idea in literary theory that has become of critical importance to interactive narrative research. By conceptualizing narrative experiences as shared between the author and the reader, or the text and the reader, these theorists provide a basis for understanding all narrative as interactive, at least at the interpretive level. I will return to this idea when I discuss interactivity in greater detail.
3.1.4 New Media

With the advent of the digital revolution, narrative theory suddenly found itself grappling with questions of determinacy, linearity, and authorial control that were raised by the remediation of traditionally textual and linear narratives into digital form. *Hypertext* became the word around which much of the developing medium’s fears and hopes were centred, and a new generation of media theorists emerged, discussing what I will broadly term “new media”. New media, much like Interactive Narrative itself, is an interdisciplinary field, comprised of overlapping research from a variety of other fields, including comparative media studies, cultural studies, and hypertext theory. I also include in this term the relevant work that is occurring in digital film studies, contemporary arts, and human computer interaction. In some ways the term “new media” is a misnomer; most of the work that I include here is seminal theoretical work that emerged between the late 1980s and the late 1990s, much of which has been absorbed into the recent debates of game studies under the banner of “narratology”.

3.1.4.1 Bolter and Grusin’s *Immediacy, Hypermediacy, and Remediation*

Hypertext theorist Jay David Bolter and his collaborator Richard Grusin are perhaps best known for their notion of remediation, which is discussed at length in their book *Immediacy, Hypermediacy, and Remediation*. They define remediation as “the representation of one medium in another”. (Bolter & Grusin, 1999) The concept of remediation has grown immensely popular in recent years, and many media scholars are quick to point out how various media forms absorb and repurpose elements of previous mediums. Remediation may be done intentionally, as when a novel is adapted to the screen, or it may happen implicitly, as when a website remediates the written textual page into a hypertextual one.

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3 The history of the specific study of *Hypertext* is outside the scope of this paper, although the central participants in that field and their debates often spill into my discussion of Interactive Narrative in its more general sense.

4 Ironically, a number of the new media theorists, most notably Espen Aarseth, who formulated key narrative ideas during the 1990s, went on to argue against narrative in games, forming the core of the *ludologist* perspective in Game Studies.
Of greater interest to this work, however, are the paired notions of *hypermediacy* and *transparent immediacy*. Hypermediacy is rooted in an awareness of the mediated nature of any given media artifact. They write:

In all its various forms, the logic of hypermediacy expresses the tension between regarding a visual space as mediated and as a “real” space that lies beyond mediation...In the logic of hypermediacy, the artist (or multimedia programmer or web designer) strives to make the viewer acknowledge the medium as a medium and to delight in that acknowledgement.(Bolter & Grusin, 1999)

This hypermediated awareness of the mediated nature of an experience exists in a tension to what they present as a desired state of transparent immediacy. Immediacy is the opposite of hypermediacy; it occurs when the viewer looks *through* a mediated experience rather than *at* it. One example given by Bolter and Grusin is the notion of virtual reality, in which the goal is to create an experience of being immediately present in a virtual space. Immediacy as framed by Bolter and Grusin is very similar to the notion of Immersion, which I discuss in section 3.2.3. One of the primary theorists of immersion, and of new media in general, is Janet Murray.

### 3.1.4.2 Murray’s *Hamlet on the Holodeck*

Janet Murray is one of the most widely recognised names in new media. Drawing on a background of classical literary studies, Murray personifies the concept of “digital immigrant”, having been exposed to computational media through her teaching and parenting. She approaches digital artifacts from a perspective firmly grounded in the humanities, arguing strenuously for a new type of digital media experience that is rooted in classical narrative traditions. She is best known for taking the metaphor of the Holodeck from Star Trek as the basis for what she calls *cyberdrama*. Murray’s vision of this medium is a product of the prevailing fascination with the idea of virtual reality which was at its height during the writing of her book *Hamlet on the Holodeck*. The dream of a fully participatory digital environment that is immersive at the sensory level still looks to be a long way off, but for Murray, writing in 1997 and having just
experienced a profound “digital revolution”, this vision seemed to be just around the corner.

As I watch the yearly growth in ingenuity among my students, I find myself anticipating a new kind of storyteller, one who is half hacker, half bard. The spirit of the hacker is one of the great creative wellsprings of our time, causing the inanimate circuits to sing with ever more individualized and quirky voices; the spirit of the bard is eternal and irreplaceable, telling us what we are doing here and what we mean to one another. I am drawn to imagining a Cyberdrama of the future by the same fascination that draws me to the Victorian novel. I see glimmers of a medium that is capacious and broadly expressive, a medium capable of capturing the hairbreadth movements of individual human consciousness and the colossal crosscurrents of global society. (Murray, 1997)

_Hamlet on the Holodeck_ is important to the field in that it simultaneously lays out central theoretical ideas that had not been fully articulated previously, while also perpetually revealing an almost charming naiveté about the capabilities of computers as storytelling devices. While much of the more recent work in the field has been an exercise in bemoaning the limitations of computational narratives, Murray’s work provides a glimpse at why we are doing this research in the first place.

### 3.1.4.3 Manovich’s _The Language of New Media_

By contrast, the only slightly more recent writings of Lev Manovich seem preoccupied with the literal functions of computers to the exclusion of their representational capabilities. Manovich, in _The Language of New Media_, approaches computational media from the perspective of film studies and computer graphics. However, unlike Murray, he is deeply concerned with _how computers work_, often returning to the underlying processes of computation to provide support to his framing of digital media studies. Manovich does not set out to predict the future of digital media, but instead attempts to comprehensively describe, record, and analyse the media landscape which surrounds him. In his introduction to _The Language of New Media_, he introduces a “theory of the present”, in response to what he perceives as a lack of theory around emergent mediums during their formative years. Citing this absence in the development of cinematic narrative he says:
I am afraid that future theorists and historians of computer media will be left with not much more than the equivalents of the newspaper reports and film programs from cinema’s first decades. They will find that analytical texts from our era recognize the significance of the computer’s takeover of culture yet, by and large, contain speculation about the future rather than a record and theory of the present. Future researchers will wonder why the theoreticians, who had plenty of experience analyzing older cultural forms, did not try to describe computer media’s semiotic codes, modes of address and audience reception patterns. (Manovich, 2001)

*The Language of New Media* provides an in-depth discussion of digital media as it might be seen by an engineer, rather than an artist. The five principles of new media which Manovich identifies—Numerical Representation, Modularity, Automation, Variability, and Transcoding—might as well be properties of digital computers and machines in general. They describe the functions that support mediated experiences, but do not speak to the *phenomenological meaning* of those experiences. The two “forms” of new media that he identifies—The Database and Navigable Space—are again descriptive of properties and affordances of computation, but not necessarily of computationally mediated experiences.

### 3.1.5 Game Studies

Of the disciplines that contribute to Interactive Narrative research, Game Studies is the newcomer. Much of the history of game studies has been spent attempting to “carve out a niche for games” within other media scholarship. A by-product of this quest to establish game studies as a serious scholarly discipline has been a vigorous debate about the relationship between game scholarship and established scholarly approaches to media, such as film studies and literary theory. At its most heated, this debate was framed as a contest between two differing perspectives: narratology and Ludology.
3.1.5.1 Narratology vs. Ludology

The field of Game Studies has expended much energy debating the relationship between story and games. Jesper Juull describes the history of game studies as “brief and turbulent.” (Juull, 2005) Espen Aarseth characterizes the field of game studies as being engaged in a raging controversy over the “relevance of narratology for game aesthetics”. (Aarseth, 2004) Markku Eskelinen describes the field of game studies as being “very open to intrusions and colonisations from the already organized scholarly tribes” of “print narratology, hypertext theory, film or theatre and drama studies. (Eskelinen, 2004) Although this debate is moving further and further into the history of game studies, it is still impossible to discuss the field without giving some attention to the conflict. My favourite framing of this debate comes from Michael Mateas, in his online response to critiques of an article on Interactive Drama that occupies a precarious middle-ground position between the two sides:

Interactive drama, in its Aristotelian conception, currently inhabits a beleaguered theoretical position, caught in the crossfire between two competing academic formations, which I will style the narrativists and the ludologists. The narrativists generally come out of literary theory, take hypertext as the paradigmatic interactive form, and use narrative and literary theory as the foundation upon which to build a theory of interactive media. Ludologists generally come out of game studies [e.g. Avedon and Sutton-Smith 1971], take the computer game as the paradigmatic interactive form, and seek to build an autonomous theory of interactivity (read: free of the English department), which, while borrowing from classical games studies, is sensitive to the novel particularities of computer games (this is sometimes described as a battle against the colonizing force of narrative theory, as Eskelinen does in First Person). (Mateas, 2004a)

What perhaps makes this an “unsolvable” debate is that each of the sides has important and relevant points about the nature of games, with the central error being in considering their viewpoints to be irreconcilable. Indeed, some the most level headed discussion of this moment in media scholarship comes from outside the heart of the debates. Sociologist Thomas Malaby takes a long view of the debate, in his paper

*Beyond Play – A New Approach to Games:*
The two main schools of thought in this area are sometimes referred to as narratology and ludology, and the contrasts between their strengths and weaknesses are illuminating. Speaking very broadly (and a little unfairly), ludology at least began with an awareness of the “gameness” of games and from this conviction recognized that there was something to the experience of what is labeled a game that bears attention. In their fascination to draw attention to this mode of experience and make the case for its importance, however, ludologists ultimately fell into the trap of formalism, treating games as special and distinct activities, fundamentally different from everyday life, and further treated this distinctiveness normatively, seeing play as about “fun” or “pleasure” or “enjoyment.”

The narratologists, for their part (again, speaking very broadly), got another aspect right, which is that games involve the construction of meaning. The problem is that, following this approach, one can end up focusing on the “story” (especially in a broad sense—plot, etc.) at the expense of the experience of contingency itself, on one hand, and the fact that it does not have to “succeed” in generating a story to be a game, on the other. That is, in contrast to the ludologists’ initial focus on experience, the narratologists were overly concerned with form, especially the extent to which the product of a game experience can become an object of reflection and interpretation. (Malaby, 2007)

Malaby’s overview of the controversy is refreshing because it shows how initially correct assumptions on each side of the debate eventually led to narrow and limiting perspectives on games.

### 3.1.5.2 Reconciling Story and Games

While the debate between ludology and narratology has helped to characterize the emergence of game studies as a discipline, in recent years it has dropped off, to be replaced with a more even-handed approach to both narrative and play in games. This new perspective might be termed reconciliast, or perhaps the synthesist. This perspective has been best expressed by games theorist Eric Zimmerman.

Because, what I wish to ask is NOT the overused question: Is this thing (such as a game) a "narrative thing" or not? Instead, the question I’d like to pose is: In what ways might we consider this thing (such as a game) a "narrative thing"? (E. Zimmerman, 2004)
By framing discussion of narrative in games as a discussion of a *property of* games, rather than a *defining characteristic*, Zimmerman neatly transcends the debates about the nature of Games, and provides a solid position from which to discuss the ways in which games support and deny narrative structures and experiences. Henry Jenkins takes a similar approach when he says:

One gets rid of narrative as a framework for thinking about game only at one’s own risk...I hope to offer a middle-ground position between the ludologists and the narratologists, one that respects the particularity of this emerging medium –examining games less as stories than as spaces ripe with narrative possibility...

Narrative analysis need not be prescriptive, even if some narratologists—Janet Murray is the most oft-cited example—do seem to be advocating for games to pursue particular narrative forms. There is not one future of games. The goal should be to foster diversification of genres, aesthetics, and audiences, to open games to the broadest possible range of experiences. (Jenkins, 2004)  

I find this middle ground perspective to be of particular utility to my own discussion of the intersection of narrative and games, because it provides a position from which to consider the contributions of theorists from both “sides” of this theoretical divide. The goal of this research is, as Jenkins has put it, *not* to prescribe a new formula for applying narrative to games, but instead to evaluate the narrative affordances of games, and explore new theoretical techniques for discussing game stories, and by extension, interactive stories as an emergent medium.

### 3.2 Key Concepts

In the first section of this chapter I provided a very brief overview of the topology of the various fields and disciplines that contribute to the work of Interactive Narrative theory. In this section I will look more closely at the vocabulary and terminology that has formed the heart of discourse in Interactive Narrative.

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5 The majority of the views on game studies cited here can be found printed together in the book *First Person*, edited by Noah Wardrip Fruin and Pat Harrigan. Published in 2004, it represents viewpoints on both narrative and games from the height of the conflict between Narratology and Ludology.
Most of the vocabulary under discussion in the field has been put through the wringer of the debates in Game Studies. This has revealed a rich variety of perspectives and interpretations for even seemingly simple terms such as games and play. The result of this debate is a field of terminology littered with dialectical “mines” ready to blow the leg off of the unwary theorist that stumbles into the territory without a sufficiently long stick.

3.2.1 Interactivity

Interactivity is a term that sees much use and abuse in the field. Any discussion of Interactive Narrative can be decomposed into a discussion of Interactivity and Narrative as discrete constituents of the larger phenomenon. In the first section of this chapter some attention was given to classic narrative theories. It is equally important to define how I will be treating interactivity in this thesis.

3.2.1.1 Manovich’s Taxonomy of Interactions

In The Language of New Media, Lev Manovich strenuously argues against using the word *interactive* to characterize computational media, claiming that it is “meaningless” and “simply stating the most basic fact about computers”. (Manovich, 2001) He goes on to call for more specific descriptions of sub-concepts associated with interactivity such as “menu-based interactivity, scalability, simulation, image-interface and image-instrument.” (Manovich, 2001) Central to his argument is the idea that interactivity is not a new characteristic of digital media, but rather a cognitive phenomenon that is implicit to any mediated experience. This is perhaps why he focuses primarily on the literal and explicit ways in which digital media is interactive, such as the presence of branching choices, or interface icons, rather than considering what it *means* for something to be interactive. While his sub-categories are useful for discussing certain specific interactions, they can be limiting, providing a taxonomy of known interactions rather than a framework for understanding interactivity as a phenomenon.
3.2.1.2 Murray’s Properties of Digital Environments

If Manovich is overly-specific, then Janet Murray by comparison is too broad. Murray conflates interactivity with two of her properties of digital environments when she says “This is what is most often meant when we say that computers are interactive. We mean they create an environment that is both procedural and participatory”. (Murray, 1997) While this description of interactivity helps to identify why we so often conflate interaction with digital media, it does not provide any concrete parameters for evaluating any given interaction. Murray and Manovich both presuppose an implicit definition of interactivity around which they build their arguments about digital media; however, they do not define interactivity except by describing the ways in which certain things might be considered interactive.

3.2.1.3 Crawford’s Conversation

Chris Crawford provides a more formal definition of interactivity by framing it through the metaphor of the conversation. He defines interaction as “a cyclic process in which two actors alternately listen, think, and speak.”(Crawford, 2003) In his later book on Interactive Storytelling he summarises why these three components are so critical to interaction:

Consider: The overall quality of a conversation doesn’t depend on the isolated qualities of each step—each step must be executed well if the conversation is to succeed. Can you recall conversations in which your interlocutors weren’t listening to your words? In such cases, no matter how refined their thinking or eloquent their speaking, the conversations were an utter loss because without good listening, the interaction is ruined. In the same fashion, I’m sure you can recall conversations with people who were just too stupid to understand your point—and these conversations were just as frustrating and pointless as the previous type. Last, you can also recall conversations with a tongue-tied, inarticulate clod who simply couldn’t rub two words together to save his life. Again, the conversations were failures because without quality in that third step—speaking—the quality of the first two steps didn’t matter.(Crawford, 2005)
Crawford’s definition is more useful for quantifying interaction as a phenomenon in that it actually attempts to define interactivity as a process, rather than an artifact or medium. However, by restricting interaction to a dialogue between two thinking parties, Crawford excludes certain activities which by a more lenient definition would be considered interactive, such as a basketball player shooting hoops alone, or a curator arranging and re-arranging paintings in a gallery. This is because Crawford is primarily interested in \textit{designed interactions}, or what might be called \textit{formal interactivity}. Crawford is less interested in ad-hoc examples of interaction, perhaps for good reason: what does it matter that turning the pages of a book constitutes interacting with the book? It does not alter the meaning of the narrative contained within the book. While Crawford’s conversational model of interaction is useful for considering designed interaction, I turn to Eric Zimmerman for a model of interactivity that includes these more ad-hoc elements.

\subsection*{3.2.1.4 Zimmerman’s Four Modes}

I consider Eric Zimmerman’s four modes of interaction to be the most complete model of interactivity, and it is the one which I will be returning to throughout this thesis. The model first appeared in an essay published in \textit{First Person} (E. Zimmerman, 2004) as a framework for discussing interactivity using textual narratives in the form of books as a metaphor. Shortly thereafter, a more formal model for evaluating interactivity, designed specifically for games, appeared in the book \textit{Rules of Play}, co-authored with Katie Salen. (Salen & Zimmerman, 2004) By subdividing interactivity into several discrete levels, Zimmerman provides a good starting point for discussing any interactive experience, and for characterizing that experience in theoretically meaningful ways. These four modes, as described in \textit{Rules of Play}, are:

\textbf{Mode 1: Cognitive interactivity; or interpretive participation.} This is the psychological, emotional, and intellectual participation between a person and a system. Example: the complex imaginative interaction between a single player and a graphic adventure game.

\textbf{Mode 2: Functional interactivity; or utilitarian participation.} Included here: functional, structural interactions with the material components of
the system (whether real or virtual). For example, that graphic adventure you played: how was the interface? How “sticky” were the buttons? What was the response time? How legible was the text on your high-resolution monitor? All of these elements are part of the total experience of interaction.

**Mode 3:** *Explicit interactivity; or participation with designed choices and procedures.* This is ‘interaction’ in the obvious sense of the word: overt participation like clicking the non-linear links of a hypertext novel, following the rules of a board game, rearranging the clothing on a set of paper dolls, using the joystick to maneuver Ms. Pac-Man. Included here: choices, random events, dynamic simulations, and other procedures programmed into the interactive experience.

**Mode 4:** *Beyond-the-object-interactivity; or participation within the culture of the object.* This is interaction outside the experience of a single designed system. The clearest examples come from fan culture, in which participants co-construct communal realities, using designed systems as the raw material. Will Superman come back to life? Does Kirk love Spock? (Salen & Zimmerman, 2004)

What separates Zimmerman’s modes of interactivity from previous definitions is that they frame the phenomenon in terms of an interactor’s *experience*, rather than in terms of the media that supports that experience.⁶ These four modes encompass the three previously given definitions of interactivity, while also providing room to consider interactions both as purposeful and “designed” and as emergent spontaneous phenomena.⁷

I see these four modes as representative of two broader categories of interaction: Author (or Designer) Specified interactions and Reader (or Player) Specified interactions. Modes 2 and 3 are the modes that Zimmerman describes as “designed” interaction, which requires explicit specification of the context in which the interaction occurs. In other words, modes 2 and 3 might be said to be within the domain of the artifact’s designer; the mechanical operations of the artifact are specified at design

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⁶ Crawford’s *conversational interaction* is probably the closest of the three to this definition, but as I discussed earlier, it is specific to designed interactivity, whereas Zimmerman’s four modes are more inclusive.

⁷ It could be argued that Manovich’s specific mechanical categories and Murray’s broad properties are encapsulated by Zimmerman’s four modes. Crawford’s designed dialogue also fits within this framework.
time, as are any meaning mappings associated with them. Modes 1 and 4 by comparison either occur in the readers head or in a community of use outside of the author-reader relationship. The first mode discussed, for instance, can be directly mapped to the idea of dialectical interaction that was proposed by Bakhtin (Bakhtin, 1981), and further developed by Eco (Eco, 1989) and Barthes (Barthes, 1977), which privileges the interpretation of the reader. The fourth mode includes cultural phenomenon such as fan-fiction (fanfic), cosplay, remix culture, and live action role playing, and often extends or transforms the original artifact in ways that could never have been anticipated or intended by the original designer.

3.2.2 The Emergent/Embedded Distinction

The distinction between emergent and embedded qualities of media is one of the broadest reaching and reoccurring ideas in the field. Unlike immersion, around which a thriving terminological debate has grown, this distinction lurks in the assumptions of almost all of the major theorists in the field. In some ways, this notion is one of the great, unrecognized, theoretical ideas in Interactive Narrative research; it is implicit to many discussions of procedurality in games and Interactive Narrative, without ever taking centre stage in the debates of the field. While this notion is congruent with a number of the ideas already discussed in this literature review, in this section I will be discussing the two most explicit framings of the idea.

3.2.2.1 Zimmerman’s Against Hypertext

The most explicit framing of this distinction and the source of my terminology is a short essay written by Eric Zimmerman titled Against Hypertext. In it, he argues for a new set of terminology in order to evaluate interactive systems in general, and hypertext in particular. Zimmerman proposes these two terms for understanding the “curious aesthetics of dynamic structures”. As with all of Zimmerman’s theory, these

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8 Zimmerman borrows the terms embedded and emergent from Marc LeBlanc’s lexicon of game design terminology.
two terms are not in binary opposition to each other, but instead represent qualities of media which might be evident in varying amounts within the same media artifact.

(1) **Content-Based or Embedded Structure**

A content based structure consists of pregenerated “content” that is navigated by the participant as she interacts with the system. The branching Choose-Your-Own-Adventure structure is a clear example of this type. The content is already embedded in the system before any interaction begins.

(2) **System-Based or Emergent Structure**

System-based structures are sets of rules and procedures that result in unexpected experiences and content. The Surrealist *Exquisite Corpse* is a good example: not a single line of the final image exists beforehand. Instead, it emerges as the participants follow the rules of the game. (E. Zimmerman, 2001)

Zimmerman’s definitions are particularly useful because they are not limited to digital systems. The two examples he gives—Choose-Your-Own-Adventure Books, and the *Exquisite Corpse*—are both analog “pen and paper” style systems. This is important because it locates these techniques within a historical context of dynamic textual systems that includes such examples as the algorithmic writing techniques of the Oulipo group, and the proto-hypertext of the Tao Te Ching. (E. Zimmerman, 2001)

Zimmerman argues that hypertext is one of the “poorest examples of designed interactivity around”, saying:

Robbed of contingent, dynamic consequence, the token interactivity of the hypertext novel is a thin veil over the deathly rigid structure. Hypertext “choice” is not meaningful, as it is in a game of Go or Zork. Instead, each click reinforces the rigid authority of the author, any sense of play reduced to acquiescence. The hypertext form is nonlinear, yes, but stillborn. (E. Zimmerman, 2001)

This is a common complaint about embedded content based systems, whether they are hypertext fiction or games, and Zimmerman is by no means alone in his critiques of hypertext style branching.

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9 The *Exquisite Corpse* is a game in which several players collaboratively draw a picture on a single piece of paper that is folded to disguise all but the edges of the previous player’s artwork. There are some simple rules that govern the structure of the game, but the ultimate outcome of the process is purely emergent in nature.
3.2.2.2 Crawford’s Hard-Wired vs. Computed

Chris Crawford has two variations on the *embedded/emergent* distinction. He describes it as *Hard-wired vs. Computed*, (Crawford, 2003) and *Hard-wired vs. Soft-wired*. (Crawford, 2005) These two terms, as Crawford describes them, map directly on Zimmerman’s terminology.

Like Zimmerman, Crawford’s terminology arises out of an analysis of the limitations of static hypertext-like branching. Crawford uses simple tree diagrams to map networks of hypertext nodes, or points-of-interaction, ultimately concluding that in order to support a “satisfying” level of player agency, the trees must be much larger then can feasibly be created by a human author. In order to achieve the “desired bushiness”, he proposes branching systems that are calculated algorithmically, *emerging* from a set of computational rules and relationships, rather than a set of predetermined authored outcomes.

Both of these approaches favour systems where the final outcome is in some way determined or defined by the actions of the reader. Emergent systems, or systems using computed “soft” branching, introduce the likelihood of the system generating possible outcomes that were not anticipated or pre-designated by the system’s creator. While Zimmerman and Crawford are specifically referring to designed systems of interaction with a media object their terminology is not incompatible with the theoretical ideas about dialectical interpretive interaction of Bakhtin, Barthes, and Eco.

3.2.3 Immersion

If the *emergent/embedded* distinction is one of the most overlooked but agreed upon concepts in the discourse of interactive narrative and games, then *Immersion* is one of the most hotly contested terms in the field. Even when not at the heart of a debate, *immersion* has been the subject of the vague and unspecified desires of game players, designers, and researchers alike. (Ermi & Mäyrä, 2005) Immersion is the subject of so much debate because it seems to be one of the key elements of enjoying a mediated experience, whether that experience is reading a book, performing in a play,
or playing a game. By understanding how immersion works, we might come closer to understanding how to make more enjoyable experiences.

In this section I present the three most common definitions of immersion. I contend that each of these forms of immersion is in fact a distinct experiential phenomenon, sharing some features with the other two. Because each of these has been given the label *immersion*, it is the responsibility of the researcher addressing this phenomenon to be clear as to which aspect is under discussion.

One close cousin to immersion is the notion of *presence*, which emerged as a result of research into telepresence and virtual reality throughout the 1980s and 90s. Zahorik and Jenison characterize presence as being “concerned with the subjective feeling of existence within a given environment”, and identify 1980 as the year that the term entered scholarly usage, in an article on *Telepresence* in the June issue of *Omni*. (Minsky, 1980; Zahorik & Jenison, 1998) This notion of “being there” could be said to be a fourth form of immersion, although I am inclined to consider it congruent with what Ermi and Mäyrä call *sensory immersion*.

### 3.2.3.1 Willing Suspension of Disbelief

In *Hamlet on the Holodeck* Janet Murray describes the phenomenon of immersion as one of three core aesthetic principles of digital media. Murray’s immersion is rooted in what Samuel Taylor Coleridge characterized as the “willing suspension of disbelief”, however, she augments it by arguing that immersion is not simply a suspension of one faculty, but the exercising of the active faculty of belief creation.

When we enter a fictional world, we do not merely “suspend” a critical faculty; we also exercise a creative faculty. We do not suspend disbelief so much as we actively *create belief*. Because of our desire to experience immersion, we focus our attention on the enveloping world and we use our intelligence to reinforce rather than to question the reality of the experience. (Murray, 1997)
For Murray, there is something dangerously enticing about the surrender to a digital environment that requires careful delineation of the border between the real and the virtual in order to prevent the experience from becoming overwhelming.

In order to sustain such powerful immersive trances, then, we have to do something inherently paradoxical: we have to keep the virtual world “real” by keeping it “not there.” We have to keep it balanced squarely on the enchanted threshold without letting it collapse onto either side. (Murray, 1997)

Murray draws on the writings of child psychiatrist D.W. Winnicott to support her descriptions of immersion as an intoxicating, but fragile, state of mind.

According to Winnicott, ‘the pleasurable element in playing carries with it the implication that the instinctual arousal is not excessive’; that is, the objects of the imaginary world should not be too enticing, scary, or real lest the immersive trance be broken. If a horror movie is too frightening, we cover our eyes or turn away from the screen. If a romantic movie is too directly arousing, audience members may start necking instead of watching the characters. (Murray, 1997)

The picture of immersion that Murray paints is one of submerging in the waters of a fictional experience; but submerging inside a bathysphere rather than diving into the ocean unprotected.

Murray’s immersion is best suited to describing the experience of becoming immersed in a story or a fictional world. As such, it does not always properly translate into digital and more explicitly interactive experiences such as games. Murray is aware that there is some incompatibility between the experience of being immersed in a passive fictional experience, and immersed in an interactive environment, which is perhaps why she goes to such efforts to draw boundaries around the experience.

3.2.3.2 The Immersion of Flow

Perhaps more suitable for describing the experience of being immersed in a game is what has become known as the immersion of flow. This term comes from Mihaly Csikszentmihalyi, who described it in his 1990 book *Flow: the Psychology of Optimal Experience*. Csikszentmihalyi’s book sets out to evaluate experiences that
people report as enjoyable, proposing eight major components that comprise what he describes as a *flow state*.

The phenomenology of enjoyment has eight major components. When people reflect on how it feels when their experience is most positive, they mention at least one, and often all, of the following. First, the experience usually occurs when we confront tasks we have a chance of completing. Second, we must be able to concentrate on what we are doing. Third and fourth, the concentration must be usually possible because the task undertaken has clear goals and provides immediate feedback. Fifth, one acts with a deep but effortless involvement that removes from awareness the worries and frustrations of everyday life. Sixth, enjoyable experiences allow people to exercise a sense of control over their actions. Seventh, concern for the self disappears, yet paradoxically the sense of self emerges stronger after the flow experience is over. Finally, the sense of the duration of time is altered; hours pass by in minutes, and minutes can stretch out to seem like hours. The combination of all these elements causes a sense of deep enjoyment that is so rewarding people feel that expending a great deal of energy is worthwhile simply to be able to feel it. (Csikszentmihalyi, 1990)

The type of immersion that comes from entering into a flow state bears some similarities to the immersion advocated by Murray; the notion of losing one’s sense of self and ignoring the worries of everyday life certainly fits with the idea of actively creating a make-believe world. What makes flow a more suitable measure of immersion for games is its incorporation of challenge and reward, and the similarity of the overall flow state to some of the more popular definitions of games as a form of activity. This has also been characterised as “challenge-based immersion”.

This is the feeling of immersion that is at its most powerful when one is able to achieve a satisfying balance of challenges and abilities. Challenges can be related to motor skills or mental skills such as strategic thinking or logical problem solving, but they usually involve both to some degree. (Ermi & Mäyrä, 2005).

This corresponds to what Csikszentmihalyi describes as the “flow channel”, which he uses to illustrate the conditions under which flow might be experienced. Figure 3-3 shows how Csikszentmihalyi conceives of flow as existing in a “sweet spot”

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10 These will be discussed in more detail in the following section.
between the anxiety of attempting a task which is too challenging \((A_3)\), and the boredom of performing a task which does not challenge your skills sufficiently \((A_2)\). The balance between skill level and difficulty is congruent with the notion of scaling difficulty in a video game as the player increases in level.

**Figure 3-3 - The Flow Channel** (Csikszentmihalyi, 1990)

### 3.2.3.3 Sensory Immersion

The third type of immersion approaches this notion from a more literalist standpoint. This is the notion of immersion as a purely sensory experience. The most concise description of this type of immersion comes from Ermi and Mäyrä.

The first dimension of a gameplay experience that we distinguish is the **sensory immersion** related to the audiovisual execution of games...digital games have evolved into audiovisually impressive, three-dimensional and stereophonic worlds that surround their players in a very comprehensive manner. Large screens close to player’s face and powerful sounds easily overpower the sensory information coming from the real world, and the player becomes entirely focused on the game world and its stimuli.(Ermi & Mäyrä, 2005)
In one sense this type of immersion is the most superficial of the three, as it is not dependent on the cognitive processes of the viewer. In another sense, however this form of immersion is the most technically demanding, as it requires absolute fidelity from the sensory experience in order to be sustained. The appeal of the Holodeck, virtual reality, and some of the more richly designed narrative theme park rides and environments is rooted in the pleasure of being transported to a new world in the most literal of senses. The previous two forms of immersion, most especially Murray’s active belief creation, could then be said to be cheap cognitive attempts at achieving in the viewer’s imagination what this type of immersion instead creates via the senses. However, immersion at this level to some degree could yield exactly the type of dangerous arousal that Murray described as potentially “collapsing the enchanted threshold” of an immersive experience. There has been little real debate about the role of this particular form of immersion in mediated experiences, perhaps because most discussions of it would be purely academic. True sensory immersion in a digital environment requires hardware and software resources that are not readily available to most people. While the fidelity of audio and visual experiences continues to increase, we are still a long way away from having our own Holodeck.

### 3.2.4 Games

Any discussion of Interactive Narrative must be aware of the theory surrounding the nature of games. Game designer and writer Raph Koster conflates games with learning. In his 2005 book *A theory of fun for game design* he describes the brain as a “voracious consumer of patterns”, and games as “exceptionally tasty patterns to eat up.”(Koster, 2005) While this definition is an excellent broad stroke, it doesn’t quite provide enough detail for the purposes of this thesis. For that I turn to two very similar definitions, with a few notable distinctions between them. The first definition comes from Eric Zimmerman, who suggests that games are:

A voluntary interactive activity, in which one or more players follow rules that constrain their behaviour, enacting an artificial conflict that ends in a quantifiable outcome.(E. Zimmerman, 2004)
Zimmerman makes a distinction between games and other less formal ludic activities. The presence of rules which constrain behaviours into a specific structure and the notion of winning or losing are what separate a game of baseball from just throwing a ball back and forth.

Jesper Juull provides a very similar definition for games, derived from a comparative study of seven different definitions of game (including a version of Zimmerman’s).

The classic game model consists of six features that work on three different levels: the level of the game itself, as a set of rules; the level of the player’s relation to the game; and the level of the relation between the activity of playing the game and the rest of the world. According to this model, a game is

1. A rule-based formal system;
2. With variable and quantifiable outcomes;
3. Where different outcomes are assigned different values;
4. Where the player exerts effort in order to influence the outcome;
5. The player feels emotionally attached to the outcome;
6. And the consequences of the activity are optional and negotiable.

The six features of the model are necessary and sufficient for something to be a game, meaning that all games have these six features, and that having these features is enough to constitute a game. (Juull, 2005)

These two models overlap in several places; they both require that a game have rules; they both specify the need for a quantifiable outcome; and they both make a point of separating game activities and conflicts from “real world” activities and conflicts. Zimmerman does this by declaring up-front that games are a voluntary activity, and describes the conflict within as artificial; Juull specifies that the consequences of the activity are optional and negotiable.

In their divergences, a few interesting details emerge. Zimmerman’s definition makes a point of the notion that games are interactive, something that Juull appears to take as a given, but does not explicitly state. Juull instead focuses on the experience of the player, who must exert effort, and be emotionally attached to the outcome. These last two points are especially interesting because they seem like the most easily
contested points of Juull’s definition, until one considers the type of activities that sustain a flow state as described by Csikszentmihalyi. When Juull’s definition is considered as a partial recipe for an activity designed to keep a player in the flow channel, these two points come into focus.

3.3 Specific Analytical Tools

The previous sections looked at the scholarly context in which interactive narrative research takes place, and at some of the key terminology in the discourse of the field. In this section I outline several of the specific tools and frameworks that have been proposed by theorists in the field. Some of these are foundational, and have been accepted into the canon of Interactive Narrative research; some are newer, and propose different perspectives on the domain. All of the frameworks considered in this section are prototypical of the type of contribution I hope to make within this work. For the most part they are limited in scope, but broad in terms of potential interpretation and application, providing useful structures for discussing and analysing different facets of the larger phenomenon of Interactive Storytelling.

3.3.1 Murray’s Core Aesthetic Principles

The three ideas contained in this framework have some overlap with the terminology that was discussed above, and so I will endeavour to not repeat myself as I describe these ideas. These three principles: Agency, Immersion, and Transformation, are among the most fundamental concepts to the field of Interactive Narrative. The impact of Murray’s discussion of them in Hamlet on the Holodeck on the Interactive Storytelling community cannot be underestimated.

3.3.1.1 Agency

Murray defines Agency as the “satisfying power to take meaningful action and see the results of our decisions and choices”. (Murray, 1997) It is around this notion that much of the debate surrounding the relationship between the author and the user of a
system has arisen. In the games and Interactive Narrative communities, agency has been interpreted to mean giving users the power to meaningfully manipulate narrative events without limitation or restriction. This notion might be better described as *unrestricted* or *true agency*. One of the central drives underlying interactive narrative research has been the quest to facilitate *true agency* in a narrative environment, without sacrificing narrative coherence or quality. As a result, the extent to which an interactive narrative facilitates user agency is often one of the primary criteria for evaluating its success or failure. For all that discussion of agency and control has become commonplace in the field, Murray maintained that agency was *not* in conflict with authorial control.

Some have argued (with either elation or horror) that an interactor in a digital story—not just the improvising MUDer, but even the navigating reader of a postmodern hypertext—is the author of the story. This is a misleading assertion. There is a distinction between playing a creative role within an authored environment and having authorship of the environment itself. Certainly interactors can create aspects of digital stories in all these formats, with the greatest degree of creative authorship being over those environments that reflect the least amount of prescripting. But interactors can only act within the possibilities that have been established by the writing and programming.(Murray, 1997)

This suggests that the agency advocated by Murray is a *limited agency*, where the designer defines the parameters in which the user can take meaningful actions. One of the key ideas in the above paragraph is the idea that moving away from *pre-scripted* choices allows a greater degree of creative freedom. This idea has taken root in the applied side of the Interactive Storytelling community, manifesting as systems designed to adapt and respond to user actions dynamically, rather than in a pre-determined way. Systems of this type exhibit qualities that we can label as *emergent*, although many of them continue to rely on *embedded* content. There is an implied relationship between *emergent* systems, and *agency*; *emergent* systems rely on the actions of the player in order to generate an outcome (much like the notion of *cybertext* advocated by Aarseth), and the outcome is a reflection of the desires expressed by the player through her actions, more than it is a reflection of the goals of the author.
3.3.1.2 Immersion

Murray’s ideas of immersion have already been discussed above in section 3.2.3.1. To briefly restate, Murray proposed a reframing of the classic concept of “willing suspension of disbelief” to the “active creation of belief.” In doing this, she framed immersion as a cognitive process that is dependent on the reader’s imagination.

3.3.1.3 Transformation

Transformation is perhaps the least understood of Murray’s aesthetic principles. Of the three, it is the one which she herself is most unclear about, and requires the most effort to untangle. To do this, I turn to Michael Mateas who has identified three distinct meanings of transformation in Murray’s writing.

Transformation is the most problematic of Murray’s three categories. Transformation has at least three distinct meanings.

- Transformation as masquerade. The game experience allows the player to transform themselves into someone else for the duration of the experience.

- Transformation as variety. The game experience offers a multitude of variations on a theme. The player is able to exhaustively explore these variations and thus gain an understanding of the theme.

- Personal transformation. The game experience take the player on a journey of personal transformation.

Transformation as masquerade and variety can be seen as means to effect personal transformation. (Mateas, 2004b)

This locates transformation primarily in the realm of the user, who assumes a mask, explores a multifaceted world, or transforms their identity. I have argued that another component of transformation suggested by Murray, but not encompassed by these three meanings, is the metamorphosis of digital environments in response to the user. (Tanenbaum & Tomizu, 2007) Murray often describes story environments as morphing, or shifting, giving the example of the fictional world created by the Bronte siblings, which grew and transformed to reflect their growth in life. In this case, the transformation of the story world was a mirror for the personal transformation of the
storyteller, but the implication in this metaphor is one which prefigures stories that are able to literally shift and change in response to the reader.

### 3.3.2 Bizzocchi’s Analytical Framework

Jim Bizzocchi’s framework is a newer work, written from a perspective rooted in traditional narratology and film scholarship, but with games in mind. It is a useful tool for discussing the narrative properties of games because it identifies a number of narrative elements that are disconnected from the Aristotelian narrative arc. Bizzocchi argues that the conflicts around games and narrative can be traced to an attachment to this notion of the “Grand Narrative Arc”, proposing instead that narrative in games be understood in terms of these more “modest” phenomena. He describes five of these narrative parameters:

- **storyworld** – what is the environment within which the game unfolds
- **character** – who are the beings that populate the game world
- **emotion** – both the emotions shown by the game characters and those elicited in the player
- **narrative interface** – how are narrative sensibilities instantiated in the appearance and the functionality of the interface design.
- **micro-narrative** – smaller moments of narrative flow and coherence that occur within a broader context of game play.(Bizzocchi, 2007)

These five parameters introduce a useful set of terminology for discussing “non-plot-centric” phenomena in games and interactive narratives. The first three—storyworld, character and emotion—have significant bodies of theory surrounding them. The last two, however—narrative interface and micro-narrative, remain largely unexplored except within Bizzocchi’s own work and that of his students. I return to this model in greater depth in chapter 4.

### 3.3.3 Pearce’s Six Narrative Operators

Game theorist Celia Pearce makes an argument for understanding narrative in games as a fundamentally different phenomenon from narrative in other mediums. “A
game,” she writes, “is most simply described as framework for structured play.” (Pearce, 2004) Within this framework, she identifies six different narrative operators, which exist (or not) in various combinations in games.

*Experiential:* The emergent narrative that develops out of the inherent ‘conflict’ of the game as it is played, as experienced by the players themselves.

*Performative:* The emergent narrative as seen by spectators watching and/or interpreting the game underway.

*Augmentary:* Layers of information, interpretation, backstory, and contextual frameworks around the game that enhance other narrative operators.

*Descriptive:* The retelling of description of game events to third parties, and the culture that emerges out of that.

*Metastory:* A specific narrative “overlay” that creates a context or framework for the game conflict.

*Story System:* A rule-based story system or kit of generic narrative parts that allows the player to create their own narrative content; story systems can exist independent of or in conjunction with a metastory (Pearce, 2004)

Much like Bizzocchi’s framework, Pearce’s operators describe narrative in games as a phenomenon that emerges from the interplay of these smaller parameters, separating it from the reliance on the narrative arc of previous narrative mediums. However, where Bizzocchi’s framework deals primarily with narrative elements that are *embedded* in the artifact of the game, Pearce’s operators deal largely with aspects of the *experience* of the game and the *context* that underlies that experience. At the heart of this is the notion that games are more about the experience of play then they are about the intent of the designer. This is perhaps most apparent when Pearce says, in response to a commentary on her essay:

Games do not ask the player to construct or interpret what the author is trying to ‘tell’ them. Rather they function as a kit of parts that allows the player to construct their own story or variation thereof. (Pearce, 2004)

This claim perhaps best illustrates one of the central disagreements between the ludologist’s point of view and the narratologist’s. Compare this statement by Pearce,
writing from the ludologist’s perspective, to the quote from Janet Murray above in which she defends the role of the author in her discussion of agency. Pearce’s operators provide a useful perspective on narrative in games that emphasises the creative work of the player, even as she attempts to limit the domain over which the author has control. I do not believe these two things to be inherently in conflict with each other, and see Pearce’s system as a useful way of understanding a facet of how narrative operates in games, but not a complete description of the phenomenon.

3.3.4 McCloud’s Closure

Scott McCloud’s 1993 book on the semiotics of the comic book, *Understanding Comics*, provides a number of useful systems for understanding the cognitive processes involved with interpreting visual information. Of these, the one which I will be drawing on most directly is phenomenon that McCloud describes as closure. Closure can be defined as “the phenomenon of observing the parts but perceiving the whole”. [Figure 3-4] (McCloud, 1993)
This process of mentally closing the loop between part and whole can be directly connected with much of the theoretical work described above. For instance, I believe there is a relationship between the imaginative immersion advocated by Janet Murray, and the notion of closure described by McCloud. The process of actively creating belief in an imaginary experience seems compatible with the cognitive process of imagining the entirety of a scene or object based upon partial sensory input. In both cases, the whole experience is constituted in the imagination of the viewer. This also suggests a connection between these two processes—closure and immersion—and the dialectical semiotics of Eco which place the viewer in the position of closing an open work. These three notions also have close ties to the idea of emergent meaning creation.

I propose that it is possible to consider the relationship between these ideas in terms of a continuum. On one side is the process of actively interpreting a media artifact. On the other is the process of subconsciously filling in the gaps of an experience. I describe this distinction as one between explicit interpretation and implicit interpretation.
3.4 Interactive Narrative Forms

In this section I discuss a selection of popular forms of Interactive Narrative. I present three distinct forms—Hypertext, Interactive Fiction, and Video Games—and illustrate my discussion with examples that typify the affordances of each form. At the end of this section I also identify and describe two commonly used “sub-genres” of video game: the “rails” game and the “sandbox” game. These two types of game illustrate the range of possible narrative signification available to game designers, and understanding the characteristics of each is important for understanding how narrative operates in Oblivion.

3.4.1 Hypertext

One of the most important and distinct sub-groups of new media research has been the community that arose with the advent of the hypertext medium. Hypertext works are structures comprised of links and nodes, the navigation of which are at the discretion of the reader. Arguably, the most well known form of early hypertext fiction is the popular “Choose-Your-Own-Adventure” series of children’s books, first published by Bantam Books in 1979. In them, pages constitute the nodes, and instructions on where to turn next act as the links between nodes. Different choices result in the reader experiencing different plot events, which leads to a variety of possible story outcomes.

Modern hypertext fiction (HF) stories, such as Stuart Moulthrop’s Victory Garden (Moulthrop, 1992) are designed to take advantage of hyperlinking in a digital environment. There is the potential for a much more sophisticated network of choices in a digital hypertext, but the core of the medium remains unchanged from its predecessor. While it is possible to author hypertext fiction with just a pen and several sheets of paper, as the narrative grows in complexity the task becomes cumbersome. A number of authoring systems have been developed to assist in tracking and visualizing the links between story nodes. Moulthrop, for instance, uses Jay David Bolter’s hypertext authoring tool Storyspace, which visualizes the “writing space” and allows the
author to reorganize and extend interconnected nodes of text in a graphical environment. (Bolter & Joyce, 1987)

3.4.2 Interactive Fiction

A related, but different, Interactive Narrative form is Interactive Fiction, often abbreviated as IF. Jeremy Douglas, an Interactive Fiction scholar, describes the distinction between the two best when he says: “IF is not hypertext fiction, except of course when it is hypertext fiction.” (Douglass, 2007) He goes on to define Interactive Fiction:

The Interactive Fiction (IF) genre describes text-based narrative experiences in which a person interacts with a computer simulation by typing text phrases (usually commands in the imperative mood) and reading software-generated text responses (usually statements in the second person present tense). (Douglass, 2007)

The most common style of IF is the “text adventure”, the classic example of which is the game Zork (Infocom, 1980). Zork was developed at MIT in the late 1970s and was one of the first text adventure games. Text adventures are more game-like in nature than pure hypertext fiction, often containing puzzles to solve, enemies to defeat, and rewards to earn. Instead of presenting the reader with a selection of hyperlinks to choose from, IF can be characterized by its use of a free form text parser as the primary mode of interaction. Readers and writers of IF compromise a small but loyal community of practice, whose work I cannot properly address in this thesis, but which I hope to give a representative sample of.

On one side of the IF spectrum is Adam Cadre’s Photopia (Cadre, 1998), a piece that more closely resembles a linear novel than an adventure game. In Photopia the reader has a limited freedom to explore the world within scenes, however, point of view and location shift periodically, inexorably steering the reader to the unavoidable conclusion. The reader’s interaction with the system gives her the opportunity to delve more or less deeply into the details of the story, but it does not meaningfully alter the trajectory of the plot.
On the other side of the spectrum is Emily Short’s *Galatea* (Short, 2000), which uses the mechanism of IF to simulate a conversation with an animate statue. Unlike *Photopia*, *Galatea* has no clear narrative arc and has a number of possible endings. Interaction within *Galatea* may elicit different moods or reactions from the statue, which close off other avenues, and ultimately it is left to the reader to construct narrative meaning. In this sense, *Galatea* represents one of the few cases of IF supporting an emergent narrative experience, by sharing the *creativity cost* with the reader. This is the exception, rather than the rule.

In between these two extremes is *Savoir-Faire* (Short, 2002), also by Emily Short. *Savoir-Faire* has strong puzzle elements, which are often difficult to separate from the equally strong story components, and in many ways exemplifies the current state of the medium. It won four of the eight Xyzzy awards¹¹ which it was nominated for in 2002, including Best Game, Best Story, and Best Puzzles. *Savoir-Faire* contains many of the standard elements of IF, including a scoring system that rewards the reader for successful achievements, an inventory of items that the reader may combine in various ways, an environment containing puzzles to solve in order to score points, and a wide array of text commands to be discovered, combined and recombined over the course of the story. In a recent interview, Emily Short described *Savoir-Faire* as “a good-faith attempt to make a game that’s fun in the same way that many of the old classics were fun”. (Short & Munroe, 2007)

### 3.4.3 Video Games

Many games use the same techniques as IF and HF as part of their narrative design. There are games that branch, similarly to hypertext fiction, and games which involve puzzle solving and inventory management approaches that are very similar to interactive fiction. As I have already presented several definitions of *games* in the

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¹¹ The Xyzzy awards are a popular-choice award given out in the IF community. They are organized by Eileen Mullin of Xyzzy News, an “online magazine for interactive fiction enthusiasts”. (Mullin, 2007)
above sections, I will not reiterate them here. Instead, I will use this section to take a closer look as some of the ways that narrative, play, and meaning operate in games.

While many games may bear many functional resemblances to the two above mentioned systems they have several unique properties that govern how narrative meaning emerges from them. Two important properties that distinguish many videogames from IF and HF are the presence of rich graphical environments and the ability for real-time interaction. The inclusion of these two elements has several consequences to the experience.

The first consequence comes from the inclusion of rich graphics and visuals in games. These give designers the ability to more precisely specify aspects of the narrative; elements of the story which would be open to interpretation in a textual medium. Games are capable of remarkable feats of aesthetic beauty, but they are highly specific feats, similar to those achieved in film. By remediating these cinematic narrative techniques, games distinguish themselves from their textual forebears by changing the relationship between the reader and the story. The reader is no longer free to imagine the main character or the main villain however she sees fit. Instead, the reader relies on the aesthetic decisions made by the art department of the game. This makes narrative meaning more denotational in games.

The second consequence comes from the potential of modern games to shift the reader (or player) into a purely passive-responsive state where she is reacting to events, rather than initiating them. This emerges from an aspect of games that has been referred to as “cinema envy” by Eric Zimmerman and Henry Jenkins (Wardrip-Fruin & Harrigan, 2004); the tendency of many games to want to emulate the techniques of film and theatre in order to tell stories. Most Interactive Fiction scenarios, by comparison, are turn-based; their worlds are entirely inert until the reader acts upon them. Hypertext allows for moments of reader intervention at the seams of the narrative experience. In a real-time game, however, it is possible to incorporate elements of the cinema into the environment; events may play out with no reader intervention whatsoever and interaction may be exchanged for passive reception.
The third consequence is also a complication that comes with real-time interactivity. It is here that the issue of ludic play rears its head, introducing a whole new set of motivating factors to the experience. Ludic play changes the relationship between the reader and the text: readers are no longer just “readers trying to experience the story”—they are “players trying to win the game”\textsuperscript{12}. What this means is that reader choices are no longer being made for purely narrative reasons, even if these choices have repercussions on how the story plays out. This changes the semiotics of narrative meaning in games, often in unpredictable ways. For instance, in a game where the player has the choice of killing another character or not, there are conflicting incentives at work that will influence her behaviour. Perhaps the potential victim is the beloved daughter of the character that the player is controlling. Or perhaps the potential victim is a hated member of a rival street gang. These are narrative incentives that could influence player behaviour one way or the other. Now what if the player received a “power-up” whenever she killed another character, regardless of any narrative relationship? This provides a behaviour incentive that is purely ludic, and that could be potentially in conflict with the narrative incentives discussed above. This possible conflict between ludic choices and narrative choices directly affects how narrative meaning emerges from games. This is true whenever these conflicting goals share one space, and is present even in the most linear of game narratives.

3.4.3.1 “Rails” Games

One common narrative technique used in games is the “rails” technique, as exemplified in games like Half-Life (Valve Software, 1998), and Bioshock (2K Games, 2007). Rails games are named for their resemblance to automated real-world attractions, such as those found at amusement parks. The amusement park attraction metaphor is particularly appropriate for these types of games because of two things that successful amusement park rides do very well. First, they create and support the

\textsuperscript{12} I will explore the implications of ludic motivations in greater depth in chapter 4, in my discussion of performativity.
illusion that the ride is a free rather than a tightly controlled environment. Second, they rely on this controlled environment to consistently deliver the same experience to each participant. In a rails game these two elements correspond to these two contradictory aims: the illusion of narrative agency for the player and the maintenance of narrative coherence within the game system. As Henry Jenkins points out:

The most significant difference [between amusement park rides and games] is that amusement park designers count on visitors keeping their hands and arms in the car at all times and thus have a greater control in shaping our total experience, whereas game designers have to develop worlds where we can touch, grab, and fling things about at will. (Jenkins, 2004)

Rails games, much like amusement park rides, can only sustain their illusions if the player stays on the track, and so they are designed to prevent the player from straying. The resulting experience is carefully crafted to deliver a specific authored narrative to the player, allowing her agency over only strategic play elements, but no control over the ultimate outcome. In other words, rails games allow the player a wide range of ludic choices and a narrow range of narrative choices. This type of “automated storytelling” is common because it allows the game designer to tightly control the narrative experience, but there is a danger of making the player feel “railroaded” into situations that she has been told she has agency over, that she actually does not.

Perhaps one of the most subversive variants on the rails game is the recent game Portal (Valve Software, 2007). In Portal, the game starts as an explicit series of trials that the player must undergo: there is no attempt to disguise the fact that the player is following a carefully crafted path. However, at the midpoint of the game the player “escapes” from the rails and proceeds to make her way through the “backstage areas” of the metaphorical amusement park ride. The narrative is one of resisting authority and of surviving by subverting the system. As a result, the illusion that the

13 Chris Crawford has described one category of this type of agency limitation as “Kill ’em if they stray.” (Crawford, 2003)
game is not a tightly controlled environment is sustained, even though there is no real narrative choice available to the player; simply the imperative “move forward, or die.” This is a very successful game narrative even when it is game narrative at its most limiting.

3.4.3.2 “Sandbox” Games

A second type of narrative game which this thesis considers is the Sandbox style of game, also called “open world games”. The term “sandbox” game comes from the open-ended and non-linear nature of the virtual play space, in which players are free to explore with very few external structures or constraints imposed on them. In this sense it resembles the type of freeform creative/destructive play that is afforded by a child’s sandbox. The milestone game that put this genre on the map was Rockstar Games’ *Grand Theft Auto III (GTAIII)* (Rockstar North, 2001). *GTAIII* places characters in a rich urban setting with an open ended set of activities available to them, most of them criminal in nature. Players may elect to follow more structured micro-narratives in the form of missions as they play the game, and over time these missions combine to tell a story, however the central goal of the experience is to explore the environment. The story is linear, completely embedded, and optional. As an interactive narrative, the interesting aspects of Sandbox games lie not in these authored plots, but instead in the ways that players use the game to tell themselves stories as they play within it.
4: ANALYTICAL LENSES

In the previous chapter I have discussed the theoretical structures and ideas that have played a significant role in how I construct my own understanding of the field of Interactive Narrative research. In this chapter I consider three additional different areas of concern and interest to the field. These areas, when unpacked and considered from several angles, yield new analytical lenses for evaluating digitally mediated narrative experiences. The three topics are:

**Believability** – What is believability? How do we design believable characters and stories?

**Adaptivity** – How can digital narratives be more adaptive and adaptable? What elements of narrative lend themselves to parameterization?

**Performativity** – What does it mean to perform in an Interactive Narrative? How can ideas from human-to-human performance theory be applied to Interactive Narratives?

It is my hope that in exploring these questions this thesis will provide an entry point for discussions of theoretical structures that support a deeper understanding of digital narratives. Both Believability and Performativity have received some relevant attention from the field, and so I will be proposing extensions of these ideas. Adaptivity is a notion taken from user modeling and hypermedia studies. I will be looking at ways in which techniques from these fields can be used in Interactive Narrative research.

4.1 **Believability**

Believability is an idea that starts simple and quickly opens up into complex philosophical territory. In this section I would like to consider two questions:

(1) What does it mean to say that we believe in something?

(2) How do we design characters or storyworlds that are believable?
I do not consider these two questions to be wholly answerable in this work, but I hope to provide a useful perspective for considering them. Before I begin this discussion I will take a brief look at how believability has been treated in scholarly work in Interactive Narrative and games. One of the areas where much research into believability has taken place is in artificial intelligence.

4.1.1 Believability in AI and Interactive Narrative Research

AI research into believability often focuses on issues surrounding “believable characters” or “intelligent agents”. In these cases, believability is often framed as a problem of “seeming human” to a human observer. One of the most well known measures of computational “intelligence” is the “Turing Test”, proposed by Alan Turing in 1950.

The Turing test usually takes the form where an interrogator in one room uses a computer terminal to play a game of question and answer with two subjects who are located in another room. One of the subjects is human while the other is a machine; the task of the interrogator is to determine which is which. If the interrogator is unable to tell, then the machine must be considered intelligent. (Livingstone, 2006)

Daniel Livingstone, in discussing the applicability of the Turing test to the problem of creating believable game characters, points out that AI characters in games do not need to pass as human so much as act like “an intelligent character or creature within the game world.” (Livingstone, 2006) Livingstone proposes a set of behaviour criteria for AI believability based on a series of studies in which players were asked to rank the behaviour of various AI characters as more or less believable in a number of game types. He divides these behaviours into three types: planning, acting, and reacting. [Table 4-1]
Table 4-1 - The PAR AI Believability Criteria (Livingstone, 2006)

<table>
<thead>
<tr>
<th>AI should...</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Plan</strong></td>
<td></td>
</tr>
<tr>
<td>(1.1) demonstrate</td>
<td>some degree of strategic/tactical planning</td>
</tr>
<tr>
<td>(1.2) be able to</td>
<td>coordinate actions with player/other AI</td>
</tr>
<tr>
<td>(1.3) not repeatedly</td>
<td>attempt a previous, failed, plan or action</td>
</tr>
<tr>
<td><strong>Act</strong></td>
<td></td>
</tr>
<tr>
<td>(2.1) act with</td>
<td>human-like reaction times and abilities</td>
</tr>
<tr>
<td><strong>React</strong></td>
<td></td>
</tr>
<tr>
<td>(3.1) react to</td>
<td>players’ presence and actions appropriately</td>
</tr>
<tr>
<td>(3.2) react to</td>
<td>changes in their local environment</td>
</tr>
<tr>
<td>(3.3) react to</td>
<td>presence of foes and allies</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Notable exceptions:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Might not apply</td>
<td>where design/plot calls for impulsive or stupid characters, nor for animals</td>
</tr>
<tr>
<td>2 Might not apply</td>
<td>where design/plot calls for characters with significantly superior or inferior abilities</td>
</tr>
<tr>
<td>3 Might not apply</td>
<td>where game-design/plot call for characters with limited awareness</td>
</tr>
</tbody>
</table>

Livingstone’s chart describes one level of believable behaviour that we might expect from characters in games, but it does not address either of the two questions of believability that I am interested in here. His three categories amount to a description of desired character behaviours, but not an explanation of why or how those behaviours should work. Livingstone’s chart is best suited for programming AI opponents in an action or strategy game, or for designing simple supporting characters in a storyworld; however it provides only a first step in creating believable characters for more sophisticated narrative purposes. For an approach that is more tailored to Interactive Narrative, I turn to Michael Mateas. He provides the following definition of believability:

> For many people, the phrase believable agent conjures up some notion of an agent that tells the truth, or an agent you can trust. But this is not what is meant at all. Believable is a term coming from the character arts. A believable character is one who seems lifelike, whose actions make sense, who allows you to suspend disbelief. This is not the same thing as realism. For example, Bugs Bunny is a believable character, but not a realistic character. (Mateas, 1997)

Mateas’s definition is closer to getting at the core of what it means to say something is believable than Livingstone’s Turing-test-based approach. He outlines a
set of six criteria developed during the CMU Oz Project for character believability [Table 4-2] which are much more relevant to the needs of Interactive Narrative designers and theorists then the PAR criteria described by Livingstone.

Table 4-2 - The Oz Project's Believability Criteria (Mateas, 1997)

<table>
<thead>
<tr>
<th>Personality</th>
<th>Rich personality should infuse everything that a character does, from the way they talk and move to the way they think. What makes characters interesting are their unique ways doing things. Personality is about the unique and specific, not the general.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-motivation</td>
<td>Characters don’t just react to the activity of others. They have their own internal drives and desires which they pursue whether or not others are interacting with them.</td>
</tr>
<tr>
<td>Emotion</td>
<td>Characters exhibit their own emotions and respond to the emotions of others in personality-specific ways.</td>
</tr>
<tr>
<td>Change</td>
<td>Characters grow and change with time, in a manner consistent with their personality.</td>
</tr>
<tr>
<td>Social relationships</td>
<td>Characters engage in detailed interactions with others in a manner consistent with their relationship. In turn, these relationships change as a result of the interaction.</td>
</tr>
<tr>
<td>Illusion of life</td>
<td>This is a collection of requirements such as: pursuing multiple, simultaneous goals and actions, having broad capabilities (e.g. movement, perception, memory, language), and reacting quickly to stimuli in the environment. Traditional character artists do not mention these requirements explicitly, because they often get them for free (from a human actor, or as a deep assumption in animation). But builders of interactive characters must concern themselves explicitly with building agent architectures that support these requirements.</td>
</tr>
</tbody>
</table>

Mateas’s model treats believability as a property of the character itself. While this is clearly an aspect of believability, it does not fully encompass the phenomenon as a whole. The criteria laid out by Mateas constitute the minimum necessary capabilities of an intelligent agent in order to be considered a believable character, however these capabilities are mostly concerned with making certain the character does not do anything to break the “illusion of life”. However, as Mateas points out, believability is not always about making a character “realistic”, so solving the believability problem is not just about making characters act more like real people. Certainly, within novels and films there are many examples of characters that are believable within the context of the narrative, even when their actions and circumstances are a far-cry from any actions or circumstances which we can imagine in the “real world”. For example, dialog within
much film and theatre follows a set of narrative conventions that make it “unrealistic” in comparison to an actual conversation between people, with its fits and starts and overlaps. So how do we perceive and experience these things as “believable” even though they do not conform to our perception and experience of the world?

4.1.2 Believability and Expectations

In order to look at believability as an experienced phenomenon rather than an encoded phenomenon, we must look at work that draws upon human psychology and cognition. I first encountered this perspective within the work of Interactive Narrative theorist Brian Magerko. Magerko begins his argument by suggesting that in order to understand and evaluate believability, it is necessary to first understand it as a phenomenon that is experienced or perceived by an observer, rather than a set of behaviours performed by a character.

It has proven difficult to clearly define what this term ‘believability’ truly means when discussing (and more importantly comparing and contrasting) character behaviours. ‘Believability’ too often refers to the specific kinds of behaviours a particular agent has rather than a more general metric that is extrinsic of a particular approach and focuses on an observer’s perception of that behavior. (Magerko, 2007)

Taking this change in perspective as a starting point, Magerko goes on to describe a different approach to measuring dramatic believability and proposes that believability be deconstructed into two different components: “a) the user’s expectation of a performance and, b) the fulfilment of that expectation.” (Magerko, 2007) He separates the user’s expectations into two distinct types: internal expectations, which are the promises made by the fictional world, and external expectations, which arise out of the world knowledge that the reader brings to the experience. (Magerko, 2007)

Magerko is not alone in describing this phenomenon; in 2006 Elena Pasquinelli presented a poster at the Enactive conference entitled The role of expectations in the believability of mediated interactions. (Pasquinelli, 2006) In this paper, Pasquinelli defines believability in the following way:
The notion of believability in mediated conditions can be characterized as a judgment regarding the plausibility of a certain mediated experience, the judgment being positive when the experience respects the expectations of the subject which are activated by the contents and context of the experience itself. (Pasquinelli, 2006)

This idea of the context and the contents of the experience “activating the expectations of the subject” is similar to Magerko’s concept of internal versus external expectations. Pasquinelli describes the mirror of this phenomenon in terms of “suspension of disbelief” when she discusses how mediated experiences intentionally deactivate user expectations in order to create more believable experiences. (Pasquinelli, 2006)

Psychology has long known the importance of expectations, not only to our capacity to believe in mediated experiences, but also to our overall perception of the world. In 1949 Brunner and Postman published an article entitled On the Perception of Incongruity: A Paradigm, in which they write:

The organism in perception is in one way or another in a state of expectancy about the environment. It is a truism worth repeating that the perceptual effect of a stimulus is necessarily dependent upon the set or expectancy of the organism. And so, in many situations the student of perception must also specify the expectancies of the organism when exposed to stimulation. (Bruner & Postman, 1949)

For the sake of argument, let us assume that this is indeed the case, and that states of expectancy do indeed shade our perceptions of reality. This phenomenon, then, provides at least a partial accounting for the relationship between mediated belief and expectations. To further explicate this relationship I turn to the work of Marsella and Gratch, who have done extensive work on the creation of virtual humans for simulations and games. They propose two related psychological mechanisms that help “mediate between stimuli and response” in humans. (Marsella & Gratch, 2003) The first is the process of appraisal, which is the “process by which a person assesses their overall relationship with its environment, including not only their current condition but past events that led to this state as well as future prospects.” (Marsella & Gratch, 2003) The second is the process of coping, which “determines how one responds to the
appraised significance of events.” (Marsella & Gratch, 2003) While Marsella and Gratch are primarily interested in modeling these cognitive processes in order to simulate them in virtual characters, they are rooted in actual models of human cognition that bear a striking resemblance to the treatment of expectations discussed above. I contend that it is possible to understand the process of appraisal and coping as being one in which the individual initially formulates a set of expectations and then responds (copes) based upon those expectations. This coincides with the example given by Marsella and Gratch:

People are motivated to respond to events differently depending on how they are appraised. For example, events appraised as undesirable but controllable motivate people to develop and execute plans to reverse these circumstances. On the other hand, events appraised as uncontrollable lead people towards escapism or resignation. (Marsella & Gratch, 2003)

In other words, the beliefs people have about a situation will influence their response to the situation. What all of these examples point toward is an understanding of the phenomenon of believability as one which is deeply grounded in the context of an encounter with a media object: in order to understand what a reader is going to find believable, it is necessary to take into account how she has appraised the situation, what her expectations are, and the extent to which the experience is able to deactivate unwanted expectations while activating desired expectations. This relationship between believability, expectations, appraisal, and response bears a close resemblance to what Masahiro Mori described as the Uncanny Valley. [Figure 4-1]

Initially described by Mori in 1970, the Uncanny Valley was originally framed to describe a phenomenon in robotics, but has since proven useful to any situation where it is desirable to represent a human figure. Mori describes a “valley of familiarity” which occurs when a robot or toy grows close enough in appearance to a living healthy person that the elements that fall short of humanness result in an uncanny “negative familiarity”. One example he gives is of a prosthetic hand which visually appears very realistic, but which reveals its mechanical nature when shook, creating an unsettling inversion of familiarity. (Mori, 1970)
As a character comes closer and closer to a real living human in appearance and behavior, it elevates our expectations. Rather than viewing it as an automaton, or an animated figure, we find ourselves wanting to view it as a human. The resulting dissonance between the almost-human character and our expectations of a real human results in a less-believable experience of the character; we have fallen into the Uncanny Valley. One question that remains unanswered is whether this same idea can be applied to the believability of a game world or to specific interactions within a game. As the representation of reality becomes more and more realistic, the more it invites comparison to our actual experience of reality.

4.1.3 What is Believability?

Having surveyed a number of theories of believability, questions still remain about the nature of believable characters. Is a believable character one which passes a Turing test? Is it one which satisfies our expectations? Is it one which seems to be alive? Is it one which does not generate negative familiarity? Belief is clearly a multi-dimensional concept, and as such, requires multiple dimensions to evaluate. The first
question that this thesis asks is: “What does it mean to say that we believe in something?” To answer this, I suggest that the phenomenon of believability can be decomposed into three distinct linguistic meanings.

1. Believability is *ontological*.
2. Believability is *prescriptive*.
3. Believability is *evaluative*.

The *ontological* form of believability deals with the existence of the subject about which the belief is held. For instance, when I say “I believe in truth” I am asserting something about the ontological condition of the phenomenon of truth. At the most basic level, believability requires that we ascribe the property of *being* to something, in order to construct a set of expectations about it. This is not to say that belief requires concrete, material, instantiation in the world—abstract concepts are just as readily believed in—but at this level, believability deals with the belief that such things do or do not exist.

The second type, *prescriptive* believability, is the aspect of believability that has to do with the desires of the speaker. When I say “I believe that everyone should tell the truth” I am speaking prescriptively. I assert something about how I think the world should be. At this level of believability, the speaker takes an internal expectation and applies it to the external world.

The third type of believability, *evaluative* believability, is the aspect of believability by which a person assesses the nature of the world. At this level of believability, I would say “I believe you are telling me the truth.” This is the level of believability where the speaker takes an external condition and adapts her internal expectations to it.

These three meanings of believability allow us to discuss what it means when we say we believe something, such as a character or a story. They also interconnect in such a way as to more fully describe any belief: it is unlikely that something that satisfies one of these criteria for believability doesn’t also satisfy at least one other. Many complex
beliefs are actually combinations of these three meanings. When I say “I don’t believe that Frodo would actually keep the ring for himself” I am making an evaluative claim about Frodo’s personality, I am making a prescriptive judgement about his decision to not get rid of the ring, and at some level I am ascribing a level of ontological realness to the entire situation, otherwise, I would be unable to hold any meaningful beliefs about it at all. It is also possible to see in this example how my lack of belief in the situation is informed by a Frodo’s failure to satisfy my expectations, by acting in a way that appears out of character for him.

These three meanings of believability can also be used to describe the cognitive processes measured by the classic Turing test. In a Turing test, the interrogator must make a decision about two participants. In applying this model to the Turing test, any evaluation of its humanness (i.e. “I believe this entity is a human”) should align with any prescribed feelings about how a human should act (i.e. “I believe humans should behave in this way.”).

The mapping between this three part model and the CMU Oz criteria for believability is less clear. This is because this model provides the means to discuss belief as a phenomenon, but does not directly connect to the design issues involved in creating believable characters and stories. This brings us to the second question I posed at the beginning of this section: how do we design characters or storyworlds that are believable? In order to extend this model into the practical realm of design, I propose three associated dimensions or parameters that extend the initial model above: realness, role, and consistency. [Table 4-3]

### Table 4-3 - Three Meanings of Believability

<table>
<thead>
<tr>
<th>Belief is...</th>
<th>Believable things have...</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ontological</td>
<td>Realness</td>
</tr>
<tr>
<td>Prescriptive</td>
<td>Role</td>
</tr>
<tr>
<td>Evaluative</td>
<td>Consistency</td>
</tr>
</tbody>
</table>

For ease of writing, I will be discussing these three dimensions in terms of character believability but they might also be applied to storyworld and plot
believability. These three new dimensions each correspond to one of the aspects from the initial model.

4.1.3.1 Realness

Realness is the dimension which deals with the materiality and functionality of the character. It corresponds to the ontological aspect of believability. I subdivide this dimension into three aspects: material, temporal, and conceptual.

Material Realness

The first aspect of a character’s realness is its material realness. It is within this dimension that we can discuss the impact of medium on the nature of the character as an entity. In textual media, realness is a relatively one-dimensional concern; the character exists as encoded on the page and as envisioned by the reader. Film and theatre extend the character’s realness because there is an actor mediating the reader’s encounter with the character. A character, acted, becomes physically embodied in the world. The character takes on a new level of life: becomes able to take actions that are no longer entirely in the control of character’s initial creator\textsuperscript{14}, and must share a physical identity with the person performing the character. Digital media introduces new dimensions to a character’s realness because the character can be encoded in a set of procedures and processes. While an author of a digital character controls the parameters of the character’s behaviour, the specifics of the character’s “performance” emerge from the interplay of those parameters and algorithms with other phenomena, such as players, other characters, and the environment.

Temporal Realness

The second aspect of a character’s realness is its temporal realness. This aspect deals with the existence of the character in time. Characters have an interesting

\textsuperscript{14} Character authorship in film and theater is a fuzzy area, since scripts pass through numerous hands, and character decisions can be influenced by directors, producers, and writers. It could be argued that the “creator” of a character in film and theater is the final actor, who performs as the character, but in film even this level of finality is negotiable, as there is an editing and post-production process.
relationship to time, because they exist as both continuous and discrete entities. In their continuous guise, a character might endure through the ages, across multiple retellings of his stories and many remediations of the source material. Take the character of King Arthur, who has been represented in poem, song, book, film, and game for hundreds of years. King Arthur as a character has been sustained as a continuous phenomenon in western cultures far beyond any specific reading or any one work. However, when you sit down to read a story about King Arthur, the character you read about is discrete: he is Arthur as a child, or as a young king, or as an old man. Depending on the historical era in which the story was written, you will get very different versions of Arthur, ranging from a 5th century Romano-British leader fighting the Saxons, to the romantic King as portrayed by Chrétien de Troyes in the 12th century, to the 15th century Le Morte d’Arthur of Thomas Malory, up to the 19th century retellings of the story such as Mark Twain’s A Connecticut Yankee in King Arthur’s Court. More recent variations abound, each one presenting a particular historical context and perspective on the character.

King Arthur’s *temporal realness* encompasses both the continuous phenomenon of Arthur as an epic character, and the discrete instantiation of Arthur in a given moment as he is being read. Any character may be conceptualized as having these two aspects of temporal realness, one of which is the character as a complete entity (Harry Potter is a wizard at Hogwarts), and one of which is the character in the moment of reading (when beginning the first Harry Potter book, Harry is a 10 year old boy with an unhappy home life). This dimension of a character’s realness also encompasses the notions of “backstory” or personal history and destiny. If you understand the continuous nature of the character arc, it places the discrete moment within a historical context. This establishes precedent against which to evaluate character behaviour while also foreshadowing a set of future outcomes for the character.

**Conceptual Realness**

Thirdly, characters have a dimension of realness that is purely *conceptual*. This is the character as he exists in the imagination. To believe in the conceptual realness of
the character is to give him life beyond the boundaries of the work. To return to our previous example, the character of King Arthur represents a set of values and ideals that are greater collectively than any individual representation of Arthur. Arthur as an entity is the sum of all tellings of King Arthur as a specific character. Any character may have conceptual realness, not just characters of King Arthur’s scope. We can say that a character has a conceptual presence whenever imagined, referenced, or invoked by the reader, or even by other characters. The character of Godot in Samuel Beckett’s Waiting for Godot has a conceptual realness even though he has neither material nor temporal presence in the play or on the page. The lack of Godot’s presence in the work, aside from the references made to him by the other characters, does not detract from his realness as an entity within the world of the play and the mind of the reader.

4.1.3.2 Role

The Role of a character corresponds to the prescriptive dimension of believability. This is the aspect of believability that deals with elements of the character’s identity that are extrinsic to the details of the character’s personality and emotions. Role can be divided into three components: Functional Role, Reader Role, and Social Role.

Functional Role

The functional role of a character is the dimension which deals with the character as a component of a system. This might be a literal system, as is the case of a character in a computer game, or it might be a narrative system. Often characters in games and narrative perform multiple and occasionally conflicting functional roles. Propp describes characters in folklore in terms of their narrative function; some were heroes, others villains, others magical helpers or agents. Gods and characters throughout mythology have been classified in terms of their function within a pantheon or mythic cycle. Apollo was the god of the sun, Athena the goddess of wisdom, and so forth. For any given function, there is a set of expectations as to how the character should perform: the god of war is quick to anger, solves problems through violence, and
is difficult to reason with. In film studies there is a concept known as the “stock character”. These are character stereotypes that reoccur so frequently that they become iconic in nature. These stock characters—the hero, the villain, the love interest, the best friend, and many more—are an example of possible functional roles which characters are commonly cast into. In a horror film the stock character of the “best friend” often fulfils the narrative function of “dying so that the hero might live” (often at the hands of angry zombies). In this sense, the stock character is fulfilling the demands of his narrative role. If we accept the notion that believability is a function of how well a character satisfies observer expectations, then functional role becomes one of parameters around which we can construct our expectations of character behaviour. By manipulating functional role, we can likewise manipulate the observer’s expectations.

**Reader Role**

The reader role is the dimension of believability that deals with the extent to which a reader or player projects their own identity onto the character or assumes an aspect of the character identity for themselves. In a novel the reader is often invited to imagine herself in the position of the main characters. One of the measures of a compelling character in literature is the extent to which the reader can sympathize—or identify—with the character. In games and digital media it becomes possible to take on the role of a character more literally. When the player is controlling the actions of the main character both player and character roles change. This situation raises some interesting questions about the identity of the character, and the extent to which these characters can be said to be believable. For example, consider the character of Gordon Freeman in the game Half-Life. A prototypical rails game, Half-Life was a highly influential first-person-shooter game from the late 1990s in which the player controls the character of scientist Gordon Freeman. In Half-Life the player sees through the character’s eyes and moves through the environments as Freeman. When the player encounters other scientists they cheerfully greet the character by name: “Good morning Gordon.” The narrative of the game clearly wants to treat the player and the character
as a single entity in most circumstances. Occasionally, however, the player encounters sections of embedded narrative content—cutscenes—where Freeman is temporarily acting independent of player control.

When I take control of Gordon Freeman am I merely a player manipulating an avatar? Am I myself taking on the identity of a character, becoming more “Gordon-like” as I play? Is there a Gordon Freeman character who is becoming more “me-like” through my intervention? When shifting between interactive sections of the game and cutscenes, how does the identity of Freeman change? These are questions that arise out of the dimension of reader role, and the answers change from player to player and from game to game.

Social Role

The final dimension in this section is the social role of the character. This is the dimension of character believability that deals with the contextual expectations of a character’s behaviour in a social system. Characters in stories, regardless of medium, are subject to at least two sets of social conventions: the conventions of the fictional world and the conventions of the reader’s world. If the story is well told then the conventions of the fictional world can supersede the conventions of the reader’s world. It is insufficient to say that a character that behaves according to social conventions is believable and that a character that does not is not. This would discount any characters like Romeo and Juliet, whose defiance of the social conventions surrounding them is the central point of the story. It would also eliminate villains and other antagonists from being believable. Instead, it is necessary to think of the character’s social role, not as following the rules prescribed by social expectations, but instead as having a clearly defined relationship with those expectations. That relationship might well be “revolutionary iconoclast anarchist”, but it is at least connected to the social expectations. A character taking on a contradictory social role often reifies the conventions that he is acting against.
4.1.3.3 Consistency

The dimension of **Consistency** corresponds to the *evaluative* aspect of believability. This dimension deals with intrinsic properties of the character’s identity. There is also a connection between the notion of consistency and the notion of causality. Causality is the concept that events and actions arise out of the context preceding them, and is often conflated with consistency. I divide consistency into three subcategories: **Consistency of Emotions, Consistency of Personality, and Consistency of Growth.**

**Consistency of Emotions**

The first of these three sub-dimensions is *consistency of emotions*. This is the dimension of character believability that deals with the emotional life of the character. Emotions have been the subject of research in AI and Interactive Narrative for many years, and a number of models have been developed to simulate emotions as a process for believable characters. (Aylett et al., 2006; Gratch & Marsella, 2004; Marsella & Gratch, 2003; Picard, 1997; Pizzi & Cavazza, 2007; Reilly & Bates, 1993; Seif El-Nasr, Yen, & Ioerger, 2000; Swartout et al., 2006) Providing the viewer with access to a character’s emotional state is an ongoing challenge across narrative mediums. Emotion can be more readily communicated in some mediums than in others: literature allows for a relatively transparent window into the emotions of characters whereas communicating emotion visually is a fine art among filmmakers, animators and illustrators. Human actors spend years learning how to communicate emotions through vocal inflection, facial features, and body language. Filmmakers have developed storytelling conventions that allow them to evoke different emotions through different uses of light, composition, and focus, and through affective musical scoring.

As readers we evaluate the emotional life of the characters we encounter through both diegetic and nondiegetic\(^\text{15}\) information that the narrative is

\(^{15}\) These two terms are common in film studies. Diegetic material is that which occurs within the context of the narrative, whereas non-diegetic material occurs outside of the narrative context.
communicating to us. We get glimpses of character emotion through the actions the character takes; we are told by characters how they feel; and we also receive insight into the minds of characters via narration or a first-person point of view.

Across all of these media, emotional expression relies on the emotions causally arising from the context in which the character exists. There are many factors that might affect this context, including the past experiences of the character, her relationship with her environment or with other characters, her goals and desires, and her expectations and beliefs. Modeling and representing this complex and contingent system is a difficult task for programmers and animators that requires both solid conceptual models of emotions as they exist in a character’s “mind” and a clear understanding of how to communicate those models to observers. In order for the viewer to believe in the veracity of these emotions, they cannot appear unmotivated or shallow. Should they fail to arise naturally out of the character’s circumstances, it is likely that the behaviour of the character will be considered unbelievable.

**Consistency of Personality**

The second component of consistency is a character’s *personality*. This is the dimension of believability that is concerned with the specific personal details of the character. Personality is a multi-dimensional phenomenon in its own right, much like emotion. A character’s personality might arise from many things, including her likes and dislikes, morals and values, history and background, and quirks and flaws. Unlike emotions which can change and shift over short periods of time, personality is generally a stable phenomenon. Personality might change subtly over a long period of time, but for most characters, personality is a fixed aspect of their behaviour.

Personality is the most self-evident of the dimensions of consistency and believability discussed in this paper: once a character’s personality has been established for the reader, there are a certain set of expectations that will be unsatisfied should the character behave against personality type. Often stock characters also exhibit stock personalities. The best friend who sacrificed himself in our zombie movie example
might have a stock personality, be it the “plucky comic relief” or the “hard boiled cynic” or any one of many simplified personality templates that have been recycled in narratives for centuries. Mixing and matching stock personalities with stock character roles is a time honoured technique, especially in Hollywood, for creating characters which are immediately understood by the viewer. The notion of stock characters, or stereotypes, has been used in user modeling and adaptive systems research and will be discussed in greater detail in the section on Adaptivity.

Personality may be expressed using a set of techniques similar to those used to communicate emotions. It is also not uncommon for people to use visual signifiers to communicate their personalities or express themselves. These include things such as costume and accessory choices, body modifications, and hair style. Those same cues can be used to quickly communicate something about the personal identity of the character in a broader sense, in the same way that we use appearance as individuals to construct and communicate our identities socially. These signifiers are also useful in expressing a mood or emotion (such as “waking up on the wrong side of the bed” and throwing on a pair of jeans and a t-shirt), but most of the time such visual cues are more expressive of the character’s identity and personality, and less representative of her shifting emotional landscape.

**Consistency of Growth**

Both of the previous dimensions hint at the final dimension of *consistency*: *growth*. *Growth* is the aspect of believability that regulates the shifting of the previous two via the application of causality. This third dimension of *consistency of growth* has some clear overlap with the notion of *temporal realness* described above. In chapter two I discussed the notion of “grand narrative arc” from narratology, used to describe the progression of plot events over time. Much like plots, characters can be said to follow their own narrative arcs over time. In narrative theory, a character that has traversed an arc is said to have *grown* over time. Growth in this sense is often represented as permanent changes to character personality and temporary changes to emotional state. A clichéd example of character growth is that of Ebenezer Scrooge,
from Dickens’s *A Christmas Carol*. Confronted with visions of Christmas from the past, present, and future, the miserly Scrooge “turns over a new leaf” and learns to embrace the spirit of the holiday season. Scrooge’s arc shows growth from a cynical and isolated personality to an optimistic and giving one. His mood goes from bitter and angry to jubilant and celebratory. When a character fails to grow and learn from his experiences, or grows in a way that seems counter to his personality and emotions, it becomes difficult to believe in the character.

### 4.1.4 A Model of Believability

These three components of believability—*realness, role, and consistency* and their associated sub-dimensions—provide a starting point for answering the second question of this section: “How do we design characters and stories that are believable?” Taken all together these dimensions comprise a model of believability that can be used to begin answering both of the questions asked at the beginning of this section. [Table 4-4]

#### Table 4-4 - A New Model of Believability

<table>
<thead>
<tr>
<th>Belief is...</th>
<th>Believable things have...</th>
<th>Sub – Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Ontological</strong></td>
<td>Realness</td>
<td>Material</td>
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<tr>
<td></td>
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<td>Temporal</td>
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<td></td>
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<td>Conceptual</td>
</tr>
<tr>
<td><strong>Prescriptive</strong></td>
<td>Role</td>
<td>Functional Role</td>
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<td></td>
<td>Reader Role</td>
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<tr>
<td></td>
<td>Social Role</td>
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</tr>
<tr>
<td><strong>Evaluative</strong></td>
<td>Consistency</td>
<td>Emotional</td>
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<tr>
<td></td>
<td>Personality</td>
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<tr>
<td></td>
<td>Growth</td>
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</tbody>
</table>

These modes of believability allow us to ask a variety of interesting questions about any particular character in a narrative experience. These questions can serve as guidelines for design or as criteria for evaluation. For example, let us consider a character from Blizzard software’s popular *Warcraft* series of games: Thrall, Warchief of the Horde.

Thrall is a character who was introduced as a hero in the *Warcraft III* (Blizzard Entertainment, 2002), a real time strategy game in which players manoeuvre small
groups of units from an overhead, third-person perspective, while managing resources and conquering enemy territory or defending against enemy attack. In *Warcraft III* the player alternates between controlling Thrall (and other units) and observing Thrall in cutscenes and cinematics. Over the course of the game the character of Thrall rises from an outcast on the fringes of his people to a revered leader and war hero. Several years after the success of *Warcraft III*, Blizzard released an MMORPG sequel: *World of Warcraft* (WoW) (Blizzard Entertainment, 2004). In WoW, the character of Thrall is an NPC, and is the leader of one of the main factions in the game. Thrall interacts with players by sending them on quests and rewarding them for their heroism. His location is fixed within the heart of the city of Orgrimmar, from which he never strays. Thrall may be attacked and killed by players of opposing factions—a rare but dramatic occurrence—but most of the time he can be found keeping counsel with his various advisors. Thrall has also been featured in many of the books that have been spun off from games, has a presence in the collectible card game version of WoW, and has been made into toys, action figures, and collectible statues.

The Many Faces of Thrall:

[Figure 4-2 - The Many Faces of Thrall]

As a character, Thrall exists across many mediums and modes of experience. We can use the model presented in this section to consider Thrall as a believable character. We do this by asking limited questions about Thrall: How *real* is Thrall? Along what *realness* dimensions does Thrall exist? Is he materially real? What elements of time and history affect what Thrall is? What level of conceptual presence does he have within the fictional world? Does this presence extend into the world of
What is the role that Thrall plays within the narrative? What is the role of the reader/player in interaction with Thrall? What social role does Thrall have in the world of the narrative and in the world of the reader? Finally, how consistent is Thrall? How does he appear to represent emotions? Does he have a consistent and compelling personality? Does Thrall follow the principles of causality and character growth?

So, is Thrall believable? For the sake of clarity let’s evaluate Thrall only as a character in the computer games and for the moment set aside his textual and physical instantiations.

Ontologically speaking, Thrall fulfils most of the criteria of realness that this model measures. His materiality is mainly restricted to representations on the screen and in software, but he has continuous and discrete temporal instantiations that establish a clear history and destiny for the character and he has a conceptual presence in the mythos of the fictional world and in the community that engages with that world on a daily basis. It is in conceptual realness that Thrall shines, most notably in WoW where his history and actions are the subject of many quests and conversations within the world, and where his legendary status is evident in many levels of play, such as the names of items, cities, and quests.

Prescriptively speaking, Thrall is less believable. He fulfils the role of heroic leader in a somewhat minimal way, especially in WoW where he does little more than stand around waiting to be killed. The relationship between the player and Thrall supports belief in the character as an independent but limited entity with few independent goals. Thrall’s social capabilities are limited, but are appropriate to the conventions of his fictional world. There is no opportunity in either game for players to project their identity into the character and assume the role of Thrall: in Warcraft III Thrall is little more than a strategic unit to be manipulated, while in WoW he is simply an animatronic vending machine for quests.

Evaluatively, Thrall is moderately believable. He does not represent a particularly broad set of emotions, but the ones evident in his behaviour are appropriate and
consistent. His personality is likewise consistent with both his role in the game and the demands of the narrative. Finally, Thrall shows growth across *Warcraft III*, but becomes freed from all demands of causal consistency when transposed into the MMORPG of *World of Warcraft*.

Thrall is a reasonably believable character, as far as computer games are concerned, but many of the design choices surrounding him serve to limit this believability. The shift from one game genre to another is particularly problematic for the character of Thrall. *Warcraft III* used Thrall for a single player mode of the game, and the character was actively pursuing goals and engaged in the narrative. The single-player version of Thrall much more closely resembled a character in a novel or film. He exhibited growth, complexity of personality, and some emotional depth. He also fulfilled his role as hero actively. By comparison, Thrall in the multiplayer *WoW* cannot do much more then stand in one place and repeat the same piece of scripted conversation. This is due to the demands of the MMO medium, which requires that all players have the possibility of the same game experience, resulting in a very static experience of certain content. The result is a character that has been reduced to an icon that references the other instantiations of Thrall, rather than a believable living Thrall for players to interact with.

By subjecting Thrall to investigation under this model it becomes possible to discuss not only the aspects of the character which are believable or not, but also where designers can make changes to the character to support greater degrees of believability. One of the singular failings of the Thrall in *WoW* is the static, unresponsive nature of the character.

I make no claim to the completeness of this model of believability. As an analytical lens, this is a first pass at a complex and difficult problem and should be viewed as an initial iteration of the idea that believability be treated as an experiential phenomenon, rather than a quality of a media artifact. In order to extend this general model a number of changes could be made, such as refining each of the current branches down to a greater degree of specificity and granularity. *Temporal Realness*, for
example, might be extended to include *Past, Present, and Future or History, Current Knowledge, and Foreshadowing*. At the moment, the value of this degree of granularity remains an open question, but the possibility points to the potential of the model to gain in nuance and utility with further iterations.

4.2 Adaptivity

The second idea I wish to explore in this chapter is the notion of *adaptivity*. This is an idea that has seen much discussion in the fields of hypermedia and user modeling, but which has received little formal attention in games and interactive narrative. In this section I will explore some of the existing work on adaptivity and will discuss how these ideas fit in with interactive narrative research. I note that much of what is done already within Interactive Narrative incorporates techniques from adaptive hypermedia and user modeling. The vocabulary and the discourse surrounding adaptivity offer Interactive Narrative researchers a new critical perspective for understanding and designing experiences.

4.2.1 Previous work in Adaptivity

Reinhard Oppermann divides the study of flexible systems into two categories: *adaptive systems* and *adaptable systems*. Adaptable systems use “User-Initiated Individualization” to allow users to adapt the system to their needs. Adaptive systems use “System-Initiated Individualization” to adapt to the needs of the user automatically. Additionally, there are “mixed-initiative” systems that attempt to combine these two approaches. Oppermann points out that there is no clear advantage for either approach: *adaptable* systems tend to be difficult to learn and use, while *adaptive* systems suffer from difficulties in determining when adaptation is desirable and when it is not. (Oppermann, 1994) In this section I will be focusing on *adaptive* systems. I will return to the notion of *adaptable* systems in the following section.
4.2.1.1 Adaptive Hypermedia

When Oppermann was writing *Adaptive User Support* in 1994, the two primary uses for adaptive systems was to provide personalized assistance to users learning a system and to personalize the user interface to the needs of each user. With the rise of more rich multimedia technologies, especially in the web, has come a third area of research in adaptive systems: adaptive hypermedia. One of the central theorists of adaptive hypermedia is Peter Brusilovsky.

Adaptive hypermedia is an alternative to the traditional “one-size-fits-all” approach in the development of hypermedia systems. Adaptive hypermedia systems build a model of the goals, preferences and knowledge of each individual user, and use this model throughout the interaction with the user, in order to adapt to the needs of that user. (Brusilovsky, 2001)

Brusilovsky’s approach is known as classical adaptive hypermedia, which grew out of the intersection of hypertext studies and user modeling (Brusilovsky, 2001). Zimmerman, Specht, & Lorenz provide a useful overview of the four main dimensions of his approach:

**Information used for adaptation:** What information about the user is known, and what information can the system use for adaptation?

**Adaptation component:** What aspect of the system adapts to the given information about the user?

**Adaptation goal:** Why does the system adapt this information?

**Adaptation strategy:** What steps are taken to adapt the system to the user, and how active or reactive are the user and the system in the adaptation process? (A. Zimmerman, Specht, & Lorenz, 2005)

These four dimensions are similar to a model of adaptive systems developed by Oppermann. Using the metaphor of a biological organism he identifies three main components of adaptive systems: an *afferential component*, an *inferential component*, and an *efferential component*.

*Afferential Component of Adaptivity.* Adaptive systems observe and record user behaviour and system reactions, in addition to directly executing commands according to their input...
Inferential Component of Adaptivity. Adaptive systems analyze the gathered data in order to draw conclusions...The inferential component decides in which way the system should modify its behaviour in order to correspond to the actual usage profile. This implies that a basis must be specified (a theory, a set of rules) for drawing inferences. This also implies that the kind of data to be recorded (afferential component) ad how the system should be adapted (efferential component) must be defined...

Efferential Component of Adaptivity. Adaptations lead to modifications of the system’s behaviour. The change may concern presentation of objects, functions, or tools; default values for parameters; sequences of dialogues, or system messages.(Oppermann, 1994)

These three components might be more simply described as Input, Reasoning, and Output respectively. Combined with Brusilovsky’s Adaptive Hypermedia Model, this framework provides a good overview of what an adaptive system does. It gathers information about the user, it reasons about this information, and uses the results to modify the system in some way that is intended to improve the user’s experience. In one sense, this is what we want our AI storytellers to be able to do: to observe the reader, to understand what she wants, and to customise the story to satisfy her desires. In order to further understand how adaptive systems attempt to accomplish this task we must turn to user modeling, a field which is itself a subset of artificial intelligence.

4.2.1.2 User Models

Adaptivity is a complicated problem requiring robust modeling of the system’s user and a clear mapping between the model and output of the system. Within the field of user modeling, there are a number of techniques used for creating computational models of the user. Gerhard Fischer provides a general overview of the development of user modeling for Human Computer Interaction (HCI). He defines user models as “the models that systems have of users that reside inside a computational environment”. (Fischer, 2001) Fischer describes several techniques for finding out what the “user really knows and does” including soliciting direct feedback from the user (in the form of questionnaires, preference settings, or configuration modifications), inferring meaning from user actions, and providing the system with additional information about the
external context in which it is embedded. (Fischer, 2001) Two of these approaches – soliciting feedback and inferring meaning – correspond to Oppermann’s notions of user-initiative (adaptable) and system-initiative (adaptive) systems. These discussions raise the obvious question: how does one go about creating a user model?

Alfred Kobsa describes two frequently used techniques for creating models of users: *stereotypes* and *interaction history.* (Kobsa, 1995) The first technique, *stereotyping,* was initially devised in 1979 by Elaine Rich, and has remained relatively unchanged. Rich proposed that systems could use “clusters” of features to group users into categories. If the user triggered or activated enough features over a threshold, then she would be classified as belonging to the specific stereotype that those features were associated with. Rich argued that stereotyping was used by people in ordinary communication to quickly build models of each other, but observed that humans became emotionally attached to their stereotypes, often ignoring confounding information after the stereotype had been established. She claimed that computational systems would not suffer from this problem, due to the objective algorithmic nature of the evaluation. (Rich, 1979)

Kobsa’s second common technique for user modeling is *interaction history,* which has been more recently described by Brusilovsky & Millan as *feature-based modeling.*

Feature-based models attempt to model specific features of individual users such as knowledge, interests goals, etc. During the user’s work with the system, these features may change, so the goal of feature-based models is to track and represent an up-to-date state for modelled features. (Brusilovsky & Millan, 2007)

Brusilovsky & Millan lay out a taxonomy of the features of a user which can be usefully modelled for adaptive systems including: Knowledge, Interests, Goals and Tasks, Background, Individual Traits (such as cognitive styles and learning styles), and the Context of the user’s work. (Brusilovsky & Millan, 2007) The advantage that feature-based modeling has over stereotyping is that it does not rely on a large pre-existing knowledge base of possible user types, and it does not risk miscategorising users into
inappropriate containers should they exhibit behaviours that fall outside the set of expected user types. However, feature-based modeling is only as good as the inferential algorithm upon which the feature assignation is built. In one sense, the distinction between stereotype based modeling and feature-based modeling is one of granularity. Stereotype based models are comparatively low granularity in terms of what is measured and how the system can respond, whereas feature-based models allow for a much finer-grain measurement and response. In the next section I will further investigate how these ideas from adaptivity can be applied to games and Interactive Narrative.

4.2.2 Adaptivity for Interactive Narrative

It does not seem unreasonable to propose an approach to Interactive Narrative which uses a model of the reader to adapt the story to her taste or preference, or to permit a reader to directly intervene in the process of adaptation, actively adjusting the story to her own personal parameters. There appears to be a growing interest in these techniques of personalization, even if they have not been explicitly cited in the field. I would argue that the inclusion of these ideas in the discourse of Interactive Narrative research has the potential to enrich our understanding of this new storytelling medium, while also advancing our knowledge of adaptive systems.

There are already many games and research systems which are using approaches that resemble those discussed above. In order to bring the notion of adaptivity into the domain of Interactive Narrative it is necessary to transpose the terms and concepts from hypermedia studies and user modeling into analytical tools which serve the purposes of digital storytellers. I propose three initial directions for discussing adaptivity in Interactive Narrative. These are not categorical distinctions, nor are they a framework or a model of adaptivity for digital storytelling. Instead, I use these directions as a means of appropriating the language of adaptive systems into the domain of Interactive Narrative. The three topics I wish to discuss are:
Adaptive Narratives – This term corresponds to the notion of system-initiated adaptive systems. These are systems which adapt to reader or player actions via some intermediary mechanism, whether it be a model of the reader, a drama manager, or some other reasoning engine. This topic focuses on the inferential component of adaptivity.

Adaptable Narratives – By contrast, this term corresponds to the notion of a user-initiated adaptable system. These are systems which allow the reader or player to directly and explicitly personalize aspects of the experience, and which do not reason about the intent of the player or the author. I use this section to explore why there are very few examples of this type of system in current Interactive Narrative research.

Narrative Parameters – Both of the above ideas rely upon the development of narrative parameters in order to be implemented. This notion corresponds to the Adaptation Component in Brusilovsky’s classical hypermedia model of adaptivity. Considering which aspects of a story experience can be parameterized and how this parameterization can be accomplished is an important step in building and understanding adaptive narrative systems.

4.2.2.1 Adaptive Narratives

There are quite a few good examples of games which effectively employ adaptivity as a narrative device including Black & White (Lionhead Studios, 2001), Fable (Lionhead Studios, 2004), and Star Wars: Knight of the Old Republic (Bioware, 2003). Each of these three games employs adaptivity in order to allow the player to traverse a continuum between good and evil. The result is a system whose overall character changes depending on the ethical choices made by the player: characters become visually more sinister or heroic, world reactions vary in response to the moral compass evidenced by the player, and plot branches adjust to the system state, enabling certain possible paths and closing off others.

Within academic research systems, only a few implement anything resembling the level of adaptivity described in this section. El Nasr’s Mirage employs a “user centric
adaptive story architecture” that is built on a stereotyping user model. (Seif El-Nasr, 2004) In the story, the player’s personality is typed as vector of the following stereotypes: Hero, Violent, Self-Interested, Coward, and Truth-Seeker, causing other agents in the system to react in variable, but context-appropriate, ways. Depending on the stereotype which the player is assigned, the environment changes as well, with lighting and camera angles controlled by the model.

In a recent work, PASSAGE (Player-Specific-Stories via Automatically Generated Events), Thue et al. explore an adaptive approach to authoring by modeling player preferences and stereotyping players into five types taken from pen and paper RPGs: Fighter, Method Actor, Storyteller, Tactician, and Power Gamer. When a player triggers an “encounter”, a number of branching choices are presented, each one of which is weighted toward a particular type. The player’s choices inform the model of her preferences, which are used as parameters for future encounters.(Thue, Bulitko, Spetch, & Wasylischen, 2007)

In both the academic research systems and the commercial game systems presented above, there is a strong tendency toward using stereotyping models to control visual presentation of narrative content. Feature-modeling is significantly under-represented, possibly because of the prevalence of stereotype based models of player behaviour in games, such as Richard Bartle’s “player types” (Bartle, 1996), and a lack of feature-specific literature around player behaviour. Even within this mini-review I believe there is evidence of the great potential of adaptivity for Interactive Narrative and games, while simultaneously highlighting how much ground remains to be traversed in order to implement more sophisticated techniques for user modeling and for adapting the experience.

4.2.2.2 Adaptable Narratives

There has been much less work done on user-initiative or adaptable narratives. While it is easy enough to identify commercial games that employ system-initiative or mixed-initiative approaches to the task of adapting the experience to the user, there are
no games that support a fully user-initiative interaction model. Those that come close, such as *The Sims* (Maxis, 2000), often sacrifice immersion and perspective in favour of adaptability, giving the user a godlike perspective on and control of the world, but limiting her ability to directly engage in the narrative or the environment.

In traditional adaptivity research, adaptable systems allow users to customise aspects of the UI or, to a lesser extent, elements of the functionality of the system. *Microsoft Office* is an oft used example of a piece of software that at one point provided a somewhat adaptive system in the form of the much reviled “paperclip”, as well as a highly adaptable system that allowed users to customise menus, toolbars, and program functions, such as proofreading and auto-correction tools. *Office* is interesting in that it was not particularly mixed-initiative in its approach, instead exemplifying the worst parts of both system-initiative and user-initiative approaches. The “office assistant” was intrusive more often than it was helpful and the mechanisms for manually configuring the software were often buried in layers of obfuscatory, expert-level interface.

In games, this level of customisation is often restricted to the mapping of the controls and to the difficulty of the experience. In games that allow any significant user customisation of game functionality, these changes are often relegated to configurations at the interface level. For example, in *World of Warcraft* (Blizzard Entertainment, 2004) players are encouraged to develop sophisticated interface add-ons and customisations, so long as they do not modify the basic function of the game or automate any task that requires player action. This gives players the ability to adapt the experience at the user interface level, but not at the content level.

One of the few examples of user-initiative adaptability in games is the tradition of character creation and customization that is common to role playing games. However, in most role playing games, this period of customization is short lived, happening only at the beginning of the game and then never recurring; once the player has customized the appearance of her avatar in *World of Warcraft* she is stuck with those choices for the rest of her play-time.
Some of the most interesting examples of user adaptation of game content happen when users subvert the game, such as when a game is modified, hacked, “skinned”, or otherwise appropriated for a new purpose. Arguably, certain types of “cheat codes” within games permit a level of adaptation from the players, such as debugging codes which allow them to “spawn” game content at will. Not all game modifications are “subversions” of the designer’s intent. The success of some games, such as *Neverwinter Nights* (BioWare, 2002), is built on the strength of the freely provided engine for community modification and development. Some “grand strategy games” such as the *Europa Universalis* (Paradox Interactive, 2000) series of historical simulations have open source event engines. This allows communities of players to “crowdsource” the development of game content at a degree of sophistication far beyond that which is possible in a typical game development cycle. On a large scale, game modifications can be a satisfying way for communities of players to personalize their experience; however there are still no systems that facilitate individual personalization of the Interactive Narrative from *within the experience itself*.

Scholarly Interactive Narrative research has put very little effort into the notion of user-initiative adaptability. The emphasis of most Interactive Narrative research is on developing the computational intelligence of storytelling systems. There is thus a greater emphasis on system-initiative adaptivity in the field. Given the relative paucity of any really good examples of adaptable systems in either commercial games or Interactive Narrative research, we must ask whether it is possible and more importantly, whether it is desirable to pursue this approach at all. Can we imagine a successful user-initiative interactive narrative system? What would it look like?

**Adaptable Narratives, Agency and Immersion**

I contend that adaptable systems suffer more from the tension between *agency* and *immersion* than adaptive systems. The perceived tension between these two elements has resulted in very few experiments in adaptable narrative. Negotiating the balance between *agency* and *immersion* is one of those hot topics in Interactive Narrative research that is often brought up as one of the central difficulties of the field.
I claim that the way in which adaptable narratives exacerbate and highlight this tension provides a means for better understanding it.

As discussed previously, Janet Murray defines agency as “the satisfying power to take meaningful action and see the results of our decisions and choices”. (Murray, 1997) If we accept Murray’s formulation of agency, then we must consider that giving the user direct control over system parameters increases her “power to take meaningful action”. In a user-initiative system, a player able to directly configure the world of the story has more freedom to act, compared to a player bound within the rules of a system-initiative approach.

However, there is a tension between this level of agency and Murray’s notion of “the active creation of belief” required for immersion. By making the player explicitly aware of the system as a system, rather than as a story or as an experience, an adaptable approach asks the player to “surface” from the experience in order to interact with it. This is congruent with Bolter and Grusin’s notion of hypermediacy, in which the interactor is made explicitly aware of the fact that she is engaged in a mediated experience. (Bolter & Grusin, 1999) Hypermediacy exists in a constant tension to the experience of transparent immediacy, which corresponds very closely to the immersion which Murray advocates.

The tension between these two modes of experience – between being immersed in a fictional world versus being aware of the mediated nature of the experience – makes any attempt at designing adaptable narratives highly problematic. In order to permit the reader the freedom to manipulate and personalize the narrative content, it is necessary to force the reader to break her immersion in the reality of that narrative, placing her in a situation where she is oscillating between these two mediated states.

In a hypothetical user-initiative Interactive Narrative, the user might be manipulating aspects of the narrative itself, while simultaneously immersing herself within the story. How then, can we overcome the hypermediated nature of this
interaction, in order to support a more immediate experience of the narrative, even while interacting with it at this level?

**Narrativised Interface for Adaptable Narratives**

One proposed approach to reconciling the tension or reducing the oscillation between a hypermediated awareness of an experience and a transparently immediate experience comes from Jim Bizzocchi’s notion of “Narrativised Interface”. He argues for “suturing” the gap between these two modes of experience at the user interface level, by “infusing the interface” with narrative meaning. There are two kinds of narrativised interface in Bizzocchi’s model: *iconic transformation* and *functional transformation*. (Bizzocchi, 2003)

To illustrate the notion of *iconic transformation*, Bizzocchi describes how cursor transformation can be used as a narrative device by using iconic images to “identify with the character”, invoking narrative associations at the interface level. One example he provides comes from the CD-ROM game *Ceremony of Innocence* (Real World Multimedia, 1997), in which the reader must puzzle her way through a series of postcards and letters exchanged by the two main characters. In a number of the cards the cursor is transformed: into a bird, a bug, an angel, a paintbrush, an airplane. Bizzocchi describes how the traits of the characters are reflected in the choice of cursor aesthetics, providing the interface with what he describes as “narrative texture”. (Bizzocchi, 2003)

The second kind of narrativised interface is *functional transformation*. This type of interface is rarer in games, but it is becoming more and more prevalent. Bizzocchi describes the occurrence this phenomenon in *Ceremony of Innocence*, which “subverts” the function of the cursor in narratively salient ways. Cursors are blown by winds, tumble down hills, or are restricted in their motion, capturing elements of the narrative while also making cursor use itself a type of game. (Bizzocchi, 2003)

Bizzocchi’s notion of “narrativised interface” is helpful for imagining a successful adaptable narrative experience. In order to extend his theory I connect his two kinds of
transformation to Zimmerman’s four modes of interactivity. The relationship between these two theoretical ideas is one that has arisen from my own conversations with him about his narrativised interface framework. The following discussion draws on extensions of Bizzocchi’s ideas that have not yet been published.

In Zimmerman’s four modes the user interface primarily exists at the “functional or mechanical” level of interaction, which is Mode 2. The user interface is also assumed to be present in the cognitive interaction of Mode 1, and is necessary for the explicit interaction of Mode 3 to function. Bizzocchi regards Mode 1 interaction as the locus of any narrativised interface. What separates the two transformations within Bizzocchi’s framework is the point at which the interface is operationalized. Bizzocchi refers to this as the driver for the transformation. Both iconic and functional transformations have Mode 1 interactions as their locus, but where the driver for iconic transformation is Mode 1, the driver for functional transformation is Mode 3. (Bizzocchi, 2008) This is perhaps best illustrated in a table. [Table 4-5]

Table 4-5 - Narrativised Interface and Zimmerman’s Four Modes

<table>
<thead>
<tr>
<th>Iconic Transformation</th>
<th>Zimmerman’s Modes</th>
<th>Functional Transformation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Driver</td>
<td><strong>Mode 1</strong>: Cognitive Interaction</td>
<td></td>
</tr>
<tr>
<td>Locus</td>
<td><strong>Mode 2</strong>: Utilitarian Interaction</td>
<td>Locus</td>
</tr>
<tr>
<td></td>
<td><strong>Mode 3</strong>: Explicit Interaction</td>
<td>Driver</td>
</tr>
<tr>
<td></td>
<td><strong>Mode 4</strong>: Cultural Interaction</td>
<td></td>
</tr>
</tbody>
</table>

*Iconic transformation* is driven by the narrative content at an aesthetic level whereas *functional transformation* is driven by the narrative content at an operational level. Both of the notions are instantiated at the level of the interface itself. These two transformations can be used to reduce the oscillation between the experience of the story and the experience of interacting. Taken together they provide a useful approach for considering the challenges of interaction within Adaptable Narratives.
The notion of *functional transformation* makes it possible to imagine system in which the reader is given control over story parameters by manipulating representations of them directly in the fictional world. This requires a much tighter integration of story and interface, at both an aesthetic level and an operational level. I contend that in addition to these two types of transformation encompassed by Bizzochi’s framework that there is an additional element that can be used to further narrativise the interface—the inclusion of a *conceptual transformation*. At the *conceptual level*, the *meaning* of the interface coincides with the meaning of the interaction within the context of the narrative. One example of an interface where icon, function, and concept are unified is the transformation of the cursor in *Black & White* (Lionhead Studios, 2001). In *Black & White* the player plays the part of a deity, interacting with the world via her “godly hand”. The cursor becomes the hand of the player, embodied in the fictional world; when she wants to move, she uses the hand to grab the landscape and pull herself over it (or pull it underneath her); when she wishes to reward or punish her “creature”, she can scratch it behind the ears with the cursor, or slap it in the face. The functional tasks of interacting with the game map directly to the narrative context of the interaction, the hand icon is a visual mirror of the narrative content, and—perhaps most importantly—there is a *narratively salient explanation* for the presence of a godly hand within the context of the world, conceptually suturing the interactions of the player with the game’s story. To achieve a truly adaptable narrative, this type of interaction would need to be extended into the underlying functions of the story itself. At the moment this level of adaptability has not been properly explored. In order to integrate adaptable elements into interactive narrative, designers must create stories that are entangled with the interactivity at all levels. Before we can do this, it is necessary to understand which aspects of narrative lend themselves to parameterization.
### 4.2.2.3 Narrative Parameters

Both adaptable and adaptive approaches to interactive narrative presuppose the existence of *narrative parameters*. In order to understand how Interactive Narratives might be considered to be adaptive systems, it is important to understand which elements of narrative itself might be parameterized and made computationally tractable. I have already discussed a number of dimensions to the experience of narrative over the course of this thesis. Two of these components—plot and character—sit at the top of the pile, in terms of where the emphasis in the field has been historically. Other narrative elements, such as emotion, are beginning to receive some attention in recent work.

Narrative as a phenomenon encompasses a broad range of encoded and decoded meaning. Jim Bizzocchi’s analytical framework for narrative in games is a refocusing of the domain of narrative to a set of manageable parameters which can be used to discuss the role of narrative in games. [Table 4-6]

#### Table 4-6 – Bizzocchi’s Analytical Framework for Narrative in Games (Bizzocchi, 2007)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Storyworld</td>
<td>The environment within which the story unfolds.</td>
</tr>
<tr>
<td>Character</td>
<td>The beings that populate the fictional world.</td>
</tr>
<tr>
<td>Emotion</td>
<td>The emotions shown by the characters and those elicited in the reader.</td>
</tr>
<tr>
<td>Narrative</td>
<td>Narrative sensibilities instantiated in the appearance and the functionality of the interface design</td>
</tr>
<tr>
<td>Interface</td>
<td></td>
</tr>
<tr>
<td>Micro-Narrative</td>
<td>Smaller moments of narrative flow and coherence that occur within a broader context of the game.</td>
</tr>
</tbody>
</table>

Of the five components that Bizzocchi discusses, some lend themselves more readily to parameterisation than others. Micro-Narrative, in particular, seems difficult to parameterize. The other four elements of his framework can be imagined as adapting or being adapted to the desires of a player. Additionally, each of these four elements suggests several sub-parameters which are more explicitly adaptive. In Table 4-7 I list a few possible sub-parameters for the first four items in Bizzocchi’s framework.
Table 4-7 – Some Sub-Parameters of Bizzocchi’s Framework.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Sub-parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Character</td>
<td>Personality, History, Social Relationships, Functional Role, Appearance, Emotion, goals, value systems*</td>
</tr>
<tr>
<td>*Emotion</td>
<td>Mood, affective response, impulses, desires,</td>
</tr>
<tr>
<td>Narrative</td>
<td>Cursor appearance / behaviour, informational displays, functional interface</td>
</tr>
<tr>
<td>Interface</td>
<td>elements, diegetic interface elements.</td>
</tr>
</tbody>
</table>

* This model is primarily concerned with parameters as expressed in a narrative system. Emotion in this case is a subset of character parameters. In Bizzocchi’s original framework, emotion also deals with the emotional response of the reader.

This collection of sub-parameters is meant to demonstrate the wide range of elements in a narrative experience that readily lend themselves to adaptation. It is not intended to be a definitive or fully inclusive list of all possible narrative parameters. Of those sub-parameters listed here, some lend themselves more readily to being decomposed into computationally tractable elements than others. *Time of Day,* for instance, can be communicated via changes in the quality of the light and colour of an environment, and through alterations in the ambient environmental audio. By comparison, *Architecture* is a powerful visual communicator, especially in virtual environments, but one which is much less readily tractable for both technical and narrative reasons. We are not used to spaces changing around us, or changing from visit to visit in our daily lives. Nor is it easy to design a virtual space that changes as the story progresses. However, certain changes are narratively salient, such as when a character’s house is vandalized, or when a fire or flood damages an important location. As an adaptable component of the Storyworld, *Architecture* can be used to communicate more important narrative events then *Time of Day,* precisely because changes to the architectural environment are less common, and therefore more significant, then changes to the time of day.

One of the most significant, but most intractable, narrative elements—Plot—does not appear on this chart. The plot, as presented in a narrative, is the overall structure created by the ordering of events, and is often directly connected to the notion of Grand Narrative Arc. Bizzocchi sets aside this notion in his framework for
analysing the role of narrative in games, proposing instead that we look at micro-narratives; smaller arcs that arise out of the game play, rather than large overarching structures. In order to work plot back into our model, it is necessary to grapple with the aspects of plot that led Bizzocchi to set it aside in the first place.

Plot is a problematic narrative component for adaptive and adaptable systems because it dominates and subsumes many of the other elements of the narrative. The canonical definition of plot—as a sequence of causally linked events in time in space—does not provide any traction for understanding and manipulating the parameters of a story. Within a sequence of plot events are many of the other narrative entities which have already been discussed: characters, storyworld, and emotions to name a few. In order to adapt the plot, a system must manipulate all of those elements which aggregate to form the plot. For this section I propose a new working definition of plot: plot is not the elements which it encompasses (characters, locations, events), but instead the larger structure that emerges from, and contextualises, the specific narrative entities within. It is for this reason that plot is commonly thought to be synonymous with the larger idea of narrative, especially outside of scholarly circles.

If we accept the idea that plot is a structural notion, comprised of these more discrete narrative elements, then in order to make plot tractable, it is necessary to understand which properties of plot exist at this structural level. A number of approaches have been proposed to try and understand the structural parameters of plots. In Facade, Mateas and Stern use the notion of tension over time to model the Aristotelian Narrative arc. The possible events of the story are broken into “beats”, which are ranked according to the amount of tension they contribute to the narrative. This allows plot to be adapted via the parameter of narrative tension. (Mateas & Stern, 2003, 2005) El-Nasr uses a similar approach in Mirage, by annotating story-beats for several dramatic principles including the ticking clock, character goals, and the Dramatic Arc. These three principles can be mapped to the notions of anticipation, conflict, and narrative shape respectively. (Seif El-Nasr, 2007) These two examples provide us with enough of a sense of how plot might be parameterised to add it to the table. [Table 4-8]
Table 4-8 - Parameters for Plot

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Sub-parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plot</td>
<td>Tension, anticipation, conflict, shape.</td>
</tr>
<tr>
<td>Character</td>
<td>Personality, History, Social Relationships, Functional Role, Appearance, Emotion.*</td>
</tr>
<tr>
<td>*Emotion</td>
<td>Mood, affective response, impulses, desires, goals, value systems</td>
</tr>
<tr>
<td>Narrative Interface</td>
<td>Cursor appearance / behaviour, informational displays, functional interface elements, diegetic interface elements.</td>
</tr>
</tbody>
</table>

There are other parameters that can be adapted in interactive narrative experiences which are not traditional aspects of narrative, but which nonetheless contribute to the experience of the story. In games, the level of difficulty is a commonly adjustable parameter. Many games allow the player to select a difficulty level at the beginning of play. Some games allow the player to change the difficulty during play, and a smaller set of games dynamically adjust the difficulty based on their assessment of the player’s proficiency. I believe that in order to discuss game difficulty that it must be separated into two distinct categories. The first is relative difficulty, which is the difficulty of the game relative to the skill level of the player. The second is objective difficulty, which is the change in the system behaviour in order to raise or lower the difficulty. Relative difficulty changes dramatically from player to player, which makes its contribution to narrative meaning difficult to quantify. If a player perceives a situation as difficult or dangerous for the characters, then the story of those character’s experiences is different than if the player perceives it as trivial. Regulating difficulty can therefore be a powerful device for regulating other narrative parameters, such as conflict, tension and emotion (both the emotional impact of the narrative, and the emotional response to the ludic play).

Objective difficulty, on the other hand, is fixed within the system, but also impacts narrative meaning. In a game level at a lower difficulty there may be far fewer enemies to be encountered, or the enemies might behave in irrationally stupid ways. The same game at a higher level of difficulty may be more populated, or populated with more intelligent and dangerous enemies. The story of a character walking unopposed
through the secret entrance to the mad scientist’s lair is very different from the story of a character overcoming 20 armed henchmen and booby-traps in order to get inside.

Additionally, there are parameters which are externally dependent, such as graphical quality, size of screen, or quality of surround sound. These are sensory parameters which are often beyond the control of designers, but according to Ermi and Mäyrä they can directly impact immersion. (Ermi & Mäyrä, 2005) I consider these to be contextual parameters; they are aspects of the experience that are often external to the experience itself. These include considerations of experience fidelity, platform or medium of delivery, and also mode of interfacing with the experience. The Nintendo Wii is an example of how altering the context of play via changed hardware interface can introduce new parameters into the experience. The Wii’s gestural interface introduces a whole new set of narrative parameters including physical exertion for the player, mapping of actions directly into the narrative world, and more. It remains to be seen what the long term impact of this paradigm shift will be in the Games and Interactive Narrative communities.

Table 4-9 - Parameters of Interactive Experiences

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Sub-parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td>Context</td>
<td>Experience fidelity, Platform, Interface device</td>
</tr>
<tr>
<td>Difficulty</td>
<td>Quantity of opponents, Intelligence of Opponents, Statistics of opponents (health, armor, etc), dangers in the environment.</td>
</tr>
<tr>
<td>Plot</td>
<td>Tension, anticipation, conflict, shape.</td>
</tr>
<tr>
<td>Character</td>
<td>Personality, History, Social Relationships, Functional Role, Appearance, Emotion.</td>
</tr>
<tr>
<td>Emotion</td>
<td>Mood, affective response, impulses, desires, goals, value systems</td>
</tr>
<tr>
<td>Narrative Interface</td>
<td>Iconic Transformation, functional transformation, conceptual mapping, diegetic interface elements, informational displays.</td>
</tr>
</tbody>
</table>

Table 4-9 incorporates these elements into my informal model. I could continue to expand this table into a larger taxonomy of narrative parameters, however such work is beyond the scope of this thesis. My goal with this limited analysis is to show that there is a wide array of elements which might be parameterised for either user-initiative adaptability or system-initiative adaptivity. I also hope to have provoked some discussion of the breadth of possibilities available to theorists and designers of these
systems. Adaptivity is a notion which has been developed outside of the domain of Interactive Narrative thus far, but there is a clear overlap between the techniques and approaches employed in adaptive hypermedia and intelligent narrative research. In the next section I will discuss my third and final analytical lens: Performativity.

4.3 Performativity

There are two distinct and occasionally conflicting notions about the interactor in Interactive Narrative and Games research. The first is the notion of the interactor as a Performer. This view is evident in earlier theoretical works, as when Janet Murray likened an interactor’s participation in digital environments to improvisational theatre, folk dancing, and jazz in *Hamlet on the Holodeck*. (Murray, 1997) It is found in the work of Brenda Laurel and later in the work of Michael Mateas, both of whom used theatre and drama as models for theories and prototypes of interactive stories that place the player in the first-person role of *performing* the main character (Laurel, 1993; Mateas, 2004b). In this first notion, there is an expectation that the interactor assume a role, engage in the narrative as a character, and *act* in narratively salient ways. The second is the notion of the interactor as Player. This framing of the role of the interactor figures prominently in the arguments surrounding ludology. Espen Aarseth writes:

In the adventure games where there is a conflict between narrative and ludic aesthetics, it is typically the simulation that, on its own, allows actions that the story prohibits, or which make the story break down. Players exploit this to invent strategies that make a mockery of the author’s intentions. (Aarseth, 2004)

The idea of players “making a mockery” of an author’s intentions is rooted in a common assumption about ludic play that presumes that players will place the pleasures associated with winning and flow over the pleasure of story. An interactor behaving as a Player in this context is more interested in what he can *do to* the game world, rather than what he can *do with* the game world. In this notion, there is an expectation that the interactor will behave in a self-gratifying, pleasure-centric manner, subverting the system in his own quest to satisfy his desire for agency.
It can safely be said that the range of possible interactions with Interactive Narrative and Games is broad enough to encompass both of these approaches. I argue that there is equal pleasure to be had in either the performance of a role in an interactive story or in the expression of agency in a virtual environment. I do not view these two modes of behaviour as mutually exclusive, and suspect that most players of games oscillate between them as they play. As discussed in the previous section, one of the goals of designers is to suture these two aspects of interactive experience into a more unified and cohesive whole.

That being said, evidence in both scholarly research and games would suggest that most designers create systems with the expectation that interactors will approach them from the perspective of Players rather than Performers. This is at the heart of the often cited tension between interaction and story. The result has been extensive research into techniques for guiding the player along narratively salient paths, often against her will.

4.3.1 Expectations and Guidance Strategies

These guidance strategies manifest as the “rails” upon which players are steered in order to advance the story. Drama managers in AI systems employ a number of guidance strategies, many of which turn out to be sophisticated means of limiting the very player agency that they assume will generate problematic situations in the narrative in the first place. Different theorists have proposed different approaches to this problem. Chris Crawford argues that in order to balance the player’s inclination to act without narrative intent, and the designer’s desire to tell a coherent story, that the possible choices available to the player should be limited to only those choices which are narratively salient.

The storybuilder’s most important task is creating and harmonizing a large set of dramatically significant, closely balanced choices for the player. (Crawford, 2005)

Other approaches include various narrative “tricks” that enforce the author’s intent without violating the rules of the fictive world, or directly denying the player
action. Riedl, Saretto, and Young describe this as a tension between control and coherence. Their Mimesis architecture uses a technique they describe as Narrative Mediation to respond to unanticipated user activity in two possible ways: accommodation or intervention. Accommodation allows the user to act freely, and attempts to “re-plan” the narrative structure around the unexpected action. Intervention alters the user’s action by “surreptitiously substituting an alternate set of effects”. The example they provide is of a user placing a coin in a soda machine and ordering a soda. The coin is necessary for a later piece of the narrative, and so the machine refunds the coin and declares the soda to be “out of stock”. (Riedl, Saretto, & Young, 2003) This is a form of soft guidance, in that it occurs within the fictive reality of the virtual world.

Other approaches employ hard guidance. In the soda machine example, a hard guidance approach might just prevent the player from interacting with the machine at all, perhaps including a piece of internal monologue from the character, such as “Nah, I’m not thirsty right now.” Regardless of which form of guidance is used, the result is the same: limitation of player agency. The hard guidance example that I have given, however, goes even further in that it denies the possibility of the player and the character occupying the same conceptual space. By suggesting that the player’s actions and the desires of the character are not in agreement, it enforces the notion that the player is merely manipulating an avatar, rather than performing a role.

The “Interactor as Player” phenomenon is very real, especially in videogames, where play is the dominant interaction paradigm, but I contend that it is as much a result of the expectations and intentions of the designers of interactive experiences as it is the desires of players. While there is nothing inherently wrong with play as an interaction paradigm, it does place digital storytellers in a position where they must design in spite of the actions of their audience, rather than in harmony with them. In order to design an Interactive Narrative experience in which the goals of the player and
the goals of the author are in harmony, it is useful to examine this other conception of the interactor: the interactor as Performer.¹⁶

4.3.2 Improvisation and Performative Knowledge

I propose that we explore the notion of player as Performer more rigorously. This requires an investigation of the frameworks that have arisen in the performing arts, especially where improvisation is concerned. While there is insufficient room in this thesis to fully describe the theory surrounding improvisation and interaction in the dramatic arts, there are several models that I believe have some utility for designers and theorists of Interactive Narratives.

I owe many of the ideas in this section to an epistemological framework outlined by Lesa Lockford and Ronald J. Pelias in their paper Bodily Poeticizing in Theatrical Improvisation: a Typology of Performative Knowledge. Improvisational theatre can be used as a metaphor for what Interactive Narrative designers would like to accomplish one day. Consider, for instance, the following paragraph from Lockford and Pelias on improvisation in light of the above discussions of adaptivity:

Improvisational moments are engaged through an ongoing process of negotiation and coordination, through a positioning and repositioning of performers and their characters, which is often done in an instant. Adapting to emergent circumstances, these performers are called to be aware communicators who can draw upon their cognitive, affective, and intuitive abilities—sometimes with great urgency—in order to absorb interaction details, create characters, and establish relationships. Establishing a communicative connection they must listen to each other and adjust their thinking and behaviour accordingly. They must incorporate new information spontaneously while also keeping an eye on producing a coherent narrative. They must be artists with expressive bodies who can open creative possibilities for each other, who can push against the expected, and who can account for their double identity.(Lockford & Pelias, 2004)

¹⁶ Arguably the most successful system to emerge from scholarly research into interactive narrative, Façade, is built around Mateas’s notion of Interactive Drama, in which the player assumes the role of the character.(Mateas & Stern, 2003)
This description of improvisation incorporates vocabulary which is very familiar to researchers of Interactive Narrative, and it touches on ideas which reoccur again and again in the field. The highly contingent and emergent human process of improvisation is one which is done well only after years of training. It is not something that we have a clear formula for, even in human-to-human communication, although I will present several frameworks from the dramatic arts which help to structure it. Improvisation is a dialog in which both participants must actively work to support and challenge each other, and if we are to take it as a model for Interactive Narrative systems, it is necessary that we recognise exactly how difficult a task it is. In this section I propose a model for computational storytelling, which can be applied to both Interactive Narrative systems and their participants, based on Lockford and Pelias’s Typology of Performative Knowledge.

### 4.3.2.1 Five Types of Performative Knowledge

Lockford and Pelias present what they describe as a “typology of performative knowledge”. They identify five different types of knowledge that live performers draw on in improvisation: communication, playfulness, sedimentation, sensuality, and vulnerability. Lockford and Pelias consider knowledge to arise from the body as well as the mind. They write:

> Such claims are fundamental to any notion of performance as epistemic—a notion that acknowledges that acting is always a bodied act, that the material body is always present. Performance, then, is written on and created through the body. (Lockford & Pelias, 2004)

This framework is both epistemic and aesthetic, drawing on embodied performance as the basis for knowing and for creating. Their term for this process is *bodily poeticizing*, and they use it to encompass knowledge that is intuitive, somatic, affective, and cognitive.

This notion of knowledge emerging from performance and bodily action is not unique to Lockford and Pelias. Ruth Quinn writes:
It is through our bodies that we are able to understand the relationship of the self and other...It is through our bodies that we can find this uncharted space of performance, as opposed to pre-formance. Through form, through forming, we begin to negotiate meaning.

Meaning is the currency that enables us to create and communicate effectively. Our bodies fumble or dance their way through life as powerhouses of making and meaning. (Quinn, 2003)

For many Interactive Narrative systems, bodily knowledge is not available, except in the most constrained and limited of senses.\(^\text{17}\) Moreover, interactors are not often experienced in the nuances of performance and improvisation. I do not, however, take this to mean that knowledge from performance theory cannot be used to inform Interactive Narrative research. As this section traverses the five types of performative knowledge presented by Lockford and Pelias, I will highlight the aspects of their typology that lend themselves to digital storytelling.

**Communication**

Communication is fundamental to performance. In Lockford and Pelias’s model, communication is the most consciously and cognitively grounded form of knowledge. They describe communication as “the place where people constitute themselves through interaction with others in contexts.” (Lockford & Pelias, 2004) They propose the following questions which might be asked about actors communicating in a scene:

\[
\text{Communication: Are the actors engaged in an ongoing process of negotiating and coordinating their characters and themselves through interaction? Do the actors seem connected, listening to and incorporating what each other is saying? Are they adjusting their thinking and action according to what they are hearing? Are they producing a coherent story? (Lockford & Pelias, 2004)}
\]

These questions around communication indicate that in this model, communication has a close relationship to *interaction*. Chris Crawford’s model of interaction is as a dialog between two or more participants in which they alternately

\(^{17}\) The relatively recent appearance of embodied interfaces for games, such as those employed by the Nintendo Wii or the Sony EyeToy expand the possibilities of drawing on embodied knowledge in games, however this new generation of play is still maturing and does not represent the major interaction paradigm in games and Interactive Narrative.
listen, think, and speak. (Crawford, 2005) This type of formalized dialectical interaction is very similar to the improvisational process of making and receiving “offers” that occurs between two or more actors in a scene.

**Playfulness**

Playfulness is the aspect of performance in which performers act imaginatively and spontaneously. It encompasses several meanings, including playing with language, playing with dramatic opportunities and possibilities, and playing with uncertainty. Lockford and Pelias propose the following questions about playfulness in a scene:

*Playfulness:* Are the actors open to possibilities? Are they functioning with spontaneity and imagination? Are they playing with language? Are they recognizing linguistic and social constraints? Are they working within the limits of the given circumstances? Have the actors moved beyond established patterns to the ‘intricacies’ of the scene? (Lockford & Pelias, 2004)

One of the most interesting things about these questions is the notion of working within constraints and limitations. Lockford and Pelias elaborate:

To accomplish this playfulness, performers depend in part upon their ability to work within the inexhaustibility of language and to welcome its slippery excess...They know that even when choices are made, they are not the only choices available. This opportunity for actors to play, to embrace possibilities, to proceed without linguistic certainty, is a fundamental site of knowledge.

At the same time, improvised moments also have boundaries to which the performer must be sensitive. Performers must follow linguistic rules, recognize theatrical conventions, and enact the given circumstances. Their work is not without limits. (Lockford & Pelias, 2004)

The concept of *play* is often just taken to be a free-form activity, whereas according to Jesper Juull, for something to be a game, it must be formalized with rules. (Juull, 2005) One definition of play that bears a close resemblance to this quote from Lockford and Pelias comes from Eric Zimmerman, who proposes that:

Play is the free space of movement within a more rigid structure. Play exists both because of and also despite the more rigid structures of a system (E. Zimmerman, 2004)
The beauty of Zimmerman’s definition is that it embodies the paradox that Interactive Narrative research often finds itself wrangling with. Play exists both because of rules and structures, but it also exists in opposition of them. Within improvisational theatre a number of rules and formal systems exist to help structure the play between actors. These rules facilitate creativity, communication, and play within the scene, rather than limiting it. These rules might be as simple as “do not refuse an offer from another actor”, or they might be complicated prompts which constrain the actor’s behaviour to a limited series of choices.

**Sedimentation**

Knowledge rooted in sedimentation is harder to explicitly draw upon because it is by its nature implicit, tacit knowledge. The term “sedimentation” implies a process of accumulation and deposition over time, and Lockford and Pelias use this to reference the accumulation of experience and knowledge that occurs in people in their lives. They ask the following questions about sedimentation:

*Sedimentation: Are the actors relying upon lifetime structures of learning? Are they trusting their bodies, following their impulses, paying attention to what feels right? Have they become reflective about their hidden, tacit knowledge? Have they considered the degree to which their sedimented behaviours match those of their characters? (Lockford & Pelias, 2004)*

One of the most interesting questions that they raise here is the final one, in which they ask about the extent to which the performer’s behaviours and the character’s behaviours align. This is an important issue for Interactive Narrative as there is a delicate balance to be maintained between designing a playable character with a distinctive set of behaviours and personality traits and designing a character that gives players the opportunity to express themselves within the narrative. When this notion of sedimentation is taken out of an improvisational context, and placed in a narrative context, I would argue that it supports the process of *identification* that occurs as a reader traverses the narrative arc. At the beginning of a story, the reader has little reason to care about the characters. Over time, as the reader shares experiences with
the characters she begins to accumulate reasons for emotional attachment to them; this accumulation is the narrative equivalent to the lived process of sedimentation.

**Sensuality**

Sensuality in this context refers to knowledge that arises from the sensory experiences of the performer. Of the five knowledge types, sensuality is the most embodied, and thus among the most problematic to translate into a digital environment in which the participant’s sensory experiences are tightly constrained at best (the interactor), and outside the realm of human experience at worst (the digital system). As with the previous three types of knowledge, Lockford and Pelias provide a set of thought provoking questions about the phenomenon:

**Sensuality: Are the actors’ senses alive, ready, actively engaged? Are the actors taking in what they need? Are the actors feeling with their bodies? Are they open to the pleasures of sensory response?** (Lockford & Pelias, 2004)

It is not inconceivable to ask questions like this about the human interactors in an Interactive Narrative. With the upswing in popularity of more embodied interfaces, such as the Nintendo Wii, these types of questions become more salient to designers and theorists. The discussion of adaptive systems above also points us at an aspect of this type of knowing that is of particular relevance to the systems with which the interactors are engaged. Oppermann’s notion of the *afferential* component of adaptive systems can be reframed as the *sensory* component of a digital system. As system interactions become about more than manipulating images on a screen via a mouse and keyboard, the possibility for incorporating more aspects of the context into the afferential component of the system introduces new and interesting ways of tapping into this type of knowledge. In her 1997 book *Affective Computing*, Rosalind Picard discusses a number of new “senses” which can be used as alternatives to traditional input systems including facial recognition, voice intonation analysis, and bodily signal recognition. (Picard, 1997)
Vulnerability

Vulnerability in this model is associated with the same disconnect between actor and character mentioned in the discussion of sedimentation. An actor becomes vulnerable when she is suddenly made aware of herself as an actor, performing a scene, rather than as a character, being in a situation.

When the actor experiences vulnerability, he may be gripped by a kind of imaginative stumping. The actor is thrown out of the scene and posed with the challenge to either break or remake the scene. Yet, in the instant, the situation creates a double bind; the actor can’t think of a way out of the situation and can experience only that he is in an abject state. The full weight of being a vulnerable self is brought to bear; the overwhelming sense of letting one’s self and others down takes hold. (Lockford & Pelias, 2004)

I see a connection between vulnerability and Bolter and Grusin’s notions of hypermediation and transparent immediacy. Vulnerability occurs when an actor finds herself drawing upon her own hypermediated understanding of the circumstances that she is engaged in as an actor, rather then her immediate role as a character.

These moments of breaking and re-making may be either destructive or productive. They are destructive, obviously, if the reasons for engaging in the improvisation are not reached....Yet this breaking and remaking may be productive when, even though an actor is thrown into a vulnerable position, he still manages to resuscitate the character and the scene in a new vital way.(Lockford & Pelias, 2004)

Vulnerability can be considered to be at the core of any knowledge that rises out of unexpected circumstances. The moment of breaking offers a possibility of the emergence of new and vital ideas; however it also runs the risk of bringing the scene crashing to a halt. I think it’s possible to apply this same idea to computational systems. In one of the first computational story generation systems, James Meehan’s TALE-SPIN, some of the most often cited stories generated were those which he described as “mis-spun tales”. (Meehan, 1981) These were stories in which something in the system behaved unexpectedly, generating results which were unintentionally hilarious or insightful. Not every mis-spun tale yielded satisfying results; often they were incoherent and meaningless. However, this phenomenon of system breakage occasionally resulting
in unexpectedly new and interesting results bears a resemblance to the notion of vulnerability as a source of knowledge in improvisation.

Another obvious source of vulnerability in games comes from the simple process of “losing” or “dying”. When a player fails a challenge in a game in a particularly irrevocable way there is a moment of breakage: time must reset, a savegame must be loaded, the character must be resurrected, and the player must begin the task again. In this moment there is the possibility for learning and growth, but there is also possibility for frustration that might lead to the player putting the game down entirely.

Lockford and Pelias ask the following questions about vulnerability:

_Vulnerability:_ Are the actors willing to put themselves at risk? Are they willing to make difficult situations work? When feeling vulnerable, do they have the ability to keep focus on what needs to be accomplished? Are the actors willing to trust one another? (Lockford & Pelias, 2004)

Considering these questions from a perspective of Interactive Narrative research, they highlight an aspect of interaction that often goes overlooked. This is the notion of trust between actors (or interactors). In improvisation there is an explicit social contract between the participants in a scene. Each actor knows that she is responsible for making the other actors in the scene look good, or not. In order to improvise freely she must trust her partners to not make her look bad, and she must endeavour to not damage them in turn. In an interactive system, there is less of an understanding of this social contract but it does not make it any less necessary. Designers of Interactive Narratives need to be able to trust their readers to engage the system in a manner that is friendly to the creation of a shared story, and readers of Interactive Narratives need to trust the storyteller to provide them with opportunities to express themselves within the context of system appropriate actions. The lack of discussion of this contract between performers in the field has resulted in systems designed to “correct” for “unwanted” interactor behaviours rather than systems that encourage interactors to learn to behave in narratively salient ways.
4.3.3 Interactive Narratives as Performance

The model of performative knowledge discussed above has some clear connections to the theory and design of Interactive Narrative systems, however much of it is rooted in human specific behaviours and experiences that don’t readily translate into Interactive Narrative and Games. In order to take advantage of the techniques from performance theory and improvisation, it is necessary to narrow the focus of this model to something which is more domain-appropriate.

4.3.3.1 Lockford and Pelias’s Model, Revisited

In Table 4-10 I provide a simple model of performative knowledge for Interactive Narratives based upon Lockford and Pelias’ typology. In the same way that they used their typology to ask questions about what the actors were doing within a scene, I have framed this model in terms of questions about the actions of each participant within these five types of performative knowledge.

Lockford and Pelias’s model is designed to diagnose improvisational scenes in order to determine whether or not the performers are succeeding at achieving a known correct state. Where Lockford and Pelias’ questions are prescriptive, and lead to a desired ideal performance, my questions are analytical, and are intended to explore issues of performance and improvisation in Interactive Narrative systems. In the next chapter I will explore these specific questions in greater depth, however before I close I believe that there are some larger issues which this model points toward which should be addressed. At the heart of this is the notion of re-imagining the relationship between the interactor and the system as a performative one.
Table 4-10 - Performative Knowledge for Interactive Narrative

<table>
<thead>
<tr>
<th>System</th>
<th>Interactor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>• Does the system communicate narrative information clearly to the interactor?</td>
</tr>
<tr>
<td></td>
<td>• Does the system provide the interactor any incentive to behave in a meaningful way?</td>
</tr>
<tr>
<td></td>
<td>• Does the system provide the player with tools for clear consistent communication?</td>
</tr>
<tr>
<td></td>
<td>• Is the system aware of actions and behaviours of the interactor?</td>
</tr>
<tr>
<td></td>
<td>• Does the system adjust its behaviour to the behaviour of the interactor?</td>
</tr>
<tr>
<td>Playfulness</td>
<td>• Does the system provide a range of meaningful possibilities to the interactor?</td>
</tr>
<tr>
<td></td>
<td>• Does the system provide a coherent framework to restrict interactor actions?</td>
</tr>
<tr>
<td>Sedimentation</td>
<td>• Does the system learn about the interactor over time?</td>
</tr>
<tr>
<td></td>
<td>• Does the system develop emergent behaviours and characteristics as a result of its “history”?</td>
</tr>
<tr>
<td>Sensuality</td>
<td>• What “senses” does the system have available to it?</td>
</tr>
<tr>
<td></td>
<td>• What role do these senses play in the systems treatment of and responses to the interactor?</td>
</tr>
<tr>
<td>Vulnerability</td>
<td>• What happens when the system “breaks”?</td>
</tr>
<tr>
<td></td>
<td>• Can the system break in interesting ways?</td>
</tr>
<tr>
<td></td>
<td>• Is there potential for unexpected behaviour within the system?</td>
</tr>
<tr>
<td></td>
<td>• Does the system expect the interactor to attempt to break it?</td>
</tr>
<tr>
<td></td>
<td>• How does the system “recover” from unexpected occurrences?</td>
</tr>
<tr>
<td></td>
<td>• Does the interactor communicate clearly and consistently?</td>
</tr>
<tr>
<td></td>
<td>• Does the interactor behave in a way that is meaningful?</td>
</tr>
<tr>
<td></td>
<td>• Does the interactor understand the impact of her behaviour on the system?</td>
</tr>
<tr>
<td></td>
<td>• Does the interactor feel any sense of ownership or responsibility to the story?</td>
</tr>
<tr>
<td></td>
<td>• Does the interactor explore various approaches to different situations?</td>
</tr>
<tr>
<td></td>
<td>• Does the interactor test the limits of provided boundaries?</td>
</tr>
<tr>
<td></td>
<td>• Does the interactor grow attached to the narrative over time?</td>
</tr>
<tr>
<td></td>
<td>• Does the personal history of the interactor affect her experience and behaviour within the system?</td>
</tr>
<tr>
<td></td>
<td>• How many of the interactor’s senses might be employed to fully operate and experience the system?</td>
</tr>
<tr>
<td></td>
<td>• Does interaction with the system trigger visceral or instinctive responses in the interactor?</td>
</tr>
</tbody>
</table>

4.3.3.2 Implications

The example of improvisational theatre provides designers and theorists of Interactive Narratives with a valuable perspective for thinking about the identity of the
interactor and the system. If we think about Interactive Narratives as *computationally mediated performances* we can begin to consider how to build systems that support the interactor in her role as a performer. This perspective also demands that we think about the way we manage the expectations of the interactor at a conceptual level. As discussed earlier, many systems sidestep this step by assuming that interactors are *not* going to treat the experience as a performance. This is the equivalent of expecting one of the performers in an improvised scene to run around knocking over the scenery and throwing things at the audience. While that one actor may have an enjoyable time, he is not engaging in the project of creating a story with other actors.

It is not enough to simply say that interactors are now performers; we must take a cue from the explicit contract between actors in improvisation and design experiences which facilitate and encourage interactive performance as its own form of play. This does not necessarily come at the cost of ludic play—one of the five types of performative knowledge is playfulness, after all—however, it does require a shift in the relationship between play and agency. It also requires a transformation of techniques from improvisation and performance into techniques that can function in a computationally mediated performance. In order to treat the interactor as a performer, it is necessary to recognize that performing in any context is a specialized skill that is learned over time, and not an intuitive ability that every interactor is able to draw upon.

While I do not propose that interactors within an Interactive Narrative should spend years training in improvisational theatre before they are allowed to enjoy a good interactive story, I do believe that it would be valuable to incorporate certain ideas from improvisational theatre into the culture of interaction with digital stories and into the design of these same experiences. Certain notions from improvisation have value for designers and participants in interactive narratives: the notion of giving and accepting improvisational offers, the notion of an explicit contract between the participants, and the idea that every participant is responsible for the ultimate quality of the scene. These can all be used to inform Interactive Narrative design. Due to the limitations of our current intelligent systems, any improvisation or performance within an Interactive
Narrative at the moment must occur within a somewhat narrowly defined framework of possible interactor behaviours.

This narrowing of the performative possibilities is as much a blessing as it is a limitation, as it reduces the learning curve for the interactor to a smaller set of performative skills. In order to design an interactive story that emerges out the contributions of both the system and the interactor it is necessary to imagine new ways of training the interactor in how to perform within the system. To a certain extent, many games already do this via extensive training levels or ongoing training throughout the game. In the same way that we do not expect players of games to arrive knowing the specifics of the control scheme, or the game mechanics, we should not expect them to know how to communicate narrative meaning to the system. Instead of expecting interactors to perform in a way that instinctively expresses narrative desire to the system, or attempting to infer narrative desire from any and all interactor choices, we should explore techniques for training interactors in the specifics of a given narrative system. This is the equivalent of providing a player with training in the movement and combat mechanics of the game. If the player knows, for instance, that consistently killing innocent bystanders is being assessed by the system as a meaningfully evil action with consequences, then she can strategically manipulate the narrative through her choice of whether or not to kill pedestrians. In order for player’s actions within a game to be of narrative significance, there needs to be a clear schema in place that maps interactor choices to story meaning. This schema needs to be explicit; it needs to be clearly communicated to the interactor so that she may master the manipulation of it in the same way that she masters the navigation of the space.

All of these ideas are rooted in a re-framing of the identity of both the system and the interactor as performers engaged in co-creating a story. This notion is important because it addresses one of the thorniest problems under discussion in the field of Interactive Narrative; the so-called tension between narrative coherence (often described in terms of authorial control) and player agency. This tension can be traced to an implied hierarchy in the relationship between the designer of the story and the
interactor. There is a sense that when a designer asserts something about the narrative that this assertion must come at the expense of the freedom of the interactor to choose for herself how the narrative should play out. In improvisation, on the other hand, both actors are making assertions about the story in the form of dramatic offers. It is considered a violation of the rules of improvisation to deny a dramatic offer, thus preventing either participant from denying the actions of the other. For instance, if Alan says to Barry “I heard about your dog’s death...I’m so sorry,” it would be a violation of the rules and of Alan’s trust if Barry were to reply: “What are you talking about? I don’t have a dog.” By denying Alan’s offer, Barry has not only made his co-actor look bad, he has also broken the narrative momentum of the scene.

If we can conceive of the relationship between the system and the interactor as one of equal participants in an improvisation, then the issue of interactor agency becomes one of performer responsibilities. From this perspective, each participant has a responsibility to accept the dramatic offers given by the other, and each has equal responsibility to the ultimate meaning of the narrative. In order for this performative dialogue to work, the system must also be designed to be able to co-perform with the interactor. In improvisational theatre it is each actor’s responsibility to make the others look good for the audience. The unfortunate corollary to this is that any one actor can easily make the other performers look bad. The contract between actors in this situation recognises the fact that all of the performers have a responsibility to the overall quality of the experience. This is similar to the notion of shared responsibility to the quality of a conversation described by Chris Crawford in his discussion of interactivity. (Crawford, 2005)
5: UNDERSTANDING OBLIVION

At this point I have presented three different analytical lenses that describe three related, but distinct, approaches to the field of Interactive Narrative. I have proposed a model for believability, I have discussed how adaptivity can inform Interactive Narrative, and I have argued for a perspective that is grounded in the notion of performativity. Where appropriate I have tried to ground these discussions in the literature of the field and in specific examples from games and interactive narrative research. I have argued that these three lenses provide a useful perspective for understanding Interactive Narrative experiences; in this chapter I will put them to the test. To do this, I engage in a close reading of the critically and commercially successful video game The Elder Scrolls IV: Oblivion. (Bethesda Softworks, 2006a)

Oblivion is a groundbreaking and innovative Role Playing Game, known for a richly responsive world, a compelling central story, and a myriad of possible play experiences. It combines aspects of a rails game with aspects of a sandbox game, often successfully. Oblivion is ambitious in almost every dimension of its design, from the opening training and character creation sequence, to the vast world geography and sophisticated artificial intelligence system that governs the behaviours of the world’s inhabitants. The size and complexity of Oblivion are both a blessing and a curse for theorists of Interactive Narrative. On the one hand, it is a rich experience, rife with material that begs to be analysed. On the other hand, the scope of the game can be daunting; its open ended nature makes it difficult to focus an analysis on any one facet of the experience. In this chapter, I first present a general overview of the game experience and mechanics, before moving into a discussion of some specific aspects of the game via the analytical lenses discussed above. It is my intention to demonstrate how these three perspectives can be used to clarify and simplify a discussion of an otherwise unwieldy artifact, without robbing it of its richness. I should point out that
my critiques of Oblivion are not intended to detract from the game as a whole, but are instead meant to investigate ways in which games like Oblivion can be understood and improved upon. I consider Oblivion to be a triumph of modern game design, and in many of the areas where my critiques may seem harsh it should be noted that—in spite of the issues that I identify in this paper—Oblivion surpasses many other games in the genre.

5.1 Oblivion Game Description

Oblivion (2006) is the fourth “anchor” game in a series of Computer Role-Playing Games (CRPGs) known as The Elder Scrolls that includes Arena (1994), Daggerfall (1996), and Morrowind (2002). In addition to the four main games in the series, Bethesda has released two other related games—Battlespire (1997) and Redguard (1998)—and a series of Elder Scrolls games for mobile phones, known as The Elder Scrolls Travels. Oblivion was marketed as one of the first “next-gen” games, and was one of the flagship games for the release of Microsoft’s X-Box 360 gaming console. It was simultaneously released for the PC and has recently been released on Sony’s Playstation 3. For the purpose of this discussion I will be considering only the PC version, and will be evaluating the experience of Oblivion from that perspective.18

Set in the world of Tamriel, Oblivion carries on a number of traditions established by Bethesda Software over the course of the previous three games. Some of these traditions are narrative in nature: the games are set in the same storyworld; they offer the same selection of races to choose from, and combine to form a shared history. Other traditions include a shared set of core game mechanics and statistics, such as attributes, class specialisation, and skills, and a number of other design similarities across all of the Elder Scrolls games.

18 My primary experience with Oblivion has been on the PC, which is the main reason for choosing to limit my discussion to that particular version. There are a few meaningful distinctions between the PC version and the console versions of the game: the control set is perhaps the most apparent, however there is also an argument to be made for potentially greater graphical fidelity on the PC version, depending on the hardware configuration of the computer.
One of the most interesting design elements that these games share is a narrativised character creation process. In *Arena* and *Daggerfall*, this took the form of a questionnaire. Players were presented with ethical dilemmas, or problems to be solved, and a set of multiple choice responses intended to separate them into three broad categories: fighter, mage, or thief. In *Morrowind*, character creation also follows a questionnaire model, but it is integrated into the narrative context of the game: the player awakens on a prison transport ship, and is processed and interrogated by a jailor about her past before being released back into society, thus establishing relevant details about the character. In *Oblivion*, the character creation process takes the form of an “introductory dungeon” where the player is slowly trained in the basic mechanics of the game. At the end of this exploratory period, a class is recommended to the player based upon the game’s assessment of her preferences and play style. This opening sequence is a self contained, concentrated play experience, with one specific adaptive task and a number of clearly observable user choices. As such, it lends itself readily to a study of adaptive system design in games, and of user modeling as applied to a player’s actions and choices. In my section on adaptivity in *Oblivion* I discuss the opening sequence in greater depth.

One of the other hallmarks of these games has been the size of their worlds, which span miles of virtual terrain. *Daggerfall*, one of the largest game worlds ever created, was described by the design team leader Bruce Nesmith as being “about the size of Great Britain.” (Ward, 1996) *Oblivion* by comparison is “only” about 16 square miles, according to a press release from Microsoft. (Chihido, 2008)

No Elder Scrolls game will ever be small. Ever. We make ’em big folks. We super-size them. Why? This is a question everyone asks us, "Why make them so damn big? You could make it small and most people still wouldn’t finish it."

---

19 Technically any character creation process is “narrativised”, in the sense that creating a character is implicitly about narrative. I use the term in this case to highlight character creation mechanisms that are incorporated *diegetically* into the context of the game.
My answer is this—For the time you did play it, it wouldn't be as fun. The Elder Scrolls is about choice—player choice to do what you want in any way you want. You need a certain amount of size and choices so that experience is actually meaningful.

Now, we do change scale in each game, because certain things you do cause the game to flow differently. Even though Morrowind is about 0.0001% the landmass of Daggerfall, the way you play it makes it feel even richer. Oblivion's landmass is larger than Morrowind's, but you can fast travel around much easier. It still has Morrowind's feel of open exploration, but Arena's feel of ease of travel and, well, it's more fun.(Howard, 2006)

_Daggerfall_ provided an open-ended, sandbox style game play long before the term sandbox was coined for these types of games. Since then, the games have become more focused, while still retaining the large-scale, open-ended emphasis on player freedom that has driven the series. The implications of _Oblivion_ as both an open-world sandbox game and as a linear narrative will be discussed in greater depth in my discussion of believability later in this chapter.

### 5.1.1 Game Lore

Over the course of _The Elder Scrolls_, the world of Tamriel has developed a rich history. The collective history of the world, the races, the religions, and the politics of the game is commonly known as the Lore. I use Lore to encompass narrative elements that exist in the games, as well as those aspects of the story and world which have developed in auxiliary material, game manuals, guides, and websites. _Oblivion_’s lore includes historical and cultural details for ten playable races, a developed and distinct geography, and a wide variety of political and social organizations. All of these elements have direct gameplay implications, and while it is beyond the scope of this discussion to dig into these in rigorous detail, I hope to provide a sampling of the world where _Oblivion_ takes place.

Most fantasy worlds in games and fiction owe some lineage to the racial categories depicted by Tolkien in _The Lord of the Rings_ and _Oblivion_ is no exception. _Oblivion_ has humans, dwarves, elves, and orcs much like any Tolkien-inspired fantasy
world, but like many modern fantasy reinterpretations, the world of Tamriel has a distinct spin on these archetypal categories. Dwarves, for instance, (also known as the Dwemer or Deep Folk) have never appeared in the games, except as a dead race known for their craftsmanship and technological advancement. The playable races can be broken into three categories: Human, Elf, and Beast. Each race has a region that it calls home, various visual characteristics that identify it, some common personality traits, and some special racial abilities. [Table 5-1]

While these races are somewhat distinct from each other, the cultural world which they inhabit does not necessarily fully take advantage of these narrative distinctions. In his paper Social Presence and Cultural Presence in Oblivion [sic], Eric Champion makes an argument for why races portrayed in Oblivion do not successfully comprise either a believable social world or a living cultural world. (Champion, 2007) Champion makes a clear distinction between a sense of social presence in a virtual world and cultural presence. Social presence arises between people out of a shared, or at least acknowledged, set of “values, beliefs, and/or identity.” Cultural presence is the product of people, but may exist independent of them, as a “palimpsest (‘products of action’) where past social interactions are layered, echoed, and carved into the fabric of the environment.” (Champion, 2007) I take this to be a distinction, at least partially, between the present and the past; social presence emerges from the dynamics of actors (human or computational) in social dialogue with each other, cultural presence is the tangible evidence of past dialogues that permeates a space. With regard to creating a sense of social and cultural presence, the races in Oblivion succeed in some ways and fail in other ways. I will explore this in further depth in my discussion of believability in Oblivion.
Table 5-1 - Racial Characteristics and Abilities in Oblivion

<table>
<thead>
<tr>
<th>Race</th>
<th>Description</th>
<th>Special Abilities</th>
<th>Specialization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human - Nord</td>
<td>&quot;Citizens of Skyrim, they are a tall and fair haired people. Strong and hardy, Nords are famous for their resistance to cold. They are highly talented warriors.&quot;</td>
<td>Nordic Frost, Woad, Resist Frost</td>
<td>Combat</td>
</tr>
<tr>
<td>Human - Redguard</td>
<td>&quot;The most naturally talented warriors in Tamriel. In addition to their cultural affinities for many weapon and armor styles, they also have a hardy constitution and a natural resistance to disease and poison.&quot;</td>
<td>Adrenaline Rush, Resist Poison, Resist Disease</td>
<td>Combat</td>
</tr>
<tr>
<td>Human - Breton</td>
<td>&quot;In addition to their quick and perceptive grasp of spellcraft, even the humblest Bretons can boast a resistance to magical energies. They are particularly skilled at summoning and healing magic.&quot;</td>
<td>Fortified Magicka, Dragon Skin, Resist Magicka</td>
<td>Magic</td>
</tr>
<tr>
<td>Human - Imperial</td>
<td>&quot;Natives of the civilized, cosmopolitan province of Cyrodiil, they have proved to be shrewd diplomats and traders. They are skilled with heavy armor and in the social skills and tend to favour warrior classes.”</td>
<td>Star of the West, Voice of the Emperor</td>
<td>Stealth/Combat</td>
</tr>
<tr>
<td>Elf - Orc</td>
<td>&quot;The people of the Wrathganian and Dragontail Mountains, Orcish armorers are prized for their craftsmanship. Orc troops in heavy armor are among the finest in the Empire, and are fearsome when using their berserker rage.&quot;</td>
<td>Berserk, Resist Magicka</td>
<td>Combat</td>
</tr>
<tr>
<td>Elf - Wood Elf</td>
<td>&quot;The clanfolk of the Western Valenwood forests, also known as &quot;Bosmer&quot;, Wood Elves are nimble and quick, making them good scouts and thieves, and there are no finer archers in all of Tamriel. Their ability to command simple creatures is well-known.”</td>
<td>Beast Tongue, Resist Disease</td>
<td>Stealth</td>
</tr>
<tr>
<td>Elf - High Elf</td>
<td>&quot;Also known as “Altmer” in their homeland of Summerset Isle, the High Elves are the most strongly gifted in the arcane arts of all the races. However, they are also somewhat vulnerable to fire, frost, and shock.”</td>
<td>Weakness to Fire, Frost, and Shock, Resist Disease, Fortified Magicka</td>
<td>Magic</td>
</tr>
<tr>
<td>Elf - Dark Elf</td>
<td>&quot;Also known as “Dunmer” in their homeland of Morrowind, the Dark Elves are noted for their skilled and balanced integration of the sword, the bow, and destruction magic. They are resistant to fire, and can summon an ancestral ghost for aid.”</td>
<td>Ancestral Guardian, Resist Fire</td>
<td>Combat/ Magic</td>
</tr>
<tr>
<td>Beast - Khajit</td>
<td>&quot;Hailing from the province of Elsweyr, they are intelligent, quick and agile. They make excellent thieves due to their natural agility and unmatched acrobatics skill. All Khajit can see in the dark.”</td>
<td>Eye of Fear, Eye of Night</td>
<td>Stealth</td>
</tr>
<tr>
<td>Beast - Argonian</td>
<td>&quot;This reptilian race, well-suited for the treacherous swamps of its homeland, has developed natural immunities to diseases and poisons. They can breathe water and are good at picking locks&quot;</td>
<td>Resist Disease, Immune to Poison, Water Breathing</td>
<td>Stealth</td>
</tr>
</tbody>
</table>

All description text (Bethesda Softworks, 2006b)

Any or all of these races may be found within any of the cities and towns of Oblivion, however the demographics of race distribution throughout the world is at least partially governed by the larger geography of the game. The world of Tamriel consists of a single continent divided into eight provinces and a ninth island province. [Figure 5-1] Oblivion takes place entirely in the province of Cyrodiil, which is the seat of the imperial dynasty known as the Septim Empire. Ruled over by Emperor Uriel Septim VII,
the empire at the beginning of the game is experiencing an unprecedented period of stability and peace.

Figure 5-1 - The Nine Provinces of Tamriel, Image Copyright (Bethesda Softworks, 2006c)

Factions play a significant role in the daily life of the Empire, and provide important support for the player as she develops her character. Within the game are a wide range of factions that the player may become affiliated with, including an assortment of knightly orders, magical and religious organizations, and several large organizations known as Guilds. Guilds are the most important factions in the game, in terms of the player’s experience of the storyworld. The three most important guilds are the Mages Guild, the Fighters Guild, and the Thieves Guild. Each guild supports one of the three primary game play specializations available to players—magic, combat, and stealth—and each guild provides the player with an extended series of quests which culminate in her ascending to the role of guildmaster in each one. It is possible, and even encouraged, for players to attempt to attain the highest rank in every faction as they “consume” the game content. My readings of Oblivion in the second half of this
chapter will explore the ways in which the faction system introduces elements into the game that simultaneously support and contradict narrative coherence within the story world.

5.1.2 Non-Player-Characters (NPCs)

One of the most significant elements of *Oblivion* is the treatment of Non-Player Characters (NPCs). The game uses a new system for NPC behaviour known as *Radiant AI*. In an interview posted on Xbox.com, game producer Gavin Carter explains the name:

The "Radiant" part of the title refers to the way a character's awareness isn't strictly limited to a few hard-scripted objects or activities. It radiates out into the surrounding environment and beyond. They can choose to interact with anything they come into contact with based on parameters we set up when we create them.

This includes having conversations with one another, sitting down and reading books, buying food and supplies from shops, farming, exploring, engaging in combat with creatures or one another, and a wide range of other activities.(Stein, 2006)

NPCs in *Oblivion* are given simple, high-level goals, such as “acquire food” but are allowed to accomplish these tasks however they see fit. While the notion of goal based agents is nothing new to the intelligent narrative community, the use of the technique for games is still somewhat novel. Most research into the use of this technique in scholarly work has not attempted to model a set of agents as large as the 1500+ NPCs in *Oblivion*. The resulting inhabited world is notable for exhibiting behaviour that is often unexpected, and occasionally hilarious. A brief search online for “Radiant AI stories” yields pages of bulletin board posts from *Oblivion* players eager to share their personal stories of entertaining behaviour from the NPCs. One of my favourites comes from an off-topic thread in the Halflife2 forums dedicated to this subject. The following is an unedited reproduction of the original forum post, complete with colloquialisms and game jargon:
It was a starry, twilit evening, and I was hanging around outside the west gate of Skingrad, near the vineyards, trying to figure out what I should do first - find Martin or get my Vampirism cured.

That was when I noticed Shameer acting very oddly. He was sneaking along the side of the stables towards the stables guy (I forget his name) who was munching away at something, sitting on a bench. I figured whatever Shameer was doing was pretty stupid, since he was in plain sight of me, at least 1 guard, a couple of vineyard workers, not to mention the guy he was supposedly trying to sneak up on - and after all isn't he meant to be some kind of cool-headed professional archer/trainer?

Anyway Shameer reached the guy and then stopped and straightened up. I figured he had reconsidered whatever he was about to do. That was until I walked up to them both - Shameer gave me a cheerful look, went back into sneak mode, and made a couple of jerky movements towards the stable guy. The next thing I know, the stable dude starts shouting "Guards!! Thief!!! MIND YOUR POCKETS" One guard ran down from the gate, some blows were exchanged between he and Shameer, and then Shameer ran off into the vegetation, with the guard in hot pursuit. 'I'm not going to miss this!' I thought - I pulled out my crappy silver battleaxe, and the Chase For Shameer began!

I quickly invoked my Vampire sight to get try and keep track of the participants. The stable guy joined in the chase briefly but then got lost somewhere along the way. The chase took us through someone's livestock paddock, at which point - perhaps due to some mystical unseen motive or long-held grudge - a sheep decided to join in the chase. I tailed the pack and nearly lost them until the point where Shameer decided to dive for cover into the nearby Cursed Mine. There was no way I was going in there by myself, since I was in no mood for a bloody dungeon, so I waited to see what the guard did. Well, bless him, he charged right on in there. I can't remember what the sheep did but most likely he was right there with us - that was one up-for-it sheep, seriously.

So I charged in after the guard, and materialised inside only to see 3 or 4 faces turning transparent and vanishing just as I arrived - I realised I had just passed a bunch of people on the way out in a hurry. Trying to pick up the pace, I turned around and ran back out only to find that 2 or 3 bandits from the mine had now joined in the chase.

Off we went again, charging through the darkness. We'd charge over a hill; we'd charge through a vineyard; the guard would loose a few arrows; we would all stumble into a pond and back out again. I had no idea who was at the head of the pack or who was chasing who any more. I had no ****ing clue who the sheep was chasing. To make matters worse, I kept firing up my Vampire Sight (Hunter's Eye/Detect Life) to try to keep everyone in sight - this skill makes nearby lifeforms glow so you can see them through solid objects, but it also reduces everything to a steely blue glow, so I could see a bunch of glowing blurs running after each other but I had no idea who was who any more.

Every now and again we would all catch up with each other and I would just charge in with my axe, laughing my tits off and swinging wildly. My blunt skill sucks, my FPS are pretty damn poor and I couldn't tell anyone apart with the vampire sight on, so far as axe-swinging goes you couldn't really get more random tbh. There was the odd 'oof!' and 'argh!', but those cries were well mixed with others like "I'm on YOUR side!", "BAAAA" and "That's TWICE you've hit me". I'm pretty sure maybe 70% of my swipes ended up somewhere on the sheep, which also got briefly stuck in the pond in an extra-comic interlude.

Eventually after one last showdown, the guard, myself, and the sheep stood victorious over Shameer and a few dead bandits. I might be wrong - it might just have been fluke timing - but I'm nearly sure the last bandit went down to some kind of power charge from the sheep. My reward at the end was some great entertainment, a couple of free silver arrows pulled out of Shameer's neck, and the chance to discover what had caused all of this in the first place - a stolen piece of corn, lying unwanted in Shameer's pocket....like some kind of metaphor for the cold futility of life.... :laugh: :laugh: (Laivasse, 2006)  

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20 I turn to the work of Amy Bruckman in this situation, in order to consider the ethical implications of this re-production. Bruckman proposes that material posted on the internet blurs the lines between "published" and "unpublished" work, and argues for a "semi-published" category for
Laivasse’s account is perhaps more “narrativised” than most of the stories to be found online, many of which can be boiled down to observations of NPCs killing each other in humorous ways. The Radiant AI is often responsible for entertaining “breakages” within the game which I will discuss in some greater detail in the section on performativity in *Oblivion*.

Even with a complex, goal-based AI system in place, not all NPCs in the game are created equal: some have roles to play within the game narrative, some have quests to give the player, and some are little more than filler to make the world feel populated. Software designer and theorist Mike Rozak has developed a useful scale for discussing NPCs in *Oblivion*. Rozak describes a continuum between *Hand-Generated content* and *Procedural content*; a continuum that is directly analogous to the notion of emergent and embedded narrative content that was described in chapter 3. (Crawford, 2003; Rozak, 2006; E. Zimmerman, 2001). He uses a colour spectrum metaphor to describe this scale. [Table 5-2]

**Table 5-2 - Rozak’s Content Spectrum**

<table>
<thead>
<tr>
<th>Hand-Generated</th>
<th>Procedurally</th>
<th>Assisted</th>
<th>Procedural</th>
</tr>
</thead>
</table>

Using this spectrum Rozak describes six types of NPC that might be found in a narrative game. He takes his examples from *Oblivion*, however it is evident that the intent of this table is as a general guide to NPC agents in games. [Table 5-3]

such information. She argues for a sliding scale of attribution and anonymity, depending on the level of risk involved to the subjects being cited. In this case, based on her scale, the risk is very low, and so I have chosen to attribute the work to the specific pseudonym given on the site, rather than disguise the authorship in any way. For a more detailed discussion of the legal and ethical ramifications of citing forum posts, or chat logs, I highly recommend (Bruckman, 2002)

21 Rozak’s spectrum is similar in appearance to the system of color coding *Oblivion* statistics that I introduce in the upcoming section, however it has a distinctly different semantic meaning. Unless I specifically indicate that the colors in a given table are Rozak’s, it can safely be assumed that I am not employing his scale.
Table 5-3 - Rozak's Spectrum Applied to NPCs in *Oblivion*  (*Rozak, 2006*)

<table>
<thead>
<tr>
<th>Spectrum Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hand-Generated</strong></td>
<td>These are high-quality NPCs that the player will meet again and again throughout the game. The player is supposed to develop strong emotions about the NPC. In <em>Oblivion</em>, the major NPCs appear in the main quest, such as the Emperor's illegitimate son, Martin. Martin is a priest with a chequered past (which I haven't discovered yet) that doesn't know he is royalty. He's uncertain how to handle his new role as emperor... basically, someone the player is going to like. In the <em>Myst</em> series, almost all the characters are hand-generated &quot;red&quot;. Of course, the number of characters in each <em>Myst</em> game can be counted on one hand.</td>
</tr>
<tr>
<td><strong>Hand-Generated</strong></td>
<td>Orange NPCs are supposed to leave an emotional mark, but will only be encountered once or twice. In one mage's guild chapter in <em>Oblivion</em>, the head of the chapter asks the player to find a guild member who has &quot;disappeared&quot;. Meanwhile, the chapter's head continues to practice low-level magic like summoning imps. Talking to the other members of the guild reveals that they don't respect their current chapter leader because she's not skilled enough. It turns out that the wizard who has gone missing turned himself invisible as a joke, knowing that the leader was incapable of casting the appropriate spells to find him and then turn him visible.</td>
</tr>
<tr>
<td><strong>Procedurally assisted</strong></td>
<td>This NPC is the standard MMORPG NPC. He has a name and an uninteresting quest to hand out, like &quot;Bring me some butter beer and I'll give you 10 gold.&quot; While the player knows that the NPC likes butter beer, there's not much personality there. It wouldn't be difficult to randomly assign every NPC a favourite food/beverage and automatically hand out similar quests. There's very little work for an author to do.</td>
</tr>
<tr>
<td><strong>Procedurally assisted</strong></td>
<td>This NPC only has a name and a job. He is nothing more than a human-looking vending machine.</td>
</tr>
<tr>
<td><strong>Procedural</strong></td>
<td>Blue NPCs have names, wander around, and might deliver a rumour. When killed, they are automatically respawned.</td>
</tr>
<tr>
<td><strong>Procedural</strong></td>
<td>Violet NPCs don't even have a name. They have no purpose except as scenery (much like procedural trees) or monsters to be killed. When killed, they are automatically respawned.</td>
</tr>
</tbody>
</table>

Rozak's scale is applicable to *Oblivion* in almost every respect except for one: unlike many games, when a "Blue" or "Violet" NPC is killed in *Oblivion*, that NPC stays dead. It is possible to kill a bandit in the wilderness at the beginning of the game, and return to find the body still there many days of game time later. This level of "persistence" reinforces the gravity of any given choice. If the player chooses to kill the population of a town (this can be done somewhat easily at the higher levels) she must deal with the consequences of an empty town. There are design consequences to this
degree of persistence, however. What if the player were to kill off Martin, the heir to the empire, and central figure in the game narrative? This would break the storyline, effectively ending the player’s ability to advance in the game. The designers of *Oblivion* chose to take a “hard-guide’sed” approach to this issue, by designating certain characters as “essential-characters”. These NPCs cannot be killed: they can simply be rendered unconscious for a period of time, after which the pop right back up and continue their lives as if nothing happened. In *Oblivion*, all “Yellow”, “Orange”, and “Red” characters obey these rules, and are functionally immortal, while the remaining characters in the game are quite mortal: able to be killed permanently and never resurrected. I will address some of the consequences and implications of these design choices in my discussions of believability and adaptivity in the second part of this chapter.

### 5.1.3 The Story

I have hinted at bits and pieces of the central story around which a portion of the game is structured. There is a linear narrative at the heart of *Oblivion*, and while there are innumerable emergent stories that can occur within the world, and a variety of subplots waiting to be discovered, it is this “main quest” that defines the particular moment in history in which all other narratives occur.

The player awakens to find herself in a jail cell, as is in keeping with the *Elder Scrolls* tradition. Before she can make herself comfortable, the Emperor of Cyrodiil (voiced by actor Patrick Stewart of *Star Trek* fame) arrives at her cell, escorted by members of his private guard. Through some twist of fate, the player has been incarcerated within the cell that contains the secret entrance to the Emperor’s escape route from the Imperial City. The Emperor’s sons have just been assassinated by members of an evil cult of Daedra (demon) worshippers called the Mythic Dawn and the Emperor must get to safety. The Emperor, who has mystical prophetic abilities, recognizes the player from his dreams. He invites her to come along, dismissing her past misdeeds as immaterial.
Unfortunately, it turns out that the secret escape route was not as secret as it might have been. Members of the Mythic Dawn have set a trap for the Emperor, ambushing him and killing his guards. This does not come as a surprise to Emperor Septim, who has foreseen his own death. He warns the player that soon she will have to carry on in his stead and he is stabbed to death shortly thereafter.

The Emperor passes away, but not before entrusting the player with a quest: she must take the “Amulet of Kings” to his last remaining heir—a bastard son named Martin who has no knowledge of his birthright. The Amulet and the Heir are connected to a mystical barrier that prevents the Daedric Princes from invading the lands of Tamriel. The particular Daedric enemy in this story is a being of great evil known as Mehrunes Dagon who inhabits a realm called Oblivion. With the Emperor’s bloodline waning, the barrier between the world of Oblivion and the world of Tamriel is failing, and portals known as Oblivion Gates are opening all over the province of Cyrodiil.

This sets the stage for the player’s adventures in Oblivion. Pursuing this Main Quest to its conclusion is entirely optional, and there are no consequences in the world if the player chooses to ignore these events and simply explore Tamriel. There is one main consequence to completing the Main Quest, and that is the closing of any open Oblivion gates in the world. While this is a narratively desirable occurrence, it is a strategically limiting result, as it is on the plain of Oblivion where the player is able to find many of the most powerful weapons and items in the game. With the gates closed, the realm of Oblivion is rendered forever inaccessible.  

5.1.4 Statistics

Oblivion is governed by a complex array of statistics. Many of the social and cultural differences between the different races and classes in the game can ultimately

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22 This is quite a problematic element of Oblivion, from a game design perspective. There are various ludic incentives to want to keep the Oblivion gates open, in direct contradiction to the narrative incentives to want to close them. In the upcoming discussion of believability in Oblivion I will consider other contradictory narrative elements of the Oblivion Gates.
be reduced to minor variations in these core statistics. In other words, many of the conceptual aspects of the narrative can be mapped to the statistical aspects of the game engine. Statistics in *Oblivion* can be divided into three categories: *specializations*, *attributes*, and *skills*. These categories are hierarchical, and inherit characteristics from the most granular element (skills) to the least (specializations). I map out this relationship in full in Table 5-4.

### Table 5-4 - Specializations, Attributes, and Skills in *Oblivion*

<table>
<thead>
<tr>
<th>Specialization</th>
<th>Attribute</th>
<th>Skill</th>
</tr>
</thead>
<tbody>
<tr>
<td>Magic</td>
<td>Intelligence</td>
<td>Alchemy, Mysticism, Conjuration</td>
</tr>
<tr>
<td></td>
<td>Willpower</td>
<td>Destruction, Alteration, Restoration</td>
</tr>
<tr>
<td></td>
<td>Personality</td>
<td>Illusion, Mercantile, Speechcraft</td>
</tr>
<tr>
<td>Stealth</td>
<td>Agility</td>
<td>Security, Sneak, Marksman</td>
</tr>
<tr>
<td></td>
<td>Speed</td>
<td>Athletics, Acrobatics, Light Armor</td>
</tr>
<tr>
<td>Combat</td>
<td>Strength</td>
<td>Blade, Blunt, Hand to Hand</td>
</tr>
<tr>
<td></td>
<td>Endurance</td>
<td>Block, Armorer, Heavy Armor</td>
</tr>
</tbody>
</table>

The mechanisms that govern *Oblivion* comprise a complex and contingent system, of which the three components presented in Table 6-4 are only a sampling. In

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23 A note on the use of color in these tables: For the sake of visualizing the various interrelated elements that are present in the game I have implemented a simple color code that I will apply consistently over the course of this chapter. Table 6-4 can be used as a color key for this system. It should also be noted that the overlapping of both Personality and Speed across the borders of two specializations is intentional, as in both cases, two of the three skills governed by each of these attributes falls into Stealth, while the remaining skill is grouped with either Magic or Combat.
this section I present a high-level overview of these systems. For detailed charts of the various statistical systems in Oblivion, see Appendix A.

5.1.4.1 Specializations

There are three broad categories of specialization into which all other aspects of Oblivion can be divided: combat arts, stealth arts, and magic arts. These specializations roughly define the three primary play styles available to players, and correspond to three of the primary guilds in the storyworld; the Fighters Guild, the Thieves Guild, and the Mages Guild. Players who prefer to fight their way out of difficult situations using melee weapons and wearing heavy armor tend to specialize in the combat arts. Players who prefer spell casting and potion mixing tend to favour the magic arts. The stealth arts are a bit more of a “grab-bag” of skills. These include obvious skills like sneaking, lockpicking, and acrobatics, but also include some more general skills, such as athletics, speechcraft, and mercantile. Stealth arts might be better understood as social arts, or general skills. I will discuss the implications of the Stealth specialization as a general catch-all in greater detail in my analysis of adaptivity in Oblivion.

5.1.4.2 Attributes

Attributes represent a player’s “mental, physical and magical abilities”. (Bethesda Softworks, 2006b) These are the statistics that govern all skill use and all levelling up. At the beginning of the game, each character begins with 40 points (out of a possible 100) in each attribute, however, choice of race and class modifies the initial value of almost every attribute. There are eight total attributes in the game: Intelligence, Willpower, Personality, Agility, Speed, Strength, Endurance, and Luck. Four other important statistics: Health, Magicka, Fatigue, and Encumbrance are derived from the raw attribute scores of the character. For a detailed description of each attribute, see Appendix A.

Of the eight attributes, the first seven govern individual skills, are associated with specific classes, and correspond to one of the three Specializations. The eighth
attribute, *Luck*, is the exceptional case. *Luck* governs all of the actions in the game equally, and is the only attribute that does not have specific associations with class, specialization, or skill. For this reason, *Luck* does not figure in any of my subsequent discussion of the game mechanics and systems.

### 5.1.4.3 Skills

The remaining seven attributes govern three *Skills* each. Skills are the most specific aspect of any character. There are 21 skills in the game and three skills map to each attribute. As a player performs actions in the game, the associated skills increase. Over time, the collection of skills comes to represent the history and choices made by the player. A player who favours fighting with a bow and arrow will quickly see an increase in her *marksmanship* skill, whereas a player who prefers to summon demons and skeletons to fight her battles will see an increase in her *conjuration* skill, and so forth. Like attributes, skills exist on a scale of 1-100.

There are a few particular properties to skills that are relevant to any discussion of *Oblivion*. First, the difficulty to level up skills increases with each new skill level. This means that it is easy to level up skills at lower levels, but as a player progresses, it becomes harder to level those same skills. For example, in order to go from 1 point in *blades* to 2 points in *blades*, a player only has to swing her bladed weapon in combat one or two times successfully. In order to go from 2 to 3 points requires approximately double that. Following this pattern, we find that in order to advance from 99 points to 100 requires many hundreds of battles using a bladed weapon. This levelling curve is affected by additional factors, such as choice of class, race, and random chance.

The second property of skills is the notion of *mastery levels* and *skill perks*. A player is considered a *Novice* in any skill until she has accumulated at least 25 points, at which point she increases to *Apprentice*. Every 25 skill points earned results in a new mastery level up until 100 points, when the player is considered to be a *Master*, and is unable to raise the skill any further. At each mastery level, the player receives a *skill perk*, which is a passive bonus that makes the use of that skill easier or more powerful.
For example, a *Novice Armorer* cannot repair magical items. At *Journeyman* level, an *armorer* learns how to repair magical items, and at *Expert* level, an *armorer* is able to enhance repaired items beyond their previous stats.

### 5.1.4.4 Races

Statistically speaking, race in *Oblivion* can be defined as a series of modifications to the default starting statistics of any character. *Oblivion* also distinguishes statistically between the genders of characters. The first place where these modifiers are apparent is in the attributes of the characters. These attribute modifiers reflect the extent to which a race corresponds to one of the three specializations. Male Nords, for instance, have bonuses to strength and endurance, but lose points in intellect, willpower, and personality, situating them firmly within the *combat arts*. By contrast, Male Bretons are clearly intended for the *magic arts*, while Khajit seem suited to the *stealth arts*. This is further borne out by the starting skills of each race. More details about the races in *Oblivion* can be found in Appendix A.

Unlike attributes, which begin at 40, skills all begin at 0 points, and are raised through practice. When a player selects a race, a number of skills are given initial bonuses. These two statistical representations—attributes and skills—partially reflect the narrative and conceptual identities of the races as described in the discussion of the world lore. Combined with the race specific abilities, and the clear visual indicators of race that are present within the game world, these distinctions ought to be sufficient to meaningfully distinguish the different cultural groups from each other during play. As I will discuss later in this chapter, this is sadly not entirely the case.

### 5.1.4.5 Birth Signs

Birth signs are a one-time customisation option available to players during the character creation process. These confer special abilities or bonuses to several attributes. Many of them balance out powerful abilities with equally detrimental
weaknesses, such as The Apprentice birthsign, which gives the player 100 additional points of Magicka but makes her dangerously susceptible to magic damage.

As with all of the other aspects of the game, there is a clear relationship, both conceptual and functional, between many of the birth signs and the three specializations. For example, The Shadow birthsign is a good match for players specializing in the *stealth arts*, The Mage is appropriate to players who favour the *magic arts*, and The Warrior is fitting for practitioners of *combat arts*. More details about the birthsigns can be found in Appendix A.

### 5.1.4.6 Classes

Perhaps the most complex aspect of any character is her class. The *Oblivion* manual has this say about class:

> Your class defines your way of life and which skills are most important to you. During Oblivion’s introduction, the game observes the way you play and suggests a predefined Class that matches your play style. You may either accept that Class, pick another Class, or create your own Custom Class. Also, at the end of Oblivion’s introduction, you are given one more chance to change your mind. Each Class features a Specialization, seven major skills, and a +5 bonus to two attributes. (Bethesda Softworks, 2006b)

Class is the aspect of a character that most clearly defines her identity: it encompasses the other statistics, governs how the character advances through the game, and ultimately helps define the character through her own actions. For this reason the game’s claim to be able to “observe the way you play” and suggest a class that matches is one that bears further investigation. In my discussion of adaptivity in *Oblivion*, I will dig deeper into the game opening and the class recommendation process. Before we reach that point, however, a little more must be said about the 21 predefined classes that come with the game. These classes are listed in Table 5-5, along with their specialization and two primary attributes.

It should be noted that these same 21 classes were present in *Morrowind*. *Daggerfall* and *Arena* also had classes, and it is possible to see the origins of the current
class system in these earlier games, but they were less developed. Within each of the three areas of specialization there are classes which are more archetypal as well as classes which are something of a departure from fantasy norms. The classes of the Warrior, the Mage, and the Thief are common fantasy archetypes, whereas classes like the Pilgrim, the Witchhunter, and the Scout are interesting hybrids or deviations from the more common classes in CRPGs.

Table 5-5 - Class Specialization and Attributes in *Oblivion*

<table>
<thead>
<tr>
<th>Class</th>
<th>Specialization</th>
<th>Favored Attribute</th>
<th>Favored Attribute</th>
</tr>
</thead>
<tbody>
<tr>
<td>Scout</td>
<td>Combat</td>
<td>Endurance</td>
<td>Speed</td>
</tr>
<tr>
<td>Rogue</td>
<td>Combat</td>
<td>Personality</td>
<td>Speed</td>
</tr>
<tr>
<td>Archer</td>
<td>Combat</td>
<td>Strength</td>
<td>Agility</td>
</tr>
<tr>
<td>Knight</td>
<td>Combat</td>
<td>Strength</td>
<td>Personality</td>
</tr>
<tr>
<td>Barbarian</td>
<td>Combat</td>
<td>Strength</td>
<td>Speed</td>
</tr>
<tr>
<td>Warrior</td>
<td>Combat</td>
<td>Strength</td>
<td>Speed</td>
</tr>
<tr>
<td>Crusader</td>
<td>Combat</td>
<td>Strength</td>
<td>Willpower</td>
</tr>
<tr>
<td>Witchhunter</td>
<td>Magic</td>
<td>Agility</td>
<td>Intelligence</td>
</tr>
<tr>
<td>Sorcerer</td>
<td>Magic</td>
<td>Endurance</td>
<td>Intelligence</td>
</tr>
<tr>
<td>BattleMage</td>
<td>Magic</td>
<td>Strength</td>
<td>Intelligence</td>
</tr>
<tr>
<td>Spellsword</td>
<td>Magic</td>
<td>Willpower</td>
<td>Endurance</td>
</tr>
<tr>
<td>Mage</td>
<td>Magic</td>
<td>Willpower</td>
<td>Intelligence</td>
</tr>
<tr>
<td>Healer</td>
<td>Magic</td>
<td>Willpower</td>
<td>Personality</td>
</tr>
<tr>
<td>Nightblade</td>
<td>Magic</td>
<td>Willpower</td>
<td>Speed</td>
</tr>
<tr>
<td>Acrobat</td>
<td>Stealth</td>
<td>Agility</td>
<td>Endurance</td>
</tr>
<tr>
<td>Agent</td>
<td>Stealth</td>
<td>Agility</td>
<td>Personality</td>
</tr>
<tr>
<td>Thief</td>
<td>Stealth</td>
<td>Agility</td>
<td>Speed</td>
</tr>
<tr>
<td>Monk</td>
<td>Stealth</td>
<td>Agility</td>
<td>Willpower</td>
</tr>
<tr>
<td>Pilgrim</td>
<td>Stealth</td>
<td>Endurance</td>
<td>Personality</td>
</tr>
<tr>
<td>Bard</td>
<td>Stealth</td>
<td>Intelligence</td>
<td>Personality</td>
</tr>
<tr>
<td>Assassin</td>
<td>Stealth</td>
<td>Intelligence</td>
<td>Speed</td>
</tr>
</tbody>
</table>

In addition to the two primary attributes, classes are largely defined by their seven major skills. These skills receive bonuses during the character creation sequence, and are needed to “level up” the character throughout the game. A character gains a new “level” whenever she has gained 5 new points across any of her major skills. Because skills top out at 100 points, this means that once a player has reached 100 in all 7 major skills that she can no longer level up any further. See Appendix A for tables listing the major skills for each class.

An initial analysis of the class skills reveals some interesting things about the game design. There is a clear correlation in most classes between the major skills, the
primary attributes, and the area of specialization. For example, the Mage Class has primary skills from all of the schools of magic (Alchemy, Mysticism, Conjuration, Destruction, Alteration, Restoration, and Illusion), has the primary attributes of willpower and intelligence and an overall specialization in Magic. All of this conforms to the expected fantasy archetype. By contrast, the Sorcerer is identical to the Mage in all respects except for a single anomalous major skill—Heavy Armour—and a correspondingly anomalous primary attribute: endurance. Archetypally, the Sorcerer and Mage are nearly identical, but the game makes them distinct in somewhat baffling ways.

The presence of these anomalies in the relationships between the classes, the skills, the attributes, and the specializations is at least partially the result of the ambiguities present in the stealth arts. As discussed above, the stealth specialization is more of a “catch-all” for any skills that didn’t fit in the other two categories. Of the seven skills that fall into that category, only two of them are inarguably related to stealth: Security and Sneak. The remaining five are either social in nature (Mercantile and Speechcraft), universal to any character (Athletics and Acrobatics24), or more appropriate to the combat specialization (Marksman).

The distinction between classes attempts to follow narrative lines. Class attributes and skills seem to be divided semi-arbitrarily, in a manner that attempts to encode some understanding of the narrative identity of each class. This is a noble idea, except for the fact that the statistical system is insufficient to meaningfully represent the narrative distinctions between the classes. For example, the Warrior class and the Barbarian class both represent distinctive types of characters from fantasy fiction and games. My perception of these two archetypes is that Barbarians are a specific subset of Warriors: more uncivilized, brutish, out-of-control, and less well dressed. There is a clear narrative separation between these two character types. This distinction,

24 In Oblivion Athletics corresponds to “running”, and Acrobatics corresponds to “jumping”. Both of these skills increase as a matter of course as the player moves through the world, and are essential to any class, regardless of specialization.
however, does not translate well into the statistics which *Oblivion* uses to represent the classes. In the current class distinctions, the only difference between Barbarians and Warriors is that Warriors specialize in Heavy Armor while Barbarians specialize in Light Armor. This fails to capture any of the meaningful differences between the character archetypes, except perhaps for my assumption that Barbarians are less well dressed. This blurriness of the narrative and the statistical distinctions between classes will be discussed further in my analysis of adaptivity and performativity in *Oblivion*.

### 5.2 Applying the Lenses to *Oblivion*

The lore and the statistics that underlie *Oblivion* help provide a partial understanding of the game experience, but they do little to explicate the actual phenomenological experience of a player or reader encountering the world of *Oblivion*. In this section I will dig deeper into the actual gameplay and narrative experiences produced by *Oblivion*. In order to do this, I have engaged in a series of directed playings of the game’s opening sequence. In some cases I have recorded data about my own choices, and about the system’s measurable response to those choices, in order to ground my discussion. I have also engaged in a broader, less directed playing of the main body of the game, with my three analytical lenses in mind. In the following chapters, I will apply each of these lenses in turn, drawing on both the directed and undirected playings of the game to support my conclusions.

Throughout my readings I have attempted to maintain a balance between my own analytical inclinations and the notion of “naïve interactor” described by Jim Bizzocchi in his own close reading methodology. (Bizzocchi, 2001) As discussed earlier, this entails performing the role of a specific interactor who is encountering the work for the first time, and is at least partially immersed within the experience but is also aware of the analytical implications of the experience. Wherever this has occurred, I have attempted to fully disclose the aspects of my play that are performative in nature, and the assumptions that I have constructed around each of those investigative performances.
Believability is an important metric for evaluating the success or failure of a game like Oblivion. Eric Champion, one of the few researchers to discuss Oblivion in any depth, argues for ways in which it might be considered to be a Virtual World. He identifies three aspects of “worldliness” that are present in virtual worlds: the environmental, the social, and the cultural. He introduces the notion of extern, which he borrows from material culture theory, to describe environmental phenomena that are capable of both evoking a sense of aesthetic awe and wonder, and environmental phenomena that inspire “us to question and reflect on our existence and relation to the world.” (Champion, 2007) In his assessment, Oblivion succeeds as an environmental world as a result of its potential to evoke these types of responses at an aesthetic and visceral level.

However, Champion argues that Oblivion has significant shortcomings in the social and cultural aspects of worldliness. His critique of the game as a social world is built around the observation that certain aspects of the game’s design initially lead the player to expect a higher level of believability from the AI players than they ultimately are able to deliver. In one example, he describes the forced gaze of the AI characters, who always turn to face the player and then continue to follow her wherever she might move, even adjusting their body postures to keep the player in sight.

Experienced with online virtual environments, which lack this automatic head-following of other avatars, I initially found this technique conveyed a powerful sense of presence, but it begins to lose its impact with ongoing familiarization...If the movement and speed were tied to how excitable or excited is the NPC, that may add to individual character development and to the current dramatic tension. (Champion, 2007)
In this example, the initial experience of the NPCs raises his expectations; however, a lack of variation quickly reveals the mechanism underneath, robbing it of its effectiveness.

In his critique of cultural presence in *Oblivion*, Champion observes that the only non-superficial distinction between races and cultures in the game is in terms of their statistics and abilities. This *superficiality* is at the heart of all of his critiques: the game provides books to read, but the books do not contain anything that really enriches the player’s understanding of the world; the races have special abilities, but do not have any sense of destiny, personal idiom, or cultural heritage. (Champion, 2007) I believe it is possible to trace all of his critiques back to issues raised in section 4.1.2, where I discuss the relationship between believability and expectations. Many of the elements of *Oblivion* are designed to raise the player’s *expectations* of the world, however, very few of them actually *satisfy* those expectations. Bearing this initial critique in mind, I turn now to an analysis of *Oblivion* using the lens that I developed for believability in chapter 4 of this thesis.

6.1 Realness

Table 6-1 - Realness Lens of Believability

<table>
<thead>
<tr>
<th>Belief is...</th>
<th>Believable things have...</th>
<th>Sub-Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ontological</td>
<td>Realness</td>
<td>Material</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Temporal</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Conceptual</td>
</tr>
</tbody>
</table>

Table 6-1 shows the first portion of the model of believability that I proposed earlier in this thesis. This first facet of believability deals with questions of an ontological nature: does the object of our belief exist, what are the conditions of its existence, how “real” is the object of our belief? At the most fundamental level this is a question of materiality.
6.1.1 Material Realness

Figure 6-1 - Oblivion Play Environment (Photo by author)

Without straying too deep into philosophical waters, we can consider the material realness of Oblivion to be largely ephemeral, with a few interesting exceptions. The central experience of Oblivion is one which is mediated via the personal computer interface.\(^{25}\) In terms of sensory immersion, this means that the primary modes of

\(^{25}\) As mentioned earlier, I am specifically discussing Oblivion on the PC. Having not played the game on a console I make no claim as to the universality of my observations across multiple playing environments.
experience are audio and visual, while the player’s tactile/kinaesthetic experience of the
gameworld is limited to her interface devices—traditionally a combination of keyboard
and mouse. [Figure 6-1]

While this observation might seem to be a bit pedantic, it is important in
considering where the threshold of the fictional world’s material realness occurs.
Oblivion can be seen and heard directly. It can be “touched” via the intermediations of
the interface, but it does not touch back, nor does it provide tactile feedback. Is this the
limit of the material experience of Oblivion? I argue that it is not. When Bethesda
released the game for the PC in 2006, it was offered in two different editions: a standard
and a collector’s edition, the latter of which contains a number of interesting
promotional items. [Figure 6-2]

Figure 6-2 - Material elements of Oblivion, including: packaging, "Imperial Septim" coin,
and "The Pocket Guide to the Empire". (Photo by author)

Figures 6-1 and 6-2 show some of the additional materials that come with the
Collector’s Edition, including: a paper map of the province of Cyrodiil, a faux leather-
bound book containing a history of the Empire, and a metal coin stamped with an image
of the Emperor on one side and the symbol of a dragon on the other side. These artifacts are notable for the attention to detail that has been paid to them. The coin bears the phrase “The Empire is Law/The Law is Sacred” on one side and the phrase “Praise be to Akatosh and all the Divines” on the other. The *Pocket Guide to the Empire* has no listed author, aside from the indication that it is “Promulgated under the Authority of the Imperial Geographical Society”. The Imperial Stamp of Approval graces the front page, indicating that the contents within represent an “officially sanctioned perspective” on the history of the world. The book itself is a densely packed narrative supplement to the game manual, containing a history of the races, regions, and religions of the empire; albeit from a “biased” perspective.

All of these details serve to at least partially extend the material realness of the game beyond that which is presented on the screen. While these items are somewhat “gimmicky”, they still are effective at augmenting the experience of the game. When I find a book on a shelf in the game and some of the content is already familiar to me due to the book that I’ve been reading in the “real world” this augments the “reality” of the game for me. When I pick up a gold coin in the game, I have a material point of reference for that coin. The physical coin which is provided with the packaging of the game becomes what Janet Murray would describe as a *transitional object*; an object which can simultaneously retain its physicality while existing as a point of reference for complex emotions and imaginings. (Murray, 1997) There is a similar notion in sociology that deals with items called *Boundary Objects*. These are items that are situated between multiple communities and worldviews, which can be used to build shared understanding by providing a point of contact for different point’s-of-view.

In natural history work, boundary objects are produced when sponsors, theorists, and amateurs collaborate to produce representations of nature. Among these objects are specimens, field notes, museums and maps of particular territories. Their boundary nature is reflected by the fact that they are simultaneously concrete and abstract, specific and general, conventionalized and customized. (Star & Griesemer, 1989)

As boundary objects, the book and the coin serve to negotiate between my experience of the material world and my experience of the virtual one. Because these
objects overlap this real/virtual boundary, the border is made more permeable and arguably more believable.

Another transitional object that has persisted throughout the *Elder Scrolls* games is the map of Tamriel. Providing a reader with a map of a fictional space is a tradition with a rich history. One of the best known maps of any fictional world is the map of Middle Earth devised by J.R.R. Tolkien to accompany the Lord of the Rings trilogy. Tolkien’s map serves several important functions as a transitional object that correspond with this notion of material realness: it delineates the physical and geographical boundaries of the world, it enforces a spatial consistency on the behaviour of characters within the text, and it delineates the possible settings available within the text of the narrative while simultaneously invoking a world that exists beyond the strict boundaries of the story as written. In other words, the map is a device for enhancing reader’s perception of the material realness of the fictional world. In *The Elder Scrolls*, the map of the world is an artifact that has been preserved across most of the series.

The narrative props of the coin, the book, and the map allow me to more readily *suspend my disbelief* by providing me with tangible evidence of the material realness of the world. I *know* that the book and the coin are props, but they give me something around which to imagine a larger material world, in the same way that a broom handle might become a lightsabre in the hands of an imaginative Star Wars fan. In this sense, at least, the realness dimension of believability can be connected to Janet Murray’s notion of *imaginative immersion*: the immersion that comes of actively imagining oneself into the world of the narrative. (Murray, 1997) This brings to mind the scene in the film *The Matrix* where the character of Neo emerges from a virtual reality combat training simulation to find that he is bleeding. When he asks if what he experienced was real, he is told “Your mind makes it real.” (Wachowski & Wachowski, 1999)

### 6.1.2 Temporal Realness

*Temporal realness* in a game like *Oblivion* is not uniform across the entire experience. It is necessary to consider it as it applies to at least three distinct
phenomena within the game: the Storyworld, the NPCs, and the Player Character. As discussed above, the storyworld in *Oblivion* is a continuation of an ongoing system of lore that originated in *Arena* in 1994. This game lore has been modified, extended, and enriched over the development of the game series to include a sophisticated calendar system, a pantheon of deities, and a labyrinthine cosmology and world history. For these reasons, I consider the storyworld to have the greatest amount of temporal realness. It has persisted across the various games more than any other narrative element, and it creates and sustains the notion that the world of the game has deep historical roots. By presenting “biased” accounts of the history from the perspective of different cultures, the game allows the reader to triangulate her understanding of the history as an interpreted and recalled phenomenon, rather than a fixed certainty. The history of Tamriel is shown to be *socially constructed*, rather than objectively fixed. This adds to the believability of the world, as it is consistent with the notion of history as a complex, interpreted phenomenon. This makes my experience of the fictive history of Tamriel closer to my own understanding of real-world history; a phenomenon which is largely constructed by the lenses and cultural perspectives of the historian doing the recounting. Many narratives fail this particular test of believability, presenting worlds with unified, homogenous, socio-political systems with only one perspective on their history. The *Star Trek* television shows were especially guilty of this, with whole planets often represented by a single cultural group. *Oblivion*, by comparison, presents a temporally real and believable world, at the historical level.

By contrast, the majority of the NPC’s in *Oblivion* lack temporal realness at the narrative level. They do not have personal histories, they do not continue narrative threads from previous games, and they are trapped within limited narrative arcs that often consist of only two possible outcomes: going about their daily activities for eternity or dying. In spite of the Radiant AI and the goal-driven mechanism that controls their actions, these characters are narratively neutral, capable of repeating a few lines of scripted gossip and of wandering through a series of perfunctory seeming survival routines. Their temporal realness is undermined by the sense that they have been
carrying out the same tasks for an unspecified eternity before the player arrived and that they will continue to carry out those tasks, without break, or change, for another eternity after the player leaves. Although the game has a complex calendar system, the passing of time has no effect on the characters. They do not age; they do not meet, fall in love, and raise a family, and they do not grow frustrated with their endless days of standing around on street corners discussing the weather. Tragically, the only change that is possible in these character’s lives is the finality of death; a death most often the result of choices or actions taken by the player. Perhaps this is why there are no children to be found in Cyrodiil, and very few elderly. If the only change in the social world of these characters is an untimely demise, then it is understandable that the designers decided that having children in the game would be ethically problematic.

The social world of Oblivion is a system in balance with itself and it remains at equilibrium until the actions of the player disrupt that balance, like a stone thrown into a still pond. One consequence of this focus on the player is that without player action the world remains safe from the threat of Daedra and the Oblivion portals. Should the player choose to not pursue the Main Quest, the world remains at peace. It is only after the player activates certain narrative events that Oblivion Gates begin to appear in the world, however, even at that point the denizens of Cyrodiil are in no real danger because the gates only open in the most remote wilderness, far from any civilization. Once a portal is open, it releases a few scary demons, but these do not seek out villages to lay waste to, they just wander aimlessly around the gate until the player arrives to either dispatch them or lead them elsewhere. The online discussion boards are filled with stories of towns emptied of inhabitants, thanks to mischievous players leading particularly deadly Daedra to their gates. Left to their own devices, it would seem that the Daedra would just like to stop and eat the flowers.

This notion of the player as the axis around which conflict and change revolve in the world will be important at several points in my discussion of Oblivion. At this point, however, I wish to return to the specific facet of believability which is under discussion in this section: temporal realness. The third aspect of temporal realness has to do with
the character that the player is manipulating in the world. Here we find some interesting design choices, many of which are intended to provide the player with a blank slate with which to conceive of a character, but which ultimately leave the player with no frame of reference for her character’s identity.

Put quite bluntly, the main character in *Oblivion* has no past. The player selects a race, a gender, an age, a class, and a “birthsign” but these are window dressing on an empty shell. When I discuss performativity I will propose an alternative analysis of this design choice, but for now, I am considering the implications for character believability. The character begins her life in a jail cell, but this incarceration means very little in terms of the narrative: within the first few moments of the game she is reassured by the Emperor himself that her past does not matter and that she will instead be remembered for the things she is about to do. Once released from the imperial prison, the player is free to do any number of things: make friends, make enemies, buy a home, start a career, and perhaps save the empire from destruction. However, the character seems plagued by anonymity: no one has ever met her; she has no friends from before she was in prison, no possessions or property, and no clear knowledge of the world. NPCs treat her like an outsider at best and an imbecile at worst, recounting basic information about the world that even a traveller from another province ought to know. There is no sense that the character is a member of the social world of Oblivion, and many of the attempts of the designers to enrich the world via narrative serve to emphasise the otherness of the player’s character. Even as the player constructs a new history and identity for the character within the game, the NPCs seem determined to deny the reality of those choices via inconsistent memory and response.

I can understand the desire to want to educate the player about the world that she has just entered, and I can see how these design choices might seem like a good way to work the game lore and narrative into the world. Unfortunately, instead of making the world feel alive, the presence of unmotivated exposition in the NPC dialogue highlights the artificiality of the situation. Awkward exposition can immediately break a reader’s belief in a story, regardless of medium, however in linear narrative it is quickly
left behind as the story moves along. In an open-world, like Oblivion, the player never moves past these awkward moments of expository conversation, and so is continually being jarred into the realization of the mediated nature of the experience.

Although Oblivion builds on a rich base of lore from the previous games, it ultimately fails at presenting any sense of temporal realness at the character level for both the player and the NPC agents. This failure undermines the areas where the game does succeed at modeling a living world, robbing it of a sense of life, and confounding all of my attempts to construct a meaningful personal narrative through exploratory play, except perhaps at the moment-to-moment level. This has consequences that will be evident in other aspects of my analysis, most importantly in my discussion of consistency and causality and in my discussion of adaptivity.

6.1.3 Conceptual Realness

The third ontological element of my lens is conceptual realness, or referential realness. While the first two dimensions of this section were looking at the realness intrinsic to specific phenomena, this lens instead looks at the ways in which these phenomena can be real through extrinsic reference. In Oblivion, the place where this conceptual realness is most evident is in the “gossip system” that governs incidental character dialogue.

In Oblivion, as the player advances the main quest, or rises in prestige in the various guilds, word of her deeds spreads through the world. This manifests within the speech routines that the NPCs engage in when they encounter each other in the streets, or while sitting in the local bar. NPCs in Oblivion are chatty to a fault. Whenever two or more are in proximity for any length of time, they will engage in fully voiced gossip, occasionally talking over each other in their eagerness to share the latest news or just to express their feelings. For example, one city guard might say: “I’m talking about the hero of Kvatch! Did you hear that she actually went into an Oblivion Gate and closed it?” To which another would reply: “No!” “Indeed!” responds the first guard. By having NPCs indirectly respond to events in the world, or to the actions of the player, the
designers are able to create a sense that these events and actions have a conceptual life beyond their momentary instantiation. This conceptual realness, when employed properly, can greatly increase the meaning of gameplay events by giving them broader reaching narrative effects.

Unfortunately it is difficult to determine how gossip is transmitted in *Oblivion*. While NPCs will occasionally travel from town to town on business, the ubiquity of certain pieces of gossip, such as global occurrences in the Main Quest, suggests that gossip does not follow a literal chain of dissemination, as it would in the real world. It seems more likely that the gossip tables of all of the NPCs have different options active depending on the state of the world at any given moment, irrespective of geographical proximity to any specific event. The advantage of this approach is that it raises the probability of the player overhearing a given exchange of gossip. The disadvantage is that all of the characters in the world know instantaneously when a plot event has occurred, even if there is no real way for them to have this knowledge. Additionally, the increased probability of hearing a given exchange results in the same exchange being repeated over and over again as the player explores the world. This mechanical repetition of the same dialogue over time detracts from any increase in character believability that the gossip system might have contributed to the game.

### 6.2 Role

**Table 6-2 - Role Lens of Believability**

<table>
<thead>
<tr>
<th>Belief is...</th>
<th>Believable things have...</th>
<th>Sub-Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prescriptive</td>
<td>Role</td>
<td>Functional Role</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reader Role</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Social Role</td>
</tr>
</tbody>
</table>

The second category in my lens is *Role*, which corresponds to the *prescriptive* aspect of believability. [Table 6-2] This aspect of believability also deals with the notion of expectations that has been discussed several times thus far. The *role* of any given character is a combination of the narrative function she serves, her relationship to the
reader, and her relationship to both the social conventions of the fictional world, and the social conventions of the reader’s culture.

6.2.1 Functional Role

The functional role of a character is related to the notion of narrative function in Vladamir Propp's *Morphology of the Folktale*. In *Oblivion* these functions are made most evident through the game’s class system. The classes in *Oblivion* have implicit narrative functions associated with them. We have stereotypes about fighters, mages, and thieves, and these stereotypes provide the basis for our expectations of a character’s actions. These expectations are not necessarily highly specific, or complex, although they can be. If an NPC is a member of the Mages Guild, we do not expect her to pick up a broadsword and begin hacking at her enemies; we instead expect her to cast spells at her enemies. If an NPC is a barbarian, we don’t expect him to try and persuade his enemies to sit down and talk out their differences.

NPCs in *Oblivion* are all given one of the 21 default classes, which are used to establish the basic parameters of their behaviour. However, the class assignment is not often evident to the player of the game. Instead, the functional role of the NPCs corresponds more closely to Rozak’s character spectrum (Rozak, 2006). Earlier in this chapter I discussed Rozak’s spectrum (see section 5.1.2). Rozak’s system is designed to understand NPCs as existing along a continuum between two poles: hand-generated content and procedurally generated content. Using his categories as a jumping off point, the roles of NPCs in *Oblivion* can be divided into the following six categories. [Table 6-3]
Table 6-3 - Reinterpreting Rozak’s Spectrum

<table>
<thead>
<tr>
<th>Character Role</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Heroes</strong></td>
<td>Heroes are the NPCs which are central to the plot. These characters have a clear role within the narrative of the game: they have a task to accomplish, a goal to fulfil, and an arc to traverse. The Emperor’s son, Martin, is a good example of a Hero character in <em>Oblivion</em>. It should be noted that narratively significant enemies (villains) also fit within this category.</td>
</tr>
<tr>
<td><strong>Sidekicks</strong></td>
<td>Sidekicks are NPCs which provide important support to the Heroes, diversifying and rounding out the cast. These are not necessarily sidekicks in the literal sense, but instead are characters which are carefully crafted and reoccur throughout the game, but which are not at the center of the story. In <em>Oblivion</em> the leaders of the guilds are Sidekick level characters.</td>
</tr>
<tr>
<td><strong>Employers</strong></td>
<td>Employers are characters designed to give the player something to do. Employers have a simple problem that needs solving, after which they become meaningless. Most of the quest givers in <em>Oblivion</em> fall into this category.</td>
</tr>
<tr>
<td>Shopkeepers</td>
<td>As Rozak suggests, Shopkeeper characters are no more than anthropomorphized vending machines. With a few exceptions, the Shopkeepers in <em>Oblivion</em> are without any narrative significance.</td>
</tr>
<tr>
<td>Local Colour</td>
<td>The Local Colour NPC is essentially animated set dressing. These characters only contribute to the narrative at the storyworld level. In <em>Oblivion</em> there are a relatively small number of Local Colour characters, often found wandering the streets or the fields or gossiping with other Local Colour.</td>
</tr>
<tr>
<td>Fodder</td>
<td>The Fodder category includes any character in the game whose sole purpose is to die at the hands of the player and/or kill the player for entering his secret cave lair. In <em>Oblivion</em>, Fodder can be found pretty much anywhere outside of the towns and cities, and are distinguished by their refusal to communicate with the player.</td>
</tr>
</tbody>
</table>

* Most of these characters are in the “essential-characters” category, and can only die if they are required to by the plot.

Roles on this table inherit the properties of the roles below them, so it is possible for a Hero to also perform the functions of an Employer, or a Shopkeeper, or both. These distinctions in role can be problematic for character believability in *Oblivion* because it is not always evident when the character is performing which role. This can lead to situations where the player’s expectations are inappropriate for the role of the character.

One example of this is the behaviour of NPCs in the wilderness, compared to the behaviour of NPCs in the towns. Within the towns, there are no NPCs below the Local Colour level, whereas the NPCs in the wilderness vary from Fodder to Employer in level, with a higher incidence of Fodder. The difficulty with this scaling is that the Fodder level NPCs all operate on a “kill first, ask questions later” paradigm when interacting with the player. These NPCs must be dealt with through swift and violent action. Local Colour
and above NPCs in the wilderness merely wish to chat or perhaps sell the player something. Because there is no easy visual indicator of the NPC’s role, the player can find herself in a situation where she has just murdered an innocent farmer or where she has just tried to chat with a bloodthirsty bandit. This is a clear example of a conflict between the player’s expectations, and the way in which the system satisfies them.

6.2.2 Reader Role

The role of the reader in Oblivion is as a first person performer, making this aspect of Oblivion compatible with the notion of Interactive Drama. From a believability standpoint, the question that can be asked is: does the system support or contradict decisions and choices made by the reader about her role within the narrative? In other words, when the reader creates a character, does the system respond appropriately to that character? These questions bring me back to the issue of class in Oblivion.

The class system in Oblivion provides players with 21 possible predefined roles, as well as the opportunity to create custom classes with their own narrative function. However, these roles do not actually yield distinctive play experiences. As I discussed above, the mapping between the narrative understanding of the class roles and the system’s statistical representation of the same class is insufficient to capture even a broad distinction between many of the classes. In conjunction with this, the gameplay itself does not allow for more than a limited set of possible approaches to any given situation. Generally speaking, the three functional roles available to the player are stealth, magic, or combat. This triad should be familiar as it corresponds to the three areas of specialization in the game. The 21 classes are a narrative gloss on top of these three roles, providing little real distinction in the gameplay beyond the occasional blurring of the lines between these roles (i.e., the Spellsword casts spells and hits things with swords.) While there is nothing to stop the player from “roleplaying” her character in a narratively salient way, there is also little in the system that supports that act of performance. I will dig into this issue in greater depth in my discussion of performativity.
One of the places where the system does support this performance is in the gossip system. In much the same way that NPCs will gossip about world events, they will also harangue the player about her skills and abilities as she develops in level. A character specialising in the Illusion school of magic will be greeted by an NPC with the phrase: “You look like you have the hands of an illusionist!” Likewise, an Alchemist will be asked to “mix up some potions” and a swordsman will be told “you look handy with a blade.” These comments serve to reflect and reinforce certain statistical aspects of the character that is being played, even if they do not translate into a full appreciation of the narrative nuances of a player roleplaying as a Barbarian or a Spellsword.

6.2.3 Social Role

Social role deals with the behaviour of the characters in the game—both the NPCs and the player character—in terms of the social conventions and expectations of the fictional world and of the world of the player. Social conventions in Oblivion are limited primarily to a simple set of moral values which are enthusiastically enforced by the town guards. These values can be simply described as: do not steal, do not trespass, and do not assault or kill. Players who break any of these rules within sight of an NPC immediately have a “bounty” placed on their heads. A guard is called, and the player is given the option of paying her bounty off, going to jail for a period of time, or resisting arrest. This third option is a very good way to get killed, even at the higher levels, as the game generates an unending stream of guards who attempt to beat the player into submission or kill her. The other two options are a choice between paying a fine or losing several skill points while cooped up in jail.

While this simplified treatment of social conventions does not capture the richness of a real social world, it does contribute a very important element to character believability within the game: a consistency of law enforcement across both the player’s character and the NPCs. In the example of the Chase for Shameer given above (Laivasse, 2006) it is evident that NPCs are capable of breaking the law in order to accomplish their active goals. An NPC caught in the act of theft is subject to at least one of the same
consequences as the player: death at the hands of an angry guard. The notion of uniformly enforced consequences for violating the law reasonably reflects the way in which crime and punishment are treated in western culture, and it supports the illusion that the player is a participant in the social world of *Oblivion*, rather than an observer.

Unfortunately, as with many of the features of the *Oblivion* game engine, design choices that initially appear to support player belief in the life of the world, when allowed to operate without any higher level of logic or reasoning, result in breakages that deny belief in the game as anything other than a mechanical system. In the case of the crime and punishment system in *Oblivion*, the magical ability of guards to spontaneously appear whenever a player commits a minor crime (such as relocating an object that does not belong to her) and to automatically know whether the player has a bounty on her head quickly breaks any illusion of the guard agents as characters. The guards instead become manifestations of the system, which knows no pity or remorse in the face of crime. For example: during one game play session, I was listening to chatter between guards in order to record their conversation and I sat down at a table across from them. When I did this I accidentally bumped a loaf of bread off of its plate. Moving my cursor over the bread and plate caused it to transform into a red coloured hand icon, indicating that taking them would constitute an act of theft. In *Oblivion* there are two ways to pick up items in the world. The most common one is to press the space bar, which places the item into a player’s inventory, effectively taking possession of the object. The less common interaction involves holding down the “Z” key. This causes the hand icon to act as the player’s hand within the world, allowing players to lift and position objects within the world without placing them into the inventory. Without thinking about it, and because I am a compulsive organizer, I used this second option to lift the bread and place it back onto the plate. In my mind, this was simple politeness. In the minds of the guards, however, I was committing theft. “Stop what you’re doing, Criminal Scum!” shouted one of the guards, arresting me right then and there. For the crime of moving a loaf of bread, I was sentenced to a fine or time in jail. I have no doubt
that resisting arrest would have resulted in the guard shouting “Fine! Then pay with your life!”

This inability to distinguish context, or to scale response according to the magnitude of a crime, transforms the social and legal conventions of the world from a set of reasonably enforced ethical principles to an arbitrary and draconian police state where guards beat helpless old ladies to death for picking the corn in their neighbour’s field. If the world narrative of Oblivion had been written about the implications of police presence then this would be a brilliant implementation, but as it stands, it simply breaks believability.

6.3 Consistency

Table 6-4 - Consistency Lens of Believability

<table>
<thead>
<tr>
<th>Belief is...</th>
<th>Believable things have...</th>
<th>Sub-Dimensions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Evaluative</td>
<td>Consistency</td>
<td>Emotion</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Personality</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Growth</td>
</tr>
</tbody>
</table>

The final category in my believability lens, consistency, [Table 6-4] deals with how well the experience “satisfies the viewer’s expectations” and corresponds to the evaluative aspect of belief. If the previous section was about what external expectations could be imposed on a character, then this section is about how well those characters perform against a larger and more universal notion of consistency. As mentioned in chapter 4, there is a close relationship between the notion of consistency and the notion of causality. I break consistency into three subcategories: emotion, personality, and growth.

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26 It should be noted here that it is all but impossible to discuss the notion of satisfaction without having some sense of the reader’s expectations, and vice versa. The clearest way to distinguish these two concepts in this lens is to think in terms of directionality: prescriptive expectations move from internal to external phenomena, evaluative satisfaction moves from external to internal phenomena.
6.3.1 Consistency of Emotion

Consistency of emotion can make the difference between an NPC that appears to be rational and aware and an NPC that appears to be schizophrenic and unpredictable. Except in the rare situation where it is narratively desirable to have a schizophrenic character, a lack of emotional consistency is a sure-fire way to disrupt believability. In *Oblivion*, the NPCs are designed to portray a range of emotions, primarily through their facial features and their vocalisations. As I will discuss further in the section on adaptivity, NPC reactions to the player arise from a complex set of conditions. The complexity of the determining factors, in conjunction with the game’s open-ended approach to play, often results in players who trigger different emotional responses from moment to moment, due to conflicting parameters existing simultaneously on the same player. The result is NPCs that are thrilled to see the player one moment, and calling for her blood the next.

For example, there is no restriction placed on which guilds a player can join or how many guilds a player may be a member of at one time. There are strategic advantages for the player to join as many of the guilds as possible, and transform her character into an undifferentiated master of all things. There is no advantage to specialising in only combat, or only stealth, or only magic, and there is considerable advantage to having access to all three modes of play. This means that it is not unreasonable to want to play through all of the fighters guild quests *and* all of the mages guild quests *and* all of the thieves guild quests *and* all of the dark brotherhood (assassins’ guild) quests. This introduces a serious issue in believability, which comes back to the notion of emotional consistency. Each guild in the game is narratively in conflict with the other guilds. This tension is most pronounced between the mages guild and the fighters guild; the mages look down on the fighters as unsophisticated, and the fighters look down on the mages as weak. For my character, I elected to complete the mages guild questline early in the game, which garnered me the title of Archmage. This gave me access to private quarters in a magical tower, and a collection of devoted followers throughout the land. I then decided that it was time to work on my
fighting skills and so I started the fighters guild questline. This did not introduce any problems until I was assigned a quest by the fighters guild to deliver a request to one of the highly placed members of the mages guild. As the Archmage, I approached my subordinate, who greeted me warmly, happy to serve his leader. I then activated the quest text from the fighters guild. Immediately, my subordinate’s expression changed from a warm smile to a condescending sneer. “How dare a lowly thug from the fighters guild waste my time!”

There are many situations in *Oblivion* where the emotional response of the NPCs shifts abruptly as the result of conflicts such as the one in the example above. This is punctuated by inconsistency in the voice acting of the characters who will even occasionally use speech assets from different voice actors during a single conversation. The result is a world populated with emotional train wrecks of NPCs; characters that are fickle at best, and schizophrenic at worst. The fact that *Oblivion* has attempted to give the NPCs strong emotions is laudable, however the inconsistent implementation of emotional states is jarring, and ultimately defeats believability.

### 6.3.2 Consistency of Personality

The second facet of this lens is *consistency of personality*. With a few exceptions, the majority of the characters in *Oblivion* are consistent in their lack of any real personality. While this means that there are less *inconsistencies* in how personality manifests throughout the game, the absence of personality does *not* yield characters that are believable. One of the main believability criteria outlined by Mateas as part of the CMU Oz project is personality, which should infuse everything a character does. (Mateas, 1997) Most of the inhabitants of the world give no indication of their interests, their backgrounds, their likes and dislikes, or their values. Much of the character dialogue is shared across multiple characters, with occasional variations that are determined by the character’s role on my modified version of Rozak’s spectrum depicted in Table 6-8 above. Generally speaking, as characters move from hand-authored to procedurally generated, their personalities become less rich. The majority
of the characters in *Oblivion* are procedurally assisted and suffer from this generic lack of personality, but there are a few exceptions that bear mentioning.

For example: Most of the shopkeepers in the game are generic anthropomorphized vending machines, but every now and then there is a bit of clever writing that causes one to stand out of the crowd. One of the most amusing examples of this is the owner of the Alchemy shop in Skingrad: Falanu Hlaalu. Falanu is much like the other citizens of Skingrad: she appears to be reasonably well off, has a thriving business, and does not participate in any quests, thus preventing her from rising above the role of shopkeeper on my chart. She would be unremarkable, except for one small character detail that causes her to stick in the player’s mind. Here is a transcript of a set of unique dialog options available to players interacting with Falanu:

*Falanu Hlaalu:*  “*Me? I’m Falanu. House Hlaalu. As if that matters here. I’m the only alchemist in Skingrad. Not much business here, but I can’t go back to Morrowind. It’s just like anywhere else in the Empire. By the way... do you happen to know what the fine is here in Cyrodiil for necrophilia? Just asking.*”

*Player Character:*  “Uh...excuse me?”

*Falanu Hlaalu:*  “*Oh. Nothing. I was just wondering.*”

*Player Character:*  “*Is it the first offense?*”

*Falanu Hlaalu:*  “*Let’s assume...no.*”

*Player Character:*  “*Then it’s at least 500 gold.*”

*Falanu Hlaalu:*  (*Joyfully*)  “*That’s nothing compared to Morrowind. Thanks.*” *(Bethesda Softworks, 2006a)*

Even this small but interesting detail is enough to cause Falanu to stand out in the memory of the player. It does not take very much personality to make a character come alive in the mind of a reader, but it does require careful thought, and some attention to the details of the character rather than the broad strokes. These details are

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27 The notion of “unique dialog” options is a common one in CRPGs, where speech assets are often reused across multiple characters. A character’s unique dialogue options are utterances which are not shared with other NPCs.
the difference between the 1000 forgettable and generic NPCs and the characters like Falanu Hlaalu, distressing as her lifestyle choices may be.

In *Oblivion* it is difficult to say that the personalities of the NPCs at the Shopkeeper level or below are inconsistent, except perhaps in their unrealistic homogeneity. In terms of the notion of expectations and satisfaction, most of these NPCs behaviours establish low expectations in the player, which they then satisfy. Among the Heroes, Sidekicks, and Employers in *Oblivion*, personality suffers from similar inconsistencies to those which plague emotion.

It is at these higher levels where inconsistencies begin to occur, precisely because these characters rely more heavily on embedded content, which does not adapt as well to changing narrative and gameplay context. For this reason, a character like Baurus, one of the leaders of the Emperor’s bodyguards, can be outraged at the player for attacking him without provocation one moment, and praising the player for her heroism in the face of danger the next. This points to a tension between the hand-authored characters and the procedurally generated characters. At the upper (hand-authored) levels of the spectrum there is room for richer content at the expense of flexibility, which risks inconsistency. At the lower (procedurally generated) levels of the spectrum, consistency is less of an issue, but homogeneity becomes a serious concern. There is an additional tension present in a game like *Oblivion* which has characters from all colours of the spectrum. The player must learn to shift her expectations from character to character, occasionally with no clear indication of which level the character is at. There are a few cues provided to the player at the interface level by *Oblivion*, such as the transformation of the cursor to a crown whenever the player is interacting with an “essential character”. This helps to establish player expectations of the amount of personality to expect from an NPC prior to any interaction. However, there is no clear indication of role when interacting with standard NPCs in the game.
6.3.3 Consistency of Growth

The final facet of believability in *Oblivion* that I will be discussing is the notion of *consistency of growth*. As I mentioned in the discussion of *temporal realness*, the characters in *Oblivion* seem to be trapped in time. The consequence of this is a lack of character growth, except when catalyzed by the actions of the player. Perhaps an NPC is sad because her daughter wandered off into the woods and did not return. This NPC will remain in the same state of sad expectation for as long as it takes for the player to eventually get around to rescuing her daughter. After that, she will be incredibly happy with the player whenever the subject of her once missing daughter is brought up, but will otherwise behave in exactly the same way that she did before.

This is not growth, and it is not a character arc, even at the micro-narrative level. If the player were to kill the NPC’s daughter after rescuing her, the NPC would still be overjoyed when discussing the rescue. In this sense, issues of consistency of growth for characters in *Oblivion* arise from issues of consistency of emotion and personality. These three dimensions of consistency are closely interrelated: violate any one of them and the other two suffer as well.

There is another inconsistency present at the statistical level of the game, which is that events for the player character result in improved stats and abilities, while the same events and actions for NPCs yield no new skills or capabilities. An imperial ranger can spend months of game time fighting with wolves and bandits along the road and never increase in his Blade skill, while the player can become a master of the blade through the exact same activities. This reinforces the feeling that the world of *Oblivion* is inherently inert, while the player is undergoing and introducing constant change.

6.4 Final Thoughts: Emergent and Embedded in Conflict

Although several of the characters are somewhat believable, *Oblivion* fails as a believable world on multiple levels, despite a rich and developed storyworld, beautiful and artfully executed environments, and an unprecedented AI system for governing NPC behaviour. One of the most apparent reasons for *Oblivion’s* failure that emerges from
the analysis above is an inability to reconcile the embedded elements of the narrative
with the emergent elements of the system. This is a failure of both design and
technology, which is to say that many of the breakages in believability occur in both the
conceptual and narrative aspects of the system, and the mechanical and operational
elements. In order to reconcile these two elements of the game experience, there
needs to be a greater attention to the narrative context of any given event, at both the
scripted level and the procedural level. Without such a blending of the emergent and
embedded aspects of the narrative’s context, the game remains in a constant state of
internal tension, with multiple systemic agendas pulling against each other.

At the heart of this tension is the identity crisis that is inherent in Oblivion’s
design. The game does not know whether or not it is a sandbox game or a rails game.
The resulting hybrid manages to highlight the weaknesses of both, rather than
incorporating their unique strengths. This manifests as a timeless world wrapped
around a rigidly paced linear narrative and as NPCs that have the emotional consistency,
personality, and attention span of a goldfish. In Oblivion, the demands of the
procedurally generated and open world elements succeed only in constraining the
personalities of most of the NPCs to bland, easily recombined shells, while the few
characters with more hand-authored personalities don’t fit into the resulting social
landscape. The tendency of the game to revolve solely around the actions of the player
is initially charming, but it ultimately serves to alienate the player’s character from the
other characters in the world, while also becoming phenomenologically unsettling over
repeated exposure. It is this player-centric aspect of the game that I will be
investigating in the next section of this chapter, which deals with the notion of
adaptivity in Oblivion.
7: ADAPTIVITY IN OBLIVION

Having taken Oblivion to task on believability issues, it is time to turn the critical lens to issues of adaptivity. Oblivion stands apart from other adaptive game systems currently on the market. Unlike games like Black & White, Fable, and Knights of the Old Republic, which take a stereotyping approach to adaptivity by classifying players as either “good” or “evil”; Oblivion employs a feature-based model of the player for many of its adaptations.

This is evident in the set of parameters that govern the disposition of NPCs to the player’s character. NPCs in Oblivion react to the player based on a combination of several changing features including, but not limited to: the player’s personality attribute, the race of the player, the health of the player, the player’s guild affiliation, the player’s position along the Main Quest, any disposition-specific magical spells (such as charm) and the player’s fame and infamy ratings. For example: my character has a high personality attribute, is an Argonian, is not afflicted with vampirism or some other disease, is highly placed in the mages guild, has completed the main quest, and has won fame as the result of my exploits in the gladiatorial arena. When I encounter a fellow Argonian member of the mages guild, that character’s disposition towards me is overwhelmingly positive; the NPC smiles broadly, greets me warmly, and if asked will reveal any important quest information that he possesses. By contrast, if I encounter a Khajit from the fighters guild I receive a much colder welcome, a brusque and dismissive greeting, and I will have to work at persuading him to reveal information via the social disposition mini-game. This is because Khajit and Argonians are hereditary enemies, and the mages and fighters guild are rivals espousing different philosophies. There is a hierarchy among these features: if my character were to join the fighters guild and rise in the ranks, eventually this would allow me to overcome any racial prejudices from the surly Khajit in the above example.
In order to deconstruct and analyze the underlying processes of adaptivity in *Oblivion*, I chose to focus my attention on one particular aspect of the game: the opening sequence. As discussed in the introduction to chapter 5, the opening sequence is a self-contained dungeon that simultaneously gathers character creation information from the player, trains her in the basic skills needed to play the game, and introduces her to the Main Quest of the game. In the following section I will discuss my experiences playing through the game opening and explore the role that adaptivity and user modeling play in the process of creating a character in *Oblivion*.

### 7.1 Broken Promises: The Game Opening

In order to contextualize my readings and rereading of the opening of the game, I will first provide a detailed overview of game opening. Once I have properly described the experience and the specific opportunities available for players to express a preference to the game system, I will provide several narrative accounts of my traversals of the material. These accounts, in conjunction with the annotated interaction record of my play sessions, constitute my qualitative assessment of the opening sequence. In this section I will be using this data to evaluate adaptivity in *Oblivion*, and will return to it in chapter 8 to consider the implications of these readings on the notion of performativity in *Oblivion*.

#### 7.1.1 Measurable Choices in the Game Opening

As the player interacts with the game opening, *Oblivion* observes her choices and attempts to infer a preferred style of play. This culminates in the system recommending a specific class to the player. This recommendation grows out the choices and behaviours which she makes from within a tightly constrained list of possibilities provided by the game designers. Using Oppermann’s (Oppermann, 1994) terminology we can say that the *afferential component* of *Oblivion* is the choices made by the player in the space, the *inferential component* of *Oblivion* is the reasoning engine that observes those choices and recommends a class to the player, and the *efferential component* is a
combination of the actions of the NPCs and the statistical responses of the game engine in the form of skill increases.

The first step to evaluating Oblivion’s success in modeling and adapting to player preferences is to determine which afferent data is being measured by the system and used to inform the inferential component. In a game like Oblivion, there is no shortage of information generated during play. This information may include: time taken to complete a task, number of enemies defeated, preferred weapon, dialogue choices, and many other often intangible elements. As a player, my observations of the game system state are limited to those statistics which the game reports to me (the efferential component) and those choices which I am able to make within the game environment. For this reason I limit my analysis to only those aspects of the game system which were observable and measurable by me during play. Many of my play choices resulted in clear numeric responses from the game system, and it is through consideration of these numbers that I draw most of my conclusions about the process of user modeling in Oblivion.

I observed two distinct categories of choice in the opening sequence of Oblivion: diegetic and non-diegetic choices. In film studies the terms diegetic and non-diegetic refer to the elements on the screen that are present within the world of the narrative (such as characters, settings, and props) versus elements on the screen that do not exist in the narrative world (such as subtitles and most underscoring). This same distinction can be made in games. In Oblivion, diegetic choices form the vast majority of options available to the player. These are choices that result in player action within the mise en scène of the game and might include attacking an enemy with a sword, casting a spell, choosing a path through a dungeon, sneaking up behind an enemy, choosing which armour to wear, picking a lock, and others. These choices also include things like dialogue responses in conversation and interaction with world objects. These choices happen in real-time, within the gameplay.

Within this category I make a second distinction between intentional choices and incidental choices. In the opening sequence of Oblivion, many of these actions do not
feel like explicit choices: running through a room and jumping over obstacles is a choice of how to navigate the space, but it requires less intentionality than having to choose which dialog option to say or which weapon to use. “Running vs. Walking”, and “Jumping vs. Not Jumping” are two important incidental choices in Oblivion and will become important to understanding the adaptation component of the user modeling system. As will become evident in my readings of the game opening, Oblivion makes no distinction between intentional and incidental choices, even though this distinction is often implicit in a player’s approach to the experience.

Non-diegetic choices, on the other hand, only occur three times in the game opening: once at the very beginning when the player is asked to select her race and gender, once near the end of the tutorial when the player is asked to select her birthsign, and finally at the end of the tutorial when the player is asked to confirm the system’s class assignment or create a custom class. In each of these situations, the game is paused, and the player is given a separate screen with standard interface items such as sliders and pushbuttons which allow her to explicitly make a choice before the game moves on. Unlike diegetic choices, non-diegetic choices are all intentional.

There are several possible statistical outcomes to choices throughout the opening sequence. These might be the addition of special abilities or weaknesses, they might be increases to skill levels, or they might be adjustments to the starting attributes of the character. Two of the choices, race and gender, also have far reaching aesthetic implications and possible social implications in terms of how the character is regarded throughout the game. Because the equipment and abilities of the player are tightly controlled in the opening dungeon, there are a limited number of choices available to the player as she traverses the tutorial. These choices are the palette with which a player may express her preferences to the system. [Table 7-1]
Table 7-1 - Available Choices in the *Oblivion* Opening

<table>
<thead>
<tr>
<th>Choice</th>
<th>Diegetic/Non-Diegetic</th>
<th>Intentional/Incidental</th>
<th>Possible Statistical Outcome / other notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Race Selection</td>
<td>Non-Diegetic</td>
<td>Intentional</td>
<td>Skill Increase, Attribute Adjustment, Abilities Added, Aesthetic and Social Implications.</td>
</tr>
<tr>
<td>Gender Selection</td>
<td>Non-Diegetic</td>
<td>Intentional</td>
<td>Attribute Adjustment, Aesthetic and Social Implications.</td>
</tr>
<tr>
<td>Birthsign Selection</td>
<td>Non-Diegetic</td>
<td>Intentional</td>
<td>Skill Increase, Attribute Adjustment, Abilities Added</td>
</tr>
<tr>
<td>Healing via “Potion of Health”</td>
<td>Diegetic</td>
<td>Intentional</td>
<td>None / Prevents the gain of Restoration Skill</td>
</tr>
<tr>
<td>Gathering Alchemy Ingredients</td>
<td>Diegetic</td>
<td>Intentional</td>
<td>None / Needed in order to gain Alchemy Skill</td>
</tr>
<tr>
<td>Pushing Logs onto Goblins</td>
<td>Diegetic</td>
<td>Intentional</td>
<td>None / Prevents the gain of any combat, stealth or magic skills from otherwise interacting with the goblins.</td>
</tr>
<tr>
<td>Running vs. Walking</td>
<td>Diegetic</td>
<td>Incidental</td>
<td>Athletics Skill Increase</td>
</tr>
<tr>
<td>Jumping</td>
<td>Diegetic</td>
<td>Incidental</td>
<td>Acrobatics Skill Increase</td>
</tr>
<tr>
<td>Picking a Lock</td>
<td>Diegetic</td>
<td>Intentional *</td>
<td>Security Skill Increase</td>
</tr>
<tr>
<td>Attacking Enemy with Bow</td>
<td>Diegetic</td>
<td>Intentional</td>
<td>Marksman Skill Increase</td>
</tr>
<tr>
<td>Sneaking up on Enemy</td>
<td>Diegetic</td>
<td>Intentional</td>
<td>Sneak Skill Increase</td>
</tr>
<tr>
<td>Getting Damaged by an Enemy</td>
<td>Diegetic</td>
<td>Incidental</td>
<td>Skill Increase in worn armour type</td>
</tr>
<tr>
<td>Wearing Heavy Armour</td>
<td>Diegetic</td>
<td>Intentional</td>
<td>Heavy Armour Skill increases when struck</td>
</tr>
<tr>
<td>Wearing Light Armour</td>
<td>Diegetic</td>
<td>Intentional</td>
<td>Light Armour Skill increases when struck</td>
</tr>
<tr>
<td>Attacking Enemy with Club, Axe or Warhammer</td>
<td>Diegetic</td>
<td>Intentional</td>
<td>Blunt Skill Increase</td>
</tr>
<tr>
<td>Attacking Enemy with Knife or Sword</td>
<td>Diegetic</td>
<td>Intentional</td>
<td>Blade Skill Increase</td>
</tr>
<tr>
<td>Attacking Enemy with no weapon</td>
<td>Diegetic</td>
<td>Intentional</td>
<td>Hand-to-Hand Skill Increase</td>
</tr>
<tr>
<td>Repairing Armour</td>
<td>Diegetic</td>
<td>Intentional</td>
<td>Armourer Skill Increase</td>
</tr>
<tr>
<td>Blocking an Enemy Attack</td>
<td>Diegetic</td>
<td>Intentional</td>
<td>Block Skill Increase</td>
</tr>
<tr>
<td>Attacking Enemy with “Flare” spell</td>
<td>Diegetic</td>
<td>Intentional</td>
<td>Destruction Skill Increase</td>
</tr>
<tr>
<td>Healing via “Cure” spell</td>
<td>Diegetic</td>
<td>Intentional</td>
<td>Restoration Skill Increase</td>
</tr>
<tr>
<td>Making Potions</td>
<td>Diegetic</td>
<td>Intentional</td>
<td>Alchemy Skill Increase</td>
</tr>
</tbody>
</table>

* Lock Picking is almost always Intentional, such as when a player encounters a locked chest or door that she wishes to open. However, in some circumstances it is required in order to pass a barrier and advance through the dungeon. In these situations, the lock-picking and subsequent skill increases are incidental to the task of navigating the dungeon, as they are no longer a matter of choice for the player. This is only the case if no other option for opening the door, such as a key, has been provided to the player. In the opening dungeon of *Oblivion* there is only one locked door, and the player is provided with a key, rendering all lock picking choices intentional.
In Table 7-1, I have colour coded a number of the entries based on the area of specialization that they fall under. This quickly reveals that among the diegetic choices there is an imbalance between the number of conceivable skill increases and the number of possible skill increases. Within each of the three categories there are seven skills, and thus seven conceivable ways for the player to represent interest along each specialization. However, in the game opening, the possible skill increases are limited by the spells and items provided to the player. As a result, the player is capable of training-up seven out of seven combat skills, five out of seven stealth skills, and only three out of seven magic skills. This is a significant system bias towards combat that may not be immediately evident to a player.

There is a second bias in the system which arises from the presence of two incidental skill choices among the five stealth-centric choices: Athletics and Acrobatics. Increasing these two skills is almost unavoidable as the player navigates the game, unless the player is possessed of superhuman patience and chooses not to jump or run at any point. In one of my play sessions I attempted to complete the entire opening sequence without increasing either of these statistics. In spite of a profoundly dreary three hour long session, I was still unable to avoid gaining a few points in Acrobatics. This introduces its own type of bias into the system; regardless of what area of interest a player may want to express to the system, she will also be expressing a significant interest in the stealth specialization, without intentionally choosing to. This bias towards the stealth specialization is active during all play, except when the character has engaged the sneak mode, which reduces the chance of gaining points in either of these incidental skills. This particular systemic contradiction is nothing short of ironic.

7.1.1.1 Annotating the Play Sessions

As I played through the opening sequence I adopted an assortment of play styles in order to try and measure the system’s response to different player preferences. For a few of my run-throughs I assumed the mentality of an imagined naïve player with a particular set of interests. For others I implemented some controls on my behaviour in
order to isolate various choices. At the heart of these strategic performances was my model of how I imagined the system was typing players, which evolved and changed as I proved and disproved various answers to the question “How does Oblivion interpret player behaviour in order to recommend a particular class?” The result is that some of my sessions were more artificial than others, as I attempted to “game the system” into recommending a particular class, based on my evolving understanding of the user model underlying the adaptivity.

My goal was to either confirm the success of Oblivion’s class recommendation system as a feature-based model of a player’s preferences, or to identify aspects of the system that caused breakdown in order to learn more about adaptivity and user modeling in games. In a successful adaptation, there would be a clear overlap between the preference that I was performing for the system and the class assignment that the system generated. In an unsuccessful adaptation, there would be a dissonance between my understanding of my play and the system’s recommendation. In order to try and systematize my own behaviours I employed a semi-rigorous data gathering method, whereby I recorded every choice and action that I took as I took it, as well as any response that the system made to those choices, usually in the form of increases to skills and attributes. This data was recorded in a large spreadsheet, as discussed in my methods chapter. For the purposes of reproducing it in a more concise format here I have devised a table for summarizing the most relevant information that I gathered. [Table 7-2]
Table 7-2 - Blank Form for Reporting Playthough Data

<table>
<thead>
<tr>
<th>Race:</th>
<th>Gender:</th>
<th>Birthsign:</th>
<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Int</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Starting Attributes</td>
<td>Attributes After Birthsign</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Possible Skill Increases

<table>
<thead>
<tr>
<th>Magic</th>
<th>Stealth</th>
<th>Combat</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Skill Gains From Diegetic Choices

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Skill Gains From Non-Diegetic Choices

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Comparison of Attempted Class, Measured Increases, and Recommended Class

<table>
<thead>
<tr>
<th>Attempted Class:</th>
<th>Measured Increases:</th>
<th>Recommended Class:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Skills</td>
<td>Top Seven Skills</td>
<td>Class Skills</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Primary Attributes</th>
<th>Top Attributes</th>
<th>Primary Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

This data includes any skill increases, non-diegetic choices, and attribute modifications, as well as a comparison between the attempted class statistics, the statistics that were actually gained during play, and the statistics of the recommended class. My initial theory about the adaptivity was that the system would look at a combination of the final attribute and skill scores in order to recommend a class. As I iterated over multiple playings I adjusted this theory several times, eventually arriving at a much simpler conclusion.
7.1.1.2 First Play Session: The Orc Warrior

For my first run-through I decided to attempt to play the classic warrior archetype. Given that one of the forms of system bias in the game favoured the combat specialization, I figured it should be easy to perform the classic combat class.

I created a male Orc character, knowing that male members of the Orc race are the most fighter-centric choice, with attribute bonuses in strength, endurance and willpower, and skill bonuses in six out of the seven combat skills. Attempting to play with a "Fighter" mentality, I dived into the dungeon, hitting enemies with whatever large, blunt objects I could pick up. I tried to keep my play uncontrived and pragmatic. I ran and jumped at points when it felt appropriate, and I wore the armour that afforded the most protection. Opting for strength over stealth in any situation, I eschewed magic except where it was absolutely necessary to heal myself or where explicitly instructed to use it by the training system. I selected the Warrior as my birthsign, conferring an additional bonus to my strength and endurance. I even opted for the more brutish text
options when provided with dialogue options. I recorded each increase in skill as I moved through the world, as well as the results of the non-diegetic choices. [Table 7-3]

Table 7-3 - First Play Session Summary

<table>
<thead>
<tr>
<th>Race: Orc</th>
<th>Gender: Male</th>
<th>Birthsign: The Warrior</th>
<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Int</td>
</tr>
<tr>
<td>Starting Attributes</td>
<td>30</td>
<td>50</td>
<td>30</td>
</tr>
<tr>
<td>Attributes After Birthsign</td>
<td>30</td>
<td>50</td>
<td>30</td>
</tr>
</tbody>
</table>

Possible Skill Increases

<table>
<thead>
<tr>
<th>Magic</th>
<th>Stealth</th>
<th>Combat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alchemy</td>
<td>Security</td>
<td>Sneak</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

| Skill Gains From Diegetic Choices |
|---|---|---|---|---|---|---|---|---|---|
| 5 | 3 | 1 | 3 | 1 | 3 | 2 | 1 | - | - |

| Skill Gains From Non-Diegetic Choices |
|---|---|---|---|---|---|---|---|---|---|
| - | - | - | - | - | 10 | 5 | 10 | 10 | 10 |

Comparison of Attempted Class, Measured Increases, and Recommended Class

<table>
<thead>
<tr>
<th>Attempted Class: Warrior</th>
<th>Measured Increases:</th>
<th>Recommended Class: Scout</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Skills</td>
<td>Top Seven* Skills</td>
<td>Class Skills</td>
</tr>
<tr>
<td>Blunt</td>
<td>Blunt (12)</td>
<td></td>
</tr>
<tr>
<td>Hand to Hand</td>
<td>Hand to Hand (6)</td>
<td></td>
</tr>
<tr>
<td>Heavy Armour</td>
<td>Heavy Armour (11)</td>
<td></td>
</tr>
<tr>
<td>Block</td>
<td>Block (10)</td>
<td>Block</td>
</tr>
<tr>
<td>Armourer</td>
<td>Armourer (10)</td>
<td>Armourer</td>
</tr>
<tr>
<td>Athletics</td>
<td>Athletics (3)</td>
<td>Athletics</td>
</tr>
<tr>
<td>Alchemy</td>
<td>Alchemy (5)</td>
<td>Alchemy</td>
</tr>
<tr>
<td>Acrobatics</td>
<td>Acrobatics (3)</td>
<td>Acrobatics</td>
</tr>
<tr>
<td>Light Armour</td>
<td>Light Armour (3)</td>
<td>Light Armour</td>
</tr>
<tr>
<td>Blade</td>
<td>Blade</td>
<td></td>
</tr>
</tbody>
</table>

*The top seven skills are an attempt at guessing seven “class skills” from the skill increases measured during play. The six highest numbers are included, as well as any skills that are tied for seventh place. In this case there was a three way tie.
It was my expectation that the system would recommend a Warrior, a Barbarian, or a Knight. In my mind those three classes represented the most archetypal combat specialists. While the game did recommend a combat class—the Scout—it was not the one I expected. Looking at the different statistics that I had increased it was possible to see where there was overlap between both the desired class and the recommended class, while also identifying a few skill increases that might have confounded the system a bit. The unavoidable increase of the two incidental stealth skills, athletics and acrobatics, introduced some noise into the system, and my ill-advised decision to mix up some health potions caused an unexpected spike in the Alchemy skill which muddied the waters. In the top seven skills, the seventh position was occupied by a three way tie across Athletics, Acrobatics, and Light Armour. Even so, given the final values of the skills that I had trained during the run-through, and my choices of race, gender, and birth sign, I was surprised to not be classified as a Warrior.

I suspected that this was due to a lack of increase in warrior skills among the diegetic choices. Because I had selected a male orc, all of the significant skill increases in the warrior spectrum came as a result of the single non-diegetic choice of race at the beginning of the run-through. The resultant increase in the initial value of the Blunt and Heavy Armour skills meant that I had little opportunity to increase them during actual diegetic play. This was a function of the mechanics of skill levelling in Oblivion, which make each new skill point harder to earn than the previous one.

In Table 7-3 the most significant observable pattern is the distribution of skill increases across three axes: the attempted class, the measured increases, and the recommended class. There is a direct match for 6 out of 7 of the class skills of the Warrior class with the top skills measured during this play through. While there are also 6 skills matched with the Scout, this table shows that number of measured increases clearly favours a selection of Warrior over Scout.
7.1.1.3 Second Play Session: The Breton Warrior

My first run-through led me to suspect that cumulative skill total at the end of play was less of a factor than the number of diegetic skill increases during the play-session. In order to attempt to confirm this, I ran a “control version” of the first playthrough, selecting a race patently unsuited to combat, but not varying my actions within the game.

The character I created for the second run was a female Breton, a race designed for pure magic users. This particular combination of race and gender was not a pragmatic choice for a warrior, nor was it felicitous within the narrative of the storyworld. This second run did not represent a combination of choices that would likely occur in ordinary play; however it did allow me to gather some more data about the user modeling process.

As I played through the level with my Breton lass, the first thing I noticed was that I was seeing a markedly higher number of skill increases in the combat skills, due to her much lower initial stats. By the end of the level, I had lower total skill numbers in
the combat skills than my Orc character, but a greater number of skill increases overall, distributed over the same skills. Analysis of this run was made particularly difficult by the racial skill bonuses received by the Breton. At the end, even though I had never cast a spell, I had higher numbers across all of my magic skills than I did across my combat skills because of my race. In spite of this, I was given the class recommendation of Scout for the second time. [Table 7-4]

This assignation confounded my mental model of how the game was classifying play style. The total value of skills and attributes did not seem to have any bearing on the recommendation of the system, nor did my choice of race, gender, and birthsign. Neither did the amount of relative increase in any given skill during diegetic play. On the other hand, I had played the level twice in the same way, varying only my race and gender, and had been recommended the Scout both times. Was there something that I wasn’t able to observe about my play that was inherently “Scout-like”? Was the system able to see a pattern in my play that was not present in the statistics?
Table 7-4 – Second Play Session Summary

<table>
<thead>
<tr>
<th>Race: Breton</th>
<th>Gender: Female</th>
<th>Birthsign: The Warrior</th>
<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>Int</td>
</tr>
<tr>
<td>Starting Attributes</td>
<td>50</td>
<td>50</td>
<td>40</td>
</tr>
<tr>
<td>Attributes After Birthsign</td>
<td>50</td>
<td>50</td>
<td>40</td>
</tr>
</tbody>
</table>

Possible Skill Increases

<table>
<thead>
<tr>
<th>Magic</th>
<th>Stealth</th>
<th>Combat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alchemy</td>
<td>Security</td>
<td>Light Armour</td>
</tr>
<tr>
<td>Mysticism</td>
<td>Sneak</td>
<td>Blade</td>
</tr>
<tr>
<td>Conjuration</td>
<td>Athletics</td>
<td>Blunt</td>
</tr>
<tr>
<td>Alteration</td>
<td>Acrobatics</td>
<td>Hand to Hand</td>
</tr>
<tr>
<td>Restoration</td>
<td></td>
<td>Armourer</td>
</tr>
</tbody>
</table>

Skill Gains From Diegetic Choices

3 1 2 1 3 1 6 1 8 2 1 6

Skill Gains From Non-Diegetic Choices

5 10 10 5 10 5

Comparison of Attempted Class, Measured Increases, and Recommended Class

<table>
<thead>
<tr>
<th>Attempted Class: Warrior</th>
<th>Measured Increases:</th>
<th>Recommended Class: Scout</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Skills</td>
<td>Top Seven* Skills</td>
<td>Class Skills</td>
</tr>
<tr>
<td>Conjunction(10)</td>
<td>Class Skills</td>
<td></td>
</tr>
<tr>
<td>Mysticism(10)</td>
<td>Block</td>
<td></td>
</tr>
<tr>
<td>Restoration(10)</td>
<td>Armourer</td>
<td></td>
</tr>
<tr>
<td>Alteration(5)</td>
<td>Blade</td>
<td></td>
</tr>
<tr>
<td>Illusion (5)</td>
<td>Athletics</td>
<td></td>
</tr>
<tr>
<td>Blunt</td>
<td>Acrobatics</td>
<td></td>
</tr>
<tr>
<td>Heavy Armour</td>
<td>Alchemy (8)</td>
<td></td>
</tr>
<tr>
<td>Hand to Hand</td>
<td>Light Armour (6)</td>
<td></td>
</tr>
<tr>
<td>Block</td>
<td>Primary Attributes</td>
<td></td>
</tr>
<tr>
<td>Armourer</td>
<td>Top Attributes</td>
<td></td>
</tr>
<tr>
<td>Blade</td>
<td>Intelligence</td>
<td></td>
</tr>
<tr>
<td>Athletics</td>
<td>Primary Attributes</td>
<td></td>
</tr>
<tr>
<td>Acrobatics</td>
<td>Willpower</td>
<td></td>
</tr>
<tr>
<td>Light Armour (6)</td>
<td>Endurance</td>
<td></td>
</tr>
<tr>
<td>Light Armour</td>
<td>Speed</td>
<td></td>
</tr>
</tbody>
</table>

Strength
7.1.1.4 Third Play Session: The Breton Mage

Figure 7-3 - Jessie, the Breton Spellsword (Screenshot by author; Used with permission)

For the third run-through I returned to the notion of the imagined naïve reader, deciding to play through as someone interested in playing a pure magic using class. To this end, I once again selected a Breton female, only this time I went to some lengths to demonstrate a clear preference for magic to the system. I eschewed any weapons at all, instead killing enemies with my one offensive spell, and I was not shy about casting my one healing spell. I endeavoured to raise my alchemy skill as well, but the opportunities to make potions were limited by the ingredients in the dungeon. After this run I anticipated to be assigned the class of Mage; the game recommended the class of Spellsword. [Table 7-5]

---

28 In *Oblivion*, potions are made using reagents that are harvested from plants growing in the world. The success rate for gathering a reagent from a plant is below 50% which means that it is possible to encounter the same plants several times (as is the case in multiple replays of the opening sequence) and successfully harvest very different quantities of reagents.
Table 7-5 – Third Play Session Summary

<table>
<thead>
<tr>
<th>Race: Breton</th>
<th>Gender: Female</th>
<th>Birthsign: The Mage</th>
<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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<td>Int</td>
</tr>
<tr>
<td>Starting Attributes</td>
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</tr>
<tr>
<td>Attributes After Birthsign</td>
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<td>40</td>
</tr>
</tbody>
</table>

Possible Skill Increases

<table>
<thead>
<tr>
<th>Magic</th>
<th>Stealth</th>
<th>Combat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alchemy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mysticism</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conjunction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Destruction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alteration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Restoration</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illusion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Magic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stealth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Combat</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Security</td>
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<td></td>
</tr>
<tr>
<td>Athletics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acrobatics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Light Armour</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Skill Gains From Diegetic Choices

| 2 | - | - | 8 | - | - | - | 5 | 3 | 1 | 7 |

Skill Gains From Non-Diegetic Choices

| 5 | 10 | 10 | - | 5 | 10 | 5 | - | - | - | - |

Comparison of Attempted Class, Measured Increases, and Recommended Class

<table>
<thead>
<tr>
<th>Attempted Class: Mage</th>
<th>Measured Increases:</th>
<th>Recommended Class: Spellsword</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Skills</td>
<td>Top Seven* Skills</td>
<td>Class Skills</td>
</tr>
<tr>
<td>Conjunction</td>
<td>Conjunction (10)</td>
<td></td>
</tr>
<tr>
<td>Mysticism</td>
<td>Mysticism (10)</td>
<td></td>
</tr>
<tr>
<td>Restoration</td>
<td>Restoration (10)</td>
<td>Restoration</td>
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<tr>
<td>Destruction</td>
<td>Destruction (8)</td>
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</tr>
<tr>
<td>Alchemy</td>
<td>Alchemy (7)</td>
<td></td>
</tr>
<tr>
<td>Alteration</td>
<td>Alteration (5)</td>
<td>Alteration</td>
</tr>
<tr>
<td>Illusion</td>
<td>Illusion (5)</td>
<td>Illusion</td>
</tr>
<tr>
<td>Light Armour</td>
<td>Light Armour (7)</td>
<td></td>
</tr>
<tr>
<td>Primary Attributes</td>
<td>Top Attributes</td>
<td>Primary Attributes</td>
</tr>
<tr>
<td>Intelligence</td>
<td>Intelligence</td>
<td></td>
</tr>
<tr>
<td>Willpower</td>
<td>Willpower</td>
<td>Willpower</td>
</tr>
<tr>
<td>Endurance</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The top seven skills are an attempt at guessing seven “class skills” from the skill increases measured during play. The six highest numbers are included, as well as any skills that are tied for seventh place. In this case there was a two way tie.

The data in Table 7-5 highlights a dissonance between the performed character class and the recommended one that is even more pronounced than the data from my first run-through. In each of these three playings there is evidence that the system is
ignoring data from the non-diegetic choices, which is to say race, gender, and birthsign. If we disregard that data in Table 7-5, the resultant model is significantly less mage-like. Instead, we see a character that with two statistical spikes in Combat and Magic (8 points in Destruction, 7 points in Light Armour). If the inferential component were only looking at the diegetic choices it is conceivable to see how it might conclude that the player ought to be a hybrid magic/combat class like the Spellsword. If this were the case than it seemed likely that the system was capable only of identifying a preferred area of specialization, disregarding the specific skill increases entirely.

7.1.1.5 Fourth Play Session: The Wood Elf Thief

One source of “statistical noise” which I had been unable to eliminate was the incidental skill increases in the areas of Acrobatics, Athletics, and both Light and Heavy Armour. In each of my first three run-throughs, the one constant confounding factor among the diegetic choices was the inevitable increase in each of these statistics that came from either moving through the space or getting hit by the enemies.
Table 7-6 - Fourth Play Session Summary

<table>
<thead>
<tr>
<th>Race: Wood Elf</th>
<th>Gender: Male</th>
<th>Birthsign: The Thief</th>
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</tr>
</thead>
<tbody>
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<td></td>
<td></td>
<td></td>
<td>Int</td>
</tr>
<tr>
<td>Starting Attributes</td>
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<td>30</td>
<td>30</td>
</tr>
<tr>
<td>Attributes After Birthsign</td>
<td>40</td>
<td>30</td>
<td>30</td>
</tr>
</tbody>
</table>

Possible Skill Increases

<table>
<thead>
<tr>
<th>Magic</th>
<th>Stealth</th>
<th>Combat</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alchemy</td>
<td>Alteration</td>
<td>Security</td>
</tr>
</tbody>
</table>

Skill Gains From Diegetic Choices

| 1 | - | 7 | 5 | 2 | 3 | 5 | 1 | 1 | 1 |

Skill Gains From Non-Diegetic Choices

| 10 | 5 | - | 10 | 5 | 5 | - | - | - |

Comparison of Attempted Class, Measured Increases, and Recommended Class

<table>
<thead>
<tr>
<th>Attempted Class: Assassin</th>
<th>Measured Increases:</th>
<th>Recommended Class: Agent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class Skills</td>
<td>Top Seven* Skills</td>
<td>Class Skills</td>
</tr>
<tr>
<td>Blade</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sneak</td>
<td>Sneak (15)</td>
<td>Sneak</td>
</tr>
<tr>
<td>Marksman</td>
<td>Marksman (12)</td>
<td>Marksman</td>
</tr>
<tr>
<td>Alchemy</td>
<td>Alchemy (11)</td>
<td></td>
</tr>
<tr>
<td>Light Armour</td>
<td>Light Armour (10)</td>
<td>Light Armour</td>
</tr>
<tr>
<td>Acrobatics</td>
<td>Acrobatics (8)</td>
<td>Acrobatics</td>
</tr>
<tr>
<td>Security</td>
<td>Security (7)</td>
<td>Security</td>
</tr>
<tr>
<td>Alteration</td>
<td>Alteration (5)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Mercantile</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Speechcraft</td>
<td></td>
</tr>
</tbody>
</table>

Primary Attributes

<table>
<thead>
<tr>
<th>Primary Attributes</th>
<th>Top Attributes</th>
<th>Primary Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Personality</td>
<td></td>
</tr>
<tr>
<td>Agility</td>
<td>Agility</td>
<td></td>
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<tr>
<td>Speed</td>
<td>Speed</td>
<td></td>
</tr>
<tr>
<td>Intelligence</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*The top seven skills are an attempt at guessing seven “class skills” from the skill increases measured during play. The six highest numbers are included, as well as any skills that are tied for seventh place.

In order to take advantage of these incidental skill increases, I decided to make my fourth character a Stealth class. For this run-through I conceived of myself as a Thief or an Assassin. I attacked from the shadows using a bow wherever possible. I remained...
in stealth mode for the entire dungeon, sneaking along walls to get the drop on enemies. I also did a lot of jumping around, to level my Acrobatics skill, imagining myself to be a Ninja Assassin. Finally, I spent a fair amount of time playing with the lock-picking mini-game, rather than just skipping quickly past it. To support my choice of professions I selected the Wood Elf race, and chose the Thief as my Birthsign. Table 5-15 shows the results of this play session.

The class recommended by the system for this run—Agent—more closely aligned with my choices than in the previous runs but it was still not as close a fit as the class that I had attempted to get. It was clear that the information available to me via the *efferential component* was not reflecting the underlying mechanism in the *inferential component*.

### 7.1.2 Conclusions

It is evident that my earlier theories about the impact of both diegetic and non-diegetic choices are insufficient to account for the recommendations being made by the system.\(^{29}\) In fact, looking over these four play sessions, the only thing the system seems capable of doing is sorting the player into one of the three areas of specialization. Any recommendation beyond that appears to be outside the system’s ability. In my four sessions I was sorted into two combat classes, one stealth class, and one magic class. In each of these situations, the system assigned variants of the class that were at several steps of remove from the core archetypes of Warrior, Thief, and Mage that I was aiming for. It seems possible that these assignations were at least semi-random, or based upon a much simpler mechanism than I had initially suspected was present.

As an adaptive system, the opening of *Oblivion* is a disappointment. It promises a specific experience and it delivers a very different one. It is clear from my observations that the system disregards the richest sources of information about the

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\(^{29}\) I attempted two final run-throughs of the game, without significantly different results. A discussion of these and the summary tables are viewable in Appendix B.
player’s preferences: the race and birthsign chosen in the non-diegetic sections of the opening. It is further apparent that the specific actions taken by the player, and their associated skills, do not have a direct bearing on the inferential component of the system. Instead, the system seems capable of only making three generic recommendations, failing to assign a player to a preferred class even when there is significant data in the system to make a clear match. As if this were not bad enough, there is also a significant and insurmountable system bias in the opening toward two of the three areas of specialization. By failing to effectively map the expressed desires of the player to an appropriate response, the system fails in its adaptation goal, and in any narrative goals that were associated with it. Returning to my discussion of believability, it is possible to say that the opening raises the player’s expectations of the responsiveness of the world, only to demonstrably fail to satisfy them. Chris Crawford has plenty to say about user expectations:

We set the expectations of our users with the cues we give them and with the language of interaction that we provide to them. Most programs inflate user expectations and then confound those expectations. We do this by suggesting that the software universe inside our program is larger than it actually is. (Crawford, 2003)

This opening sequence does exactly that: inflate expectations and then confound them. In Oblivion these expectations come from what Crawford describes as conceivable states. These are the number of possible outcomes that the user can imagine as he interacts with a system. (Crawford, 2003) In Oblivion the minimum number of conceivable states for a character is 21; one for each of the premade classes. Crawford contrasts this with the notion of accessible states, which is the number of actual outcomes afforded by the system. (Crawford, 2003) In Oblivion there are only three meaningful accessible states afforded by the adaptive system: Combat, Stealth, and Magic. The details of the specific classes are just window dressing for this system, in spite of the importance that they will play in the player’s experience of the game at both a statistical and a narrative level.
7.2 Game Difficulty

The final observation I have about adaptivity in *Oblivion* is of an adaptive system that greatly detracts from the overall game experience at both a strategic level and a narrative level: the game difficulty. In *Oblivion*, the difficulty of any given encounter is designed to scale with the level of the player. What this means is that any dungeon a player enters, or monster a player encounters on the side of the road, will always be somewhat challenging. Mike Rozak describes this phenomenon in his discussion of *Oblivion*.

*Morrowind*, *Oblivion*'s predecessor, had one major problem: Given that your character was level N, many of the dungeons you'd wander into would either be too tough (designed for level N+5 or higher), or too easy (level N-5 or lower)...Consequently, there was rarely any challenge; most dungeons were either too hard to even contemplate, or way too easy.

*Oblivion* fixed this problem, but with an equally bad solution...Almost all dungeons automatically adjust their difficulty level to suit the player's character level. This is good in that all dungeons are now challenging, but...One of the cardinal rules about choices is broken: If a player encounters two doors, the doors should have different outcomes.

In terms of *Oblivion*'s dungeons, any dungeon I choose will be equally challenging. (In *Morrowind*, my choice of dungeon A or dungeon B resulting in different difficulties.)...

Another rule about CRPG design is that players should initially find that individual orcs (or whatever monster) are difficult to defeat. Later on in the game, they should encounter orcs again, but hoards of them. As the player wades through the masses of orcs and easily dispatches them, the player realises how powerful he has become. *Oblivion*'s auto-adjusting dungeons prevent this. (Rozak, 2006)

Rozak's critiques highlight some consequences to the inclusion of a dynamic difficulty system in *Oblivion*. The first is that it renders any short-term choices about where to adventure meaningless. The second is that it robs the game of any long-term sense of achievement.

I would argue that there are even greater consequences to the game experience that arise from this design choice. One is to undercut a core element of what Zimmerman and Juull both agree makes a Game: the quantifiable outcome. (Juull, 2005;
E. Zimmerman, 2004) By scaling the difficulty level to match the player, the game makes all enemies strategically indistinguishable from each other. The player can encounter a wolf or a bear in the wilderness, and have a moderately challenging encounter. That same player can then enter a portal into the demonic realm of Oblivion and fight a Daedric Prince, and receive a similarly challenging fight. If that player spends hours increasing her level and then returns to fight the wolf or the daedra she will find that these fights remain as difficult as they had been previously. This lack of measurable progress relative to the state of the world removes some of the incentive to increase in level.

Players of MMORPGs and CRPGs are familiar with the notion of different regions having different difficulty levels. Most of these games are structured in a semi-linear fashion, designed to slowly introduce the player to content as she becomes ready for it. Occasionally a player will get caught up in exploring, or decide to venture past the safe areas, and will find herself in a location that is very dangerous to her character at its current level. My gaming community refers to this as the “deep end” and the presence of these areas gives perspective to our play. In World of Warcraft, one of my personal pleasures is the sense of excitement and transgression that comes with taking my character into a zone that I am unprepared for. The presence of real danger, especially in an area that I have not yet explored, increases my enjoyment of the game. The knowledge that death lurks around any corner makes me hyper-aware of the game and the virtual world. This type of “deep end” exploration dances at the upper edge of the flow channel, and is easily dislodged into the realm of “too challenging”, thus disrupting flow. However, for those moments when I am flirting with death, the state of flow is greatly enhanced, along with my immersion in the game. More importantly, a few weeks later, it is immensely satisfying to come back to that zone in the deep end and conquer the same enemies that had terrified me earlier.

Compare this to a game like Oblivion, with an adaptive difficulty level. There is never an opportunity to really experience the same sense of danger, or to revel in having overcome that danger. This is partially to support the “sandbox” style of the
game. One of the philosophical principals that underlie the sandbox paradigm of play is to provide the player with freedom to explore; the presence of a deep end would effectively restrict that freedom.

The adaptive difficulty in *Oblivion* also contributes to one of the biggest believability issues discussed in the first section of this chapter; the issue of the player as the centre of the world. In my discussion of believability, I described the problems that arise in a social world that relies on player action in order to effect change. The same is true of a strategic world where the strength of its inhabitants is always the same as the player’s strength. The treatment of the character as the centre of the universe might be gratifying to some player’s egos for a little bit, but it ultimately serves to isolate the player from the fictional world of the game. Adaptation in a game like *Oblivion* should support the illusion of a living world, not undermine it.
8: PERFORMATIVITY IN OBLIVION

The final lens I wish to turn on Oblivion is the lens of performativity. The open-world nature of Oblivion and the emphasis on player freedom both provide players with opportunities to construct personal character narratives, and to role-play various personalities within the game world. In this section I will be looking at the ways in which Oblivion’s design supports performative behaviour in the player, and at ways in which the game world and its inhabitants can be considered as co-performers. I will be applying my modified version of Lockford and Pelias’s typology of performative knowledge to Oblivion, but before I begin a detailed discussion of that, I need to lay some groundwork about an aspect of the player character creation process that I have not yet discussed: the design of the player’s avatar.

The first thing that a player entering Oblivion encounters is the race selection screen. The selection of race and gender has broad ranging implications on the character identity, ranging from special abilities and character appearance to more subtle things such as the height of the character. The first character I made was a member of the Dunmer (Dark Elf) race, and was slightly taller than many of the “average” height humanoid characters. When I created a new character from the Bosmer (Wood Elf) race, the first thing I was struck by was the fact that I had to look up at all of the characters that I had been interacting with eye-to-eye previously.

In the race selection screen the player may fine tune a multitude of parameters in order to customise her appearance. The level of control afforded by this interface can be daunting at first (Do I really need to be able to control my nose bridge, and nostrils separately from my nose? What is a sellion, and how big should I make it?) It is easy to get wrapped up in the minute details of a character’s appearance. On my first character I spent several hours fine tuning her facial features until I had the look that I wanted. [Figure 8-1]
This amount of flexibility for personalizing player character appearance is important for issues of performativity, as it is the first point of contact between the player’s notion of the character in her head, and the character as represented in the game world. By giving the payer freedom to create a highly personalized avatar, Oblivion encourages her to express an aspect of her personality to the game or to assume a new role through the creation of a character. Even during my play sessions of the game opening, I took some time to create avatars that represented my mental model of the role I was about to perform.

The idea of the player character as vessel for self expression is one which Celia Pearce has explored in some detail. In her essay Toward a Game Theory of Game, she discusses how game characters have distinct identities that are very different from the characters created in traditional linear narratives.

In typical narrative texts, both literary and cinematic, characters are central to the conflict. You cannot really imagine a story without characters. In a game, on the other hand, it is quite possible, and often desirable, to have a narrative with no ‘characters’ whatsoever. And in
fact, well-developed characters often get in the way. Games tend to favor abstracted personas over ‘developed’ characters with clear personalities and motivations. More abstracted characters leave more room for the player, and are therefore better suited to support a play-centric model...Empathy/mimesis requires the development of highly constructed and authored characters with which viewers develop an empathic bond. Agency creates a container for players to inhabit. Avatars must by definition have a certain level of ambiguity in their characters in order to allow the players to transpose or project themselves into them...It is important that the character is incomplete, because if the character is too developed there is nothing compelling for the player to contribute. (Pearce, 2004)

There is a close relationship here to the notion of an open work which requires performance in order to be “closed”. (Eco, 1989) I would argue that there is also a connection between the process of transposing oneself into a character, and the subconscious process of closure described by Scott McCloud. (McCloud, 1993) Closure operates because readers and viewers unconsciously substitute their knowledge of a complete phenomenon when presented only with an incomplete or partial representation of that phenomenon. Presenting a player with an incomplete character invites her to envision a whole character by substituting character information from her own experience to fill in the gaps. This notion of an incomplete or empty character which requires a player to transpose herself into it in order to become real is one which is clearly at play in the design of Oblivion. The game provides the player with calculated ambiguities, all of which support this process of transposition.

I have discussed how Oblivion provides the player with no narrative context for her character prior to its appearance in the dungeon at the beginning of the game. In my earlier discussion I criticized the temporal believability of the player character in Oblivion for this lack of history. While I stand by that analysis in terms of that facet of believability, an alternative reading of the same design choices reveals some opportunities for performativity.

Once the player has painstakingly crafted a personalized avatar, the game begins. In the first moments of the game, the player is given an opportunity to inquire about her past, and is informed “That does not matter. That is not what you will be
remembered for.” The game tells the player that this character is a blank slate. The player is invited to imagine herself into the character; a notion that is reinforced by the forced use of first-person perspective in all social interactions with NPCs. While this first person perspective is not mandatory during gameplay—a third person “chase cam” view is available—many aspects of the game, such as using the bow and arrow or casting spells, are unplayable outside of the first-person view. One of the ironies of this emphasis on a first-person perspective is that it robs the player of opportunities to see the avatar that she spent so much time designing. This is made doubly ironic by the lack of reflective surfaces or mirrors in the game engine, further preventing the player from being able to inspect herself from the character’s point of view.

8.1 Communication

Table 8-1 - Communication as Performative Lens

<table>
<thead>
<tr>
<th></th>
<th>System</th>
<th>Interactor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>• Does the system communicate narrative information clearly to the Interactor?</td>
<td>• Does the interactor communicate clearly and consistently?</td>
</tr>
<tr>
<td></td>
<td>• Does the system provide the interactor any incentive to behave in a meaningful way?</td>
<td>• Does the interactor behave in a way that is meaningful?</td>
</tr>
<tr>
<td></td>
<td>• Does the system provide the player with tools for clear consistent communication?</td>
<td>• Does the interactor understand the impact of her behaviour on the system?</td>
</tr>
<tr>
<td></td>
<td>• Is the system aware of actions and behaviours of the interactor?</td>
<td>• Does the interactor feel any sense of ownership or responsibility to the story?</td>
</tr>
<tr>
<td></td>
<td>• Does the system adjust its behaviour to the behaviour of the interactor?</td>
<td></td>
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</tbody>
</table>

Table 8-1 reiterates the first portion of my performativity lens, which I derived from Lockford and Pelias’s typology of performative knowledge. (Lockford & Pelias, 2004) As a lens, these questions are designed to evaluate performative behaviour from both the system and the performer. In these sections I will consider my own play

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30 In deference to the performativity lens at work in this section, I will be using the term “performer” in place of the terms “interactor”, “reader”, or “player”.

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experiences in terms of my own desire to perform or role-play within the game, and in
terms of the types of behaviour encouraged by the system’s design.

Performers in *Oblivion* have two primary communication channels for expressing
themselves to the system: actions and words. These correspond to two components of
natural language described by Lankoski and Björk in their paper *Gameplay Design
Patterns for Believable Non-Player Characters*:

Natural Language can be seen as consisting of two components: non-verbal communication through the use of movement, posture, hand
movement, and facial expressions; verbal communication through the
use of spoken language, typically very resilient to interjections,
interruptions, and rephrasing. (Lankoski & Björk, 2007)

In my discussion of adaptivity I primarily looked at what I termed *diegetic choices*
in the opening of the game. These diegetic choices consisted of performer actions in
the game world, and represent one of these communication channels. However, as I
showed in my repeated studies of the opening, there is a dissonance between the
actions taken by the performer and the interpretations and responses of the system. It
can be said that the system is aware of the actions and behaviours of the performer, but
that the mechanism by which it adjusts its own behaviour does not always successfully
extract meaning from them. Certainly there are aspects of the performer’s behaviour
which can reliably provoke expected reactions from the game world; breaking the law in
sight of the guards results in a predictable response. However, other actions are
ignored, such as jumping around inside of a merchant’s shop until all of her carefully
arranged goods are strewn about. Lankoski and Björk give this example in their
discussion of NPC behaviour in *Oblivion*. (Lankoski & Björk, 2007) This does not mean
that performer actions have no value; it simply means that most performative actions
within the game world do not elicit meaningful responses from the system.

The second channel for communication available to performers—words—
follows a similar pattern to that described above. *Oblivion* is a highly textual world:
rooms are littered with books, scrolls, notes, and lists, NPCs chatter to each-other in the
streets or greet the performer’s character, and quests generate extensive “journal entries” describing their progress for the performer to review. [Figure 8-2]

![Figure 8-2- The Quest Journal in Oblivion (Screenshot by author; Used with permission)](image)

However, there are some carefully designed limitations on the use of natural language, especially where the performer’s character is concerned. The game is fully voice acted, but while every line of NPC dialogue is spoken aloud none of the player character’s lines are ever voiced. In fact, the only time the player hears her character speak is when the character is taking damage, which elicits grunts of exertion and pain, but no actual words. This lack of character voice is a strategic choice, presumably intended to facilitate the performer’s transposition of herself onto the character.

For the same reasons, most of the dialogue options available to the performer’s character are not structured as complete sentences, but instead are presented as one or two “keywords”, such as “Rumors” “Directions” “Oblivion Gates”. This means that conversations between the performer and NPC’s are decidedly one-sided. The performer indicates a subject area of interest, and the NPC delivers some information about the subject. At no point in the game is the performer asked to reciprocate with
any information from her travels; there are no curious NPCs or NPCs that want to hear about the exploits of the player, even if those exploits are assuredly more interesting than the same two local rumours that every character repeats. The only real desire that the performer can verbally communicate to the system is a desire for knowledge. Even within the more richly scripted-out and developed Main Quest, the performer is little more than a glorified courier, transporting items across the realm, and asking leading questions of the story characters, such as: “Mysterious artifact?”, or “Mehrunes Dagon?” Even the mini-game explicitly dealing with Speechcraft is free from dialogue elements.

Basically the mini game consists of trying to determine four emotional states of a character and then allocating weights to different actions as effectively as possible (which can be either to make the character like or hate the player character). Although the actions are themed (admire, boast, coerce, and joke) one can ignore these and still play the mini game with maximum efficiency, making the mini game basically a test of how well players can judge what emotional responses the animators are trying to convey. (Lankoski & Björk, 2007)

By eliminating the speech, even from Speechcraft, Oblivion very carefully constrains the possible performative options available to the performer. Although the game contains books, notes, lists, and letters, as well as quill pens, inkwells, and blank parchment, the performer is never permitted to write down any information, either for herself or for the other characters in the world. While there is nothing to prevent a performer from imagining her character’s speech however she might like, neither is there any means of expressing that imagined personality to the system in a meaningful way.
8.2 Playfulness

Table 8-2 - Playfulness as Performative Lens

<table>
<thead>
<tr>
<th>System</th>
<th>Interactor</th>
</tr>
</thead>
</table>
| Playfulness | • Does the system provide a range of meaningful possibilities to the interactor?  
• Does the system provide a coherent framework to restrict interactor actions? |
|             | • Does the interactor explore various approaches to different situations?  
• Does the interactor test the limits of provided boundaries? |

The playful aspects of performance are perhaps where *Oblivion* really shines. In spite of my harsh critiques of the game up to this point, it is important to remember that *Oblivion* is first and foremost a *game* and not a world-simulator or an Interactive Narrative research project. The open-world approach that lies at the heart of *Oblivion*’s design supports a level of playfulness that most other games would be hard-pressed to rival. By playfulness, I am not just referring to the game mechanics of combat and magic, or to the Main Quest and side quests. Instead, I see Oblivion as an expressive and playful environment with interesting responses to the actions of the performer. It is from this perspective that the performer -centric nature of the world is not a detriment to enjoyment or immersion, but instead is a game parameter to be manipulated and explored. Because there is a sense that the performer is somehow outside the social world, it is easy to imagine the performer’s character as an agent for a higher power, manipulating the world for her own amusement. It takes very little effort for the performer to disrupt the harmony of the world, as had been discussed in the section on believability. While there are no “official” elements of the game system that encourage this type of mischief, causing trouble in *Oblivion* is as implicit in the game’s design as it is in a game like *Grand Theft Auto III*. Like *GTAIII*, *Oblivion* sends the authorities after the performer if she causes too much trouble, increasing in scale until the player grows bored or succumbs.

This type of unstructured play creates longevity via variety, rather than via any sort of quantifiable outcome. This makes play within a sandbox game resemble *improvisational* or *free-form* play, rather than game-like or *formal* play. Zimmerman defines this type of play as “the free space of movement within a more rigid structure.”
(E. Zimmerman, 2004) This type of play is a component of his definition of games, however in order for play to become game it requires a number of other elements, including a quantifiable outcome, which “sandboxing” lacks. This approach works for Oblivion because the game supports a great deal of variety in unstructured play by providing the performer with an assortment of tools that allow her to express herself through creative play. One of the most powerful tools provided in the game is the “altar of spellcrafting” which allows the performer to create customised magical effects. The performer is also able to create customized magical items.

As the community of play has grown up around the Elder Scrolls games, players have gathered online to exchange ideas and compare stories about their time in the world. One of the most richly developed resources to emerge from this community is The Unofficial Elder Scrolls Pages (UESP). The UESP is an enormous Wiki, dedicated to the game franchise, with content created entirely by the players of the games. It is unquestionably the most comprehensive guide to the minutia of the games to be found online. While the UESP has much relevant and interesting information to be found, the section that is of the greatest interest to this discussion is the collaboratively authored guide to “things to do when you’re bored” in Oblivion. (Various, 2008) As of this writing, there are 52 suggestions on this page for new ways to play in Oblivion, ranging from inciting wars between different groups of NPCs, to systematically befriending every character in the game, to speed runs of different landmarks in the game. The absence of any clear goal state in Oblivion is a clear incentive for performers to set their own victory conditions in often startlingly creative ways. One of the more esoteric suggestions on the page is simply entitled “Knock Yourself Out”. Several techniques are suggested to cause your character to fall over and pass out, including a homemade “self paralysis” spell and a homemade set of armour with a “damage fatigue” enchantment. As with many of the player designed goals, this particular activity has no strategic value to the character. One of the things that characterizes this type of playfulness is how distinct it is from the strategic play designed into the game system.
8.3 Sedimentation

Table 8-3 - Sedimentation as Performative Lens

<table>
<thead>
<tr>
<th>Sedimentation</th>
<th>System</th>
<th>Interactor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• Does the system learn about the interactor over time?</td>
<td>• Does the interactor grow attached to the narrative over time?</td>
</tr>
<tr>
<td></td>
<td>• Does the system develop emergent behaviours and characteristic s as a result of its “history”?</td>
<td>• Does the personal history of the interactor affect her experience and behaviour within the system?</td>
</tr>
</tbody>
</table>

Sedimentation in Lockford and Pelias’s model draws on instinctive and bodily knowledge. In the case of a game like *Oblivion*, the process of sedimentation cannot be engaged at the level of the performer’s body (except perhaps where her reflexes are called into play during combat), and so instead must be understood as the process by which a performer’s experiences accumulate and are represented in the system as she plays. The discussion of *temporal realness* in the first lens that I presented considers how the NPCs in the game world fail to meaningfully reflect the achievements of the performer. While this aspect of the system denies the accumulation of “game history” that the character experiences over time, this does not mean that *Oblivion* is completely without the process of sedimentation.

In the most elementary sense sedimentation can be said to be evident in the character levelling process. This is to say that as a character practices a skill, such as restoration magic or archery, the associated statistic increases. A performer might put the game down for months, but when she returns to her old character the accumulation of skills is an important way of rediscovering old play styles and recalling previous choices. Similarly, the game is designed to encourage and support the collection of trophies and memorabilia. As the performer undertakes quests and acquires gold, she is given opportunities to buy and furnish homes in the various towns. Completing the quest chain in any of the four main Guilds also provides the player with a place to call home and other privileges of rank. Once a performer has a home, she has a place to store possessions and to display trophies. [Figure 8-3]
As with many games, Oblivion rewards performer advancement with progressively more striking looking equipment. Creating a “cool looking” character is one of the ways that performer can represent their achievements in the game. This accumulation of costumes is a form of sedimentation and in Oblivion takes the place of other forms of physical change such as battle scars, hair growth, or aging.

The final manifestation of sedimentation that I wish to consider is the character’s game journal. While it is true that Oblivion does not permit performers to generate and keep personalized in-game notes, it does provide the performer with a record of the quests she has embarked upon, and the accomplishments she has made. The in-game “journal” serves the strategic value of allowing the performer to pursue multiple quest objectives simultaneously by retaining the relevant information of any quest given to the player until it is complete, and then archiving it for review.
The journal tracks certain statistics about the performer’s progress in the world, including her fame and infamy, and the current bounty on her head. It also tracks a number of more idiosyncratic statistics, such as “books read” and “ingredients eaten”. While these systems do not take the place of bodily knowledge, they do serve to provide the performer with a point of reference for any progress she might have made with her character.

### 8.4 Sensuality

**Table 8-4: Sensuality as a Performative Lens**

<table>
<thead>
<tr>
<th>Sensuality</th>
<th>System</th>
<th>Interactor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• What “senses” does the system have available to it?</td>
<td>• How many of the interactors senses might be employed to fully experience the system?</td>
</tr>
<tr>
<td></td>
<td>• What role do these senses play in the systems treatment of and responses to the interactor?</td>
<td>• Does interaction with the system trigger visceral or instinctive responses in the interactor?</td>
</tr>
</tbody>
</table>
Sensuality as a lens is perhaps the most difficult element of performative knowledge to transpose onto a discussion of a game like *Oblivion*. As a sensing system, *Oblivion* has only the interaction record of the performer available to it. As far as the system is concerned, the performer is merely a collection of mouse motions and keystrokes. Any discussion of the sensory capabilities of the game as a system quickly moves into the domain of HCI, and is probably outside of the scope of this thesis. What is more interesting to my work is the potential of *Oblivion* to evoke emotional and visceral responses in the performer. As an expressive system *Oblivion* is capable of generating potent audio and visual experiences for the performer.

The opening sequence of the game is carefully designed to deliver a specific and potent emotional moment. The performer enters the game as a prisoner. She travels through a subterranean cavern, with two brief interludes in what feels like an underground tomb. After the death of the Emperor, she is given a key to the Imperial sewers, and told to seek her own way to the surface. Typically this entire sequence takes between one to three hours of play time, all spent in dark caverns, dungeons, and sewers. On my first playing, the moment when I stepped out of the sewers and beheld the world for the first time was one of profound *emergence*. [Figure 8-5]

The sense of aesthetic wonder that the first encounter with the outside world in *Oblivion* provokes is a facet of a phenomenon that Erik Champion connects to the notion of “Extern”. (Champion, 2007) Champion describes another aspect of “worldliness”:

There is a notion to ‘world’ similar to the Kant’s theory of the sublime, phenomena are so inspiring, complex, and beautiful, that they can perceptually entice or transfix the viewer. (Champion, 2007)

My own experiences exploring the landscape of *Oblivion* have had moments of this notion of the sublime or the perceptually transfixing.
One of the most aesthetically striking and compelling experience that I have had in the game occurred as the result of a relatively insignificant side-quest. In it, the character is transported into a painting created by a magic brush. The landscape of the magical painting is expressionistic, with large blobs of paint and visible brushstrokes, as if the world had been painted by Van Gogh or Monet. As I moved toward the edge of the painting, the textures became less detailed and more indistinct, until eventually my character had reached the unpainted edge of the canvas. The vibrancy of this world made me briefly wish that the entire game had been done in this style. *Oblivion* has the power to consistently evoke these emotional responses, not through narrative attachment, but instead through sensual experience.
8.5 Vulnerability

Table 8-5 - Vulnerability as a Performative Lens

<table>
<thead>
<tr>
<th>System</th>
<th>Interactor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vulnerability</td>
<td>• What happens when the system “breaks”?</td>
</tr>
<tr>
<td></td>
<td>• Can the system break in interesting ways?</td>
</tr>
<tr>
<td></td>
<td>• Is there potential for unexpected behaviour within the system?</td>
</tr>
<tr>
<td></td>
<td>• Does the system expect the interactor to attempt to break it?</td>
</tr>
<tr>
<td></td>
<td>• How does the system “recover” from unexpected occurrences?</td>
</tr>
<tr>
<td></td>
<td>• Does the interactor attempt to break the system?</td>
</tr>
<tr>
<td></td>
<td>• Is breaking the system a way for the interactor to achieve strategic gain, or enhance the quality of the narrative?</td>
</tr>
<tr>
<td></td>
<td>• Does the interactor receive any incentive for not breaking the system, or for performing within the expectations of the system?</td>
</tr>
</tbody>
</table>

The final aspect of performativity that I wish to discuss is the concept of vulnerability. In an improvised scene, vulnerability happens when the scene breaks; when an actor is suddenly aware of herself as an actor, rather than as a character. These moments of vulnerability can be disastrous to an actor’s confidence and to the scene as a whole. However, vulnerability can also be the source of unexpected and dynamic new directions in the scene, as long as the actors are able and willing to work through the moment and allow the scene to go to a new place.

Although the designers of Oblivion went to great efforts to balance the AI system so that it would deliver a reasonably consistent experience, there are still countless tales online about the AI breaking down. Where in another context, this breakage might be viewed as a bug that requires correcting, in Oblivion these stories are used to confirm the potential for emergent behaviour in the Radiant AI engine. In my experience these breakages can be the source of some of the most enjoyable and unexpected content in the game. In the same way that breakages in James Meehan’s TALE-Spin program generated stories that have been recounted in the AI community for years, while the successful tales remain comparatively uninteresting, so too do the stories about AI breakage in Oblivion provide fodder for transmediated discussion in the community of players.
One of the most entertaining breakages that I have witnessed occurred in the wilderness. I came across a ranger from the Imperial Legion firing a continuous stream of arrows over the crest of a hill. Every now and then an arrow would fly over from the other side of the hill and thunk into the ranger. As I crested the hill I found a second Imperial Legionnaire also firing a steady stream of arrows over the ridge. Between the two lay the body of a deer, feathered with arrows and forgotten. As far as I could tell each of them had fired at the deer simultaneously and missed, hitting the other. In the resultant fray the deer had been killed, but the rangers were no longer concerned with dinner. For a few minutes I watched them unload their quivers at each-other until finally one succumbed. The victor ran to the deer, looted the corpse, looted his fallen comrade, and then continued on his way as though nothing out of the ordinary had just happened.

Moments like this one, or like the Chase for Shameer that I reported earlier in chapter 5, provide insight into the workings of the AI and introduce entertaining variety into the world. While not every bug and glitch in the system results in entertaining emergent NPC behaviour, many of these moments of vulnerability greatly enrich the experience of the world.
9: CONCLUSIONS

9.1 Final Thoughts on Oblivion

It is important to note that in spite of the sometimes harsh critiques of Oblivion in this thesis that the game greatly surpasses many of its contemporaries. It is the ambition of Oblivion which sets it up for many of my biggest concerns; by raising the bar in terms of character intelligence, environmental aesthetics, and player freedom, the game often bites off more than it can chew. In other words, while it succeeds by many other game’s standards, it does not satisfy the expectations of the player on its own terms. In order to learn from Oblivion, it is necessary to step back from the details of the three readings above and consider the experience that the game promises, and the reasons for why it is unsuccessful at delivering it. To do this we must return to two complimentary ideas: Crawford’s notion of conceivable states vs. accessible states and the notion of satisfied expectations as a metric for evaluating dramatic believability. Both of these ideas point toward a need for interactive experiences to “manage the expectations” of the player and to deliver an experience that is congruent with those expectations. In this sense, both of these ideas are also related to the notion of the Uncanny Valley discussed in the believability section of this thesis.

In each of my three readings of Oblivion, this dissonance between the experience promised by the game world and the experience delivered is evident. In my discussion of believability, the game’s attempt at presenting a world populated by human-like entities becomes problematic when their capabilities fall dramatically short of what we would expect of actual people. The world presented by Oblivion aspires to be closer to a living environment than any other game world had previously attempted. Unfortunately, a combination of cut-corners, broken software systems, and contradictory design choices all aggregate to an experience that is less believable than many of its predecessors. Some of these problems are the result of limited resources,
such as the use of the same small pool of voice actors for all of the character voices, while others are problems of inconsistencies in the narrative design, such as the inability to reconcile the emergent aspects of the player’s changing character with the embedded elements of the game’s quest and faction system. Perhaps the biggest character believability issue is the game’s reliance on the player’s actions to create change in the game world, creating a world that is wooden and passive rather than dynamic and alive.

In my discussion of adaptivity, the game’s attempt at adapting to the player’s choices and actions is shown to be fundamentally flawed, misaligning game responses to player behaviours in one case, and inappropriately adapting to the player’s increasing skill level in another. At one level, the failure of the adaptive system is simply a problem of poor software design, but it is one with consequences for both of the other two lenses discussed in this thesis. This failure to successfully model the preferences of the player would not be a significant problem in a less ambitious game, but in *Oblivion* it constitutes a breach of the contract between the player and the system.

Finally, in my consideration of *Oblivion* as a performative experience, it is evident that while there are some manifestations of performative knowledge in the game, most of them fail at successfully creating a dialogue between the actions and preferences of the player and the workings of the game system. For a world populated with intelligent agents, the NPCs have remarkably little agency, while the player’s agency is often confined to a very narrow set of possible actions, many of which are not regarded as meaningful by the system. The lack of meaningful agency for both the player and the system undercuts the performative opportunities in the game.

There are at least three implicit promises made by *Oblivion* that lie at the heart of my critique of the game. First, it promises a world populated with human-like entities with which to interact. Second, it promises a world in which the player’s actions and choices can potentially result in meaningful responses from these inhabitants. Third, it promises a diverse range of possible approaches to any given situation without favouring any one approach over any other. Stepping back from these three promises,
we can see a larger problem with what Oblivion is attempting to accomplish: the game promises a world that operates on the same rules as the real world.

In other words, these three promises all operate in terms of what Magerko would call the external expectations of the player, or what Marsella and Gratch would describe as the process of appraisal. In my daily life, I interact within a world populated by humans who respond more-or-less meaningfully to the actions I take and I often find myself in situations where there are a variety of approaches that I could take. My lived experience is the baseline for the set of external expectations that I bring to the game.

Unfortunately for Oblivion, we do not yet have the technology or the understanding of human behaviour that is needed to adequately mimic the real world within a game experience. The dissonance in Oblivion, therefore, comes from a failure to distinguish the game world from the real world in a way that would allow us to suspend our external expectations and accept the experience as given. In other words, Oblivion fails to define the narrative conventions (what Magerko would call internal expectations and Pasquinelli would describe as the contents and context of the experience) of the world and to adhere to them. As a result, the limitations of the game’s functionality come directly into conflict with the expectations of the player, who has not been provided with any framework around which to adjust them in order to be in line with the experience the system is actually capable of providing. To use Pasquinelli’s terminology, Oblivion activates the wrong expectations while failing to deactivate the right ones.

One lesson that can be taken away from this is to design with both the player’s expectations and the game’s internal narrative conventions in mind. In order to deliver a satisfying and believable experience it is desirable for designers to explicitly identify and shape the narrative conventions of the game world in such a way as to operate harmoniously with both the technological limitations of the game software, the expectations of the player, and the narrative details of the storyworld.
9.2 The Bigger Picture

This thesis has explored a broad cross section of issues in Interactive Narrative research. In the previous pages I have endeavoured to present a representative sampling of the various intersecting discourses that comprise this interdisciplinary field and to situate my own ideas within this scholarly community. I hope to have presented a coherent perspective on a large and often contentious domain. In the following sections I attempt to gather the various threads that have woven through this document and tie them off before the tapestry unravels.

9.2.1 Tools and Time

As a scholar, I get excited about clear tools for thinking. As a storyteller, I am inspired by ideas that give me insight into the processes used by other storytellers. As a gamer, I like to pull apart games to see how and why they do what they do. In my explorations of the field of Interactive Narrative, there are certain intellectual tools that have shaped and informed how I think about games and narrative, how I create new stories, and how I go about deconstructing and considering my own experiences. The impact of the work of thinkers like Janet Murray, Eric Zimmerman, J. David Bolter, Richard Grusin, and Chris Crawford cannot be underestimated. To these minds I owe a great intellectual debt. One of the commonalities across their work is the creation of general analytical tools that have withstood the ebb and flow of discourse in this relatively young field. While I do not pretend to have created tools with the same elegance and utility that these scholars have contributed, I turn to them as exemplar of the type of thinking and work that I feel is of critical importance to the understanding of this moment in media history.

The framing of any new analytical perspective is always a risky proposal; it is not enough to simply propose a new set of vocabulary or a variation on an older way of looking at a phenomenon. In order to develop a new theoretical lens it is necessary to “break it in” through practice. Murray’s framing of Agency and Immersion has authority in the field because they have been tested in many contexts, and been found to be
useful for a variety of theoretical purposes. Any new tool requires a period of exploration in order to discover which tasks it is suited to and which tasks it is not. And unlike a physical tool, which breaks if poorly made, if a theoretical tool is poorly constructed each attempted use has the potential to shape that tool until it is tempered and strong.

In this thesis I have proposed three analytical lenses for discussing Interactive Narratives from three separate—but complementary—perspectives. I have turned these lenses onto *Oblivion*, a popular CRPG, and in the process have explicated both the game experience and the analytical tools themselves. In this way, I have tried to “break in” these tools a bit, and have hoped to scuff some of the factory polish off of them. The proof of any tool’s utility comes from repeated use, but I believe that these three lenses have survived their first big project intact. Even in this first outing I have discovered facets of these tools which are problematic, and I hope that this application of these ideas is only the first iteration in an ongoing process of refinement.

9.2.1.1 Believability

The first lens that I proposed was *believability*. Unlike the other lenses in this thesis, believability is a notion that is already an active subject of debate in the field. My intent with this lens was not to rewrite the book on believability, or to dismiss the contributions of other researchers in the field, but instead to propose a different perspective on the phenomenon of belief. Much research in believability treats it as a *property* of media: believability is created or broken based on intrinsic aspects of a character, storyworld, or event. While my approach does not discount the contributions of the media artifact, my believability lens is rooted in a discussion of belief as an *experienced phenomenon*. This perspective suggests that it is more important to consider how the reader will regard the object and how she will experience it. It is possible to use this notion to discuss intrinsic aspects of media, as I show in my discussion of believability in *Oblivion*, however the basis for any claims made using this
lens is ultimately rooted in the theorist’s phenomenological experience of the media, and not in the encoded properties of the artifact.

This notion has implications for both theoretical and applied work in Interactive Narrative research, because it redirects attention away from the low level discussions of “how do we make this technology function?” and towards a higher level discussion of “how do we design this experience better?” While there is no doubt that there is still a need for the more instrumental, artifact focused work in the field, this lens is an example of the higher level theory that I believe needs to occur in order to push Interactive Narratives and games to a new level.

9.2.1.2 Adaptivity

The second lens that I proposed was adaptivity. Adaptivity is a notion that has had relatively little scholarly attention paid to it in Interactive Narrative research. There is no shortage of games that employ techniques from adaptive systems research; however there is little articulation of this notion in the formal discourse of Interactive Narrative. My goal with this lens is to introduce some of the terminology from adaptivity research into the domain of digital storytelling, and to raise awareness of the notion of adaptivity as a property of Interactive Narratives. By thinking of narratives as adaptive and adaptable, I believe it is possible to re-imagine the nature of interaction within games, not as a traversal of a branching structure of choices, but instead as a dynamic configuring of narrative parameters. My discussion of adaptivity in Oblivion took a critical look at several adaptive systems in the game and highlighted the need for more nuanced understanding of how this phenomenon can be used to enhance a mediated experience.

By reconceptualising Interactive Narratives as adaptive systems, the goal for designers ceases to be one of creating outcomes and instead becomes one of observing preferences and responding to them; of personalizing the experience to a reader’s desires, rather than of directing the reader down a series of branching paths. If we recall the example of the interactive storybook presented in the introduction of this
thesis, or even the example of the parent telling a bedtime story to a questioning child, we see examples of adaptive Interactive Narrative at work.

9.2.1.3 Performativity

The third lens that I proposed was performativity. The field of Interactive Narrative has long drawn on the notion of performance and drama as a metaphor for the experiences we wish to support. With this lens, I proposed adapting an epistemic framework from improvisational theatre into a critical tool for understanding Interactive Narratives. To this end, I adapted a typology of performative knowledge from Lockford and Pelias that looked at bodily knowledge from five perspectives: communication, playfulness, sedimentation, sensuality, and vulnerability.

At the heart of any performative approach is a fundamental shifting of the boundary between system and player that simultaneously raises the expectations of the player while also providing her with the support and communications tools needed to perform meaningfully with the system. By treating the interactor as a performer and engaging her in an implicit contract with the system, this notion draws on rules of conduct that have been used for years to guide and structure improvisation between human actors. In an improvisational scene, all of the participants are responsible for the overall quality of the scene, and all of the participants must rely on each other in order to succeed. As a result, all of the participants are simultaneously vulnerable and responsible; at the mercy of their fellow actors, and able to make or break the scene for the other participants.

The equality of participants in an improvisational scene has implications for the notion of agency, which must be re-evaluated when the relationship between performer and system becomes one of equal contributors, rather than a hierarchical battle for control. This lens makes an argument for reframing the notion of agency as an inclusive phenomenon that is constantly negotiated between the player and the system, rather than an exclusive phenomenon available only to the player. At a more modest level, the five types of performative knowledge which I adapt from
improvisational theatre provide a useful framework for filtering observations about the
design of Interactive Narratives and games, as I demonstrate through my reading of
Oblivion.

9.2.2 Experience and Artifacts

Digital Interactive Narrative is a difficult phenomenon to discuss because it
represents a collision of subjective qualitative experience (story) and objective
quantitative representation (computation). I have taken an experiential approach to the
study of story and games, combining my personal understanding of the discourse in the
field with an evaluation of my own play experiences. I would contend that the discourse
of Interactive Narrative research needs personal discussions of games and narrative as
experience, rather than as artifact. In one sense, I am arguing for more storytelling in
the study of interactive stories.

As discussed in the methods section of this thesis, Interactive Narrative
experiences can be difficult to communicate and reproduce because of the mutability of
the digital artifacts. Discussions of gaming experiences often resemble the remarks of
the blind men in the Parable of the Elephant who each touch a different part of the
animal, and describe it as being like a different thing. In Interactive Narrative research
and games, each playing of an artifact is like touching a different part of the elephant; it
is only through combining and comparing our experiences of these artifacts that it
becomes possible to begin to understand the artifacts as a whole.

Often Interactive Narrative research can become bogged down in the details of
making a specific technology function or of clarifying a contested term. It is too easy
lose sight of the experiences that drive Interactive Narrative researchers to want to
study this emergent medium in the first place. My own readings of Oblivion have had
the unfortunate side effect of exposing all of the ways in which the game falls short of

31 The Parable of the Elephant is a well known story in various South Asian cultures, and has
variants in Buddhist, Jain, and Muslim texts.
my expectations. It becomes hard to recall what drove me to spend 80 hours of my life engaged in this virtual world. But when I tell a story about an experience in the game, and when I try to suspend my critical perspective in order to clarify that experience, I can remember why I loved the game and why I wanted to write about it in the first place. Critical insight into games is served well if we can learn to critically present the elements of the game that brought us pleasure in addition to those elements which fell short. By framing each critique as an evaluation of a personal experience, I hope to have kept myself honest and to have presented a fair set of observations, rather than a prescriptive condemnation of the game itself as a media artifact. I hope that through presenting three different readings of Oblivion to have exposed three different “parts of the elephant”, thus drawing nearer to an understanding of the game as a whole.

9.3 Beyond Oblivion

I do not regard this work as a closed book, but rather as a first step down a path. While I believe that the ideas I have advanced in this thesis can stand on their own, I prefer to think about this research as an exploration of a problem space. My goal with this work has been to provide a new set of lenses with which to look at the challenges faced by scholars of Interactive Narrative. These three approaches have helped me to clarify and articulate many of the ideas which occupy my mind when I contemplate the dilemmas and contradictions implicit in the simultaneous study and creation of a new narrative form. I would like to think that these three perspectives will continue to have critical value as I continue my investigations of this domain.

Before I conclude this thesis, I’d like to pose an open question to the field of Interactive Narrative research. One recurring theme that has emerged in this work is the notion of player expectations. One of the ways in which I have extended this idea is to try and connect it to the notion of the Uncanny Valley from robotics. Both of these ideas tend to be concerned primarily with the representation and experience of believable characters. One question to which I do not yet have an answer is whether or not this phenomenon can be generalized to broader questions of behaviour,
interactivity, and ultimately narrative believability in games and Interactive Narrative. Is there an Uncanny Valley of adaptivity, for instance? Is there an Uncanny Valley in improvisational theatre between the participants? For the audience? How would it manifest? I suspect that the cognitive dissonance that produces the valley of familiarity described by Mori is not confined purely to character representation, but more study is needed to understand the full implications of this phenomenon for mediated experiences. I do not purport to have the answer to this question, but believe it to be of import to the field as our understanding of people’s experiences of games grows more sophisticated.

As I near the conclusion of this work, I’d like to suggest that this thesis is at least partially an argument for the methodology of close reading. I argue that there is a need in the field for more critical evaluations of the experiences that occur when we play games or read interactive narratives. This is a difficult path to take, in terms of media scholarship, due in part to the nature of the artifacts and experiences under investigation. Unlike a film, which takes several hours to experience or a novel which can be read in a few sittings, most games and interactive narratives require many hours—sometime many hundreds of hours—in order to be “read” from start to finish. In many cases, this is simply a first reading and only covers the most direct path from beginning to ending, or one of an infinite set of possible readings. The trend toward procedurally generated content further problematizes the notion of a “complete” reading for any interactive experience. The variability, the number of permutations, and the sheer scale of these artifacts and experiences might seem like an argument against attempting to critically read in order to create knowledge within the field. I contend that, if anything, this potentially infinite space of meaning and experience constitutes and argument for more scholarly readings of games and interactive experiences, by more people. If one blind man touching the elephant’s trunk knows that an elephant is at least partially like a snake, and one blind man touching the elephant’s tail knows that an elephant shares properties with a rope, than the cumulative knowledge of 100 blind men touching different parts of an elephant might come close to an understanding of
the whole animal. The same is true of interactive narrative experiences; if more theorists were engaged in the close reading of interactive narrative experiences, than there is the possibility of a deeper understanding of the artifacts in the context of a shared scholarly discourse.

Following this call for more critical and close reading in the field is the corollary issue of how to perform close readings given the issues of size and variability discussed above. My solution has been to devise and apply a series of analytical lenses, each one designed to frame a different perspective on the experience. The three lenses introduced in this thesis represent three approaches that I found compelling and pragmatic in approaching *Oblivion*: a game which suffers from issues of excessive scope and highly procedural content, all wrapped around a linear narrative that requires several hundred hours of gameplay to fully experience. The lenses chosen for this discussion allowed me to take triangulate my readings of *Oblivion* from three focused perspectives on the experience, but they are by no means the only possible way I could have framed this reading. As I iterated over approaches to this work I considered and discarded a number of other lenses as well, including: authorship, guidance strategies, novelty, ambiguity, and interface. I might have chosen to focus on purely strategic elements of the game, or to perform an analysis of the literary and cultural roots of the main plot in the game. Any of these readings would add to the picture of *Oblivion*, and like any act of strong reading, as Julian Wolfreys would have it, they would each be a misreading, or a possible reading. Explicit use of analytical lenses to filter the reading and target a specific phenomenon in the experience is one technique for dealing with an unwieldy artifact such as *Oblivion*. The challenge for scholars engaging in close readings of games is to make their lenses explicit, rather than implicit.

For the moment I hope to have shown through these lenses at least three potential overlapping identities for Interactive Narratives, and to have alluded at an infinitely greater set of still unexplored possibilities in this emerging field. I hope to have made a coherent argument for the practice of close reading in games and narrative scholarship, and I hope to have raised some interesting and productive questions about
how readers experience games and Interactive Narratives. Interactive Narrative research is too young to have even scratched the surface of computational storytelling as a medium, and I hope that the ideas in this thesis help to illuminate another facet of a domain that grows ever more complex.
APPENDICES

Appendix A – Extended Description of *Oblivion*

This appendix is intended to supplement the discussion of statistics in *Oblivion* presented in Chapter 5, section 5.1.4. For those interested in the specifics of the statistical systems in Oblivion I have created a collection of colour coded tables that clarify some of the arguments presented throughout chapter six. I have endeavoured to keep this section confined primarily to tables and diagrams. For clarification of the context of these figures, it is best to consider them alongside the discussions in Chapter 5. The colour key to these systems is shown in Table 9-1

<table>
<thead>
<tr>
<th>Table 9-1 - Overview of the Three Main Statistics in <em>Oblivion</em></th>
</tr>
</thead>
<tbody>
<tr>
<td>Specialization</td>
</tr>
<tr>
<td>-----------------</td>
</tr>
<tr>
<td><strong>Magic</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Stealth</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Combat</strong></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Attributes

Attributes represent the matrix of “core physical and mental capabilities” that comprise all characters in the game.

**Table 9-2 - Attribute Descriptions in Oblivion**

<table>
<thead>
<tr>
<th>Attributes</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intelligence</td>
<td>Intelligence affects your total Magicka and magic use. Govern the skills of Alchemy, Conjuration, and Mysticism.</td>
</tr>
<tr>
<td>Willpower</td>
<td>Willpower affects how quickly you regenerate Magicka, and how much Fatigue you have. Governs the skills of Destruction, Alteration, and Restoration.</td>
</tr>
<tr>
<td>Personality</td>
<td>Personality affects how much people like you, which leads to better information-gathering. Governs the skills of Speechcraft, Mercantile, and Illusion.</td>
</tr>
<tr>
<td>Agility</td>
<td>Agility affects your ability to maneuver and balance, your total Fatigue, and how much damage you can do with marksman weapons such as bows. Governs the skills of Security, Sneak, and Marksman.</td>
</tr>
<tr>
<td>Speed</td>
<td>Speed determines how fast you move. Governs the skills of Athletics, Light Armor, and Acrobatics.”</td>
</tr>
<tr>
<td>Strength</td>
<td>Strength affects how much you can carry, how much Fatigue you have, and how much damage you can do with melee weapons such as swords and axes. Governs the skills of Blunt, Blade, and Hand-to-Hand.</td>
</tr>
<tr>
<td>Endurance</td>
<td>Endurance affects how much Fatigue you have, your Health, and how much your Health will increase when you raise levels. Governs the skills of Block, Armorer and Heavy Armor.</td>
</tr>
<tr>
<td>Luck</td>
<td>Luck has an effect on everything you do but governs no skills.</td>
</tr>
</tbody>
</table>

(Bethesda Softworks, 2006b)
Races

Races are statistically differentiated by the initial modifiers, or *bonuses*, applied to their skills and their attributes at the beginning of the game, and by their special abilities.

Table 9-3 - Base Attribute Modifiers for Race and Gender in *Oblivion*

<table>
<thead>
<tr>
<th>Race</th>
<th>Gender</th>
<th>Attributes</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Intelligence</td>
</tr>
<tr>
<td>Nord</td>
<td>Male</td>
<td>-10</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>-10</td>
</tr>
<tr>
<td>Red-guard</td>
<td>Male</td>
<td>-10</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>-10</td>
</tr>
<tr>
<td>Breton</td>
<td>Male</td>
<td>+10</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>+10</td>
</tr>
<tr>
<td>Imperial</td>
<td>Male</td>
<td>-10</td>
</tr>
<tr>
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Birth Signs

Birth signs are special bonuses and abilities that are chosen at the beginning of the game. Each character may choose one birth sign to have been born under.

Table 9-5 - Birth Signs in *Oblivion*

<table>
<thead>
<tr>
<th>Birth Sign</th>
<th>Description</th>
<th>Type</th>
</tr>
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<tbody>
<tr>
<td>The Apprentice</td>
<td>Confers a 100 point bonus to Magicka, but gives a 100% weakness to Magic</td>
<td>Ability</td>
</tr>
<tr>
<td>The Atronach</td>
<td>The Atronach does not regain Magicka through resting, but instead confers a 50% Spell Absorption. The base Magicka is also increased by 150</td>
<td>Ability</td>
</tr>
<tr>
<td>The Lady</td>
<td>The Lady confers a bonus of 10 points to Willpower and to Endurance.</td>
<td>Attribute</td>
</tr>
<tr>
<td>The Lord</td>
<td>The Lord has the Blood of the North lesser power, which allows the player to regenerate up to 90 points of health. However, the birthsign also carries the Trollkin curse, conferring a 25% weakness to fire.</td>
<td>Ability</td>
</tr>
<tr>
<td>The Lover</td>
<td>The Lover gives the player the Lovers Kiss lesser power which allows them to paralyze their opponent once per day for 10 seconds at the cost of 120 points of Fatigue.</td>
<td>Ability</td>
</tr>
<tr>
<td>The Mage</td>
<td>The Mage confers a permanent 50 point bonus to the player's Magicka.</td>
<td>Ability</td>
</tr>
<tr>
<td>The Ritual</td>
<td>Those born under the Ritual can use the Mara’s Gift power once a day as a powerful restore health spell. The Blessed Word can turn the Undead.</td>
<td>Ability</td>
</tr>
<tr>
<td>The Serpent</td>
<td>The Serpent birthsign gives the player the Serpent Spell to cause a slow but potent poison on touch. This simultaneously cures the player of any disease and dispels magic from them. This power costs 100 points of fatigue.</td>
<td>Ability</td>
</tr>
<tr>
<td>The Shadow</td>
<td>The Shadow grants the player the Moonshadow power, allowing them to become invisible for 60 seconds once per day.</td>
<td>Ability</td>
</tr>
<tr>
<td>The Steed</td>
<td>The Steed confers a 20 point bonus to the players Speed attribute.</td>
<td>Attribute</td>
</tr>
<tr>
<td>The Thief</td>
<td>The Thief confers a 10 point bonus to the player's Agility, Speed, and Luck attributes.</td>
<td>Attribute</td>
</tr>
<tr>
<td>The Tower</td>
<td>The Tower confers the Tower Key lesser power which allows the player to open an 'average' difficulty lock or less once per day. It also grants the Tower Warden power which reflects 5 points of damage for 120 seconds once per day.</td>
<td>Ability</td>
</tr>
<tr>
<td>The Warrior</td>
<td>The Warrior confers a 10 point bonus to the player's Strength and Endurance attributes.</td>
<td>Attribute</td>
</tr>
</tbody>
</table>

All description text from (Bethesda Softworks, 2006b)
Classes

Classes are statistically represented by 7 major skills and two primary attributes. In these three Tables, “X’s” represent Major Skills, while colour blocks correspond to each classes’ two primary attributes.

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<thead>
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<th>Skill</th>
<th>Combat Classes</th>
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<tr>
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</tr>
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<td>Destruction</td>
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Table 9-8 - Major Skills for Magic Classes in *Oblivion*

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Appendix B – Additional Play Data from Oblivion

In this Appendix, I present the notes and data from my fifth and sixth play sessions through the opening of Oblivion. Neither of these sessions contributes any new insight to the adaptive mechanism that underlies the game opening, but each supports my ultimate conclusion in chapter 7. I have preserved the narrative nature of the notes here as well as the data.

Fifth Play Session: The Neutral Imperial

I was becoming worried that my attempts at performing a specific role in the system were biasing my observations, as well as the statistics being measured. In order to attempt to get some less biased data, I decided to try a different approach. For my fifth run-though I did not attempt to target a specific class. Instead, I tried to relax my expectations and play the game as naturally and unaffectedly as possible. I allowed my own personal preferences and interests to guide my choices, acting out of the demands of each moment, rather than attempting to express a pattern to the system. In this

Figure 9-1 - Owen, the Imperial Bard (Screenshot by author. Used with permission.)
regard, my fifth play session was the closest to how I imagine most players approach the game; from a pragmatic or strategic perspective, rather than an overly narrativised one. I chose the Imperial race for this session, as it was one I had never played before, and because it was the race with the least bias toward any one play style. At the end of the play session, the system recommended the Bard class. The Bard is a Stealth specialization class, but it has skills distributed across all three areas. The Bard is a generalist, poorly suited to a specific play type, but ideally suited to a hybrid and pragmatic approach to the game. That being said, there was still little correlation between the measured skills and attributes, and the class skills of the Bard. [Table 9-9]
Table 9-9 - Fifth Play Session Summary

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<th>Race: Imperial</th>
<th>Gender: Male</th>
<th>Birthsign: The Lady</th>
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### Possible Skill Increases

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</tr>
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</tr>
<tr>
<td>Armourer</td>
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</table>

### Skill Gains From Diegetic Choices

| 5 | 3 | 1 | - | 6 | 5 | 3 | 7 | 1 | - | - | 1 | 1 | 1 |

### Skill Gains From Non-Diegetic Choices

| - | - | - | 10 | - | 1 | 0 | - | - | - | - | 5 | 5 | 5 | - | - | 10 |

### Comparison of Attempted Class, Measured Increases, and Recommended Class

<table>
<thead>
<tr>
<th>Attempted Class: None</th>
<th>Measured Increases:</th>
<th>Recommended Class: Bard</th>
</tr>
</thead>
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<tr>
<td>Class Skills</td>
<td>Top Seven* Skills</td>
<td>Class Skills</td>
</tr>
<tr>
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<td>Mercantile</td>
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### Primary Attributes

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<th>Top Attributes</th>
<th>Primary Attributes</th>
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<tr>
<td>Endurance (60)</td>
<td>Personality</td>
<td>Endurance (60)</td>
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</table>

*The top seven skills are an attempt at guessing seven “class skills” from the skill increases measured during play. The six highest numbers are included, as well as any skills that are tied for seventh place. In this case there was a four way tie.*
Sixth Play Session: The High Elf Mage

To round out my results, and to see if I could successfully “game the system” after my five various semi-successful attempts, I set out on my sixth and final play session. My goal with this session was to conquer the system, and to demonstrate that I could effectively match my own model of my performance against the system’s model of my performance. In order to accomplish this I had to play in a highly contrived way, avoiding as many incidental skill increases as possible. Compared to the fifth play session, this approach represented the most unnatural play style I can imagine. It required that I never run, never jump, and never wear any clothing or armour. The resultant data generated was the “purest” representation of the targeted class that I was able to achieve. However, in spite of my best efforts, the game system chose to assign a class that, while close to my desired class, still did not match my interaction record as well as I would have expected. [Table 9-10]
Table 9-10 – Sixth Play Session Summary

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<th>Gender: Female</th>
<th>Birthsign: The Lady</th>
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### Possible Skill Increases

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### Skill Gains From Diegetic Choices

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### Skill Gains From Non-Diegetic Choices

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</table>

### Comparison of Attempted Class, Measured Increases, and Recommended Class

<table>
<thead>
<tr>
<th>Attempted Class: Mage</th>
<th>Measured Increases:</th>
<th>Recommended Class: Sorcerer</th>
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</thead>
<tbody>
<tr>
<td>Class Skills</td>
<td>Top Seven* Skills</td>
<td>Class Skills</td>
</tr>
<tr>
<td>Conjunction</td>
<td>Conjunction (5)</td>
<td>Conjunction</td>
</tr>
<tr>
<td>Mysticism</td>
<td>Mysticism (10)</td>
<td>Mysticism</td>
</tr>
<tr>
<td>Restoration</td>
<td>Restoration (4)</td>
<td>Restoration</td>
</tr>
<tr>
<td>Destruction</td>
<td>Destruction (13)</td>
<td>Destruction</td>
</tr>
<tr>
<td>Alchemy</td>
<td>Alchemy (7)</td>
<td>Alchemy</td>
</tr>
<tr>
<td>Alteration</td>
<td>Alteration (10)</td>
<td>Alteration</td>
</tr>
<tr>
<td>Illusion</td>
<td>Illusion (5)</td>
<td></td>
</tr>
<tr>
<td>Heavy Armour</td>
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</tbody>
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### Primary Attributes

<table>
<thead>
<tr>
<th>Primary Attributes</th>
<th>Top Attributes</th>
<th>Primary Attributes</th>
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</thead>
<tbody>
<tr>
<td>Intelligence</td>
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<td>Intelligence</td>
</tr>
<tr>
<td>Willpower</td>
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<td>Willpower</td>
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</tbody>
</table>

*The top seven skills are an attempt at guessing seven “class skills” from the skill increases measured during play. The six highest numbers are included, as well as any skills that are tied for seventh place. In this case there was a two way tie.*
BIBLIOGRAPHY


GAMES REFERENCED

Short, E. (2002). Savoir-Faire (Interactive Fiction ed.).