

Playing Research: Methodological approaches to game analysis

Espen Aarseth

University of Bergen
aarseth@uib.no

INTRODUCTION

The study of game aesthetics is a very recent practice, spanning less than two decades. Unlike game studies in mathematics or the social sciences, which are much older, games became subject to humanistic study only after computer and video games became popular. This lack of persistent interest might seem odd, but only if we see traditional games and computer games as intrinsically similar, which they are not. We might try to explain this lack by noting that games are usually seen as trivial and low-brow by the aesthetic and theoretical elites who cultivate the analysis of artistic media objects: literature, the visual arts, theatre, music, etc. But this does not explain the fact that aesthetic studies of games are now possible, and even, in some academic environments, encouraged and supported with grants. What happened to cause this change?

A better explanation could be that these games, unlike traditional games or sports, consist of non-ephemeral, artistic content (stored words, sounds and images), which places the games much closer to the ideal object of the Humanities, the work of art. Thus, they become visible and textualizable for the aesthetic observer, in a way the previous phenomena were not.

However, this sudden visibility, probably also caused by the tremendous economic and cultural success of computer games, produces certain blind spots in the aesthetic observer, especially if he/she is trained in textual/visual analysis, as is usually the case. Instead of treating the new phenomena carefully, and as objects of a study for which no methodology yet exists, they are analyzed willy-nilly, with tools that happen to be at hand, such as film theory or narratology, from Aristotle onwards. The cautious search for a methodology, which we should have reason to expect of reflective practitioners in any new field, is suspiciously absent from most current aesthetic analyses of games.

This paper seeks to outline and promote a methodology for the aesthetic study of games, which, given the current nascent state of the field, will doubtless give way to more sophisticated approaches in the years to come.

It is a method rather than a theory, since the approach is empirical, and not limited to any particular theoretical result or model. It should also become clear that the method is not without problems, whose severity might be relative to the individual researcher and their resources.

Given the expressive richness of the genre, which is

unprecedented in the history of media, the empirical approach chosen by the researcher becomes a critical issue. Any theoretical approach to game aesthetics implies a methodology of play, which, if not declared, becomes suspect.

LEVELING THE PLAYING FIELD

Given a newish empirical field, such as computer games, the obvious research question seems to be “How?” How do we investigate, and with what means? Although this question is crucial, and too often ignored by researchers, it is both too late and too early to ask it. Too late, because research using many different disciplines, from psychology to economics, is already well underway, and has been in some cases for decades; and too early, because there is another question that should be asked first, and never is. That question, of course, is “Why?”

Why do we want to make games and gameplay our object of study? Given a field which is interdisciplinary and empirically varied in the extreme, there are a great number of different reasons to do research, and a great number of types of research to pursue. A more or less complete list reads like the A-Z list of subjects from a major university. When faced with the rich and varied world of digital games, it is hard to think of a subject or discipline that *could not* in some way be used to study the field. The primary reason for this is that computer games are simulations, and simulations can, because of the principle of computer universality that Turing (1936) outlined, contain most other phenomena, such as machines or older media. This omni-potential for simulation means that computer games can portray, in principle, any phenomenon we would care to think about, and so, also in principle, no research area is excluded.

In the past, this has meant that games have been a relevant sub-theme in a large number of studies and approaches, and often used as a metaphor. All kinds of social interactions have been termed games, rightly or wrongly, and this superficial game-perspective has been applied to endless phenomena more or less pertinent to it. The concept or term “game” is always taken as a given, usually not worthy of separate investigation, or even of a cursory definition, but handy when we want to describe the *je-ne-sais-quoi* element of our primary, non-game object, whether it be a film, a novel, a play, a poem, a painting, a sculpture, a building, a relationship, or a piece of music. We often “play games” with the concept of game, but we don’t take it seriously, since we are really talking about some other phenomenon.

So, what do we do when games become our most important cultural genre? Ideally, this situation should allow us to set up a scholarly field or discipline with the objective to study games. But in what way?

It seems clear that there cannot be *only one* field of computer game research. Already, approaches and studies from AI/computer science to sociology and education explode the field in almost a dozen directions. Like urban studies or epidemiology, a number of independent, different disciplines can be employed for a number of different reasons. The “Curriculum Framework” proposed by the International Game Developers’ Association (IGDA) lists nine core topics that should be offered in game programs at universities:

- Game Criticism, Analysis & History,
- Games & Society,
- Game Systems & Game Design,
- Technical Skills, Programming & Algorithms,
- Visual Design,
- Audio Design,
- Interactive Storytelling, Writing & Scripting,
- Business of Gaming,
- People & Process Management

Each of these topics lists one or two pages of subtopics, with a total of over 200 subfields and disciplines. If we move out of the game developers' "practical" perspective, we might be able to add a hundred more.

With such variety, how can we even dream of creating a single field for the study of games? It should be obvious that the clinical psychologist with an interest in game-induced brain patterns has little or nothing in common with a 3D programmer seeking better algorithms for procedural shading. They certainly have no overlap in terms of methodologies.

Explicit discussions of methodology or of empirical selection (or, for that matter, reflections on the choice of theory) are very thin on the ground. A recent and notable exception to this, however, is Lars Konzack (2002) who sets out to construct a methodological framework for analyzing games. His attempt is probably the first, and the present paper is inspired by and indebted to his trail-blazing.

Konzack outlines

"seven different layers of the computer game: hardware, program code, functionality, game play, meaning, referentiality, and socio-culture. Each of these layers may be analysed individually, but an entire analysis of any computer game must be analysed from every angle. Thereby we are analysing both technical, aesthetic and socio-cultural perspectives." (89)

Konzack then proceeds to analyze *Soul Calibur* (1999) according to his layers. His comprehensive approach seems very useful in at least three different respects: Firstly, in the thorough analysis of a single, specific game, down to the last detail; secondly, as a general, descriptive, layered model of games; and finally, as a timely reminder of the many-sided, complex media machines that computer games are. However, while it is unfair to call his approach unpractical, its true strength lies probably in the theoretical model rather than as practical, step-by-step formula for game analysis. The strength of Konzack's model is also its weakness: the seven separated layers, which appear to be equally important. However, depending on one's perspective, it seems obvious that, say, gameplay is more important than hardware, and also, in most cases, than referentiality. Indeed, most games are not very interesting in all of these layers, and few present us with real innovations in more than one or two. An aesthetic analysis, just like a computer game, cannot afford to bore its audience, it must cut to the chase and zoom in on the elements that make the game interesting, whatever they are. Konzack's method is probably best used as an open framework, where the analyst can

choose any 2-4 of the seven layers to work with, and ignore the rest. Furthermore, layers should not be seen in isolation, but probably analysed together for best effect.

A TYPOLOGY OF GAME RESEARCH

The elements we choose to examine are always predetermined by our motivation for the analysis. Why are we interested in this particular game? What is the point of our analysis? Given the large number of potential disciplinary perspectives discussed above, it seems that the list of motives and focal points could be equally large. For instance, it is unlikely that the same method would be fruitful in analysing both massively multiplayer games like *EverQuest* and puzzle/twitch games like *Tetris*. Also, the concept of "computer games" is quite weak, and notoriously hard to define in an interesting way. Do we include digitized versions of traditional board games? What about chess played by email? Programmed opponents for traditional games (artificial chess or checkers-players, say) dilute the concept even further. Could we identify a genre of "intrinsic computer games" that will help us exclude the games that are only trivially and "uninterestingly" digital, such as *Who wants to be a Millionaire* on CD-ROM? Perhaps it would be best to drop the term "computer game" altogether, and instead try to find a more suitable name for the phenomenon that interests us.

One such name would be "games in virtual environments."¹ This label fits games from *Tetris* via *Drug Wars* to *EverQuest*, while computerized toys like *Furby* and dice and card games like *Blackjack* are excluded. Non-computerized simulation games like *Monopoly* or *Dungeons and Dragons* would not be excluded, but perhaps that is a benefit rather than a problem. After all, the kinship between these and many computerized virtual-environment games is undeniable, so it makes good sense to actually include them.

Given this focus, what general elements do we find in "games in virtual environments"? I would like to point out three dimensions that characterize every game of this type:

- Gameplay (the players' actions, strategies and motives)
- Game-structure (the rules of the game, including the simulation rules)
- Game-world (fictional content, topology/level design, textures etc.)

Almost any game, from football to chess, can be described by this tripartite model. Since a game is a process rather than an object, there can be no game without players playing. Since these games are about controlling and exploring a spatial representation (see Aarseth 2000) the game must take place inside a clearly defined gameworld. And since all games have rules for advancing or losing, the game-structure of rules is perhaps the most fundamental of the three elements. Without rules to structure actions, but with a (virtual) world, we would have free play or other forms of interaction, but not *gameplay*.

These three levels could all be subdivided further, e.g. Gameplay: actions, strategies, social relations, players' knowledge, in-character communication, out-of-character communication, etc. They can be analysed

separately, or combined: how does the combination of a certain game-structure and a certain game-world (arena) affect the gameplay? (E.g. how does changing the gravity from 1 to .3 affect the game?)

These interdependent levels have different weight in different games. In some games, typically multiuser roleplaying games, the first level dominates. In strategy and reaction-based games, such as *Command&Conquer* and *Tetris* or *Quake*, the rules dominate the game. And in world-exploration games, such as *Half-Life* or *Myst*, the Game-world is the dominant element. However, since all games are dominated by their rules, perhaps it is more accurate to say that in social games and world games, the rules dominate the experience *less* absolutely.

Perhaps more importantly in this context, by focusing on each of the three levels, we could identify three different types of games research perspectives:

- Gameplay: sociological, ethnological, psychological etc.
- Game-rules: Game Design, business, law, computer science/AI
- Game-world: Art, aesthetics, history, cultural/media studies, economics

In addition, combinations of the above could define more narrowly defined research areas, such as avatar-rights (rules&world), player-strategy or hacking (play&rules) or roleplaying (play&world).

My hypothesis is that there is a strong correlation between the dominant level of a game and the attraction it has as analytical object for certain disciplines and approaches. This is of course not surprising, but is should be acknowledged and perhaps guarded against when the purpose of the analysis is to produce general observations about games and playing.

BUT WHERE IS THE METHOD?

For any kind of game, there are three main ways of acquiring knowledge about it. Firstly, we can study the design, rules and mechanics of the game, insofar as these are available to us, e.g. by talking to the developers of the game. Secondly, we can observe others play, or read their reports and reviews, and hope that their knowledge is representative and their play competent. Thirdly, we can play the game ourselves. While all methods are valid, the third way is clearly the best, especially if combined or reinforced by the other two. If we have not experienced the game personally, we are liable to commit severe misunderstandings, even if we study the mechanics and try our best to guess at their workings. And unlike studies of films and literature, merely observing the action will not put us in the role of the audience. When others play, what takes place on the screen is only partly representative of what the player experiences. The other, perhaps more important part is the mental interpretation and exploration of the rules, which of course is invisible to the non-informed non-player. As non-players we don't know how to distinguish between functional and decorative sign elements in the game.

Once we have mastered the game ourselves, or other games in the same genre, non-involved observation

and player interviews can be quite effective, and even provide insights that our own play could not produce. But informed game scholarship must involve play, just like scholars of film and literature experience the works first hand, as well as through secondary sources.

That said, how do we play? Is playing for analytical purposes different from playing for pleasure? That depends on our reason for the analysis. A journalist assigned a game to review for a mass audience will probably spend less time than a serious game scholar carefully dissecting a potential masterpiece. Another factor is of course the type of game. A multiplayer game requires the participation of others in our play, while a complex strategy game may require hundreds of hours in quiet contemplation.

As a player, we must assume one of a number of positions vis-à-vis the game. What type of player am I? Am I newbie, casual, hardcore? Do I know the genre? How much research should I do prior to playing? Do I take notes while playing? Keep a game-diary, perhaps? Or do I just go ahead and immerse myself, and worry about critical analysis later? Some games are fast, some are slow; should we approach them differently? Should we record ourselves while playing? How do we analyze a game we are not very good at?

As a non-player observer, the situation may seem easier, but is it? If I watch others play, how do I figure out their prior knowledge of the game? How do I choose my subjects? Every game involves a learning process, and this process is different for different players, depending on prior skills, motivation and context.

STYLES OF PLAY

Richard Bartle (1996) offers perhaps the best analysis of players and playing we have seen so far. He presents a typology of four player types, and describes how the interactions between types influences the social atmosphere in the game. The four types are *socializers* (the players who play to enjoy the company of other players), *killers* (players who enjoy preying on and harassing other players), *achievers* (players who like to win and triumph) and *explorers* (players who enjoy discovering the game's secrets and hidden mechanics, including discovering and exploiting programming errors).

It seems Bartle has created a general model of human behaviour in virtual environments, and one which certainly could be used to classify game scholars as well. His typology is extracted from his active observations of the first MUDs, but his model works well with other types of games, and even beyond, with phenomena such as web portals. In almost any type of game, the drive to win, master and discover leads the players to socialize, trouble each other, impress, or find solutions that no one thought possible. A complex game, such as *Civilization*, *Deus Ex* or *GTA3* may be won in a matter of days or weeks, but due to the openness of the simulation and the collective ingenuity of players, the potential for new discoveries is endless.

After playing the multiplayer demo of *Return To Castle Wolfenstein* (the level called "beach invasion") for more than a year and a half, I am still occasionally amazed at what I see fellow players do. The game takes

place on a Normandy beach, with one team defending a bunker as German soldiers, and the others playing as allies trying to invade it from the sea. At one point more than a year after the game was released, someone discovered that by exploiting the fact that players were invulnerable for the first seconds after they were revived by a medic, one could “fly” over the wall if one was revived next to a live grenade about to explode. Thus, by committing suicide, one could win the game in a novel way. This is clearly a Bartelian explorer at work, inventing a new strategy based on a weakness in the rule/simulation system. Far from an isolated case, the use of such exploits are typical in advanced gameplay. Some games, such as *GTA3*, even reward the player for certain innovative moves, such as spectacular car jumps (stunts). The dialectic between player inventiveness and game designers’ need to balance realism and playability in the simulation can be regarded as a major source of creativity on both sides. Players find the discovery of exploitable bugs and loopholes in the games highly rewarding, while designers see the experiments of explorers as a challenge to their ability to predict the simulation’s unwanted side effects. There is a fine line between a funny but harmless bug, and a game that is ruined by bug-exploiting players, especially in multiplayer games.

How should the game scholar approach exploitable games? Clearly, the explorers among us will enjoy this aspect, while the socialisers and killers (if there are any killers in our profession?) might ignore it. The achievers, on the other hand, will have a moral dilemma on their hands: should they play nice, or exploitatively?

This brings another style of play to our attention: the *cheater*. This lowly creature, for some reason not mentioned in Bartle’s typology, can often be spotted far into the ranks of game scholars as well as among the average players. It is with great and increasing regret that one reads papers on game analysis where the author unashamedly admits that yes, I used a cheat code, or yes, I consulted a walk-through. In other fields this behaviour seems impossible, at least to admit openly. Imagine a professor of renaissance studies admitting to have used a Cliff or York Notes guide? While it is understandable that academics with not too much time on their hands find it difficult to spend the hundreds of hours necessary to master a game, and therefore give in to the temptation to zip through a game (typically a quest game) using the walkthrough, or (even worse) using the no-clipping or god-mode cheats, it is hard to imagine excellence of research arising from such practices. Where is the respect for the game? And, more importantly, how is the flavor of the game kept intact?

And yet, at times, most of us have done it.

FEAR AND LOATHING IN MORROWIND

After having played quest games for nearly twenty years, I am struck by the repetitiveness of the situation. Receive a task, find a solution, look for the next challenge. Or, in other words, explore, kill, explore some more, kill some more, etc. The two redeeming features of such games were improved graphics and, as a consequence, richer, better game worlds. From Crowther and Woods’ original *Adventure* via *Myst* and *Duke Nukem* to *Half-Life*, *Serious Sam*, *No One Lives Forever*, *Max Payne* and beyond, the gameplay stays more or less

the same, the rules likewise, but the game-world, as a corollary of Moore’s Law, improves yearly (along with expanded development budgets). If not, the new games would never sell at all. Where is the new adventure game with retarded graphics that was successful? It does not exist. Take away the game-world, and what is left is literally the same game skeleton, give or take an algorithm. Bungie’s quite successful first-person-shooter *Halo* was more or less a remake of their earlier hit *Marathon*, but with better graphics and an improved engine, of course. Science fiction futurism, medieval fantasy, or 20th century *noir*, the formula is the same: kill, explore, kill some more.

The linear structure of adventure games like these is unnoticed the first time you play one, and perhaps also the second or third game you play, but after a while the boredom hits, and even the most enjoyable game becomes un-re-playable. Another law than Moore’s is probably at work here: the more linear, the less replayable. The corollary – the more nonlinear, the more replayable – also seems true.

One such nonlinear game is *Morrowind* (Bethesda Softworks, 2002), the third installment in *The Elder Scrolls* trilogy. *Morrowind* is set in a mysterious fantasy empire, with elves, orcs, various political and religious organizations, monster-infested waste lands, Imperial law enforcers, magical weapons, treasure dungeons, and more. *Morrowind* is a bildung-game in the tradition of *Rogue/Nethack*, *Ultima Underworld* and *Diablo*, where the player-character gathers strength and personal skills in a typical rags-to-riches scenario. Unlike these dungeon games, however, *Morrowind* is set in an open landscape, populated with small towns and occasional large cities, and plenty of underground crypts, caves and dungeons. The scale of the game-world is impressive, as is the variety of wildlife, people and vegetation, and even architectural styles.

The game starts with the player choosing/creating a character. This character is then let loose in the *Morrowind* world, freed from prison by the Emperor’s order, and with some yet undefined task to perform in return. At first the world and your place in it is bewildering. The non-playing characters you meet are willing to talk to you, especially in the towns, where imperial guards keep order, but out in the open countryside monsters and villains will attack you on sight. Luckily, there are a few alternative means of transport, such as silt-riders (elephant-sized, strange-looking bugs) whose drivers will take you to the nearby towns for a few coins. Slowly you gather information and join guilds or factions to perform tasks that will make you rise in rank. As you perform these tasks and gather experience points you increase your skills. A quicker way to do this is to pay for private lessons from various eh.. personal trainers you meet here and there.

Little by little you learn to fight, to use magic and to navigate the world, and slowly the map of *Morrowind* expands to let you see more and more of the grand picture. The exact events as they happen, however, are completely unique from player to player. The first thing I did after having bought a suitable sword with my meager initial allowance, was to wander into a dungeon and get myself slaughtered by the despicable villain who lived there. Needless to say, much later when I happened

by that region again, I sought a terrible revenge and afterwards looted his filthy abode, not finding anything of real value.

After my first unfortunate encounter, I learned my lesson and played much more carefully and cowardly, through numerous colorful adventures that space will not allow me to recount here. I learned that stealth and cunning get you much further than brawny behaviour. Money is very hard to come by at first, so I decided to leave my real-world morals behind, and steal whatever I could get away with. Most items in the game have owners, but you can still sell stolen goods to others. In particular, a dour book seller in Vivec, the largest city, became a favorite victim. I would visit his shop and stuff away a few dozen expensive volumes when he and the guard weren't looking. Then I would sell them to a merchant across the street. Eventually nearly half his three hundred books were gone, but since I was not actually caught in the act, the poor book seller never really noticed anything, regardless of his half-empty shelves. Later I discovered an even more profitable exploit, which wasn't even illegal. With all the selling, my merchant skill went through the roof. This meant that I could bargain well, and make much greater profits than a beginner would. So I would seek out the merchant with the most money, which happened to be an apothecary in the provincial town of Balmora, buy her most expensive item, a mortar, at a very reasonable price, and sell it back to her for a very nice profit. This I would repeat over and over, till she was out of money. I would then go upstairs and sleep in her bed for 24 hours (the time it takes for her money to regenerate) and start the process over.

With an unlimited supply of money, I could buy the training and weapons I wanted, and become a master fighter, the scourge of Morrowind. No monster too dangerous, no quest too hard. I could explore freely, and I could enter the most dangerous places I could find, such as the volcano at the center of the world. There, in a dungeon, lived a demon named Dagoth Ur, and this, finally, was an opponent worthy of my might and magic.

Until that moment, I had enjoyed a game with almost no linearity whatsoever. Any quest presented to me I could take or refuse, and little consequence would come of it. Sometimes a character would ask me to help him, and follow me around until I did, and I still remember with some shame a near-naked mercenary I promised to help find his gear, but had to abandon when he got stuck in a cave (the NPCs² have limited navigation skills, and get stuck easily). Occasionally I would do the wrong thing, as when I was on a mission to eliminate two Kwama mine robbers but killed two innocent miners instead (they were in the wrong place and fit the description...). But, all in all, these were happy times, exploring, fighting, and pearl-diving, in a vast landscape filled with countless wonders. I even learned to fly.

However, when I met Dagoth Ur, my world changed. Dagoth Ur was simply too powerful to kill, or, as he tauntingly pointed out, I did not have the right tools for the job. Hmm. Where to get those tools? I had a rough idea, but it would involve lots of tedious exploring, so curiosity got the better of me and I finally dropped out of the game and googled for a walkthrough.

That was a mistake. The walkthrough contained a wealth

of information, about quests, characters and challenges I did not even know existed, and about a central quest that I had never heard of. So instead of simply finding the information I wanted, I was overloaded with information I had never asked for. This should have added depth to my impression of the game world, but it had the opposite, flattening effect: Instead of making me want to explore further, the walkthrough put me off playing the game! The magic was gone, and my personal investment in the world, after a week of playing, was totally devalued. I stopped playing. I still have fond memories of a great game, where my wish for an open, undirected game experience came true beautifully. However, the knowledge that there was a central quest, and that by following a recipe made by others I would be able to enact this quest, simply put me off further playing. I was no longer in love with the game.

The moral lesson here, for me at least, is that walkthroughs and other types of cheats can easily ruin the game. (They are not called "spoilers" for nothing.) But what about the methodology? My free, improvised play had not helped me to discover essential parts of the game. In failing to discover the main quest, I failed as a model player, in spite of my great enjoyment in the game. Perhaps there is a potential conflict between free enjoyment and game analysis, where cheats and walkthroughs that take away the game's challenges, must still be used to understand it. Of course, if I had had more patience and more time, then I might have discovered the main quest on my own.

THE HERMENEUTIC FEED-BACK LOOPS OF PLAY AND NON-PLAY

How is determined by *why*. So what are the reasons for analysing games? And what, and how many, kinds of reasons are there? Game analysis is not just a critical/theoretical practice; gamers do it all the time. The primary objective/meaning of most games, how to play well and win, demands an analytical approach. In order to progress through the learning stages of a game, the player must explore various strategies and experiment with different techniques. This kind of pragmatic analysis could be said to be present in the consumption of other genres also, but non-academic viewers or players do not regard their engagement with a new literary or cinematic work as a learning process, which every player of a new game must and does. While the interpretation of a literary or filmatic work will require certain analytical skills, the game requires analysis practiced as performance, with direct feedback from the system. This is a dynamic, real-time hermeneutics that lacks a corresponding structure in film or literature.

Reading a book or viewing a film does not provide direct feedback, in the sense that our performance is evaluated in real time. As Markku Eskelinen (2001) has pointed out, "in art we might have to configure in order to be able to interpret whereas in games we have to interpret in order to be able to configure." Our understanding of books or films, in the form of an essay or paper, might be evaluated externally by our peers or teachers. But to show that we understand a game, all we have to do is to play it well.

What will a typology of game analysis look like? There are at least two main types of analysis: playing and non-playing. Can these be subdivided further? It would be

natural to assume that non-playing can only exist in one form, but this is not the case. Take, for instance, Eugene Provenzo's description (2001) of "U.A.C. Labs," the "mod" (modification) to *DoomII* made by one of the Columbine killers, Eric Harris. Provenzo claims that the characters in the modified game are unable to fight back, and that the *mod* clearly resembles the Columbine massacre. This remarkable claim is not confirmed by a walkthrough of Harris' mod, made by Ben Turner (1999). The Walkthrough shows commented screenshots from a typical Doom mod, consisting of two levels filled with the usual weapons and monsters, which Turner characterizes as "rather unimpressive". Judging by this walkthrough, it seems clear from Provenzo's description that he has not played, and probably not even seen the game he is describing. But then, neither have I. I also use a secondary source, but in this case, my source seems more trustworthy than the one used by Provenzo, who does not list any reference. Here we have two different kinds of non-playing analysis, one based on a walkthrough, and one most likely based on hearsay. While my use of a walkthrough puts me at a significant distance from the game itself, this is still better than Provenzo's position, which seems to allow for serious descriptive errors. I may not be sure that the walkthrough is the real thing, but nothing in Turner's report makes me suspect otherwise. Besides, I am quite familiar with the game that the mod is based on, having followed the *Doom* series from before the first release on the Internet in December 1993.

To generalize, we have several types of sources for our non-playing analysis:

- previous knowledge of genre
- previous knowledge of game-system
- other players' reports
- reviews
- walkthroughs
- discussions
- observing others play
- interviewing players
- game documentation
- playtesting reports
- interviews w/game developers

However, while some of these are better than others, it seems clear that it is in combination with hands-on playing experience that analysis has the best potential for success. But also, as the *Morrowind* example shows, non-play sources can significantly add to our play-based understanding. Like ergodic works in general, there are variations in the realization of the games which means that a collective pool of experience will always bring new aspects forward, as the Normandy Beach/*Wolfenstein* multiplayer example shows. Thus, it might be argued that for thorough game analysis, drawing on the experience generated by others is crucial, not merely useful. The hermeneutic circle of game analysis should include the game's player collective (the official company web site discussion board, fan web rings, and other user groups), and, if possible, direct observation of others playing, not merely reading of their reports and discussions. Since most aspects of play are non-verbal, observing player styles and techniques directly is invaluable, especially if we already know the game with some degree of intimacy.

PLAYER STRATA IN GAME ANALYSIS

When it comes to playing and player style, the playing analyst has a number of modes to choose from, depending on personal choice and game genre. Bartle's typology offer four distinct modes, with Cheating as a fifth. Combined with the experience axis of *newbie*, *casual* and *hardcore*, we get fifteen different player positions, although some, such as a "casual explorer," are less likely to occur than others. We could of course play the combinatorial game further and add game genre, theoretical foundation (Lacanian, player-response, feminist, semiotic etc.) and motivation (aesthetic, ethical, cultural etc.) and come up with a cornucopia of analytical combined modes and angles, but that will have to wait for future research. Instead, let us briefly examine the different strata of engagement that playing analysis allows.

First, we have superficial play, where the analyst plays around with the game for a few minutes, merely to make a quick classification and get a "feel" for the game, but without learning interface commands or structural features. Then there is light play, where the player/analyst learns enough to make meaningful progress in the game, but stops when progress is made. Then there is partial completion, when a sub goal or a series of sub goals has been reached. Total completion is of course only possible in games with defined endings, and not in games such as *Tetris* or *Space Invaders*. Repeated play and expert play are strata that usually come after total completion, unless the game genre is so familiar to the analyst that no substantial learning is necessary. The expert player is also, typically, a winner of multi-player games. The seventh stratum, innovative play, is seen when players invent totally new strategies and play the game not to win, but to achieve a goal by means that are not previously recognized as such by other players. The classic example of this is "rocket jumping" in *Quake*, where firing a rocket towards the floor while jumping will propel the player-avatar high in the air, but nearly every genre can provide examples. A famous example is the "peon rush" in *WarCraft II*, where a player wins by sending his builders to wipe out the opponent's builders, instead of progressing the normal way of first gathering resources, building barracks, training soldiers, etc.

TOWARDS A METHODOLOGY

How *do* we analyze games? It all depends on *who* we are, and *why* we do it. Scholars, gamers, critics and developers all have different needs and need for different methods. As scholars, we may also have different needs and motives, but it might still be possible to come up with common standards. Typically, we start out with a research question, such as "what is gameplay in adventure games?" or we might have encountered a new game which interests us in a puzzling way. If the empirical basis of our inquiry is not already given, we choose one or more games to give our question a target. Here we must be careful to choose games that not only will confirm our hypotheses, but also potentially refute them. Our choice should be well argued and thoroughly defensible.

Do we need theory? This might seem obvious, but as long as there are no really outstanding computer game theories (or, as it happens, hardly any at all), it would seem more important to present a well-argued analysis that commands previous scholarship and breaks new

analytical ground. Importing and applying theories from outside fields such as literature or art history can be valuable, but not always and necessarily; and often non-theoretical, critical observations can contribute more to the field than a learned but theory-centered discussion. The question to ask here is, does the theory tell us something new about games, or is it discussed merely to be self-confirmed?

In gathering information about the game, we should use as many sources as possible. Playing is essential, but should be combined with other sources if at all possible. Games are performance-oriented, and our own performance might not be the best source, especially when we are analysing it ourselves. The analysis should also contain reflection on the sources used; where they come from, what could have been included, why did we select the ones we did, etc.

When concluding our analysis, we should match the results to the empirical basis. The cultural genre of games contains a rich variety of types and sub-genres, and too often generalizations are made on the basis of a few examples that are neither representative nor popular.

Naturally, methodological suggestions like the above has serious limitations. The game scholar may have a number of reasons for doing analysis, and most of them do not fit the prescriptive lens offered here. But critical self-awareness, in whatever form, should always be practiced.

CONCLUSION: PLAYING FOR PRESTIGE?

For the playing analyst, the question of which position and stratum to attain is a question of skills, experience, ethics, motivation, and time. Although expert and innovative play are always hard and sometimes impossible to reach, they do imply that the (successful) analyst has understood the gameplay and the game rules better than others. A superficial cheater or a casual socialiser simply cannot be expected to reach a deep understanding of the games they examine. Then the question becomes, should we expect game scholars to excel in the games they analyze? This idea, while fairly militant, has some merit, especially if we look to other performing arts, where academic training is often combined with training for practical performance skills. As game scholars, we obviously have an obligation to understand gameplay, and this is best and sometimes only achieved through play. While our achievements as academics are measured by the quality of our publications rather than by our scores in *Tetris* and *Quake*, that quality is nonetheless also, at least for most of us, an indirect result of our playing skills. More crucial here than skills, however, is research ethics. If we comment on games or use games in our cultural and aesthetic analysis, we should play those games, to such an extent that the weight we put on our examples at least match the strata we reach in our play. Non-playing analysis, for whatever purpose, can only be strengthened by prior playing experience. But as my analytical misadventure in *Morrowind* showed, there must also be a balance between free play, analytical play, and non-play.

ACKNOWLEDGEMENTS

I wish to thank the anonymous DAC reviewers for their very valuable comments and criticisms.

REFERENCES

1. Aarseth, Espen (2003): "Quest Games as Post-Narrative Discourse" in Marie-Laure Ryan (ed.) *Narrative Across Media*. University of Nebraska Press (in Press).
2. Aarseth, Espen (2000): "Allegories of Space: The Question of Spatiality in Computer Games" in Markku Eskelinen and Raine Koskimaa (eds.) *Cybertext Yearbook 2000*, University of Jyväskylä. (<http://www.hf.uib.no/hi/espen/papers/space/>)
3. Bartle, Richard (1996): "HEARTS, CLUBS, DIAMONDS, SPADES: PLAYERS WHO SUIT MUDS." <http://www.mud.co.uk/richard/hcds.htm>
4. Eskelinen, Markku (2001): "The Gaming Situation" in *Game Studies*, Vol.1 Issue 1. <http://www.gamestudies.org/0101/eskelinen/>
5. Konzack, Lars (2002): "Computer Game Criticism: A Method for Computer Game Analysis", in *CGDC Conference Proceedings*, Frans Mayra (ed.), Tampere University Press 2002, pp 89-100. also available at <http://inv.au.dk/~konzack/tampere2002.pdf>
6. Provenzo, Eugene, Jr. (2001): "Children and Hyperreality The Loss of the Real in Contemporary Childhood and Adolescence" <http://culturalpolicy.uchicago.edu/conf2001/papers/provenzo.html>
7. Turing, Alan (1936): "On Computable Numbers, with an application to the Entscheidungsproblem," *Proc. Lond. Math. Soc.* (2) 42 pp 230-265 (1936-7); correction *ibid.* 43, pp 544-546 (1937). Also available at <http://www.abelard.org/turpap2/tp2-ie.asp>.
8. Turner, Ben (1999): [untitled 'UAC Labs' walkthrough] <http://www.worldlynx.net/bent/misc/uaclabs/>

NOTES

¹ For a longer discussion of "games in virtual environments," see Aarseth 2003.

² Non-Playing Characters, computer-simulated persons in the game.