

# Theorycrafting: from collective intelligence to intrinsic satisfaction

**Faltin Karlsen**

The Norwegian School of Information Technology  
Schweigaardsgate 14, 0185 Oslo  
+ 47 90 73 70 88  
[fk@nith.no](mailto:fk@nith.no)

## **ABSTRACT**

My aim with this paper is to explore theorycrafting as cultural praxis, closely related to gaming. Theorycrafting can be defined as ‘the attempt to mathematically analyze game mechanics in order to gain a better understanding of the inner workings of the game’. I will engage two perspectives in my analysis. First, I will focus on theorycrafting as a collective enterprise from a techno-social perspective. This will include an analysis of how web resources are furnishing the activity. Second, I will focus on what motivation players have for engaging in theorycrafting in the light of the meaning that the crafters find, or import, in this activity. This will also address how a general fascination for technology, and not only games, can be an important aspect of theorycrafting. The empirical basis for my analysis is 12 interviews of excessive *World of Warcraft* players and websites dedicated to the game.

## **Keywords**

Theorycrafting, reverse engineering, play motivation, World of Warcraft

## **INTRODUCTION**

In computer games, a particular type of involvement occurs when players start delving into the interior of the game, trying to unravel its internal mechanics. This is a phenomenon often described in game studies, also in studies of online games (Karlsen 2009; Mortensen 2010). In some game communities, this kind of involvement is referred to as *theorycrafting*. The term originated in the Starcraft community and according to the website wowwiki.com, ‘[t]heorycraft is the attempt to mathematically analyze game mechanics in order to gain a better understanding of the inner workings of the game’. Theorycrafting is usually conducted by the most dedicated players, also referred to as powergamers, hard-core players or simply as *gamers* (Taylor 2003; Karlsen 2004; Linderoth and Bennerstedt 2007). Through theorycrafting the players can, in great detail, learn how to optimise their avatars and play tactics. As theorycrafters often share their knowledge on the web, they also influence the larger game community, reshaping how the game is played and understood (Paul 2010, 2011).

Theorycrafting shares similarities with the broader phenomenon recognised as *reverse engineering*. According to Eldad Eilam, reverse engineering is the process of extracting the design blueprints from anything man-made – an activity he tracks at least as far back as the industrial revolution (Eilam 2005). Reverse engineering is often applied for

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analysing machines or software in order to achieve a commercial or military advantage. Everything from simple objects like the Jerry can to stealth aircrafts have been the object of reverse engineering. In a commercial setting, reverse engineering is used by actors competing in a market in order to close or overcome a technological gap. In this respect theorycrafting differs from reverse engineering as it is not being conducted by professional actors on a professional arena but by ordinary people for personal reasons. It would be fair to say that *theorycrafters* are more closely related to technology enthusiasts who love to tinker with different types of machines, be it motorcycles, radios or computers. Like most phenomena that have an enthusiastic fan base, theorycrafters have also developed their own cultural practices, set of distinctions, and body of knowledge.

## **AIMS, METHODS AND RATIONALE**

My aim with this paper is to explore theorycrafting as cultural praxis, closely related to gaming. I will engage two perspectives in my analysis. First, I will focus on theorycrafting as a collective enterprise from a techno-social perspective. This will include an analysis of how web resources are furnishing the activity. Second, I will focus on what motivation players have for engaging in theorycrafting in the light of the meaning that the crafters find, or import, in this activity. This will also address how a general fascination for technology, and not only games, can be an important aspect of theorycrafting. My analysis of play motivation will be mainly based on interviews with excessive World of Warcraft-players. This will be analysed in light of other research on play motivation, most noticeably a psychometric analysis of MMORPG players conducted by Nick Yee (Yee 2006).

Theorycrafting is a phenomenon that intersects with several different academic approaches to games. Being an activity where knowledge and learning are core qualities, it also relates to studies of other types of learning communities. Several studies describe Internet-based knowledge communities from a sociological perspective (Kollock and Smith 1999). Lave and Wenger has described groups of people who share a specific domain of interest for *communities of practice* (Lave and Wenger 1991, Wenger 1998). Communities of practice are characterised by interacting and engaging in shared activities and, importantly, they are also *practitioners* of the shared interest (Wenger 1998). These criteria would describe gamers doubling as theorycrafters quite well. Studies of fan culture and how it organises fan-related knowledge also show how it shares many resemblances to theorycrafting. Especially relevant for my analysis is the concept of *collective intelligence* and how this has been used to describe participatory aspects of fan culture and game culture (Jenkins 2006; McGonigal 2008).

Theorycrafting also touches upon the culturally ambiguous activity of *cheating*. Mia Consalvo has described different ways players cheat and her study shows how different players, or different player communities, differ profoundly regarding this issue. While some regard consider it OK to ‘crack’ a game and alter the original code to enhance playing, others shy away from even approaching a walkthrough on the Internet (Consalvo 2007). Cheating is a concept that is culturally flexible and touches upon several issues that run parallel to theorycrafting. While theorycrafting in general is both legal and accepted within the game community that I analyse, Consalvo’s analysis is relevant as it describes how gaming knowledge is structured as a cultural field. Especially relevant is her term ‘gaming capital’, which is a loan from Bourdieu (1987 [1979]) and his concept symbolic capital.

## **OBJECT OF STUDY**

*World of Warcraft* (Blizzard 2004) is a massively multiplayer online role-playing game (MMORPG) released in November 2004, with approximately 12 million paying users. A central objective in *World of Warcraft* is to develop and enhance an avatar by exploring gradually more advanced areas of the game. At maximum level (85) the avatar can be further enhanced by mainly two types of activity, Player versus Player fighting (*PvP*) or through *raiding*. Raiding is done in groups where a maximum of either 10 or 25 participants enter specific areas of the game called raiding instances. A raiding group consists of avatars with different attributes which complement each other. Some can heal, some serve as vanguards attracting the attention of monsters, while others focus on dealing damage. The objective is to defeat so-called *bosses* in order to receive the treasures they keep, known as *loot*.

## **GAME MECHANICS**

Starting out on a new game usually involves a struggle to master new skills and playing techniques. An avid player of a game with a simple rule set, like chess, will have to spend time learning different strategies in order to perform better. In a game like *World of Warcraft*, the complexity of the rule set means that, in addition to exploring different strategies for playing, time will be spent on understanding the rule set itself. In this capacity *World of Warcraft* shows its heritage from the fantasy role-playing genre, where the rule set of a game could fill hundreds of pages. This game genre was developed before computers were widely available and was executed through the use of pen and paper, dice and human resources. One of the participants, the game master, was in charge of how the game unfolded by controlling the dice and that the adventures developed according to the game universe described in the rule books (Fine 1983). When this game genre was adapted to the computer, the rule set became embedded in the program code and the calculations were done automatically. This means that the exact mathematical formula of the rules, as well as how randomness was employed in the game, became partly hidden from the user. One reason developers do not reveal this information is that having access to every parameter in the game will make it easier for the players to decide what playing style to go for and what action to perform in a given situation, hence reducing the perceived complexity of the game.

The players, on their part, will be interested in finding easier ways of solving tasks in order to enhance their performance. For a raiding guild, having good intelligence about the mechanics involved in boss fights will, for instance, make a vast difference in performance and progress. The players that are involved in theorycrafting will first and foremost enhance their own playing. Those that share their findings with the larger player community will also have an impact on the general player community and the general level of knowledge about the game. This is where playing culture intersects with knowledge culture. In the next section I present some of the online arenas where this knowledge is generated.

## **ONLINE RESOURCES**

The ecology of websites dedicated to *World of Warcraft* is, arguably, quite diverse. There are sites dedicated to achievements, to hunter pets and how to make successful machinimas. Sites concerning game mechanics range from easily-processed information available from the game to original research based on meticulously performed experiments on the game universe. Most sites have a mix of both. The most comprehensive site with regard to general information is arguably wowwiki.com, which currently holds around 90,000 articles about the game.<sup>1</sup> The wiki was launched in 2004 and is exclusively run by players. According to the news site massively.com, wowwiki

was, in 2008, the second largest wiki in the world, behind Wikipedia, with 3 million unique users every month.<sup>2</sup> This illustrates how gaming in general, and *World of Warcraft* in particular, has become a part of mainstream culture. It also illustrates the complexity of the game universe and the player community's dedication to developing and maintaining an accurate knowledge base. The site covers information about the entire *World of Warcraft* universe, including novels, mangas, other written sources and a wide range of different games. The site offers basic information on every aspect of *World of Warcraft* and has a searchable database containing a wide range of game elements, including items, quests, professions and NPCs. It also has extensive descriptions of every dungeon (so-called instances) and raid areas in the game, explaining what abilities and attacks the different bosses have. Overall, it offers information that ranges from the most mundane to the most complicated encounters in the game. Noticeably, it is not possible to add or read comments here unless you register as a user. This also applies to their section concerning game mechanics, which is edited through an internal review process.

Other large and popular sites include thottbot.com, wowhead.com and allakhazam.com, which are all built around item databases. Thottbot and allakhazam have developed add-ons that mine data from the games and pass them on to the websites.<sup>3</sup> These add-ons have to be installed on the players' computers and will register data about entities that the players are in contact with during play, such as the value of items and the location of monsters. This add-on also made it possible, earlier, to generate statistics on the drop rates of items, which could otherwise be hard to deduce.<sup>4</sup> The sites also contain detailed descriptions of the several thousand quests in the game.<sup>5</sup> These sites provide the players with the possibility of registering and adding comments or information about different topics. They can be regarded as an arena for the casual exchange of tips and opinions about different aspects of playing. Sometimes players present theorycrafting and discuss game mechanics through the comment feature, but contributions are arbitrary and not in any way systematically presented.

The site elitistjerks.com leans heavily on original research and is regarded as one of the most reliable sources in the player community where theorycrafting is concerned. The site presents theorycrafting on every different type (class) of avatar and also has an open forum about other aspects of the game. The players who run this site enforce strict rules on anyone who registers as a contributor to their forum. The rules section includes rules against cross posting, trolling and flaming and such ordinary requests as '[a]ll posters are to make an effort to communicate clearly', but the tone can be quite condescending, for instance when they state:

These are simply a set of guidelines to get you started in the right direction. If you follow them, you will generally do fine here; however, if you concoct some creative new form of stupidity, our moderators feel no need to restrain themselves in letting you know.<sup>6</sup>

These players know they represent the elite of the player community and therefore can demand high standards from contributors. In accordance with the aim of the web site, the guidelines state that 'If you have an idea you'd like to share with the community, support it with analysis, testing, or both that indicates you've put some thought into it.' By virtue of these rules and the moderation they induce, the forum clearly acts as a learning arena for theorycrafters. That forums dedicated to *World of Warcraft* can have such a function is documented earlier. Steinkuehler and Duncan found, for instance, that an impressive 86 per cent of posts on a *World of Warcraft* forum dedicated to the priest class could be

considered ‘social knowledge construction’ in the sense that the contributors collectively developed an understanding of subjects being discussed (Steinkuehler and Duncan 2008). Of these, 28 per cent used data or evidence in some form to warrant their claims. The same collective effort is evident also on elitistjerks.com, for instant in this start post on a thread for shadow priest.

Welcome to the EJ Shadow Priest compendium. While my name may be the first one listed here, this is really a collective effort over the years of many posters here – all I've done is pull information together into one place. In addition, I'd be remiss not to mention shadowpriest.com which has been extremely useful over the years for stat weighing and SimulationCraft.<sup>7</sup>

Since both players and raiding guilds are in fierce competition against each other, the willingness to share information may seem a bit surprising. One explanation lies in the difference between having information and knowing how to use it – players with the best information available must also be able to transfer this into practical playing. Another explanation is the tendency of the player community to regard itself as unified against the company, Blizzard, which keeps information hidden. This quote from wowwiki.com illustrates this type of self-understanding:

For a long time it was thought that players would never be able [to] get a sound understanding of how aggro works because it was assumed that it is based on complicated AI algorithms which can't reasonably be deduced from the little information Blizzard has made available to us. Thanks to the work of some dedicated individuals, however, it is now known that this is not the case. Today there is a quite thorough theory on aggro which explains most of the factors involved in a mob's target selection.<sup>8</sup>

Players who meticulously work to understand the game mechanics, and share their knowledge with the larger player community, gain social recognition or downright praise for their work. While Blizzard is not exactly regarded as the enemy, the theorycrafters are clearly the heroes.

## **KNOWLEDGE CULTURE**

Henry Jenkins (2006) has used the term collective intelligence to describe enthusiastic media consumers who, in a concerted effort, try to disclose information about different media products. The hub of such activity is usually wikis or websites dedicated to the subject. Jenkins uses viewers of the American reality concept *Survivor* as one example where the main goal for the community was to find out who won the competition before the show ended.<sup>9</sup> Contributors to such collective efforts are usually known only by nicknames, as their real life occupation or background is of little concern. They earn respect within this community solely by having access to information about the media product, for instance by having contacts within the production company, or by coming up with a clever analysis of the information available. Theorycrafting has many similarities with the collective enterprise Jenkins describes, especially with respect to how new media technology is furnishing the organisation and dissemination of information.

According to Jane McGonigal, collective intelligence offers possibilities of producing knowledge that is not only quantitatively but also qualitatively different from how knowledge is traditionally developed, in ‘its formation and uses’, as she states (McGonigal 2008: 3). She quotes the philosopher Pierre Levy, who describes knowledge

in a computer-driven network culture as something that ‘ceases to be the object of established fact and becomes a project’ (Levy 1994, in McGonigal 2008). McGonigal uses the ARG-styled interactive fiction *I love bees* as an example of collective intelligence, and describes how the gaming community, in a matter of weeks, organised thousands of individuals to uncover the riddles of this puzzle game. *I love bees* was designed as a marketing campaign for the game *Halo 2*, where McGonigal served as an overseer of the emerging collective intelligence of its players. The developers, *42 entertainment*, released a large number of relatively vague clues into the Halo community as to what *I love bees* was all about. A central topic was collective intelligence. This eventually led the players to understand that they were supposed to solve mysteries collectively, operating as a hive. As a self-organised entity they managed to organise thousands of ideas about the game and to divide the labour between groups of players so that different hypotheses could be explored. Despite being geographically scattered all over the US they also managed to coordinate thousands of people to show up on different physical locations to gather information at specific times. Websites and wikis were central in the organising.

This is a good example of the flexibility and power of internet-based communities, and the efficiency of organising knowledge in wikis. This is also a good example of how laymen and -women are able collectively to develop a huge knowledge base about a specific subject. As examples of collective intelligence, perhaps the most striking aspect of *I love bees*, and also the *Survivor* example, is the way large masses of people are congregating around a common goal and establishing a knowledge community out of nowhere: a community that is both more ephemeral and, in some ways, better coordinated than, for instance, academia.

Despite these qualities, there are obviously also aspects of this enterprise that are not qualitatively new or different from traditional ways of aggregating knowledge – theorycrafting also bears strong resemblances to traditional academic research. A large proportion of contributions on sites like elitistjerks.com are, for instance, based on stringent statistical methods, modelling or mathematical analysis, as this is the basis for the activity. This is naturally much more common here than on general forums like the one Steinkuehler and Duncan (2008) analysed. The theorycrafting community also mirrors academia through their attempt to establish trustworthy institutions. The following quote is from a long article concerning the mechanics behind diminishing return, which is a mechanism that makes certain spells and abilities less effective against player characters if they are used frequently within a short period of time.<sup>10</sup> The author of this article carefully underpins his or her arguments by stating that:

These coefficients were calculated by Whitetooth, the author of RatingBuster and TankPoints, primarily through his own personal research and research found on the ElitistJerks forums.<sup>11</sup>

The author emphasises that the player Whitetooth has contributed other pieces of credible research. Elitistjerks, with which the player is associated, is cited as a token of quality, much as in a well-respected academic journal. As in academia, new knowledge is presented with reference to established authors, earlier research and trustworthy institutions. Following Mia Consalvo’s lead, we could say that theorycrafters are trying to rise in social recognition and to gain gaming capital by associating themselves with institutions that already possess this capital.

One issue where theorycrafters differ from the collective intelligence McGonigal and Jenkins describe, is that theorycrafters don't have one major goal to congregate around. Rather, the research is split between thousands of different elements of the game, admittedly with the overall goal of wanting to perform better as players. In this respect, they are rather similar to an academic research field in that the interest and aims of the individual researcher, or groups of researchers, are normally drawn from many directions and not centrally organised.

If we shift perspective for a moment, from the community conducting theorycrafting and, rather, focus on *World of Warcraft* as a research object, I would highlight the shifting nature to the object itself. Also, although the media landscape and the technologies we apply in our overall society are constantly changing, the changes in a virtual universe like *World of Warcraft* are on a different scale. A considerable range of smaller changes to game design take place through so-called patches. More substantial changes come through expansion packs. For instance, in its last expansion pack, *Cataclysm*, large parts of the game world was reconfigured. On the level of the lore of the game universe, Blizzard explains that,

From Thousand Needles to the Blasted Lands, the surface of Azeroth is reforged through violent upheavals. Now, the Horde and the Alliance must defend their homes against Deathwing and his minions, burdened by the unsettling fact that the world as they know it has changed... forever.<sup>12</sup>

On a more technical level, the whole geography of the two oldest continents of the game was completely rebuilt. New settlements, new landmarks, new monsters and quests were introduced everywhere. New avatar races and professions were introduced and central parts of the game mechanics were altered. In this respect, *World of Warcraft* is also more dynamic than such traditional fiction as the TV-series and fiction universes that Jenkins writes about. A new episode of *Star Trek*, for instance, may reveal something that alters the meaning of an incident that happened earlier in the series. In *World of Warcraft*, not only is new content added but the older content may undergo dramatic changes as well. The consequence of having such a dynamic object is that knowledge exists in a constant flux. Knowledge that is meticulously researched by the player community may be made obsolete over night. This maintains the need for new and updated information.

The Internet metric site alexa.com reveals how changes impact the traffic on web sites dedicated to *World of Warcraft*. Around the *Cataclysm* expansion, for instance, we can see a huge spike in daily page views on elitistjerks.com and wowwiki.com.<sup>13</sup> In this case, the user traffic remained high for about three months, gradually to move back to a more normal level.

In some cases the reasons to acquire information about *World of Warcraft* change altogether. This happened, for instance, after Blizzard introduced a quest helper function in the game that shows where to find quest related items or monsters on the game map. This made much of the player generated advise about how to solve quests redundant. A similar addition came in patch 4.2 (June 2011) where Blizzard introduced the Dungeon Journal, which hosts information about fighting abilities of bosses and loot from high-level dungeons. About the Dungeon Journal, Blizzard explains that,

Our goal is to give a solid foundation for taking on the boss, a general sense of how the encounter will play out, and some context to the abilities, without taking the place of creating independent strategies.<sup>14</sup>

Revealing too much information about the underlying mechanics would render the encounters too easy to accomplish. This feature probably benefits the more casual players the most, as theorycrafters would be able to produce this kind of information quite easily anyway. Nevertheless, it eliminates some of the reasons for players to venture outside of the game for information.

## **COLLECTIVE AND INDIVIDUAL PERSPECTIVES**

My analysis of the theorycrafting community shows similarities to the knowledge cultures McGonigal and Jenkins describe in its cultural formation: the massive number of participants, the great flexibility in its organisation and how this enormous knowledge base is largely self-organising. To some extent it has stronger resemblances to the traditional academic field than these examples, due to the methods involved, and the way the community is institutionalised. Although the macro perspective presented so far gives an interesting perspective on theorycrafting community, it can also give a slightly deterministic image of it. It seems as if everyone involved in theorycrafting is of the same competitive inclination, and we could ask why players chose to spend time on an activity that steals time from actually playing.

In the last part of this paper I will analyse theorycrafting from a different perspective: from that of individual players involved in theorycrafting. My interview data shows a number of reasons to partake in this activity other than what has been described so far. Before I start my analysis I will give a short, general introduction to play motivation in order to describe how motivation to conduct theorycrafting is normally understood.

## **PLAY MOTIVATION**

Richard Bartle has created a taxonomy of player motivation, where players that have exploration as their primary interest comprise one of four, and later eight, categories. He initially labelled them explorers (Bartle 1996) and, later, scientists (Bartle 2003). Bartle assumed that scientists are ‘Explorers who experiment in a thorough, methodical fashion’ (Bartle 2003: 169). Nick Yee has conducted a more nuanced and empirically based categorisation of play motivation through a so-called psychometric analysis (Yee 2006). This analysis is based on survey data of more than 3,000 MMORPG players, covering 40 questions related to play motivation. The analysis indicates that there are three main categories of motivation for playing: achievement, social and immersion.<sup>15</sup> His analysis implies that some types of motivation are related more often than others. For instance the desire to explore a game geographically will often be linked to the desire to learn about the lore of the fictional universe, and more seldom to the desire to accumulate large amounts of game money.

What comes closest to theorycrafting in Yee’s model is the *achievement* category or, rather, the sub-category *mechanics*. Players that have mechanics as their main focus have ‘an interest in analyzing the underlying rules and system in order to optimize character performance’ (Yee 2006: 773).<sup>16</sup> The description of the mechanics captures how theorycrafting is generally understood, as most definitions focus on the desire to *analyse* the game in order to enhance *play performance*. A quote from a player post on the website WoWinsider.com sums it up neatly: ‘I love theorycraft. One of my favorite



things about *WoW* is the fact that you can do math about it, and that math can help you play better.’<sup>17</sup>

Theorycrafting is usually conducted by hard-core raiders – a player group that is both highly competitive and teamplay-oriented. According to Yee’s model, a raider will therefore score highly in both the *achievement* and *social* categories. An ambitious player without any social inclinations would, in contrast, score low on the *social* category and more likely prefer PvP or heavy grinding. Yee’s model gives a good explanation of how personal ambitions or competitiveness runs in tandem with team-oriented play: two motivation types that might seem rather contradictory. Some of the social motivation of raiders is, predictably, related to power and prowess and not just the wellbeing of the group. Two other sub-categories from Yee’s model, *advancement* and *competition*, illustrate this. Players that primarily focus on *advancement* have ‘the desire to gain power, progress rapidly, and accumulate in-game symbols of wealth or status’, and *competition*, ‘the desire to challenge and compete with others’ (Yee 2006: 773). In short: achievement-driven players seek attention and status from other players, which indicates that converting knowledge to social recognition can be important.

These descriptions are interesting but also quite instrumental and narrow in scope; they link knowledge to game-related motivation factors, indicating how it may function in the player community. We still don’t know exactly why players are involved in this activity. Can it be understood as part of a specific intellectual or aesthetic approach to games? Or is the activity linked to a more general curiosity about technology? I will now recount the experiences of some of my theorycrafting informants.

### **MOTIVATIONS FOR CONDUCTING RESEARCH**

About half of my informants had been involved in some type of theorycrafting and described several methods of retrieving and constructing data about game mechanics in *World of Warcraft*. This involved a wide range of strategies through conducting tests both within and outside the game universe. Within the game universe this included performing the same kind of action under different circumstances in order to generate comparable statistical data. This can be done by hitting or shooting at a training dummy, or by fighting opponents or monsters. This involves using so-called add-ons, which are mini-programs that can record and store data from a gaming situation. A similar strategy is employed when experimenting with different talent tree set-ups<sup>18</sup> combined with statistical analysis.

The tests that are conducted outside the game universe have the same goal but are reached through different means. Typically, the player uses spreadsheets to emulate a play situation. They can, for instance, fill in relevant parameters for a fighting situation, and calculate the amount of damage they will inflict during a fight. By changing some of the parameters, they can deduce the impact of using different types of gear or enhancing specific stats on the avatar. The upside of this testing strategy is the possibility of acquiring results much faster than through in-game testing. The downside is that the player is dependent upon exact formulae to get a correct result.

One of my informants who was into theorycrafting was Andreas, a 27-year-old man about to finish his technology education. His main tools were spreadsheets and a self-developed computer program that could emulate different play situations. His goal was primarily to calculate how his hunter would maximise his dps (damage per second). ‘I am one of those that have gone quite far in order to understand the math involved, how

different things work ... That's what interests me, to analyse the game', he told me. He sometimes visits websites for information but only to a certain extent. When I asked him if he had used the website maxdps.com, he answered; 'Yes, I have been there briefly but it sometimes provides more information than I want'. I asked him if establishing his own results is part of the fun and he confirmed this. He still approaches external sites to confirm his theories or results. One of his favourite sites is wowhead.com, as they offer users a database about gear sorted according to different stats. He also uses the site wowwebstats.com, which provides detailed overviews of the performance of each raid member during raids. Although exploring game mechanics had an intrinsic value for Andreas, this was not the only reason for his preoccupation with it. He told me that there was fierce competition in his guild about being on top on the 'damage meter'. He explained that

[t]his really sharpens your attention. If you are among the top five it is almost expected that you try to fight your way higher. Many don't have the opportunity to be on top, but if you have a chance you should make an effort getting there.

His joy of competing is also linked to another motivation factor, social status:

In Burning Crusade I had a hunter with, I think, 1050 agility. Unbuffed. And that was ... that is the highest I have seen. I have browsed armory quite a lot and looked what other survival hunters have, and the closest I found was 940 or something. No, 970 I think it was. And I put quite a bit into it, being on top, having highest agility. Because when I had buffs, it benefitted the whole raid.

His enthusiasm for learning about game mechanics is linked with an eagerness to compete, the social status it imports to his avatar and also how it benefits the play community he is part of.

Another of my informants, Frank, a 22-year-old man who studies programming, described himself as a 'typical explorer'. I asked him if he was interested in the game mechanical elements per se, or in how they could enhance his playing. He answered: 'Both'. He related his interest in game mechanics to his general interest in computer programming. He, first and foremost, wants to understand the underlying mechanics and learn how the game is coded. However, in *World of Warcraft*, he relies mainly on in-game theorycrafting, where he conducts experiments together with fellow players. He also reads a lot about games on websites. Like Andreas, Frank's interest in game mechanics is also tied to other aspects of the game:

I want to have as much knowledge about a game as possible. When I played World of Warcraft I knew everything about the classes I played. All of the abilities, every talent, every potion and other stuff they could use. As a raid leader and class leader it is very important to know how the game works. And it is never an exploit; it is only creative use of game mechanics. To know all of the quirks, that's how you get on top.

Frank shows another example of how theorycrafting is tied to a range of elements: it has an intrinsic value; it is closely related to the competitive situation and to the social demands in the game. It should also be noted that theorycrafting for these two informants is related to a more general interest in technology, which is also evident in their choice of education.

A third informant that was interested in game mechanics was the 20-year-old Bernhard, who had played *World of Warcraft* since he was 16 years old. He started to raid on his enchantment shaman and moved from a very casual guild to more hardcore raiding guilds:

When I was accepted in the last guild I became member of, a slightly hardcore guild, I was undergeared but I performed much better than the other enchantment shaman in the guild. In fact I performed much better than many others with much better gear than me. They obviously noticed this and wondered what was going on.

He explains that the reason he performed better was a combination of several things. First, he was always well read about different boss encounters and adjusted his playing accordingly. He also consulted different websites about enchantment shamans and sites like maxdps.com but realised that many players did not really understand how to play an enchantment shaman properly:

I basically moved away from other players there. It had a lot to do with hit cap ... your hit per cent. (...) I focused more on that than most people. Many said that hit wasn't important for enchantment shamans but that turned out to be completely wrong.

When I asked him how he found out about this, he told me that he performed in-game tests of equipment with different stats. His road to success seems quite straightforward. He studied guides on the net to learn about different encounters and consulted sites about his avatar specialisation, much like the average dedicated raider does to prepare for raiding. The reason behind him standing out from the crowd also seems quite modest, as he simply became dubious about a topic 'everyone' agreed on and started digging into the underlying math of the game. The theorycrafting he performed involved straightforward tests and analyses within the game universe but with a result that significantly improved his playing. Bernhard told me that he often got proposals from other guilds to join them because of his playing abilities. I asked him what he thought about these offers and he explained that

[i]t was a very positive experience. It was fun; it was basically what I wanted to hear. And ... the goal was to try and perform as well as possible, and that people should notice.

From this short account, his playing experience can be framed in many ways. It shows the significance of independent thinking and the varying quality of Internet sources regarding theorycrafting. For every player that contributes his or her own theorycraft on websites, there are several who just replicate things they have read in other places, often in condensed form and often inaccurate. Due to the nature of the Internet, obsolete information does not disappear but keeps on lingering there. When ordinarily players search for information, much of what is found is probably of average quality, some of it is completely wrong, and the really stellar contributions can be hard to find. Reaping the fruits from collective intelligence may simply involve wading through a great amount of collective dimness.

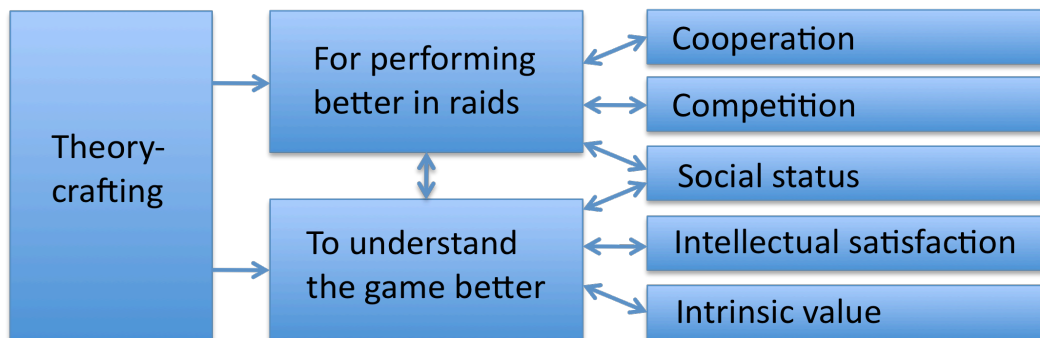
An interesting aspect of the accounts of these three informants was that, despite their interest in theorycrafting, they were, by and large, just lurking on sites where

theorycrafting was being discussed. They had published findings on the home page of their guilds and often discussed game mechanics in guild chat, but only Andreas had occasionally taken part of any discussion on the more renowned sites. It is common knowledge that only a few of the people using net sites actually contribute with content. The scant contribution of my informants would render them close to invisible in the larger theorycrafting community. However, on a more local level, they represented an important source of knowledge for their guilds. Being lurkers in one arena does not prevent them from being valuable contributors in others. In this respect, my informants serve as interpreters and mediators of vast amounts of information for fellow players with less insight into the intricacies of the game. This can serve as an illustration of how large, complex and layered this play community is, with a whole ecology of sites that serve different purposes for different strata of the player community. This breaks slightly with the images from Jenkins' and McGonigal's examples, where the community, although also being stratified into elites and ordinary participants, act more as a unified body with a common purpose. Despite performing theorycraft, my informants are not part of a combined army of theorycrafters.

### INTRINSIC VALUE AND COLLECTIVE PRESSURE

To sum up my informants so far, we see that being able to perform well in raids is the most common reason to engage in theorycrafting. My analysis suggests that analysing the game is also done for its intrinsic intellectual value, connected as closely to a general interest in technology as to this specific game. The following model can illustrate how these elements are related.

Figure 1: Psychological and social reasons for theorycrafting



*The right-hand column in this figure shows motivations sorted from the most personal (intrinsic value) to the most community oriented (cooperation). Social status can both be related to understanding the game better, and for performing better in raids.*

Acquiring knowledge about the game is a driver in its own respect and for some players, conducting theorycrafting is considered as being involved with the game on the deepest, most intriguing level. This involvement also points beyond the game, beyond playing and to a broader sphere of interest. Hence, the intellectual satisfaction and intrinsic value of theorycrafting is not only a symptom of the players becoming seriously engrossed with this particular game. This poses the question whether gaming and the gaming community are too narrow a scope for my analysis. Earlier studies have shown the importance of understanding the interplay between different media, and how media intercept with other parts of people's everyday life. Modern media users live in a landscape of media rather than being involved with discrete mediums (Livingstone 2002). While my study only

focuses on the one medium, the one game, my findings also suggest an interesting link between theorycrafting and other aspects of the player's life or rather the identity of the player. I will pursue this topic a bit further by presenting another of my informants.

The informant Geir had a great interest in game mechanics and had played online games for more than a decade. He had gone through periods of extreme hard-core playing that were replaced by periods of abstinence or playing less. At the age of 27 he had just started on a bachelor degree in informatics. Earlier, he had experienced problems with school attendance and had only finished high school because of a very supportive grandmother, who pulled him through. His choice of starting an education in informatics was closely related to his fascination for games. He said:

I have always been interested in game design. After the worst play period is over, you obviously want ... you start to look at what's behind it. I have often thought about becoming a game designer.

Geir had actually created games earlier. He told me that when he was about 16 years old, he started to program a MUD. He and some friends learned how to program from scratch and eventually started a new MUD.

We created our own MUD and I made a lot of the content. But, being young and inexperienced it was, like, 'wow, I am creating something!' more than spending a lot of time thinking about game design principles. Because it is actually a science. Now I am less interested in pure game mechanics and more interested in how the mechanics are integrated into the whole game and how players are reacting on the mechanics.

I asked him if he could become as intrigued by programming as by playing. He confirmed this and explained that

[i]t is a well-known fact that when you enter hack mode you forget everything around you. I actually find it quite satisfying to program. I do. I can sit for many, many, many hours and program. As long as I manage to begin, that's the big threshold.

The informant seems to describe a flow experience when he is both playing and programming. What is interesting is how this informant described a shift from being preoccupied with a hobby to an interest in its structure – from playing a game to the ontology of the game, so to speak. It is interesting that not only Geir but all of these informants have chosen an education within technology and programming, linking their passion for games to the more serious, professional side of their life.

According to Wenger (1998), our identities are formed through interaction with others in communities of practice. You become a Star Trek-fan or gamer through actively engaging with others with the same interest. For my informants, theorycrafting seems to serve as a bridge between two different aspects of their identities: their gaming interests and a more general interest in technology.

## **SUMMARY**

I have analysed theorycrafting from two different angles, as a collective enterprise and through the eyes of the individual. These two perspectives reveal, naturally, different

things. The most apparent difference concerns motivation. From a collective perspective, theorycrafting can be regarded as a concerted effort by an achievement driven community of players. Theorycrafting is the power of the many, the combined effort of the collective. From an individual perspective we see that players conduct theorycrafting also because of its intrinsic value, and because of a general interest in technology. They enjoy understanding how the game works without necessarily wishing to contribute their insight to a larger audience or community.

This leads to a finding, or rather a reflection, of a more theoretical and methodological nature. While the approach of Jenkins and McGonigal provides a good understanding of the mechanisms behind knowledge communities and collective intelligence, the range of motivations for individual actors for being involved, will, naturally, not be thoroughly addressed. An approach like Yee's analysis of play motivation, seems to complement the macroscopic perspective of Jenkins and McGonigal, but focuses solely on game related elements. This is to a certain degree a question about context. The person who plays is not situated in only one place. The player is situated inside the game with the avatar but also in a particular physical space, as a human being. As the theorycrafting community exists largely on the web, this would represent a third arena where the player is situated. From the perspectives I have discussed, McGonigal and Jenkins represent a focus predominantly on the web, while Yee focuses on the life inside the game. That leaves us with the real life context of the player more or less unaccounted for.

While it is quite obvious that people's real life affects their media use in many ways, we often seem to forget this part when we analyse game communities. As ethnographic studies has shown (Hung 2007, Madden 2008), the physical space and real life social relations often hold important clues about the meaning and motivation people have for playing online games. However, in media worlds with the complexity, not least socially, of World of Warcraft, it is easy to regard the game context as self-contained, and to put the real world into brackets. For some topics, this may very well be a sufficient approach but for a topic like theorycrafting, opening the door to other parts of the player's life can be fruitful. When we explore the meaning games have for players, we should perhaps pay more attention to a wider aspect of their lives, also more generally.

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## ENDNOTES

<sup>1</sup> <http://www.wowwiki.com/Portal:Main>, last accessed August 8, 2011.

<sup>2</sup> <http://www.massively.com/2008/03/08/sxsw08-how-gamers-are-adopting-the-wiki-way>, last accessed August 8, 2011.

<sup>3</sup> According to Alexa.com, the traffic on wowhead has increased over the last few years while traffic on thottbot has decreased dramatically in the same period, probably due to a better usability at wowhead. Thottbot's forum and blog have been closed down and are basically run parallel to wowhead, based on the same database. For more detail, see:

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<http://www.wowhead.com/blog=175371.2/thottbot-merged-with-wowhead-framework#comments>. Both sites accessed August 8, 2011.

<sup>4</sup> Blizzard has changed the mechanics behind drop rate several times, for instance drop rate on quest items, which were altered at the introduction of Wrath of the Lich King expansion. According to former lead designer Jeffrey Kaplan, this was to avoid layers running into unlucky streaks. For details:

<http://www.shacknews.com/article/57886/blizzard-details-secret-world-of>.

<sup>5</sup> On November 30, 2010, wowhead and thottbot merged their databases but continued to run distinct websites, allegedly to serve different parts of the player community.

<sup>6</sup> <http://elitistjerks.com>, last accessed August 8, 2011.

<sup>7</sup> <http://elitistjerks.com/f77/t112651-shadow-priest-cataclysm/>, last accessed August 8, 2011.

<sup>8</sup> <http://www.wowwiki.com/Aggro>, last accessed August 8, 2011.

<sup>9</sup> In *Survivor*, the contestants are placed on a tropical island where they compete until a winner is declared. As the whole series is shot before it is aired, the viewers know that the outcome is already settled when they start watching a new season. Eager to second-guess how the reality drama will unfold, viewers collect information about the show.

<sup>10</sup> Avoidance stats suffer from diminishing returns which implies that the rate of return for each point contributed from gear is not constant.

<sup>11</sup> [http://www.wowwiki.com/Melee diminishing returns](http://www.wowwiki.com/Melee_diminishing_returns), last accessed August 8, 2011.

<sup>12</sup> <http://us.battle.net/wow/en/game/patch-notes/4-0>, last accessed August 8, 2011.

<sup>13</sup> Estimates on elitistjerks.com was, for instance, up from about 0.01 to 0.03 of global users of internet at the beginning of December 2010. More detail at

<http://www.alexacom/siteinfo/elitistjerks.com>, last accessed August 8, 2011.

<sup>14</sup> <http://us.battle.net/wow/en/blog/2943357>, last accessed August 8, 2011.

<sup>15</sup> Bartle believed that the categories were mutually exclusive and that players always have one main motivation for playing and ‘will only switch to other styles as a (deliberate or subconscious) means to advance their main interest’ (Bartle 1996). In contrast to this, Yee’s model is an assessment model where every player scores in all categories.

<sup>16</sup> The two other sub-categories under achievement are advancement and competition. Players that primarily focus on competition have ‘the desire to challenge and compete with others’.

<sup>17</sup> This post is signed Eliah Hecht and can be found at:

<http://wow.joystiq.com/2009/05/05/bobturkey-updates-priest-theorycraft/>, last accessed August 8, 2011.

<sup>18</sup> A talent tree is a feature that makes it possible for the players to enhance the avatar by ‘buying’ different abilities with talent points. From level 10 onwards, the avatar gains one talent point for each level, to the maximum of 71 points.