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Presence and Flow: Ill-Fitting Clothes for Virtual Worlds

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Abstract

Virtual worlds are a class of computer game in which large numbers of players access a shared environment simultaneously to have fun. What “having fun” means, however, is not obvious. Players talk about *immersion*, which suggests to some commentators that their fun may derive from the well-known psychological concepts of *presence* and *flow*. However, although these states of mind are indeed important factors in immersion, they do not capture what players themselves understand by the term. To describe fully what players are experiencing requires an examination of identity exploration – an exploration which strongly echoes the structure of ancient myth.

Keywords

Virtual worlds; immersion; presence; flow; hero's journey.

The visible world is but man turned inside out, that he may be revealed to himself.

Henry James the Elder
(Kellogg, 1883)

Formal Introduction

Virtual worlds are a form of computer game in which individuals connect over the Internet to a shared space wherein they interact in real time with one another and with the (computer-moderated) environment. In order to do this, they create a personal, virtual body which they inhabit while visiting that environment.

Initially, virtual worlds were text-based and were referred to variously as MUDs, MOOs, MUGs, MU*sⁱ and perhaps a dozen other acronyms (Bartle, 2003). Nowadays, most virtual worlds are still textual in nature, but the most populous (and therefore the most important) are graphical; in this context, they are most often referred to as MMORPGs or MMOGsⁱⁱ.

Virtual worlds have been around for over 25 years, beginning with *MUD1* (Trubshaw & Bartle, 1978). This first virtual world, which could hold no more than 36 players simultaneously, gave birth to an industry which nowadays routinely measures player bases in tens or hundreds of thousands (Woodcock, 2002-). The largest commercial virtual world is currently *World of Warcraft*, which surpassed five million players in December 2005 (Blizzard, 2005) – that’s a million more players than the Republic of Ireland has inhabitants. Most of these individuals are paying around US\$15 a monthⁱⁱⁱ in subscription fees.

There are other ways to profit from virtual worlds, though, most notoriously due to the willingness of some players to pay real money for virtual objects – despite the fact that this is rarely sanctioned by the operators of the virtual world in question and is regarded as a form of cheating. In *real-money trading*, a buyer sends an electronic payment to the player in possession of the item they want, whereupon they are handed it in-game. When the volume of this economy is taken as a whole, it exceeds that of real countries such as Jamaica and Namibia (Castronova, 2004) – great news for the arbitrage companies that facilitate such trade^{iv}, if not necessarily for the majority of players (who tend to regard paying for game success with money as cheating).

Although virtual worlds are important for the sizes of their user bases and of their economies, they have other features which make them distinct from traditional computer games. One of these is their demographics: they attract players beyond the stereotypical “16-21 year-old male” core. An ongoing survey of some 35,000 players (Yee, 2005) has discovered that:

- The mean age of players is about 26.
- Some 36% of players are married.
- Some 18% of players are female.^v

Playing times for virtual worlds are also unusual: Yee’s survey found that people spend an *average* of some 22 hours a week in them – that’s over 3 hours a day – with over 60% admitting to having played for 10 hours straight at least once. In almost all cases, they concentrate on just their one game of choice, rather than switching between virtual worlds. This is completely unprecedented; even highly compelling classic games such as *Tetris* (Pajitnov, 1985) don’t hold the attention of millions of people for this long. Only television has such power, and even then people rarely watch the same programme every time they sit in front of it.

So virtual worlds attract, and hold, the attention of non-core gamers for extended periods and in large numbers. The question arises: why? Why are virtual worlds compelling in a way so far beyond that of any other computer game?

Players are quite categorical when asked why they play these games: “because it’s fun”. But what do they *mean* by “fun”? And why *is* it fun?

The tried-and-tested way of analysing players’ motivation is *player types* (Bartle, 1996). This hypothesis posits that players play for one of four reasons: to explore; to achieve; to socialise; to dominate other players. It was explored as part of Yee’s survey and found to hold reasonably well; however, cluster analysis of the responses revealed a further motivation, *immersion*, which seemed to be orthogonal^{vi} to the other four. This raises a further question: what does “immersion” mean to players?

The remainder of this paper offers an explanation.

Informal Introduction

This special issue of *Techné* addresses many aspects of virtual worlds. I’m coming from the practical side: I design and research virtual worlds for their own sake, because I want to see people develop yet better ones. I’m pleased for them to be used as objects of research by anthropologists, economists, social theorists, computer scientists or whomever, but our agendas are different. Researchers in these areas want to advance their own fields of study, but I just want better virtual worlds; that’s where my emphasis lies.

I do regard these products entirely as worlds; others may debate whether or not *virtual* spaces are *actual* places, but for players and designers there’s no conception that they might not be. The five million people who enjoy *World of Warcraft* certainly look upon it as a world, and in the face of this any argument to the contrary is pretty well moot. People play these games for two to four hours every day, every week, every month, ... I have *MUD2* players who are still going strong after 15 years. Tell *them* that the Dragon Island is not a place and you’ll get the same blank look you’d get if you told them London wasn’t.

The somewhat technical use of the words “place” and “world” here perhaps needs some explanation. A *world* in this context is a space of interaction the inhabitants of which regard as a mainly self-contained unit – it’s not an actual planet. It’s used in the same sense as “the Roman world” or “the world of high finance”. A *place* is an instantiated such space. Thus, *EverQuest* is a virtual world, but Norrath is a place (the one which the software of *EverQuest* implements). In this terminology, it might be said that *Reality* is a world and our universe is a place implemented within that world.

Note that although the inhabitants^{vii} of the world self-identify as such, that doesn’t mean they can’t be aware of other worlds. Ancient Romans knew there were lands beyond their borders, but crucially they didn’t define their own world in terms of this. A world contains all the components necessary for its seeming completeness, but it doesn’t have to have hermetically-sealed borders.

Virtual worlds can thus be described in terms of how they are implemented (worlds) or how they are experienced by the players (places). The two go hand-in-hand, of course, in that the one leads to the other: change the implementation and you change the player experience. Sometimes, the word *environment* is used to bridge place and world: formally, it is a set of related implementation parameters which can be used as a generator (or recogniser) of bounded player experiences. Virtual world designers use the term when they mean that a place is subject to a coherent functionality leading to an associated collection of experiences, moods or atmosphere. This will usually accord with what players call “an environment”, for example a snowy landscape, but it doesn’t have to: a designer might refer to a game’s economic system as

its “trading environment”, but players will rarely look at a virtual world deeply enough to use the word that way.

This raises an issue for researchers. If players typically don’t know enough about virtual world design to understand what’s going on in one they spend 25% of their waking day in, what about the non-players who, for whatever reason, find themselves studying virtual worlds? Certainly they will benefit from much better objectivity than players have, but they’ll pay for it with a lack of understanding of the player experience. Even if the determined researcher bites the bullet and actually plays a virtual world extensively^{viii}, they’ll still not necessarily understand why things are the way they are. They’d need to spend time talking to a designer to get the necessary insight, and few do.^{ix}

As mentioned earlier, virtual worlds are studied internally (by people who want to increase understanding of virtual worlds) and externally (by people who want to increase understanding of some other field). Internal researchers – which includes most designers – find themselves reading a great many papers about virtual worlds written by external researchers. Most of these papers are interesting, relevant and useful, but some of them make scant sense from the internal perspective; it’s as if the external researchers don’t always “get” what virtual worlds are about. They come, they observe, they reach a consensus, then they leave. However, all too often they leave with a misconception which is then propagated throughout their field

For example, a flock of researchers from gender studies descended on virtual worlds in the mid-1990s. There were two new variables that virtual worlds introduced into their equations: cross-gender play^x and virtual sex^{xi}. The researchers established a viewpoint that fitted what they observed into their existing theories^{xii}, and then they moved on. However, they almost all completely misinterpreted what they were observing^{xiii} and they left with a correspondingly false impression. More recently, researchers into Law and Governance have been battling between those who “get” virtual worlds and those who don’t feel there’s anything even to “get”^{xiv}. If the latter were to win, we may see laws designed for general use (*e.g.* intellectual property) being misguidedly applied such that they damage the very things they were supposed to protect.

The purpose of this paper is to critique the way in which external researchers often look at virtual worlds. I’ll do this by examining two views of immersion in virtual worlds – those due to *presence* and *flow* – which, although they may be perfectly sound from an external perspective, seem incomplete from an internal perspective.

Presence and flow are generally over-applied to virtual worlds. They are unquestionably factors in making virtual worlds the special places they are, but they don’t explain what they are often purported to explain: why people play. Players don’t play for the sense of “being there” and they don’t play for the sense of “being in the flow”. They play because these worlds allow them to become (what they call) immersed. They play because it’s *fun*.

So what do they *mean* by “fun”?

Possible Answer: Presence

Anyone who has studied presence will be aware, when playing a virtual world, that they are experiencing the concept in action. Indeed, any non-playing expert observing a virtual world’s population will rapidly conclude that these individuals are feeling presence. This is fair enough: they *are* experiencing it. However, it is wrong to suppose that this is the major factor in their having fun^{xv}.

Presence is, simply put, the perceptual illusion that a mediated experience is not mediated (Held & Durlach, 1992; Lombard & Ditton, 1997). Players of virtual worlds engage in this with

great vigour, projecting their identity into their virtual world character^{xvi} to the extent that it seems to them, while playing, as if they were actually *in* the virtual world.

As with any fairly young field of study, Presence has its issues. To begin with, most of these merely concerned the definition of what “presence” actually was (ISPR, 2000), but with its growing maturity it encountered more serious challenges. For example, the earliest paper to examine the effects of presence in virtual worlds (Towell & Towell, 1997) relied, as with other early papers, on questionnaires to ascertain the degree to which presence was felt among players. However, it has since been forcefully suggested (Slater, 2003) that questionnaires are not a valid technique for assessing presence, its being too subjective an experience for objective questioning to capture.

This discussion relating to the validity of questionnaires itself arose from something of a schism in Presence research – one which has consequences for the study of virtual worlds, as it concerns *immersion*. There are basically two views (Slater, 1999):

- *System immersion*. Immersion is a measure of how persuasive an environment is. A virtual environment in which objects cast shadows is more immersive than one in which they don't.
- *Immersive response*. Immersion is a measure of how persuaded users of an environment are. A virtual environment in which individuals feel they are present is more immersive than one in which they don't.

Which of these definitions of immersion best matches that employed by players of virtual worlds?

Well, both – and neither. Players don't have a formal definition of what they mean by immersion, they just know when they are (or, more properly, *have been*) immersed. As I said earlier, players do not typically think deeply about *why* they enjoy a virtual world, they just *enjoy* it^{xvii}. A more persuasive environment will help them become immersed more readily, just as will their readiness and ability to be persuaded. Neither definition captures what they mean when they say they're immersed, though.

I'll explain all shortly, but for the moment here *is* what players mean when they talk about immersion: the extent to which the entity in the virtual world which they control is *them*. It's all to do with identity.

Better system immersion can give a better immersive response; both can be factors in becoming immersed, but neither *is* immersion. The virtual environments which are most conducive to becoming immersed are text-based, not graphics-based; graphics are much better to begin with at persuading a player that they're in the virtual world, but once a player overcomes the initial system-immersive barriers of text and begins to use their imagination, text rapidly surpasses graphics in immersive power. This is because players can automatically adapt their imagination to suit. Do objects cast shadows in a textual world? Yes, they do, if they need to: players will supply them in their imaginations if such things are important to them, but if not, well, they won't even be aware that they're missing. In other words, system immersion and immersive response are *the same thing* when the imagination is doing the rendering.

This combination is still not immersion, though, and it's still not why people play these worlds. It's perhaps a *level* of immersion, but there are levels beyond.

In order to give a sense of what I mean by “level” here, consider daydreams. If you're sitting on a bus looking out of the window, you may daydream yourself to another place. This is not in itself presence, as it's not mediated by technology, although the two are clearly related. It

would not be controversial to suggest that a person could become “immersed in a daydream”, though (Smith *et al*, 1998). Of course, as soon as you finish a daydream you snap back to reality.

Now suppose you’re in a virtual world, and you come to a place that reminds you of some event which happened there. You might start to reminisce about the people involved and some of the good times you had together, until your mind wanders into a daydream. When you snap out of this daydream, does your mind return to the real world or to the virtual world? If presence were all there was to it, you’d go to the real world – presence doesn’t nest within presence. My personal experience, however, is that I snap back to the virtual world. This would *not* happen if immersion were merely persuasive; this happens when immersion is *convincing* – it’s a step change, a different level of immersion entirely^{xviii}. There’s something more than presence alone that holds players in this state.

Of course, without presence people simply couldn’t play virtual worlds. It’s a hugely important factor. However, without a computer they couldn’t play, either. A computer is not the reason that players have fun in virtual worlds, although it is an essential enabler. The same thing applies to presence.

Possible Answer: Flow

Flow is a mental state into which individuals can slip when performing tasks with *just* the right amount of challenge that extend *just* the right amount of skill. In this state, people feel energised, focused and immersed (Csikszentmihalyi, 1990); action and awareness become one, and it is regarded as highly pleasurable by those experiencing it.

It could be suggested that criticising the use of presence to explain immersion (and therefore fun) in virtual worlds is something of a “straw man” argument, because few people have openly said that presence is central to virtual worlds. What they *have* said^{xix}, however, is that immersion is central, and, as Presence does lay claim to immersion as a concept, this relationship is therefore a legitimate target. The concept of immersion *is* central to virtual worlds, but not in the form as commonly understood in the Presence community.

Now although presence is rarely put up as a direct explanation for players’ having fun, this is *not* the case with flow. Flow is frequently linked to the reasons why people enjoy computer games (Salen & Zimmerman, 2003; Bateman & Boon, 2006), its relationship to immersion being a particularly notable feature (Ermi & Mäyrä 2005; Douglas & Hargadon, 2000). Indeed, there are suggestions that computer games should make themselves easier or harder in order to keep players in a flow state (Hunicke & Chapman, 2004)^{xx}. If presence can be proposed as an appropriate model for fun in virtual worlds because of their specific properties (*i.e.* the assumption of a virtual body), flow can be regarded as such because of their general properties (*i.e.* these are computer games).

That said, flow does have a special link with virtual worlds because, as with presence, it makes reference to immersion. Flow requires eight elements to be in place before it can be achieved, and one of these, “concern for self disappears, but sense of self emerges stronger afterwards” is, in relation to computer games, increasingly read as “immersion” (Sweetser & Wyeth, 2005)^{xxi}.

It is very tempting to think that yes, virtual worlds have immersion, and immersion is a prerequisite of flow, and all the other flow elements fit into place too, so it must be that flow explains why players have fun in virtual worlds. This is reasonable, in that if players in virtual worlds experience flow then they are indeed having fun, but most of the time they experience it

little more than they do in real life. Virtual worlds' immersion *enables* flow, but people don't play virtual worlds primarily so as to experience it.

Indeed, there is some evidence (Cheng & Cairns, 2005) that immersion extends *beyond* flow, in that it can maintain across conditions of poor usability. Cheng & Cairns built a computer game using the *Unreal Tournament* engine (Epic, 2003) and deliberately inserted into it what in Presence terms would be immersion-breaking elements such as unrealistic graphics and physics. Players did not change their level of immersion at all as a result of these alterations, however. Irrespective of whether the Presence definition of immersion is valid or not, the changes made to the game certainly reduced its usability to an extent which should have rocked players out of any flow state they were in. That it did not would seem to indicate that they weren't in any flow state in the first place, although they *did* regard themselves as immersed. Thus, while flow may be dependent on immersion, immersion is not dependent on flow; therefore, flow can not be used as an explanation as to why immersion is fun^{xxii}.

The kind of immersion experienced by players of first-person shooters (such as *Unreal Tournament*) is a recognised level of immersion in virtual worlds. There are much deeper levels, however, which players are very rarely able to achieve outside a virtual world context. As well as this immersion they may *also* experience flow, but flow isn't in general what delivers their fun^{xxiii}. As we shall see shortly, actually immersion isn't what delivers it, either, but it *is* a manifestation of what *does* deliver it.

Possible Answer: Flow combined with Presence

Flow arises from immersion in a task; presence from immersion in an environment. These are complimentary definitions, in that you can be immersed in a task while immersed in a virtual environment. Could it be that when players talk about being "immersed", what they are experiencing could be explained by these two forms of immersion working together to form a whole greater than its parts? Towell and Towell mooted such a possible relationship in their early paper on MOOs, particularly with regard to certain types of player, so it is a question worth asking.

Sadly, however, the answer is in the negative. Flow and presence may come together for some few computer games in which the environment *is* the task (as, perhaps, with *Tetris*), but they must remain apart if environment and task are separate. In virtual worlds, tasks are undertaken within the context of the environment in the same way they are in the real world; they aren't themselves the environment. Therefore, a flow/presence hybrid model doesn't capture what immersion in a virtual world entails.

Answer: the Hero's Journey

What is going on in the heads of people when they play virtual worlds?

If they knew this, virtual world designers would be able to design better virtual worlds. As it happens, to some degree they do know it, Bartle's player types being the generally accepted model. In its original 1996 formulation, this model posits that players fall into four categories (achiever, explorer, socialiser and killer) depending on where they are positioned along two axes (player/world and acting/interacting). Achievers, for example, like acting on the world, whereas socialisers prefer interacting with the world.

This model has some problems, however, in that it doesn't explain:

- Why the killer type seems to be made up of two very distinct sub-groups: those who act on other players for "bad" reasons (termed *griefers*) and those who do it for

“good” reasons (termed *politicians*). The former might attack you and steal your stuff; the latter might organise a guild and get people to work together for their common benefit.

- Why do players seem to change type over time?
- Where does immersion fit in?

In response to this, Bartle modified his model in 2003 by adding an extra dimension, implicit/explicit. Here, *implicit* means to act without forethought, either because the player doesn't know enough about the virtual world or its players to get a grip on it, or because the player has internalised it to an extent that they don't *need* to think before acting. This immediately solved the griefer/politician issue, and it also led to solutions in the other two problem areas; as an 8-type model, it allowed a higher fidelity of understanding of player types.

For example, whereas previously all players who spent most of their time hanging out with each other and talking were lumped together as socialisers, now they could be divided into *friends* (people who had been through thick and thin in the heat of virtual battle and knew each other inside out, implicitly) and *networkers* (people who were making acquaintances for a purpose, *e.g.* to gain access to their knowledge, explicitly).

This brought additional benefits. It was always known that players changed types over time, but in the light of the new model it was possible to chart their actual paths. The classic, *main sequence* is to start as a *griefer* (implicit socialiser) who tries to do find the limits of what is socially possible in the virtual world by attempting to do whatever they can to their fellow players. Having ascertained what is normatively allowed and what isn't, the player becomes a *scientist* (explicit explorer), performing experiments and learning from the results. They string together the primitive actions they have discovered so far and form meaningful sequences that enable them to perform complicated tasks. Armed with enough of these, they advance to become a *planner* (explicit achiever). This takes up the bulk of their time, and is where they actually play the game. Eventually, they proceed to become *friends* (implicit socialisers), a state born from the camaraderie of people who have come to trust one another over time while under pressure.

In addition to the main sequence, three other sequences were identified: the *socialiser sequence* (killer to networker to politician to friend); the *achiever sequence* (opportunist to scientist to planner to hacker); the *minor sequence* (opportunist to networker to planner to friend).

All these paths have an interesting characteristic: players begin as an implicit type (griefer or opportunist – finding what is socially or physically allowed) then progress to an explicit type (networker or scientist – acquiring knowledge), then continue to another explicit type (politician or planner – applying their knowledge to succeed in their formal goal), until finally returning to an implicit type (friend or hacker – retiring with nothing left to prove).

This is all very interesting, and would be useful to designers even as it stands. It still doesn't explain *why* players change type along these particular paths, though.

The answer is that they are undertaking a *hero's journey* (Campbell, 1949).

In an examination of myths from across the world, Joseph Campbell famously identified a single thread running through them all, a *monomyth* he called the “hero's journey”. Whether the story concerned Galahad, Buddha, Jason or the Frog Prince, they all followed the same basic line. The hero left the real world for a strange, “other” world of danger and adventure, where they overcame obstacles, achieved their goal, and returned, transformed, to the mundane world. Campbell broke the journey down into three phases made up of a total of 17 steps, which are always followed in a very predictable order with only minor variations.

This hero's journey maps one to one onto the experience of players of virtual worlds.

Players leave the real world to visit the "other" world of the virtual. There, they follow the steps that Campbell says they should, in the order he says they should, then they leave for the real world again.

There isn't the space to go into complete detail here^{xxiv}, but the following sequence of steps is the most important section insofar as virtual worlds are concerned :

- *The Belly of the Whale* is the step where the would-be hero is swallowed into the unknown, but emerges reborn into the exciting, "other" world. The symbolism is that of the womb (structures such as caves can also work here); by emerging from its shelter, the hero is undertaking a life-renewing act. In virtual world terms, this corresponds to the character-creation system, in which players fashion a new "self" with which to engage the wonders and dangers that lie just a mouse-click away.
- *The Road of Trials* presents the hero with a series of obstacles. In overcoming, evading or avoiding them, the hero learns the full extent of his^{xxv} limitations in the world in which he has arrived. This corresponds to the opportunist/griever stage in virtual worlds, where the player pushes at physical and social boundaries so as to discover the parameters that govern what might be done.
- *The Meeting with the Goddess* uses "goddess" as a metaphor for the totality of knowledge. In myth, the hero must consider how his rudimentary understanding and moderate success stacks up against the full glory of what must be known if he is to succeed. Some heroes shrink from the seeming hopelessness of their task, but others are able to come to terms with it and continue, chastened, yet with renewed purpose. In virtual worlds, this is the networker/scientist step, in which the player seeks to acquire the knowledge and skills needed to play, yet in so doing risks finding the prospective task too daunting.
- *Woman as the Temptress* is a motif suggesting temptation. The hero knows what must be done, and that he is capable of doing it, but sees that it will take much time, effort and commitment. How much easier his old life was! Indeed, why not return to the warm embrace of the mundane? Which matters most, the real or the remote? For players of virtual worlds, this is a point of commitment: the transition from networker/scientist to politician/planner. The player knows what is required, how long it will take, and what awaits at the end. Is this alone sufficient? Or will the player realise that it's the *following* of the path that makes the hero, not the mere recognition of it?
- *Atonement with the Father* is the most important part of the hero's journey, in which the hero finally becomes aware that he's the hero he always was but didn't previously acknowledge. In myth, this is achieved by his defeating the undefeatable (often represented as a father figure) by trusting that the father will accept, rather than destroy, him. The hero has, by reaching this stage, shed his original, flawed personality and reconstructed a new, improved self; all he has to do is accept that he *is* that new self, and all will be well. To do this, he has to yield, trusting that the old self (as represented by the father) will agree to the union of identity. In virtual worlds, this corresponds to the politician/planner step, and is where the player spends the bulk of their time. The "father" they face is the game designer, the game's achievement metric^{xxvi} being the mechanism by which players are judged for their worth. To gain acceptance, the player must "win" this "game" part of their journey.

Once the virtual world acknowledges their success, they can cease to play the game and start simply to *be*.

- *Apotheosis* corresponds to the friend/hacker stage in virtual worlds. The hero no longer has anything to prove, and is at peace. The virtual world's challenges are no longer important. This is a state of rest.

The hero's journey is one of self-discovery. By undertaking a hero's journey, an individual constructs a new, truer self better able to face life.

In the past, few people were able to undertake an *actual* hero's journey. It took time, money and support unavailable to most of the population. They therefore had to undertake it by proxy, through listening to myths, reading stories – putting themselves in the place of the “hero” and hoping to gain some slight insight into their own situation through doing so.

With virtual worlds, however, ordinary people *can* undertake a hero's journey. They *can* visit an “other” world of danger and adventure, they *can* explore their personality, they *can* discover their true self, they *can* celebrate their identity. They can find out who they *really* are by being someone *virtual*.

What do players find fun in virtual worlds? They find fun whatever will, at that moment, progress them along their hero's journey. *That's* why they play night after night, week after week, month after month, year after year. *That's* why virtual worlds are more compelling than any other form of adult play yet devised. *That's* why flow and presence are but soap bubbles alongside the sky of immersion in which players fly.

At Last, Immersion

So what is immersion?

Immersion is the quality of *being* your virtual self. As a player advances along their path to self-understanding, what starts as an *avatar* (a mere image on the screen which is the player's representative) gradually becomes a *character* (a distinct but internally-consistent self which is the player's representation) until eventually it becomes a *persona* (the player, in the virtual world). If, as a researcher, you only progress enough to reach the avatar stage of immersion, clearly you are not necessarily going to realise that there are depths beyond that, therefore won't take these into account in your studies. Likewise, if, as a player, you still refer to your in-game character as “he” or “she”, even after three years of play, you may find it difficult to accept that there is further to go. If, on the other hand, that's *you* in the virtual world, the same you who's sitting at the computer looking at the screen, identical, inseparable, OK, *then* you know what immersion *is*.

When players begin to play a virtual world, they create a character and role-play it. The character may be similar or dissimilar; it for the most part won't be identical, however. Through play, the player experiments with their virtual personality. Some things work, and these the player takes on board; some things don't, and these the player eventually drops. The character gradually changes, but *so does the player*. Eventually, the two align and become one. At this point, the player is *immersed* in the virtual world – as fully as in the real one.

A player's degree of immersion is the correlation between their real and projected self.

Conclusion

I hope to have shown here that virtual worlds are not just another kind of computer game. They are played by different people, for a very different reason – they present a route map for individuals to develop an understanding of their self.

In this context, immersion is a measure of how close a player is to *being* the character they control in the virtual world. Presence's view of immersion can help develop this by removing barriers to belief, but once the player is over the threshold only a minimal amount of persuasiveness is necessary for immersion to be maintained. Flow's version of immersion is important to flow, but not to virtual worlds: players no more experience flow from being immersed in a virtual world than they do from being immersed in Rome. The symptoms of flow and virtual world immersion are superficially similar – “concern for self disappears, but sense of self emerges stronger afterwards” – but the mechanisms are different. Flow affirms self; virtual world immersion both affirms and reinvents it.

To play a virtual world is to hold up a mirror to the soul, and to change both reality and reflection until they become one.

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ⁱ MUD: “Multi-User Dungeon”; MOO: “MUD, Object-Oriented”; MUG: “Multi-User Game”. MU* uses the syntactic convention common in Computer Science of using * as a wildcard: “Multi-User <whatever>”.

ⁱⁱ MMORPG: “Massively Multiplayer Online Role-Playing Game”; MMOG: “Massively Multiplayer Online Game”. Both of these terms are occasionally reduced to the stem, MMO.

ⁱⁱⁱ Blizzard’s 1.5m subscribers in China are the main exception: they don’t pay anywhere near this amount.

^{iv} The most significant of these are IGE (<http://www.ige.com>) in the west and ItemBay (<http://www.itembay.com/>) in the far east.

^v There are rumours in the industry that *World of Warcraft* may have up to 40% female players in the west, but that its developers (Blizzard) are reluctant to announce so publicly for fear that such news may depress new sign-ups by male and female players alike.

^{vi} Orthogonal, in the sense that it is independent of the other four categories. Someone strongly motivated to achieve will not be strongly motivated to socialise, however someone strongly motivated to become immersed could also be equally strongly motivated in any of the other categories.

^{vii} Until artificial Intelligence greatly improves, for us this means the players.

^{viii} This assumes they have clearance from an ethics committee with regard to the interactions with other players which will inevitably result (Reid, 1996).

^{ix} There is a debate current among Game Study theorists concerning the difference between research undertaken by personally playing games (danger: can’t see the wood for the trees) versus that undertaken by observing people playing games (danger: can’t see the trees for the wood). This paragraph from Jesper Juul (Juul, 2005) sums it up nicely:

One of the recurrent events the past few years has been the researcher who questions “formalist” theories of games in favor of “in-context” or “situated” methods. This is a special position, where the speaker argues that other researchers are forcing rigid theories upon a complex world, while the speaker asserts that he or she is studying actual game playing. If the mock picture of early game studies was the researcher who had only watched his/her children playing games but never played him or herself, the standard criticism today is against those who play themselves rather than study others play.

Note that in this paper I straddle both camps: criticising most of those who don’t play for not having a full appreciation of the details, yet also criticising most of those who do play for not having a full appreciation of the abstract. This is because, as a designer, I have to understand both the details and the abstract if I’m to create a coherent whole.

^x The paper which first brought this practice to the attention of Gender Studies theorists (Bruckman, 1993) was, sadly, recognised more for its observations than for its analysis. This is perhaps because Bruckman took an identity-related approach, which did not sit well with the more politicised slant in vogue in Gender Studies at the time.

^{xi} Or, to begin with, virtual rape (Dibbell, 1993). It was Sherry Turkle’s later discussion of consensual virtual sex (Turkle, 1995) that probably did most to bring the subject back on track.

^{xii} Essentially, an empowerment model (Döring, 2000).

^{xiii} Many, for example, failed to realise that the arguments used to explain virtual sex in Internet Relay Chat did not all apply to textual virtual worlds. For further examples, and a fuller discussion of Gender Studies and virtual worlds, see (Bartle, 2003) pp527-556.

^{xiv} The *State of Play* series of conferences at New York Law School is where much of the early debate has taken place. <http://www.nyls.edu/pages/2561.asp>

^{xv} This is not to say that it can’t be a factor in regular computer games, for which an analysis of presence can be a useful tool in understanding the nature of their appeal (McMahon, 2003). However, virtual worlds are not regular computer games...

^{xvi} Sometimes, these are referred to as *avatars*. However, strictly speaking an avatar is only a graphical representation of a *character*, which is at a much deeper level of immersion (Bartle, 2001). The term seems to have leaked from virtual worlds into wider fields to mean any virtual body, but this is not how it was originally used. Thus, one problem facing the internal virtual world researcher when reading papers written external to the field is in ascertaining whether the term “avatar” refers to a virtual body or a representation of a virtual body (and whether or not the author is aware that a “virtual body” is not the same as a “character”).

^{xvii} This is a smart move on players' part, in that the more you know about the mechanics of a virtual world, the less able you are to appreciate it as a player (although the more able you are to appreciate it as a designer).

^{xviii} Sadly, as you may have noticed, not one which can easily be explained (by me at least) to those who have not experienced it.

^{xix} For example in Yee's survey.

^{xx} There are also suggestions that this wouldn't work, because although computer games can modify their challenge level to keep people in a flow state, it can't tell when an individual is in a flow state. Some people like their challenges to be more difficult than others, and if a game gets easier when they continually fail at it they find it *too* easy (Bateman, 2005; Charles *et al*, 2005). There is also the problem that people will game the AI, for example by pretending to be a poor driver in a motor-racing game so the AI slows the competing cars down to a crawl, then overtaking them at breathtaking speed on the final bend before the AI can adjust.

^{xxi} Sweetser and Wyeth use *gameflow* rather than *flow*, as they are talking about their game-specific derivative of general flow theory.

^{xxii} The reverse argument – that immersion can be used to explain why flow is fun – is stronger only in the sense that immersion is one of several preconditions necessary for flow.

^{xxiii} Indeed, in his *tour de force* analysis of fun from a game designer's perspective, Raph Koster explicitly says *fun isn't flow* (Koster, 2005).

^{xxiv} Those who nevertheless wish to see the detail should check out (Bartle 2003), or, for a shorter but more coherent argument, (Bartle 2005).

^{xxv} I use the word "his" because the hero's journey is described in masculine terms (as the names of some of the steps make abundantly clear). Indeed, there is some debate as to whether women can or need follow the hero's journey, or whether they follow a separate (but related) heroine's journey (Murdock, 1990). Personally, I don't entirely buy this argument, but there you go.

^{xxvi} Very basically, this can be summarised as: kill stuff to get experience points to go up experience levels to kill bigger stuff.