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Virtual Rights? :

Property in Online Game Objects and Characters

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Introduction

Fictions abound in the imagination. Humans enjoy games and stories. Many enjoy nothing more than to play within a story which they help to create and tell. They are willing to pay for this pleasure. As a result, computer games have become a major market in recent years: “total sales for 2007 were \$18.85 billion, with \$9.5 billion of that spent on games (both PC and console) and \$9.35 billion on consoles” (Bangeman, 2008). With the widespread availability of Internet connections, many games are now being played online, allowing people to share the experience of story-telling and play on an unprecedented scale.

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Fictions also abound in the law. Every legal system develops ideas and notions which assist in reconciling a system of rules, physical realities, and people's expectations in a way that enables the entire system to function, sometimes in counter-intuitive ways. Intellectual property is a particularly good example of this phenomenon: a very convenient and useful notion that there can be 'property', ownable and transferable, in creative works, inventions, and marketplace reputation. Real property also abounds with such ideas, often created to deal with new social and economic relations, such as the 'flying freeholds' of apartment blocks.

These fictions intersect in the worlds of Massively Multi-Player Online Role-Playing Games (MMORPGs). People are now trading real money for "property" that exists only within a computer game, creating value in a virtual world. This phenomenon has burgeoned over the past few years: initially regarded as a curiosity and an example of the sometimes bizarre and unpredictable nature of the Internet, it has become a substantial market in its own right, creating several fortunes (Castranova, 2005, 164) and enabling many individuals to make a living by trading in imaginary goods located in imaginary worlds (Dibbell, 2006, 178-79). It is now clear that trading in online game objects is not a simple flash-in-the-pan but a new element of the Internet experience which will persist and grow with the technology.

These developments matter to lawyers, particularly those concerned with the governance and regulation of the Internet, because marketplaces do not always work smoothly or well and legal rules must be created, developed or refined to deal with the inevitable conflicts and disputes which arise in trading. In the context of online games, these disputes do not concern only the classic problems of fraud and theft but also issues of intellectual property.

Players are claiming the right to trade virtual “goods”, something which is contested by game developers and generally prohibited by the contracts they offer to prospective players. This article argues that although this claim does not fit easily into the framework of copyright law, the continuing expansion of information technology into every aspect of everyday life makes the recognition of such rights inevitable. There are also good theoretical arguments for granting players the ability to trade their virtual possessions for real money.

Virtual Worlds: A Very Brief History¹

These games take many forms. The earliest were text-only, without illustrations, depending on written descriptions to spark the imagination of the player. The

¹ For a fuller history of the development of computer games, see Lastowka & Hunter, 2004, 14-29; Miller, 2003, 439-43; Castranova, 2002, 6-11; for a personal viewpoint, see Bartle, 2004, 20-22.

settings were generally worlds of fantasy (a somewhat ahistorical medieval world of adventure and often magic) or science-fiction (a galaxy of faster-than-light travel, sentient non-humans and fantastic weapons). The places and objects in the game were defined in advance by the creator, and the plot was generally the solving of a series of puzzles, often connected. Due to the limited power of early computers, players played on their own. There was no interaction with other people within the game world itself.

Greater computing power provided the ability to have more than one player in the game. As they moved from solo to shared experiences, inventive programmers added facilities for individuals to add their own creations: new places and things could be brought into being by players. Due to the early technology, these were textual descriptions. As more powerful computers became more affordable, graphics were added to the available tools, and players could see, rather than read about, the “places” they were visiting.

With computer networks came linked play, first on local area networks and then via the Internet. Players can now interact with others in distant locations, often complete strangers, in a wide and increasing variety of games. These offer a different environment to most online interactions, with an emphasis on competition rather than communication.

It is important to distinguish between various types of games, as the settings, rules and the social norms can be quite different. Some (particularly the older, text-based games) are generally free to play, more co-operative, and play does not involve success or failure. Players often have control over the rules of the game and play for the enjoyment of adopting an alternative identity.

Many of the more recently-developed online games, which usually involve sophisticated computer graphics, require subscriptions, are competitive, and have measures of success or failure (gathering property, advancing in rank or level and status, or quests with defined objectives). The rules of the game are defined by the developers and players cannot change them. The players participate because they like to assume a new identity but also because of the attraction of competition. There are exceptions to these generalizations: some of these environments are not games in the generally understood sense, requiring struggle and contest, but are places to socialise, create and entertain. One wide definition of these new 'places' is "computer-moderated, persistent environments through and with which multiple individuals may interact simultaneously." (Bartle, 2004a, 2)²

² 'Persistent' here means that the game world continues to exist, and perhaps change, even when you are not playing.

Scarcity in Virtual Worlds: A Feature, Not a Bug

From the perspective of lawyers, economists, and social scientists, these virtual worlds (VWs) present a laboratory in which to observe humanity operating under different conditions (Terdiman, 2003): “[v]irtual worlds ... may accidentally provide an environment that lends itself well to the testing of legal rules.” (Bradley & Froomkin, 2004, 103)

One particularly interesting finding is that people tend to prefer playing in a game where there is scarcity: it has “turned out to be a feature, not a bug.” Designers therefore deliberately make currency and objects such as weapons and food scarce, even creating mechanisms (known as “gold sinks”) to degrade and destroy objects (Dibbell, 2003).

This may seem odd at first – why should people prefer to deny themselves more opportunity? Within a digital environment, there is no need for scarcity. It must be deliberately imposed by the rules defined by the creators and developers of the world. It seems, however, that there must be some sort of competition over resources in order to create a challenge for players (Castranova, 2001, 16).

To paraphrase Demsetz, scarcity leads to property: “property rights develop to internalize externalities when the gains of internalization become larger than the cost of internalization.” (Demsetz, 1967, 350) In a game world, as in the real

world, externalities occur when a player takes something scarce, denying its use to others. We would therefore expect that when objects within a game world are scarce and these objects are desirable or necessary, players will develop mechanisms of ownership and participate in markets to transfer ownership to the person who values the object most. Amongst the motivations which players might have for buying and selling virtual goods are investment, group-play (to stay on par with their online friends), for inflated status, or because the object is otherwise unavailable (Bartle, 2004a, 39-40).

It is important to bear in mind the distinction noted above between different styles of games. Where players have more control over the rules and the point of the game is socialising instead of competition, objects are not likely to be scarce – the rules will allow for infinite duplication. Where rules are controlled by the developers, scarcity is generally imposed in order to provide an element of competition and challenge. Games that are played in a co-operative style are generally free to play and do not involve scarcity. Competitive games generally charge a subscription to play and scarcity is part of the appeal. There are exceptions: *Second Life* is an example of a co-operative game which requires a subscription and involves scarcity (imposed deliberately to create a marketplace).

It is interesting to note that many of the early communitarian/libertarian-style games, where there was no scarcity, nonetheless had concepts of property and

ownership (Lastowka & Hunter, 2004, 34). It seems the ideas are hard to completely leave behind, but there was no trading of game objects for money outside of these games. The remainder of this analysis, therefore, does not consider these games.³

In modern VWs, game property is traded in the real world, for real money. The amounts are significant: one estimate is that the overall aggregate gross domestic product of the major VWs is between \$7 billion and \$12 billion (Dibbell, 2007).⁴ The amount of money changing hands for a single item can be substantial.⁵ There are even reports of digital sweatshops, “where Third World laborers play online games 24/7 in order to create virtual goods that can be sold for cash” (Loftus, 2005; Bartle, 2004b, 2; Dibbell, 2007).

Trading money for game objects, at least on this scale, is a new phenomenon. Game objects are traded in the real world also, from marbles to collectable cards (some of which can be quite valuable), but there is always a physical object to act

³ For a discussion of legal disputes in these contexts, see Mnookin, 1996.

⁴ This estimate is based on Castranova, 2001, 32-33, which estimates the GNP of one VW at \$135 million. The method is to find the price of an avatar’s level and how many levels are created in an hour of game time, thus giving a figure for hourly wealth creation.

⁵ “An island in one virtual world recently sold for \$30,000!” Loftus, 2005.

as a starting point in resolving questions of ownership and property. In the online world, the physical element is not immediately obvious and the virtual object raises complex issues of intellectual property (IP) law.

Trading Virtual ‘Property’

Before considering those issues, a brief explanation of the mechanics of game play is useful.⁶ To play a commercial VW game, a player must first purchase a copy of the game software itself. She then installs the software and connects to the Internet. Before playing, she designs an ‘avatar’ or ‘character’, a virtual persona to represent oneself in the virtual world, choosing both physical characteristics and skills and attributes. The player chooses how she wants her avatar to look and dress, and what abilities the avatar has. Often this is done by spending ‘points’ from an overall budget. A player cannot excel at everything but must choose between, for example, being strong or fast.

The avatar is then placed in the VW and the player controls its movements and actions. The avatar can interact with other players and with characters and creatures controlled by the game software. The avatar generally starts with little

⁶ For a detailed description of the mechanics of play, see Castranova, 2005, Chapter 1.

or no money or significant abilities and must invest time (and thus subscription fees) in order to be able to engage in any activities of interest.

Trading Within Virtual Worlds

Within the game, an avatar can have property in virtual objects, “with all of the familiar real world features of exclusive ownership, persistence of rights, transfer under conditions of agreement and duress, and a currency system to support trade” (Lastowka & Hunter, 2004, 30). Some games, such as *Second Life*, use devices that closely resemble physical property in the real world, like rents on virtual land (Kolz, 2004).

The avatar can sell property within the game to other characters (whether controlled by other players or by software), some of whom are ‘merchants’ who are programmed to buy and sell. The avatar can also haggle with other avatars. This can be much more difficult, but more profitable, as the merchants are programmed to buy low and sell high, leaving space for arbitrage. This trading generally takes place in defined and well-known marketplace areas of the VW (Lastowka & Hunter, 2004, 26-28).

Trading Outside Virtual Worlds

Trading outside of the VW, for real money, takes three forms. For the first two types of transaction, players strike bargains in third-party websites (such as

eBay), most of which use an auction mechanism to decide prices. Money is transferred through credit cards and the electronic payment system PayPal. When the sale involves game objects, the players arrange for their game avatars to meet in a marketplace area in the game. The goods are 'handed over' – passed from avatar to avatar – there (Kolz, 2004).

Entire accounts are also sold, with avatars being transferred from one player to another. Here the transaction takes place in the real world, with a username and password changing hands. Finally, some game creators have recognized that there is a market here which they should tap into and will directly sell game property for real money, although others actively try to shut down the real world markets for property in their games (Dibbell, 2003).

The end-user license agreement (EULA) for the VW often prohibits the sale of game property (Balkin, 2004, 78). This has not always been straightforward, particularly when the party selling the property does not play the game and so is not bound by the end-user license agreement (Bartle, 2004b, 21).

Disputes over Bits: Two Problems

Why should lawyers care about all of this? Is it not just a game? Lawyers should be concerned about learning more about these worlds because of two problems which they present for the legal system, one old and one new.

The old problem is a long-standing issue in any market – humans are not all honest and once real money is involved, there are bound to be transactions that go awry and individuals seeking assistance from the law to resolve disputes. The new problem is that it is not very clear what (from a legal perspective) is being traded nor who has rights to it.

Where there is scarcity, it seems there is also likely to be theft, even in a game, at least where the developers allow it. Even where they do not, hackers may circumvent the game to steal property. Fraud is also a very real possibility in any online transaction (Yans, 2004). Disputes over game property may even lead to real world violence – one player in Shanghai stabbed another to death for selling a “dragon sabre” which had been loaned to him (Correspondents in Beijing, 2005), and in Brazil, a top gamer was kidnapped and threatened with a gun in order to extort his password and thus steal his account (Diaz, 2007).

There are numerous instances of “virtual” theft and robbery in China, Taiwan and South Korea, where these are taken seriously as real crimes by the police, and as a result, these countries have begun to develop legal regimes for dealing with virtual property, granting players real world rights in virtual goods (Fairfield, 2005, 133-137). For example, a Chinese court has ordered that one player’s stolen virtual weapons be returned to him (Kolz, 2004) and Korean courts have heard over 350 cases involving virtual worlds (Economist, 2007).

Outside Asia, cases are rare but growing. In the first American case on the issue, the plaintiffs, who were selling game property, made a Lockean argument that they were selling the time and effort involved in obtaining it. This argument was rejected by the court but no final judgment was given, as the plaintiffs ran out of money (Bartle, 2004a, 7). Another American case involving a player in the game *Second Life* whose entire “land” holdings were confiscated because of alleged abuse of in-game procedures (Craig, 2006) was recently settled (Reuters, 2007a).⁷ Also, a “manufacturer” of sex toys in the same game has sued a game resident for alleged copyright infringement (Reuters, 2007b).

This aspect of the new legal horizons opened by real-world trading of online game objects is relatively straightforward, however. If money goes missing in some improper way, even if police and courts may initially react with some scepticism and the law might have to adjust its familiar boundaries, the system will respond.

What is more complicated is determining the nature of the legal property that is changing hands for money in real-world trading. It is clear that *something* is being traded in the real world as part of people’s participation in online games.

⁷ More information on the case is available at <http://secondlife.typepad.com/>.

Individuals are prepared to spend large amounts of money on virtual goods. Some can make their living trading in these new spaces and it has formed the basis of the business models of enterprises. The fact that people attach sufficient value to these virtual objects to pay money for them implies that they believe that they are obtaining some form of property (Horowitz, 2007, 5). Although many of the vendors dress their sales up as 'service', claiming that buyers are exchanging their money for the time of the seller (Blazer, 2006, 157-158), purchasers nonetheless feel that they 'own' the item which they pay for.

But what exactly are they obtaining? In physical form, these items are no more than an arrangement of digital information in the memory of a server. These electrical patterns have no value without the technological infrastructure to give expression to the story which the game tells – the creators of the game, the programmers who make it function and the interconnection of computer networks that enable the player to participate in the shared story. Nor are they secure. The operators of the game can shut the game down and extinguish this property without explanation or justification (Horowitz, 2007, 5).

Of course, the fact that these are simply arrangements of data does not mean that they cannot be the subject of property claims. There are many other examples of "virtual" property in practice: URLs, email addresses and bank accounts are familiar examples (Fairfield, 2005, 108-111). However, what distinguishes this

market from others is that it generally operates without sanction from its ultimate creators. It is generally a grey market, forbidden by the developers of the game and without proper recourse for players in cases of fraud, misrepresentation, theft or other difficulties.

There are some exceptions, such as *Second Life*, the *Entropia Universe* and Sony's *Station Exchange*, where the game developers allow and facilitate the exchange of real world currency for in-game currency or the purchase of game items for real money. However, in most games, the EULA will normally preclude the acquisition of rights. Even a game such as *Second Life*, which has based its success and media profile on granting players what seem to be intellectual property rights in what they create, reserves the right to delete any and all items from its servers (Horowitz, 2007, 6). This lack of clear rights does not seem, however, to be limiting the development of the market in any significant way, although it has led to calls for clear legal intervention (Blazer, 2006, 157-158).

The other particular aspect of this market is that what is traded does not fit neatly into established notions of copyright. Although players do speak of ownership, it might be that all that is being traded is the right to use the item in the game, and it is not clear who has the legal authority to permit this alienation.

It may not be the developers of the games. Real-world trading does not involve the direct duplication of the copyrighted elements of the game world (Garlick, 2004-2005, 28-29). (Vendors may use copyrighted elements, such as images, to describe the items for sale, but even if the courts were to take a strict position on this issue, the sales could continue without detailed descriptions.) When an object changes hands in the game world, no copying takes place, making it difficult for the developer to argue that copyright infringement has taken place. This is probably why game worlds rely on EULAs to ensure that they can act against real-world trading.

However, it may not be players either. Although their rights have received little legal consideration, video game players have been held not to provide sufficient creative input to found a claim for authorship rights.⁸ Although this ruling was based on a previous generation of games, and modern online games involve considerable contributions from players, even this may not be enough to give players legal rights in their contributions to games (Garlick, 2004-2005, 17-18). However, it may be that a broader reading of case law which deals with an

⁸ Chief Judge Cummings in *Midway Manufacturing Co. v. Artic International, Inc.* 704 F.2d 1009 (7th Cir. 1983), at 1012: "Playing a video game is more like changing channels on a television than it is like writing a novel or painting a picture."

earlier generation of games is more appropriate, one which sees the player as “a co-creator of his world.” (Miller, 2003, 455)

As the technology develops, so will the arguments for granting players the right to buy and sell game objects. With digital information and communications technologies becoming more prevalent, the distinction between online and offline will disappear (Floridi, 2007). We will be living “in the screen” rather than “on the screen” (Turkle, 1997, 21). (Indeed, in time, the screen may disappear entirely.) In tandem with this development, it is likely that common, open standards will be developed to enable online game avatars to be portable from game to game, much as the development of the open web technologies allowed information to be shared across computer and networking platforms (Economist, 2007a).

If we are to protect “bits in context” (electronic property within the confines of a particular game (Meehan, 2006, 30)), then as game interfaces become universal and interchangeable, so will the need for property protections for players. In this new environment of portable avatars, the development of property rights for players in games is inevitable. These might be built on the fundamentals of common law property rights – the right to exclude, the right to transfer and the right to use and possess (Hunt, 2007, 161).

Theoretical Foundations for Virtual Property

This argument is also supported by an examination of the philosophical rationalisations for property rights and how they will change as game interfaces and worlds become more common. There are three principal justifications offered for online property rights: utilitarianism, Locke's labour-desert theory and Hegel's personality theory.

Utilitarianism

In utilitarian theory, property rights should be granted when they increase overall utility or social welfare. This doctrine, and the economic analysis it brings with it, is commonly applied to legal problems, particularly in intellectual property. The underlying assumption is that granting property rights in an object stimulates more production of that object. Given the amounts of money that people are willing to spend on it, it seems that tradable property does improve the game experience for players, which is a strong argument for granting them property rights (Lastowka & Hunter, 2004, 59).

Indeed, some have argued that without these protections, players will not invest as much time and effort into their game characters and play (Reuveni, 2007, 277).

However, although utilitarian principles can provide a justification for property rights, the calculation involved is daunting (Westbrook, 2006, 797) and there are

counter arguments. The first is that intellectual property is generally limited in some way (time, subject matter, or scope), and that it is too early to decide where to draw those boundaries. The second is that we need to consider the interests of game creators, who may lose welfare as a result (Lastowka & Hunter, 2004, 60).

Many game developers would prefer to avoid the complications that might result if litigation should arise over the transfer of property in a VW (Kolz, 2004). They would not, generally, like to see courts acknowledge that players have valuable property in the objects in a VW, as it would create additional security obligations for them (Loftus, 2005) and might even prevent them from shutting down an out-of-date or unprofitable game in which people have made valuable investments (McInnes, 2004, 2727-2728). They also claim that allowing sales may affect their profitability because new players spend money elsewhere buying powerful characters rather than on subscriptions to build their own through play (known as “levelling”), existing players who object to sale of game objects and characters leave, and developers lose the opportunity to sell property themselves (Stephens, 2002, 432-433).

At present, therefore, the utilitarian arguments for granting players property rights are not sufficient. However, the greater the benefit to players, the stronger those arguments will become. When players use their avatars in order to carry out an increasing number of personal online activities –whether play or simple

socialisation – the value of their game identities and possessions will increase to a level where granting them the right to buy and sell these will outweigh the disadvantages to developers.

Locke's Labour-Desert Theory

Locke argued that “[t]he Labour of [a person’s] Body and the *Work* of his Hands, we may say, are properly his. Whatsoever then he removes out of the State that Nature hath provided, and left it in, he hath mixed his *Labour* with, and joined to it something that is his own, and thereby makes it his *Property*.” (Locke, 1967, 305-306) In other words, a person acquires property through applying their labour to common, ownerless goods. This is the theory most often cited by players as a justification for property in virtual objects (Reynolds, 2007) and was invoked in an attempt to launch a class action against Sony for cancelling online auctions for property in *EverQuest* (Special Correspondent, 2001).

It could be argued that what occurs in the game world is play, not work (Bartle, 2004a, 6), but it is difficult to distinguish clearly between these. Indeed, ‘play’ in a VW can often involve a great deal of ‘work’ in that a great deal of effort is

required (Lastowka & Hunter, 2004, 46-47),⁹ and the value in an advanced character derives from the game time that must be invested in order to build up skills and abilities (Taylor, 2002, 232).

Property can only be claimed when there is “enough and as good” left for others. A player claiming property over a specific, scarce object denies it to fellow players. She also denies it to the developers, by constraining their freedom to change the game (Reuveni, 2007, 286). Such a claim may be justifiable in the context of a dispute between two players over a particular object, but becomes more difficult where the dispute is between a player and a creator (Westbrook, 2006, 793).

It can be argued that developers have abandoned objects into the game environment, leaving them available for appropriation by players (Westbrook, 2006, 794), but given the level of control which developers retain over these objects, both in a legal sense (under the EULA, as noted above) and in a practical

⁹ “The simple idea of ‘fun’ is turned on its head by examples of engagement that rest on efficiency, (often painful) learning, rote and boring tasks, heavy doses of responsibility, and intensity of focus. Indeed, many power gamers do not use the term ‘fun’ to describe why they play but instead talk about the more complicated notions of enjoyment and reward. At times it almost appears as if they are speaking of work.” (Taylor, 2006, 88)

sense (as they can re-configure the game or shut it down at will), this argument does not withstand close scrutiny.

If Lockean theory grants property rights to game objects to anyone, it is to the developers who have invested their labour in creating the game in the first instance. This claim may, of course, be weaker in game environments where the players create objects either entirely or by combining previously available items in new, imaginative combinations.

For the moment, however, in a Lockean calculus, the labour of game creators outweighs that of game players (Horowitz, 2007, 9-14). Although Lockean theory has some application, it is not a basis for property rights in virtual game objects at present (Lastowka & Hunter, 2004, 46-48). Again, as the nature of the technology changes, and the game worlds become more open and more of a shared commons, the rights of players will take precedence over those of creators (Horowitz, 2007, 15).

Hegel's Personality Theory

According to Hegel, a person requires property in order to express themselves fully as a human being:

A person must translate his freedom into an external sphere in order to exist as Idea. Personality is the first, still wholly abstract,

determination of the absolute and infinite will, and therefore this sphere distinct from the person, the sphere capable of embodying his freedom, is likewise determined as what is immediately different and separable from him.

...

Since my will, as the will of a person, and so as a single will, becomes objective to me in property, property acquires the character of private property; and common property of such a nature that it may be owned by separate person acquires the character of an inherently dissoluble partnership in which the retention of my share is explicitly a matter of my arbitrary preference. (Hegel, 1952, 40-42)

Since the beginnings of computer technology, individuals have used these new machines as a means for self-expression (Turkle, 1997, 30-31). Games, in particular, are a means of exploring alternative identities (Turkle, 1997, 186), where the malleability of digital characters and settings provide unprecedented opportunities for experimentation (Turkle, 1997, 192). In practice, players may create a number of different characters in the same game (Taylor, 2006, 95).

Play, as an “arbitrary preference”, is a fundamental means of self-expression, whether it occurs in the real world or in a virtual world. Although players do not tend to rely on Hegelian notions of property (Bartle, 2004a, 5), the level of connection which players feel with their avatar presents a strong argument for recognizing property rights in a VW (Lastowka & Hunter, 2004, 48). Although there may also be something unhealthy or fetishistic about the attachment which players feel towards their in-game property (consider, for example, the ‘dragon sabre’ incident mentioned above), these are exceptional cases (Westbrook, 2006, 799-800). Therefore, players can already put forward a strong Hegelian argument for property rights, and as games become more popular, perhaps even necessary, as a means of social interaction, this argument will become irresistible.

Towards Rights for Players Online

The traditional understanding which copyright law has of the creative process is that of the solitary author, labouring alone and driven by a unique spark of inspiration. The new levels of interaction which the networked computer facilitates illustrates how limited that understanding is. Gamers are simultaneously consumers and producers – sometimes labelled ‘conducers’ (Garlick, 2004-2005, 4).

This is a notion that does not fit easily with the idea of the original, Romantic author (Garlick, 2004-2005, 41). Copyright depends on a divide between creator and consumer; online games blur this distinction (Reuvini, 2007, 272), and the final creative work depends as much on the contribution of the individual players as on the ideas of the creators and programmers (Taylor, 2006, 133; Benkler, 2006, 136). Indeed, many game developers actively encourage the filming of 'machinima' (animations created within games) and the creation of 'mods' (modifications) for their games by players; these may even form the basis of a marketing strategy. In this way, VWs may point towards a commonisation of intellectual property that may help to re-balance the increasing trend toward corporate enclosure of shared culture (Moore, 2005, 102-111).

What the final shape which a new understanding of intellectual property might take is not clear. The commercial context within which the debate is held may limit its parameters too much (Grimes, 2006, 987-988), and the players themselves are not very concerned with grand issues of intellectual property law on a day-to-day basis (Taylor, 2006, 7). However, if and when open standards and cheap technology for shared virtual worlds develop and become a common feature of everyday living, acknowledging the rights of players to their avatars and possession will become inevitable. As these new virtual spaces become integrated into the fabric of every day life, and thus increasingly impossible to

avoid (Taylor, 2006, 135), we will certainly see property rights developing in MMORPGs and we may even see constitutional rights being asserted in virtual worlds. (See, for example, Koster, 2000.)

Conclusion

MMORPGs and VWs are developing at a rapid pace, creating new markets and throwing up new legal problems. The artificial creation of scarcity leads to conflicts over resources, trading in virtual property and instances of fraud and theft. Some game developers deal with this by using contract law to outlaw real world trading; others encourage and facilitate it, while denying that this has real world consequences. As the technology develops and becomes more widely used, this argument will not be tenable. An examination of the theoretical foundations of property rights also leads to the conclusion that, with time, the interest of players in property rights will outweigh those of game developers. This challenges traditional notions of intellectual property and authorship, although in a somewhat unfocused way. Nonetheless, it is clear that the phenomenon of online games and real-world trading in virtual property is an important element in the accelerating pace of change in intellectual property law.

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