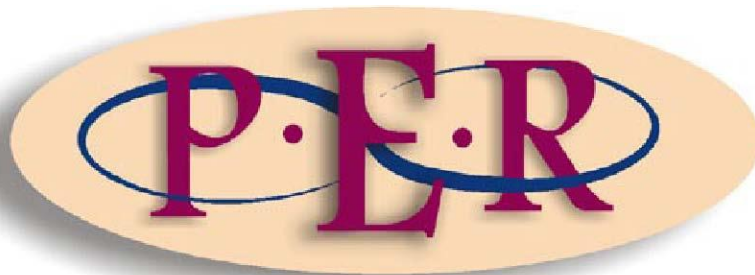


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eISSN 1727-3781



2015 VOLUME 18 No 7

<http://dx.doi.org/10.4314/pelj.v18i7.04>

INTRODUCTION TO VIRTUAL PROPERTY: *LEX VIRTUALIS IPSA LOQUITUR***W Erlank*****1 Introduction**

The topic of virtual property is both magical and mythical. It imposes a sense of awe in an audience. This is true for people both inside and outside the legal profession. There is something intrinsically alluring about the thought of being able to own something that is not there.¹ Even if people do not understand the underlying maze of theoretical and practical complexities,² they still want to know more. At the very least, the general field of virtual property as a topic makes for great party conversation.

In essence, the purpose of this article is to serve as an introduction to the world of virtual property and also to very briefly note the relevance of virtual property in modern society.

What then, one may ask, is virtual property? As with most areas of the law, a universally accepted definition is hard to come by, but this paper will aim to provide some clarity on the issue. Because the term "virtual property" has a very subjective element,³ the concept needs to be narrowed down for the purpose of this paper. When the term is used, some people immediately think that virtual property is

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¹ See below for the discussion about the fact that virtual property is not non-existent.

² For an in-depth look into these complexities, see in general Erlank *Property in Virtual Worlds*. For a broad background about virtual property see in general Fairfield 2005 *BU L Rev*; Blazer 2006 *Pierce L Rev*; Deenihan 2008 <http://ssrn.com/abstract=1113402>; Lastowka and Hunter 2004 *CLR*.

³ The same goes for one's understanding of the concept of "property". For a discussion on the different meanings of "property", see Erlank *Property in Virtual Worlds* 212; Erlank 2014 "Determining the Property of Virtual Property" 88; Cribbet *et al Property* 2; Nelson, Stoebuck and Whitman *Contemporary Property* 2-5; Gray 1991 *CLJ* 292-295; Mostert and Pope *Principles of the Law of Property* 4-5; Badenhorst, Pienaar and Mostert *Silberberg and Schoeman's Law of Property* 1; Gray and Gray *Elements of Land Law* 86-90; Pitlo, Rheeuis and Heisterkamp *Goederenrecht* 1-4, 18; Wilhelm *Sachenrecht* 1-4, 38-42; Wieling *Sachenrecht* 3-5; Thompson *Modern Land Law* 1, 5-10.

property which does not exist.⁴ However, this is incorrect, since virtual property can be equated to immaterial property or even intellectual property when it comes to the question of its existence,⁵ since it is something that one cannot touch, cannot taste, and cannot pick up and take home.⁶ However, it is still property, and it still exists.⁷ Even though things like website addresses (URLs)⁸ and email addresses are often classified under intellectual property, it is more correct and more appropriate to reclassified them as virtual property.⁹ One could even venture to include certain other accepted immaterial property objects such as bank accounts, stocks, options and derivatives under the umbrella of virtual property.¹⁰ Indeed, one could go so far as to include digital goods, such as digital versions of books (e-books),¹¹ computer or smartphone programmes or apps,¹² television series and movies¹³ as well as digital music (albums and tracks)¹⁴ as objects of virtual property.¹⁵ However, the

⁴ Semantically speaking, the explanation can become difficult. Virtual property DOES exist, but it is intangible; the same goes for other forms of intangible property such as those defined as objects of intellectual property (patents, copyright) or even property law in general – such as bank accounts, stocks and shares, amongst other things. Virtual property falls into this same category, being intangible, but not non-existent.

⁵ See in general Erlank *Property in Virtual Worlds* 258-264.

⁶ The aspects of intangibility and the (in)ability to touch, smell and feel virtual property are changing with developments in virtual reality equipment. It is quite possible that we will shortly be able to interact with virtual objects to such an extent that they will be indistinguishable from real-life objects. This development could be referred to as "crossing the conceptual barrier". See the discussion of immersion as a key concept in the virtual world environment later in this article, as well as Erlank *Property in Virtual Worlds* 43, 265-267.

⁷ In other words, it is still property in the classical or generic sense of the word. It forms part of a person's patrimony and (depending on its allocation as a right or an object) can be seen as being the virtual equivalent of a thing or a chattel in the real world. See Erlank 2014 "Determining the Property of Virtual Property" 87 fn 3; Erlank *Property in Virtual Worlds* 253-308. It must also be stressed that virtual property is not a subset of intellectual property. While there may be intellectual property rights attached to virtual property, the property itself is not a form of intellectual property. See Stephens 2002 *Tex L Rev* 1513-1534; Erlank *Property in Virtual Worlds* 204-206, 258-264.

⁸ A Uniform Resource Locator (URL) is a name or series of easily readable characters which point to a specific internet protocol (IP) address. The URL can be associated with differing IP addresses and is usually easy to remember. For general information see Wikipedia Contributors Date Unknown http://en.wikipedia.org/wiki/Uniform_Resource_Locator.

⁹ See Erlank *Property in Virtual Worlds* 261; Bekker 2013 *EPLJ* 184. See in general the discussion about various objects of virtual property: Fairfield 2005 *BU L Rev* 1049, 1052; Lastowka and Hunter 2004 *CLR* 29.

¹⁰ See Van Erp "Servitudes" 4; Fairfield 2005 *BU L Rev* 1049, 1055; Erlank "Virtual Property" 10.

¹¹ Erlank 2013 *EPLJ* 194-195, 200-207.

¹² Erlank 2013 *EPLJ* 194-195, 198.

¹³ Erlank 2013 *EPLJ* 194-195, 198, 210-211.

¹⁴ Erlank 2013 *EPLJ* 194-195, 209, 212.

focus in this paper will be on the type of virtual property found inside virtual worlds.¹⁶ With regard to the other types of virtual property mentioned above, they are dealt with elsewhere.

2 Virtual worlds

Before investigating the concept of virtual property in more depth, it will be beneficial to briefly mention two issues that are exceptionally important for one's understanding of virtual property. The first issue has to do with the origin of the concept of virtual property,¹⁷ and the second issue has to do with the importance of virtual property as a new object of property law.¹⁸

Virtual property originates from and can be found inside virtual worlds. This statement leads to the question of the definition of a virtual world. In plain, everyday language one could define a virtual world as an alternative non-physical world, in contrast to the real, physical world we live in.¹⁹ However, for the purpose of this paper the definition of virtual worlds as developed by Bartle will be used.²⁰ Bartle states that "virtual worlds are computer-moderated, persistent environments through and with which multiple individuals may interact simultaneously".²¹ In order to understand Bartle's definition, it will be broken down into its base elements and discussed below. One should note that a number of these elements or *essentialia*²²

¹⁵ In terms of virtual property, form follows function. This means that if the virtual object was designed to mimic or fulfil the same function in a virtual world as it would have in the real world, it should be accepted as an object of virtual property. See Erlank 2013 *De Jure* 771; Fairfield 2005 *BU L Rev* 1049. Also see in general, Erlank 2013 *EPLJ* 194-212.

¹⁶ A definition of virtual worlds is presented in the next section.

¹⁷ For a more detailed discussion of the history of and development of virtual property and virtual worlds, see Erlank *Property in Virtual Worlds* 17-42; Lastowka and Hunter 2004 *CLR* 14-29.

¹⁸ In other words, the fact that virtual property is accepted, and protectable, as a discrete object of real-world (private) property law, as well as an object of constitutional law. See Erlank *Property in Virtual Worlds*, Bekker 2013 *EPLJ* 192-193. This should not be confused with so-called objects of "new property" that are generally accepted to be socio-economic rights. See Reich 1964 *Yale LJ*.

¹⁹ Erlank *Property in Virtual Worlds* 46.

²⁰ Bartle *Pitfalls of Virtual Property* 2. Also see Lastowka and Hunter 2004 *CLR* 5, who focus on persistence and dynamics as essential characteristics of a virtual world.

²¹ Bartle *Pitfalls of Virtual Property* 2.

²² Also see Castronova 2001 <http://papers.ssrn.com/abstract=294828> 6; Erlank *Property in Virtual Worlds* 47.

have correlations with the requirements of virtual property²³ that will be discussed later in this article.²⁴

The first requirement is that the virtual world should be computer moderated.²⁵ A computer moderated environment means that a computer controls everything about the virtual environment. This is usually achieved by means of the programme or the programmed code. So, what does this mean in terms of virtual property? It means that all in-game aspects that have anything to do with virtual property are managed automatically by the computer without the need for real people to have any sort of personal involvement in the workings of the virtual world. One must also remember that the computers that manage these virtual worlds are not the same as one's local desktop or laptop computer at home. These computers are typically arranged in a large array or matrix and linked to one another.²⁶

The next requirement is that the virtual world must be persistent.²⁷ In this sense persistence means that the virtual world should exist continually and without interruptions; specifically with regard to electricity and network connectivity. It is essential that the virtual world must always be available for the player to interact with. As soon as a virtual world becomes inactive or is switched off, it becomes only a theoretical²⁸ world which REALLY does not exist, instead of a virtual one. This requirement of persistence is one of the chief reasons why virtual worlds are so addictive,²⁹ because, from a player's/user's³⁰ point of view, it would mean that s/he is missing out on things that happen in the virtual world when s/he is not logged in and taking part in it.

²³ Fairfield 2005 *BU L Rev* 1053-1055. Erlank 2014 "Determining the Property of Virtual Property" 89-91.

²⁴ For a more in-depth discussion see Erlank *Property in Virtual Worlds* 253, 272-285.

²⁵ Bartle *Pitfalls of Virtual Property 2*; Erlank *Property in Virtual Worlds* 47.

²⁶ This collection of computers is also known as a server farm.

²⁷ Bartle *Pitfalls of Virtual Property 2*; Erlank *Property in Virtual Worlds* 48.

²⁸ See the discussion on the development of virtual worlds Erlank *Property in Virtual Worlds* 17-42, 48-51.

²⁹ See Erlank *Property in Virtual Worlds* 137 for more on the addictive nature of virtual worlds as well as social media addiction – where the afflicted person needs to be constantly online lest he or she misses something.

³⁰ For the purposes of this article and in fact, most discussions of virtual worlds, the words "player" and "user" are interchangeable.

The next requirement relates to the virtual world environment.³¹ Under normal circumstances a virtual world environment would be representative of one's own real world, or at least be familiar and recognisable to one in some way or another. This is so that the world and its environment should be immersive and persuasive for the player.³² In a modern virtual world the environment is usually represented as being three-dimensional in nature, and one can usually navigate through the virtual world either from a first or third person perspective.³³ The level of immersion is steadily increasing because of the improvement in both computer processing power and graphics-card capabilities.³⁴ Where one's avatar³⁵ would have been represented on the screen as a very abstract collection of basic pixels 20 years ago, the modern version of the same avatar in the same game would consist of numerous layers of computer engineered visual wizardry to make the avatar look as close to real life as possible. Modern developers strive to make the worlds as photo-realistic as possible. The choice of gaming environment may also deviate from the everyday in order to recreate fantastical or totally fictional environments. One example of this would be a game that represents the Star Trek universe.³⁶ If such a virtual world is to be successful, the developers would need to make it into as accurate a representation of the Star Trek universe as possible, in order for it to be easily recognisable by the fans. In essence, the choice of environment is dependent on the subject-matter of

³¹ Bartle *Pitfalls of Virtual Property 2*; Erlank *Property in Virtual Worlds* 51.

³² See Erlank *Property in Virtual Worlds* 19, 25, 265-268 for a more in-depth discussion of the aspect of immersion (similar to "crossing the conceptual barrier" and "suspension of disbelief") and its effect on the player.

³³ In other words, a first-person perspective gives the player the impression that he or she is in fact viewing the virtual world straight out of the avatar's eyes. From a third-person perspective, the player will usually have an isometric top-down view of the virtual world environment where s/he can see the avatar in front of him or her from the same perspective that a bystander or third person could view the avatar.

³⁴ See Erlank *Property in Virtual Worlds* 43-46. Also see the latest developments in virtual reality gaming systems – Facebook's Oculus Rift, Samsung's Gear VR, Google's Cardboard and Microsoft holographic system, the HoloLens which represents a major leap in the probable uptake of virtual reality based systems. Another context in which virtual worlds are frequently found is in so-called augmented reality programs equipment such as the Layar program or the Google Glass spectacles.

³⁵ An avatar is the character that represents you in the game. Seen in a different way, an avatar is the virtual world personification of you.

³⁶ This virtual world is called *Star Trek Online*. Other distinct "universes" include those derived from Star Wars (*Star Trek: The Old Republic*), Harry Potter (*Harry Potter Online*) and Lord of the Rings (*The Lord of the Rings Online*), amongst others.

the game or the virtual world backstory. It is in this category that virtual property becomes very important. The property (objects) or things that are available for use by the player in the world will help to create a sense of familiarity and believability for the player in the virtual world.³⁷ These virtual property items will almost always be instantly recognisable and will be based on real-world items of property such as an inn or hotel. The player immediately and instinctively identifies these things as property and not as virtual items. The virtual property is also designed with the specific intention that it should be able to emulate its real-world counterpart in both form and function.³⁸ So, instead of thinking that one is going into a "virtual inn", one enters an inn and meets the innkeeper, and not an "interpretation of computer data and bits". Imagine what a virtual world based on the Star Wars films would be without a lightsaber!

The next element refers to interaction.³⁹ If a player is unable to interact with the virtual world then the world loses its virtual world status and merely becomes an abstract artwork or movie. Interaction usually takes place by means of the player's manipulating his or her avatar in such a way that it can interact with other avatars or virtual property. There is a tangible relationship between the level of immersion and believability in the virtual world for the player on the one hand and the level of interactivity on the other.⁴⁰ As such, a big part of interactivity is locked up in the level of destructibility of virtual world items.⁴¹ Gamers seem to find it more fun to be able to interact with and to destroy things in a virtual world.⁴² This immediately makes one think of one of the perks (competencies) of ownership: one is able to destroy one's own property. Interaction is not only important for the player – avatar – object relationship, but also for the social relationships⁴³ that players have with

³⁷ Ie, contribute directly to the level of immersion, as discussed above.

³⁸ See Erlank 2013 *De Jure* 771; Erlank "Virtual Property" 11.

³⁹ See Bartle *Pitfalls of Virtual Property 2*; Erlank *Property in Virtual Worlds* 52.

⁴⁰ See the discussion above.

⁴¹ Erlank *Property in Virtual Worlds* 53.

⁴² Erlank *Property in Virtual Worlds* 53 fn 95.

⁴³ For a documentary perspective on the social aspects of virtual worlds, you could look at the documentary film called *Second Skin* (2008), also referred to later in this article. See Pure West Films 2008 <http://secondskinfilm.com>.

other players. Players can interact by going on quests together, and can talk to, eat and even kill one another (in the virtual sense).⁴⁴

The last element is that there must be a participation of multiple individuals.⁴⁵ This is a key component of a virtual world and is also vital for the existence of virtual property. If there was no opportunity for multiple people to take part in the virtual world at the same time, it would mean that it is just a normal game that one plays by oneself on a PlayStation or Xbox. It would not be a virtual world. As such, the individuals who join up to participate in a virtual world behave in much the same way as they would in real life, the only difference being that they now do it in a virtual environment. It is because of this multiplayer element that most of these virtual worlds are referred to as Massively Multiplayer Online Role Playing Games (MMORPGs).

Many of these virtual worlds give one the ability to customise the way one's avatar looks in almost all aspects. One may be able to choose an avatar's race, allegiance, skin and hair colour, body type, gender and clothing, and even its moral values. Appearance in virtual worlds goes even further than just changing the clothes or race of one's avatar. Many virtual worlds make provision for one to make use of body language to show one's avatar's feelings. Avatars can be (instructed to) yawn, tap a foot in impatience or shrug, amongst other things. Because of this, players form a bond not only with their own avatars, but are able to recognise other players by the appearance of their avatars. In other words, a person as player becomes so immersed in the virtual world that the other player's avatar becomes as real to one as if one knew the person in real life.

The last aspect to touch on here is the fact that all virtual worlds make provision for players to communicate with one another.⁴⁶ Some of the very old⁴⁷ virtual worlds

⁴⁴ See Erlank *Property in Virtual Worlds* 54-57, 70-74, 137-141 for a discussion about the social aspects of virtual worlds.

⁴⁵ Bartle *Pitfalls of Virtual Property 2*; Erlank *Property in Virtual Worlds* 54.

⁴⁶ Erlank *Property in Virtual Worlds* 55-56.

⁴⁷ See a discussion of the history of virtual worlds in Erlank *Property in Virtual Worlds* 17-43 and in Lastowka and Hunter 2004 *CLR* 14-29.

still have speech bubbles appearing over the heads of avatars in a comic-book fashion, showing what they are saying. But as technology and the speed of internet connections have advanced, players are able to make use of voice-over internet protocol (VoIP) technology to chat to each other in real time in the same fashion as one would make a normal telephone call. All of this is designed and incorporated into the game to further enhance the social aspects of the game.

From the discussion above, it is evident that participating in an online virtual world is not a lonely affair which is left to a select (and usually clearly defined) few,⁴⁸ but is becoming a way of life. In fact, many people find that they are able to participate better in social circles by means of virtual worlds than they can in real life. For example, in the virtual world of *Second Life* there is an island that was created with the specific intention of housing players (via their avatars) who suffer from Asperger's Syndrome.⁴⁹ The virtual environment gives them a safe space in which they can hone their social skills in non-threatening situations.⁵⁰ Another relevant example is that many educational institutions are giving lectures in virtual university classrooms in *Second Life*,⁵¹ and more than 300 universities make use of *Second Life* as an educational tool.⁵² This enables students from all over the world to see and participate in the lectures via the virtual world interface.⁵³ It is clear from these two examples that virtual worlds can also be used for serious and educational purposes and should not be regarded only as games.⁵⁴

⁴⁸ In other words, it is not the sole domain of social outcasts and geeks any more.

⁴⁹ Asperger's syndrome can be defined as: "An autistic disorder most notable for the often great discrepancy between the intellectual and social abilities of those who have it". MedicineNet Date unknown <http://www.medicinenet.com/script/main/art.asp?articlekey=9675>.

⁵⁰ As an example, one of the private islands in *Second Life* is called "Brigadoon". This is a safe, virtual environment where people with Asperger's syndrome and their care-givers can interact. See Silverstein 2005 <http://abcnews.go.com/Technology/FutureTech/story?id=1019818>.

⁵¹ For example, both the University of Hawaii and East Carolina University offer courses set inside *Second Life*. See University of Hawaii 2010 <http://www.hawaii.edu/secondlife/>; East Carolina University 2015 <http://www.ecu.edu/cs-itcs/secondlife/>; Sussman 2007 http://usatoday30.usatoday.com/news/education/2007-08-01-second-life_N.htm.

⁵² Sussman 2007 http://usatoday30.usatoday.com/news/education/2007-08-01-second-life_N.htm.

⁵³ This is an important facility for the provision of distance-based education. The fact that there is a familiar three-dimensional environment in which students can interact with both the lecturer as well as other students makes it more conducive to bridging the distance gap.

⁵⁴ Many other examples exist. Amongst others, virtual worlds and their associated technologies are used for military training (insurgency and tactics as well as community interaction in hostile

Since the initial lecture that I wrote about this subject many years ago,⁵⁵ a newer and less distinct form of virtual world has evolved from the clearly discrete worlds such as *Second Life* and *World of Warcraft*. These are the virtual worlds that many people typically participate in while typically being unaware of their actual affiliation to a virtual world.⁵⁶ The best examples of these obscured⁵⁷ virtual worlds can be found inside Facebook. Games such as those developed by Zynga⁵⁸ and Supercell⁵⁹ are the most prolific and have attracted a vast number of participants who would not typically have participated in the classic form of virtual worlds. *FarmVille*⁶⁰ was probably the first game to attract a significant⁶¹ portion of unaware virtual world inhabitants into its realm, and together with *Minecraft*⁶² is considered to be responsible for introducing the most new users (players) into virtual worlds – while they are unaware of the fact. Supercell is a rising star, with games such as *Clash of Clans*⁶³ becoming the new public favourites for whiling away time and spending real money on virtual objects. Interestingly enough, the popularity of *Clash of Clans* has seen a massive rise since Liam Neeson's *Clash of Clans* Super Bowl advert⁶⁴ went

areas), pilot training (flight simulators), and medical training (surgical and clinical training); and even NASA uses virtual reality simulations to train their astronauts for things such as repair missions and space walks.

⁵⁵ See Erlank 2009 <http://ssrn.com/abstract=1491118>.

⁵⁶ I address the rise of *Facebook* (and other social media)-based virtual worlds in more detail in Erlank "Virtual World Creep".

⁵⁷ Obscured virtual worlds are virtual worlds (normally 2d games) which are not immediately identifiable as such.

⁵⁸ Examples include *FarmVille*, *Zynga Poker* and *Words with Friends*.

⁵⁹ Examples include *Clash of Clans*, *Hey Day* and *Boom Beach*.

⁶⁰ *FarmVille* in its first iteration on Facebook became the fastest growing and most successful game on Facebook. *FarmVille 2* currently boasts more than 40 million active users. Zynga 2013 <http://blog.zynga.com/2013/01/04/farmville2infographic/>. It is interesting to note that *FarmVille* also became the first virtual world, where one could buy crop insurance for your virtual crops from a real world crop insurer. See Winter 2010 <http://content.usatoday.com/communities/ondeadline/post/2010/10/virtual-crop-insurance-comes-to-virtual-farmville/1#.VO3FhUIae9s>.

⁶¹ See Terdiman 2010 <http://www.cnet.com/news/where-virtual-worlds-once-ruled-farmville-dominates/#!>.

⁶² *Minecraft* is available in both a single player version (which is not considered to be a virtual world) and also a multiplayer version that does qualify for virtual world status. *Minecraft* was not based in or playable inside Facebook, but social media in general and Facebook in particular contributed to the massive success that the game has had. See Silverman 2010 <http://mashable.com/2010/10/01/minecraft-social-media>.

⁶³ Supercell Date Unknown <http://clashofclans.com>.

⁶⁴ See Supercell 2014 <https://www.youtube.com/watch?v=GC2qk2X3fKA&list=PLGhzmQmduilcH5UWknBegED6MNekCSMa1>.

viral. For many people, it would seem as if their participation in *FarmVille* or any of the other similar Facebook hosted or originated⁶⁵ games is just a quick way to while away the time when they are waiting for the latest status updates from their friends. However, these games are not mindless quick-play games (such as *Flappy Bird*) where you play by yourself for instant gratification, and that do not have any multiplayer elements. If one applies all the requirements of a virtual world as set out above, it is clear that most of these games are in fact virtual worlds – which one would not typically class with *World of Warcraft*, *Everquest* and *Second Life*.

3 Some statistics and economic aspects

Before moving on to the specifics of virtual property, a few statistics about virtual worlds and the property contained therein should be given. Some of these are a bit dated, but others are fairly new and where appropriate (and possible) I include both the dated and new statistics to illustrate the vast increases made. However, for the purpose of this article it will suffice to illustrate how massive the phenomenon of virtual worlds really is.

Castronova describes the economy of *Everquest's* Norath in the same way as if it were a normal real world economy.⁶⁶ He provides statistics relating to such activities as production, labour supply, income, inflation, foreign and currency exchange. He notes that by the late summer of 2001, *Everquest* had a subscriber base of more than 400 000 players and showed a growth of more than ten percent in two quarters.⁶⁷ At that stage Sony's monthly revenues from *Everquest* alone amounted to approximately \$3.6 million USD! Bear in mind that this was fourteen years ago and only in relation to one virtual world. At that stage the average player of *Everquest* spent an average of 20 hours a week playing the game.

⁶⁵ Some developers have started to make the games available outside the *Facebook* environment as well. See Yeung 2013 <http://thenextweb.com/facebook/2013/03/21/zynga-com-moves-away-from-facebook-connect/>. Most of these games now have discrete apps in the Apple iTunes app store, and the Google Play store. See for example the *Clash of Clans* apps. Supercell Date Unknown <http://clashofclans.com>.

⁶⁶ Castronova 2001 <http://papers.ssrn.com/abstract=294828>.

⁶⁷ Which was up from about 320 000 subscribers in March 2001. See Castronova 2001 <http://papers.ssrn.com/abstract=294828> 9.

A documentary dealing mostly with the social and interrelationship aspects of virtual worlds was released in 2008. It is called *Second Skin*.⁶⁸ This documentary provides a few more updated statistics (from 2007):

- There are 50 Million MMORPG players.
- One in three female gamers date someone whom they met in a virtual world for the first time.
- The ratio for male to female gamers is one female for every ten single males. Take note that nothing is mentioned about the attachment status of the females.
- Half of all MMORPG players view themselves as being addicted to playing or participating in the virtual world.
- Four out of five gamers are part of a guild.
- The first expansion pack (which is an add-on to the original game) of *World of Warcraft*, called The Burning Crusade, made \$96 million USD in one day. Compare this with the highest grossing film in 2007, which only amounted to \$60 million USD. As the documentary deals with the first expansion only, I should like to note that whereas the first expansion sold 2.4 million copies in the first 24 hours, the second expansion called *World of Warcraft: Wrath of the Lich King*, sold more than 2.8 million copies in the first 24 hours.
- *World of Warcraft* has more than 11.5 million monthly subscribers and is estimated to hold about 62 per cent of the MMORPG market.
- Blizzard's (the developers of *World of Warcraft*) annual gross earnings for 2007 was \$1.2 Billion USD.⁶⁹

⁶⁸ See Escoriaza 2008 http://www.imdb.com/title/tt1183696/?ref_=fn_al_tt_1; Pure West Films 2008 <http://secondskinfilm.com>. Please note that this is the 2008 edition of *Second Skin*. Other films with the same title may not be suitable for family viewing.

- The total value of virtual world goods in 2007 was estimated to be \$20 Billion USD, worked out at an exchange rate of 10.44 gold to the USD. This translates into an average market price for an avatar to be \$868 USD.⁷⁰
- Addiction to virtual world gaming is equated to alcohol addiction, and reform programmes even use the same 12-step programme to beat addiction that the Alcoholics Anonymous programme uses. They only exchange the word "alcohol" for "gaming" in their charter.⁷¹

Some more up to date statistics (from 2014) provide a comparison between three of the largest virtual worlds – as compared to the real world.⁷²

- *World of Warcraft's (WoW)* peak number of subscribers is 12 million, while Moscow (the world's fifth largest city) has a population of 11.5 million.
- 84 per cent of *WoW's* population is male, while 83 per cent of the US military is male.
- *WoW* uses 1.3 million gigabytes of data, which equals 2,760 500GB hard drives. This is similar to the storage space of every photo in Facebook.
- *Second Life's* peak population was 800 000, which can be equated to the 825 000 inhabitants in San Francisco.

⁶⁹ Another example of the continued rapid growth of virtual worlds is evident when one looks at Supercell, the developers of (amongst other games) of *Clash of Clans*. Beginning with zero capital, the company has managed to earn more than \$3 Billion (USD) in three years since its establishment. See Rossi, Grundberg and Stoll 2013 <http://www.wsj.com/articles/SB10001424052702303376904579136873973130670>.

⁷⁰ When we talk about the value of an avatar in this way, we could equate the virtual world account to a bank account. You get your access to the virtual world by means of the username and password which you possess. Therefore, anyone who possesses your username and password is (from the perspective of the developer) the owner of the account. By means of this analogy you can see that if you "sell" your username and password, the buyer gets the ownership of the avatar and as a consequence the whole virtual world patrimony that is associated with it.

⁷¹ See for example the online gamer's anonymous website Olgannon.org 2009 <http://www.olganon.org>.

⁷² Takahashi 2014 <http://venturebeat.com/2014/03/07/comparing-the-virtual-worlds-of-warcraft-second-life-and-eve-online-to-our-own-yields-some-surprising-stats>. These statistics were compiled by Epiphany (a digital marketing company). For a comprehensive overview see Redcentric 2015 <http://www.redcentricplc.com/virtual-worlds>.

- Linden Lab (the developer of *Second Life*) announced a decision in 2007 that it would ban real-money gambling inside the game. This caused a run on the bank of Ginko Financial by inhabitants who wanted to retrieve their *Second Life* virtual currency (Linden Dollars) and sell it off. This caused a shutdown and wiped out \$750 000 USD in real money.
- *Second Life* hosts 10 embassies from real world countries (Maldives, Sweden, Serbia, Estonia, Colombia, Macedonia, the Philippines, Albania, Malta, and Djibouti), while North-Korea just plays host to seven (Germany, Sweden, U.K., Poland, Czech Republic, Romania and Bulgaria).
- *Eve Online* incorporates a complete galaxy, which includes 7699 star systems, while in the real world we know about 797 planetary systems in the Milky Way.
- *Eve Online* has a population of 500 000 players, making it just larger than Edinburgh, which has 495 000 inhabitants.
- *Eve Online's* closed in-game economy equates to about \$20 million USD in the real world.
- *Eve Online's* in-world financial system is managed by professional economists.

What this boils down to is that virtual worlds equal money, both for the developers (the creators) and for the participants (the users/players). They are heavily inhabited (by real-world players/users/inhabitants) for whom the virtual worlds do not seem trivial. In Castronova's study⁷³ he concludes that even though the behaviour that is elicited by players might seem to be only addiction, there must be some other factor which is responsible for their behaviour. He finds that a player in a virtual world experiences an alternative reality or a different country in which he or she may choose to spend most of his or her life as s/he wishes, free from the constraints of

⁷³ Castronova 2001 <http://papers.ssrn.com/abstract=294828>.

reality.⁷⁴ In the competition between Earth and the alternate virtual world, Earth then seems to be the less appealing option.⁷⁵

4 Virtual property as a discrete object of property law

As said at the start of this article, virtual property is often (incorrectly) categorised as a subset of intellectual property. While a virtual property object could have intellectual property rights attached to it, it is not correct to say that it is purely limited to being an object of intellectual property law. This does not in any way affect the interests of existing intellectual property rights holders.⁷⁶

Moringiello⁷⁷ explains how and why it is problematic to equate virtual property to intellectual property. Typically, when lawyers hear the term virtual property, they immediately think of intellectual property. Courts tend to think in the same way. To illustrate this she discusses the US domain name case of *Dorel v Arel*,⁷⁸ which dealt with the question, can a judgement creditor reach a domain name by means of garnishment?⁷⁹ The problem was that under the applicable statute that applied, only a property right could be garnished. In order to make the outcome fit the facts, the court looked to trademark law as a subset of IP law for help. The court then concluded that if a domain name is eligible for trademark protection, it is seen as property and therefore also garnishable; if not, then it is not property and hence not garnishable. Moringiello then explains the problem in the following way. If a domain name is eligible for trademark protection, it cannot be transferred without the goodwill of the business to which it is attached, and as result is of nearly no use to the creditors. On the other hand a generic domain name which is incapable of being protected by trademark can be extremely valuable to creditors, because it can be

⁷⁴ Castronova 2001 <http://papers.ssrn.com/abstract=294828> 10.

⁷⁵ Castronova 2001 <http://papers.ssrn.com/abstract=294828> 10.

⁷⁶ This does not in any way affect the interests of existing intellectual property rights holders. See Erlank 2013 *EPLJ* 210.

⁷⁷ Moringiello 2008 http://lawprofessors.typepad.com/property/virtual_property/.

⁷⁸ *Dorel v Arel* 60 F Supp 2d 558 (ED Va 1999).

⁷⁹ For the civil law readers: garnishment here could be equated to seizure or attachment.

transferred for a substantial amount of money.⁸⁰ In other words, it is clear that by trying to squeeze in a domain name under the category of a trademark, it loses all its value to the creditors. Thus, one needs to look at redefining it as a virtual property right that is capable of subsisting on its own. Now that aside, the problem to identify here is the fact that disputes that take place only in a virtual world tend to mirror disputes which take place in the real world. As such, they tend to be solved in the virtual world in a manner analogous to the way in which the real world would have dealt with them.⁸¹ To be able to deal with disputes relating to virtual world assets in the real world one should deconceptualise them from the fact that they have to do only with intangibles. Moringiello sums the situation up by saying that we ought to put aside tangibility as a determining factor in viewing virtual property, and concentrate rather on the other aspects of property rights.⁸²

Moringiello also wrote a paper in which she argues that the principle of *numerus clausus* should be applied to virtual property.⁸³ She argues that because the questions that relate to the legal nature of digital assets in virtual worlds tend to mirror the questions that arise in connection with intangible rights in general, this leads to understandable confusion about the classification of these rights as contractual or property rights. By applying the principles of *numerus clausus* to virtual property, the courts that have to deal with disputes relating to virtual property should be able to resort to mandatory property types or categorisations. This could lead to one way in which people (like virtual world developers) could be

⁸⁰ To understand this, you need to bear in mind that the company has gone bankrupt. Once a company has been declared bankrupt or even if rumours about such an incident start, you will find that the goodwill pertaining to the company quickly dissipates. Think of the run-on case of DSB bank – which caused its collapse. After the bank went under, no one would have been interested in buying their domain name. On the other side of the coin, if the company in question had a generic domain name such as business.com, it could have made a tidy sum of money. Business.com recently sold for \$7.5 million USD.

⁸¹ Hence, as discussed above, form follows function.

⁸² An interesting aside here is the fact that even the media have started to refer to URL's as virtual property. In a Reuters article it was said that General Motors have "roped off a bit of virtual real estate" which they could use in the event that they would seek bankruptcy protection. They registered gmrestructuring.com and gm-restucturing.com in early April 2009. Hals 2009 <http://www.reuters.com/article/us-gm-website-idUSTRE54E5VZ20090515>.

⁸³ Moringiello 2007 http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1070184. For a discussion of the application of the *numerus clausus* as a principle of the "law of virtual things" see Erlank *Property in Virtual Worlds* 313-315.

limited in their ability to muddy the waters⁸⁴ of property by customising such rights by means of the contracts that are usually created by the electronically presented click-wrap forms and End User Licence Agreements (EULAs).⁸⁵

Another approach to solving the problem that courts will face when having to adjudicate matters dealing with virtual property makes use of the application of a nuanced test.⁸⁶ In brief, this test is used firstly to determine if a virtual object should be accepted as an object of virtual property, secondly, if such a virtual property object could be regarded as a form of real world property, and lastly if such a virtual property object should be protected as an object of real-world property law.⁸⁷

Up till now I have discussed what virtual worlds are, and how players interact with them. I have also looked at the interaction between the player, the virtual world and virtual property. But now the following critical question should be addressed. I think that we can all now agree that virtual property is important, but what is it? Is it a contractual relationship? Is it a right? If so, what type of right? Could it be a property right? To help with these questions I should like to briefly refer to Fairfield's classification of virtual property.⁸⁸ In his article entitled "Virtual Property" he claims that virtual property needs to have three characteristics (that we could also call *essentialia*). These *essentialia* are that virtual property must be rivalrous, persistent and have interconnectivity.⁸⁹ Do these requirements sound familiar? If they do, it is because they are similar to the requirements (discussed earlier) that are needed for a virtual world to exist. Of course one can decide to add to these characteristics, but for brevity's sake I will look only at the requirements mentioned by Fairfield.⁹⁰ The rivalrousness⁹¹ of virtual property refers to the fact that only one person owns and

⁸⁴ See in general Erlank "Property and Sovereignty in Virtual Worlds".

⁸⁵ For more on how EULA's affect virtual property see Erlank *Property in Virtual Worlds* 98-119; Erlank 2014 "Determining the Property of Virtual Property" 91.

⁸⁶ Erlank *Property in Virtual Worlds* 389-407.

⁸⁷ See Erlank "Virtual Property" 15-19; Erlank *Property in Virtual Worlds* 389-407.

⁸⁸ Fairfield 2005 *BU L Rev* 1047.

⁸⁹ For a more in-depth discussion of the characteristics of virtual property see Erlank *Property in Virtual Worlds* 272-285.

⁹⁰ For the analysis I will use Barfield's discussion. Barfield 2009 *Virtual Reality*.

⁹¹ Fairfield 2005 *BU L Rev* 1053; Blazer 2006 *Pierce L Rev* 143; Erlank *Property in Virtual Worlds* 275.

controls the property. Because of this he or she is able to exclude others from doing the same. We could also just call this the competency of exclusivity. The rivalrousness of such property could be equated to what is called scarcity in economic terms and is what creates the economic value of the property. The second characteristic is persistence,⁹² which goes hand in hand with the persistence requirement for virtual worlds. If a piece of property is persistent, it means that it does not cease to exist or disappear permanently when a virtual world citizen logs out of the virtual world and turns his computer off. If the property were not persistent, then no one would be willing to invest in the acquisition of the property and it would become valueless. This brings us to the final characteristic, interconnectivity.⁹³ This is the same as the virtual world requirement of interaction. Interconnectivity enables multiple players to be online and interact within the same virtual world making use of the same common resources. All of this must be able to occur simultaneously. The fact that people are able to visit and use the same virtual property immediately increases the property's value. One would also want other avatars to be able to see and experience the new house that you have created in *Second Life*. They can come and visit and interact with one's property by sitting on the couch and pouring themselves a virtual glass of wine. If there were no interconnectivity, only you would be able to see and experience your property.

Maybe a mental breather is in order here so that one can briefly think about the situation. By this stage most of you will concur with me when I say that there is such a thing as virtual property, and that it does indeed exist. The problem is just that it is not generally recognised by real-world legal systems and courts. If we were to concede that one is able to have rights in virtual property (apart from the contractual rights that one acquires from the EULA), it must also follow that someone is able to own this property. Let's leave aside the question of the owners' identity for the moment and return to that later.

⁹² Fairfield 2005 *BU L Rev* 1054; Blazer 2006 *Pierce L Rev* 144; Erlank *Property in Virtual Worlds* 278.

⁹³ Fairfield 2005 *BU L Rev* 1054-1055; Blazer 2006 *Pierce L Rev* 145; Erlank *Property in Virtual Worlds* 280.

Once we accept that one can have virtual property ownership,⁹⁴ we would need to look at the consequences of this. Barfield⁹⁵ raises some interesting issues. The first interesting aspect of virtual property ownership relates to the economic impact that it has on the real world. Keeping in mind the statistics discussed earlier, the following bears some reflection. Economists have estimated that as early as in 2002 the real world trade in virtual items was responsible for creating a combined gross national product of virtual worlds which was equivalent to or more than that of some third world countries.⁹⁶ The second interesting thing to take note of is the fact that the sales market for property in virtual worlds sometimes transcends into the real world. The developers of the virtual world *Entropia Universe* have contemplated issuing players with a real-world ATM card with which they could draw real-world money out of their virtual-world bank accounts.⁹⁷ This would be automatically converted to real-world currency by the virtual-world's treasury. Developing from this concept, one is now able to withdraw funds from the virtual currency Bitcoin (which in itself is a form of virtual property) via ATMs located across the globe.⁹⁸ This immediately raises concerns about tax law, money laundering and currency exchange regulations. However, these concerns are also valid for normal transactions that take place in the real world and concern virtual property. For this reason it is inevitable that governments will start to take an interest in the regulation of the sale of virtual property. In fact, even though there is still a large amount of academic debate about whether virtual world assets should be taxed,⁹⁹ it has already started to become a bit of a moot point.¹⁰⁰ The US internal revenue service

⁹⁴ For an explanation of how the ownership of virtual property can be acquired (and transferred) both originally and derivatively, see Erlank 2013 *De Jure*.

⁹⁵ Barfield 2009 *Virtual Reality* 37-39.

⁹⁶ Castronova 2004 http://www.terranova.blogs.com/terra_nova/2004/08/virtual_world_e.html.

⁹⁷ Market Wire 2006 <http://www.marketwired.com/press-release/Entropia-Universe-Debuts-First-Ever-Real-World-ATM-Cards-Easy-Access-Virtual-Funds-686615.htm>.

⁹⁸ Thieves have also seen the value of this and have been actively stealing Bitcoin ATMs and also "robbing" people of their Bitcoins by forcing persons to hand over their virtual property. Van Jaarsveld 2015 <http://www.nltimes.nl/2015/02/18/third-amsterdam-bitcoin-atms-stolen>; Ferro 2015 <http://www.businessinsider.com/new-york-city-bitcoin-stagecoach-robberies-2015-2>. Also see the discussion of the Dutch case of virtual property theft below.

⁹⁹ Barfield 2009 *Virtual Reality* 38.

¹⁰⁰ For a discussion about the taxation of virtual property see Erlank *Property in Virtual Worlds* 131-135. Also see Lederman 2007 *NYU L Rev* 1670-1672; Terdiman 2009

is already investigating the taxation possibilities of virtual assets, and Australian tax officials have stated that as soon as a virtual world transaction has any real-world consequences, it will attract the attention of the Tax Office.¹⁰¹ The whole debate about the ownership of virtual property suddenly becomes much more interesting. If a developer would keep on arguing that the players only have mere licences to use the game (as they do in most cases), this could mean that the developers themselves would become liable for the taxation of the transactions if they do not want to share the joys of ownership with the players.

5 Case law and country-specific examples¹⁰²

Since virtual property has value, both economic and sentimental, I will now discuss the issues surrounding the protection, or as an alternative, the theft of virtual property. Many authors argue that this is one of the major reasons why players should get recognised property rights in their virtual property.¹⁰³ In other words virtual property owners should (in certain cases) be able to protect their property. While there are numerous critics who sharply object to acknowledging property rights in virtual items, it is - interestingly enough - the area where some courts have found it intuitively logical to accept that property rights do exist. Even though the courts usually do not explicitly state this, you can infer this from the judgements of the few cases that have been heard so far. I will now briefly discuss some of these cases.

China

It would seem as if Asian legal systems have been quick to grasp the concept that there is a need to protect virtual property. In fact, to date, the most cases that deal explicitly with virtual property have come from China. For example, the Beijing's

http://www.gamespot.com/pc/rpg/there/news.html?sid=6162654&om_act=convert&om_clk=newsfeatures&tag=newsfeatures;title;1; Pienaar *South African Income Tax Implications* iii.

¹⁰¹ Joint Economic Committee 2006 <http://www.house.gov/jec/news/news2006/pr109-98.pdf>; Miller 2006 <http://www.theage.com.au/news/biztech/virtual-world-tax-man-cometh/2006/10/30/1162056925483.html>.

¹⁰² For the purposes of this article I will not fully discuss all the cases. They are dealt with in more detail in Erlank *Property in Virtual Worlds* 90-98.

¹⁰³ Barfield 2009 *Virtual Reality* 38.

Chaoyang District People's Court in China recently ordered that a virtual world developer had to return virtual property to a player who had his account hacked.¹⁰⁴ The hackers gained access to his account and basically looted it of all valuable assets.¹⁰⁵ The gamer in question had spent two years of his time and approximately 10 000 Yuan (which translates to roughly \$1200 USD) on pay-as-you-go cards that enabled him to participate in the game. In the process of playing, he collected weapons and managed to level his character¹⁰⁶ in the game *Honyue*, also known as *Red Moon*. The court found the developers liable¹⁰⁷ for the loss suffered by the player due to security loopholes in their software that enabled the hackers to steal the player's property.¹⁰⁸

South Korea

In South Korea¹⁰⁹ more than forty per cent of teenagers spend their time in online virtual worlds and the country has the greatest *per capita* adoption of broadband internet.¹¹⁰ There have been a huge number of South-Korean cases dealing with virtual property. Most of these cases concern incidents where one player forced another player to transfer virtual property to his avatar in the virtual world. As a result, more than 22000 cybercrime reports relating to virtual property were reported to police in 2003 and 10187 teenagers were arrested for virtual property theft in a single year.¹¹¹

¹⁰⁴ *Li Hong Chen v Beijing Arctic Ice Technology Development Company* (2003, Beijing Second Intermediate Court).

¹⁰⁵ Barfield 2009 *Virtual Reality* 38.

¹⁰⁶ Levelling refers to the increase in experience, status, wealth and power that an avatar gets as it progresses through the virtual world.

¹⁰⁷ This is an important issue that developers of virtual worlds need to take note of in terms of corporate governance and the control of virtual worlds.

¹⁰⁸ See Ma 2009 <http://www.lexology.com/library/detail.aspx?g=0d26ced1-ebd8-4e32-bf83-061a831d64a6>, where Ma discusses the five leading Chinese virtual property cases.

¹⁰⁹ See Erlank *Property in Virtual Worlds* 94. For a comprehensive discussion of South-Korean cases and policy, see Yoon 2004 <http://ssrn.com/abstract=1113327>.

¹¹⁰ Fairfield 2005 *BU L Rev* 1088.

¹¹¹ Fairfield 2005 *BU L Rev* 1088.

US

In *Bragg v Linden Research*,¹¹² the complainant was denied use of his virtual world assets, his virtual property was removed and his account suspended due to his making use of a glitch in the system to improperly benefit from auctions of real estate in *Second Life*.¹¹³ Unfortunately the parties settled out of court.

In *Evans v Linden Research Inc*,¹¹⁴ a class-action suit was launched against Linden Research involving virtual property in *Second Life*. This case was also unfortunately settled outside of court, but the court did approve the settlement.¹¹⁵

Australia

The Australian example is not a case and the affected parties never appeared in court. It is, however, a good example of why virtual property should be protected.¹¹⁶ An Australian businessman, who was one of the most trusted and well known players in the virtual world of *EvE Online*, was the manager in charge of a bank in the virtual world. Because of his trusted status, other players were willing to deposit their earnings and profits measured in gold with his bank. The bank manager then also succumbed to the effects of the credit crisis and was in dire financial straits in the real world. As a result of this he stole all of the bank customers' money and converted it to Australian Dollars. He then proceeded to use his ill-gotten gains to pay off his mortgage. The last time I checked, the only after effect of this was that he was banned from the game. In China he would have been convicted of theft.

¹¹² *Bragg v Linden Research Inc* 487 F Supp 2d 593 (ED Pa 2007). See Erlank *Property in Virtual Worlds* 84-85.

¹¹³ Barfield 2009 *Virtual Reality* 38.

¹¹⁴ *Evans v Linden Research Inc* Case No 4:11-cv-1078-DMR.

¹¹⁵ For comprehensive details about the class action suit and subsequent settlement, see Second Life Settlement 2014 <http://www.secondlifeselement.com/hc/en-us>.

¹¹⁶ King 2009 <http://www.reuters.com/article/2009/07/02/us-gaming-theft-tech-life-idUSTRE5613SL20090702>.

The Netherlands

In the Netherlands, a case dealing with the theft of virtual property was recently decided.¹¹⁷ In a manner of speaking the Dutch courts accepted that there must be a protectable property right which was infringed upon, otherwise they would not have convicted the perpetrators for theft.¹¹⁸ The case was heard in Leeuwarden, by a full bench criminal court of the first instance. In essence the facts are as follows. Two Dutch teens were convicted of stealing virtual game items from another teen. All three of the boys had been playing the game *Runescape*, which is a large virtual world and has millions of players. What is especially interesting about this case is that the boys not only stole the virtual items, but did so by using extreme force. They beat the other boy up and even threatened to kill him with a knife. The fact of the matter is that it would have been very easy for the court just to convict the two boys of assault and leave the matter at that. The court, however, chose to deal with the facts as argued by the prosecutor: that they stole virtual property. After analysing the facts of the case and the applicable sections of the legislation (*Artikel* 310 of the *Wetboek van Strafrecht*), the court found that the stolen property was able to fulfil all the requirements of being classified as *goed* or property¹¹⁹ as it is defined in the legislation. Some of the criteria which the court found to be relevant were the following. According to the court, before something can be classified as *goed* under the *Artikel*, it has to have value for the possessor thereof. The value does not need to be expressible in monetary terms and as such I infer that it would include items with purely sentimental value. The court referred to the fact that virtual worlds have become a huge phenomenon and that players attach a lot of value to their *virtuele goederen*. The court even mentions that one of the places where these virtual items are sold and traded is in the schoolyard. It then found that the virtual property had value for both the complainant as well as the accused. The court explicitly stated that the items did not need to be physical items (*stoffelijke voorwerpen*) and that they could be compared with electricity and money held in an

¹¹⁷ LJN: BG0939, Rechtbank Leeuwarden, 17/676123-07 VEV.

¹¹⁸ The court even took judicial notice of the details of the virtual world!

¹¹⁹ Please note that the meaning of "goed" is defined in statute and that the definition includes both material as well as immaterial things.

account (*giraal geld*). Another important aspect is that there has to be transfer of factual (not physical) control from the accuser to the accused. The sentence was one of community service for 160 hours, which had to be finished within twelve months. If this was not done properly, eighty days of confinement to a youth detention facility was mandated. The important thing to take from this case is that a western court was willing to recognise for the first time, that:

- a) there is such a thing as virtual property; and
- b) that it is important enough to protect.

It is indeed a victory for virtual property that such a judgement has at last emerged from a western legal system. The case went on appeal,¹²⁰ and the judgement of the court of first instance was confirmed by the Dutch Supreme Court (*Hoge Raad*), except in relation to the number of hours of community service, which was reduced. One last thing to note about the appeal is that the Court chose specifically to highlight and address an argument raised by the appellant that since the game makes provision for theft inside the game – the court should also accept that theft of the virtual property in the real world should be allowed and not be deemed to be a crime. The court dealt with this issue firmly – and noted that even if the virtual world allows for theft as part of the game-play, this does not carry over to infringements outside the virtual world. In other words, theft of virtual property in the real world is not part of the game-play inside the virtual world – and therefore the argument posed above cannot be accepted as a defence.¹²¹

6 Conclusion

This introductory discussion of virtual property has touched on a number of diverse aspects of virtual property that have highlighted the nature, pervasiveness, value (both economic and sentimental) and the large scale of the adoption of virtual

¹²⁰ LJN: BQ9251, Hoge Raad, CPG 10/00101 J.

¹²¹ For a discussion of how this relates to the acceptance and protection of virtual property by courts, and the rule that courts will have to adjudicate each and every case concerning virtual property on a case-by-case basis – see Erlank *Property in Virtual Worlds* 401-407.

property as part of everyday life. Not only users of virtual property are interested in this, but academic authors, courts and legislators are also taking notice of this phenomenon, and it is clear that even though it is intangible, virtual property is still property that exists as the object of real world property law. It includes (in the wider sense) such digital objects as website and email addresses, bank accounts, e-books, computer or smartphone programmes or apps, television series and movies. It also includes digital music (albums and tracks). The focus in this paper was on virtual property in the narrow sense, however, being the type of virtual property found inside virtual worlds as created, used and traded by users (who are not always players of a game) and the developers who create and operate virtual worlds. Where appropriate, the article has touched on many issues that are dealt with in greater detail elsewhere, and reference to the source material mentioned should provide a researcher with ample material to delve into the more specialised aspects of virtual property.

Lastly, it should be noted that even though many people do not currently see the value of protecting or recognising virtual property, it will most probably become so important within the next ten to fifteen years that we will all be able to look back and wonder how we were able to live without it. Think of mobile phones as an example. 15 years ago they were a rarity, but nowadays almost everyone has at least one mobile phone, and many have more than one. We should be able to see that in all probability the internet and the sites that we visit on a daily basis, such as *Facebook*, will transform into three-dimensional virtual worlds which we will be able to use in much the same way as we are able to use *Second Life*.

Lex virtualis ipsa loquitur, and therefore virtual property is here to stay.

BIBLIOGRAPHY**Literature**

Badenhorst, Pienaar and Mostert *Silberberg and Schoeman's Law of Property*

Badenhorst PJ, Pienaar JM and Mostert H *Silberberg and Schoeman's The Law of Property* 5th ed (Butterworths Durban 2006)

Barfield 2009 *Virtual Reality*

Barfield W "On Money, Taxes, and Property in Virtual Reality" 2009 *Virtual Reality* 37-39

Bartle *Pitfalls of Virtual Property*

Bartle R Pitfalls of Virtual Property (Themis Group Durham 2004)

Bekker 2013 *EPLJ*

Bekker L "Protection of Virtual Property in terms of the South African Constitutional Property Clause" 2013 *EPLJ* 183-193

Blazer 2006 *Pierce L Rev*

Blazer C "The Five Indicia of Virtual Property" 2006 *Pierce L Rev* 137-161

Cribbet *et al Property*

Cribbet JE *et al Property: Cases and Materials* 8th ed (Foundation Press New York 2002)

Erlank 2013 *De Jure*

Erlank W "Acquisition of Ownership inside Virtual Worlds" 2013 *De Jure* 770-782

Erlank 2013 *EPLJ*

Erlank W "Books, Apps, Movies and Music – Ownership of Virtual Property in the Digital Library" 2013 *EPLJ* 194-212

Erlank 2014 "Determining the Property of Virtual Property"

Erlank W "Determining the Property of Virtual Property" in Apers A *et al* (eds) *Property Law Perspectives III* (Intersentia Cambridge 2014) 87-98

Erlank "Virtual World Creep"

Erlank W "The Virtual World Creep in Facebook and other Social Media Platforms" 2016 (forthcoming)

Erlank "Property and Sovereignty in Virtual Worlds"

Erlank "Property and Sovereignty in Virtual Worlds" in Smith JC (ed) *Property and Sovereignty* (Ashgate Surrey 2013) 99-126

Erlank *Property in Virtual Worlds*

Erlank W *Property in Virtual Worlds* (PhD thesis University of Stellenbosch 2012)

Erlank "Virtual Property"

Erlank W "Virtual Property – Protection and Remedies" in Akkermans B and Ramaekers E (eds) *Property Law Perspectives* (Intersentia Cambridge 2012) 9-19

Fairfield 2005 *BU L Rev*

Fairfield JAT "Virtual Property" 2005 *BU L Rev* 1047-1102

Gray 1991 *CLJ*

Gray K "Property in Thin Air" 1991 *CLJ* 252-307

Gray and Gray *Elements of Land Law*

Gray K and Gray SF *Elements of Land Law* 5th ed (Oxford University Press Oxford 2009)

Lastowka and Hunter 2004 *CLR*

Lastowka FG and Hunter D "The Laws of the Virtual Worlds" 2004 *CLR* 1-74

Lederman 2007 *NYU L Rev*

Lederman L "'Stranger than Fiction': Taxing Virtual Worlds" 2007 *NYU L Rev* 1620-1672

Mostert and Pope *Principles of the Law of Property*

Mostert H and Pope A (eds) *The Principles of the Law of Property in South Africa* (Oxford University Press Cape Town 2010)

Nelson, Stoebuck and Whitman *Contemporary Property*

Nelson GS, Stoebuck WB and Whitman DA *Contemporary Property* (West St Paul, Minn 1996)

Pienaar *South African Income Tax Implications*

Pienaar SJ *South African Income Tax Implications of Income Earned in Virtual Worlds* (MCom-dissertation University of Pretoria 2008)

Pitlo, Rheeuis and Heisterkamp *Goederenrecht*

Pitlo A, Rheeuis WHM and Heisterkamp AHT *Goederenrecht: Deel 3 van Het Nederlands Burgerlijk Recht* 12th ed (Kluwer Deventer 2006)

Reich 1964 *Yale LJ*

Reich C "The New Property" 1964 *Yale LJ* 733-787

Stephens 2002 *Tex L Rev*

Stephens M "Sales of In-game Assets: An Illustration of the Continuing Failure of Intellectual Property Law to Protect Digital-content Creators" 2002 *Tex L Rev* 1513-1534

Thompson *Modern Land Law*

Thompson MP *Modern Land Law* 4th ed (Oxford University Press New York 2009)

Van Erp "Servitudes"

Van Erp JHM "Servitudes: The Borderline between Contract and (Virtual) Property" in Van Erp JHM and Akkermans B *Towards a Unified System of Land Burdens* (Intersentia Antwerpen 2006) 1-9

Wilhelm *Sachenrecht*

Wilhelm J *Sachenrecht* 2nd ed (Walter de Gruyter Berlin 2002)

Wieling *Sachenrecht*

Wieling HJ *Sachenrecht* 5th ed (Springer Berlin 2007)

Case law

China

Li Hong Chen v Beijing Arctic Ice Technology Development Company (2003, Beijing Second Intermediate Court)

Netherlands

LJN: BG0939, Rechtbank Leeuwarden, 17/676123-07 VEV

LJN: BQ9251, Hoge Raad, CPG 10/00101 J

United States of America

Bragg v Linden Research Inc 487 F Supp 2d 593 (ED Pa 2007)

Dorel v Arel 60 F Supp 2d 558 (Ed Va 1999)

Evans v Linden Research Inc Case No 4:11-cv-1078-DMR

Internet sources

Castronova 2001 <http://papers.ssrn.com/abstract=294828>

Castronova E 2001 *Virtual Worlds: A First-hand Account of Market and Society on the Cyberian Frontier - CESifo Working Paper No 618*
<http://papers.ssrn.com/abstract=294828> accessed 26 February 2015

- Castronova 2004 http://www.terranoa.blogs.com/terra_nova/2004/08/virtual_world_e.html
- Castronova 2004 *Virtual World Economy: It's Namibia, Basically*
http://www.terranoa.blogs.com/terra_nova/2004/08/virtual_world_e.html
accessed 26 February 2015
- Deenihan 2008 <http://ssrn.com/abstract=1113402>
- Deenihan KE 2008 *Leave Those Orcs Alone: Property Rights in Virtual Worlds*
<http://ssrn.com/abstract=1113402> accessed 26 February 2015
- East Carolina University 2015 <http://www.ecu.edu/cs-itcs/secondlife/>
- East Carolina University 2015 *Second Life* <http://www.ecu.edu/cs-itcs/secondlife/> accessed 25 February 2015
- Erlank 2009 <http://ssrn.com/abstract=1491118>
- Erlank W 2009 *Lecture: Introduction to Virtual Property*
<http://ssrn.com/abstract=1491118> accessed 26 February 2015
- Escoriaza 2008 http://www.imdb.com/title/tt1183696/?ref_=fn_al_tt_1
- Escoriaza JCP 2008 *Second Skin*
http://www.imdb.com/title/tt1183696/?ref_=fn_al_tt_1 accessed 24 February 2015
- Ferro 2015 <http://www.businessinsider.com/new-york-city-bitcoin-stagecoach-robberies-2015-2>
- Ferro S 2015 *Robbers are Holding People Up at Gunpoint in order to Steal their Bitcoin* <http://www.businessinsider.com/new-york-city-bitcoin-stagecoach-robberies-2015-2> accessed 26 February 2015
- Hals 2009 <http://www.reuters.com/article/us-gm-website-idUSTRE54E5VZ20090515>
- Hals T 2009 *GM Stakes Virtual Property in case of Bankruptcy*
<http://www.reuters.com/article/us-gm-website-idUSTRE54E5VZ20090515>
accessed 5 October 2009

Joint Economic Committee 2006 <http://www.house.gov/jec/news/news2006/pr109-98.pdf>

Joint Economic Committee 2006 *Virtual Economies Need Clarification, Not More Taxes 1998* <http://www.house.gov/jec/news/news2006/pr109-98.pdf> accessed 19 Dec ember 2011

King 2009 <http://www.reuters.com/article/2009/07/02/us-gaming-theft-tech-life-idUSTRE5613SL20090702>

King J 2009 *Gamer Steals from Virtual World to Pay Real Debts* <http://www.reuters.com/article/2009/07/02/us-gaming-theft-tech-life-idUSTRE5613SL20090702> accessed 25 February 2015

Ma 2009 <http://www.lexology.com/library/detail.aspx?g=0d26ced1-ebd8-4e32-bf83-061a831d64a6>

Ma M 2009 *Online Games and Virtual Property* <http://www.lexology.com/library/detail.aspx?g=0d26ced1-ebd8-4e32-bf83-061a831d64a6> accessed 27 February 2015

Market Wire 2006 <http://www.marketwired.com/press-release/Entropia-Universe-Debuts-First-Ever-Real-World-ATM-Cards-Easy-Access-Virtual-Funds-686615.htm>

Market Wire 2006 *Entropia Universe Debuts First-Ever Real-World ATM Cards for Easy Access to Virtual Funds* <http://www.marketwired.com/press-release/Entropia-Universe-Debuts-First-Ever-Real-World-ATM-Cards-Easy-Access-Virtual-Funds-686615.htm> accessed 26 February 2015

MedicineNet Date Unknown <http://www.medicinenet.com/script/main/art.asp?articlekey=9675>

MedicineNet Date Unknown *Asperger Syndrome Definition* <http://www.medicinenet.com/script/main/art.asp?articlekey=9675> accessed 24 February 2015

Miller 2006 <http://www.theage.com.au/news/biztech/virtual-world-tax-man-cometh/2006/10/30/1162056925483.html>

Miller N 2006 *Virtual World: Tax Man Cometh*
<http://www.theage.com.au/news/biztech/virtual-world-tax-man-cometh/2006/10/30/1162056925483.html> accessed 25 February 2015

Moringiello 2007 http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1070184
Moringiello J 2007 *Towards a System of Estates in Virtual Property* 2007
http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1070184 accessed 26 February 2015

Moringiello 2008 http://lawprofessors.typepad.com/property/virtual_property/
Moringiello J 2008 *More on What Virtual Property Can Do for Property: The Problem of Analogy* http://lawprofessors.typepad.com/property/virtual_property/ accessed 5 October 2009

Olgannon.org 2009 <http://www.olganon.org>
Olgannon.org 2009 *Online Gamers Anonymous* <http://www.olganon.org> accessed 16 May 2009

Pure West Films 2008 <http://secondskinfilm.com>
Pure West Films 2008 *Second Skin Film* <http://secondskinfilm.com> accessed 22 February 2015

Redcentric 2015 <http://www.redcentricplc.com/virtual-worlds/>
Redcentric 2015 *Virtual Worlds* <http://www.redcentricplc.com/virtual-worlds> accessed 15 February 2015

Rossi, Grundberg and Stoll 2013 <http://www.wsj.com/articles/SB10001424052702303376904579136873973130670>
Rossi J, Grundberg S and Stoll JD 2013 *Supercell: Zero to \$3 Billion in three Years*
<http://www.wsj.com/articles/SB10001424052702303376904579136873973130670> accessed 24 February 2015

- Second Life Settlement 2014 <http://www.secondlifesettlement.com/hc/en-us>
Second Life Settlement 2014 *Second Life Settlement*
<http://www.secondlifesettlement.com/hc/en-us> accessed 25 February 2015
- Silverman 2010 <http://mashable.com/2010/10/01/minecraft-social-media/>
Silverman M 2010 *Minecraft: How Social Media Spawned a Gaming Sensation*
<http://mashable.com/2010/10/01/minecraft-social-media/> accessed 25
February 2015
- Silverstein 2005 <http://abcnews.go.com/Technology/FutureTech/story?id=1019818>
Silverstein J 2005 *A World Where Anything is Possible*
<http://abcnews.go.com/Technology/FutureTech/story?id=1019818> accessed
1 December 2009
- Supercell Date Unknown <http://clashofclans.com>
Supercell Date Unknown *Clash of Clans* <http://clashofclans.com> accessed 24
February 2015
- Supercell 2014 <https://www.youtube.com/watch?v=GC2qk2X3fKA&list=PLGhzmQmduiLcH5UWknBegED6MNekCSMa1>
Supercell 2014 *Clash of Clans: Revenge (Official Super Bowl TV Commercial)*
<https://www.youtube.com/watch?v=GC2qk2X3fKA&list=PLGhzmQmduiLcH5UWknBegED6MNekCSMa1> accessed 24 February 2015
- Sussman 2007 http://usatoday30.usatoday.com/news/education/2007-08-01-second-life_N.htm
Sussman B 2007 *Teachers, College Students Lead a Second Life*
http://usatoday30.usatoday.com/news/education/2007-08-01-second-life_N.htm accessed 25 February 2015
- Takahashi 2014 <http://venturebeat.com/2014/03/07/comparing-the-virtual-worlds-of-warcraft-second-life-and-eve-online-to-our-own-yields-some-surprising-stats/>

Takahashi D 2014 *Comparing the Virtual Worlds of Warcraft, Second Life, and Eve Online to Our Own Yields Some Surprising Stats*
<http://venturebeat.com/2014/03/07/comparing-the-virtual-worlds-of-warcraft-second-life-and-eve-online-to-our-own-yields-some-surprising-stats/> accessed 25 February 2015

Terdiman 2009 http://www.gamespot.com/pc/rpg/there/news.html?sid=6162654&om_act=convert&om_clk=newsfeatures&tag=newsfeatures;title;1

Terdiman D 2006 *IRS Taxation of Game Assets Inevitable 2006 Gamespot*
http://www.gamespot.com/pc/rpg/there/news.html?sid=6162654&om_act=convert&om_clk=newsfeatures&tag=newsfeatures;title;1 accessed 20 May 2009

Terdiman 2010 <http://www.cnet.com/news/where-virtual-worlds-once-ruled-farmville-dominates/#!>

Terdiman D 2010 *Where Virtual Worlds Once Ruled, FarmVille Dominates*
<http://www.cnet.com/news/where-virtual-worlds-once-ruled-farmville-dominates/#!> Accessed 25 February 2015

University of Hawaii 2010 <http://www.hawaii.edu/secondlife/>

University of Hawaii 2010 *Second Life – University of Hawaii in Second Life*
<http://www.hawaii.edu/secondlife/> accessed 25 February 2015

Van Jaarsveld 2015 <http://www.nltimes.nl/2015/02/18/third-amsterdam-bitcoin-atms-stolen>

Van Jaarsveld J 2015 *Third of Amsterdam Bitcoin ATMs Stolen*
<http://www.nltimes.nl/2015/02/18/third-amsterdam-bitcoin-atms-stolen> accessed 26 February 2015

Wikipedia Contributors Date Unknown http://en.wikipedia.org/wiki/Uniform_Resource Locator

Wikipedia Contributors Date Unknown *Uniform Resource Locator*
http://en.wikipedia.org/wiki/Uniform_Resource Locator accessed 24 February 2015

Winter 2010 <http://content.usatoday.com/communities/ondeadline/post/2010/10/virtual-crop-insurance-comes-to-virtual-farmville/1#.VO3FhUIae9s>

Winter M 2010 *Virtual Crop Insurance Comes to Virtual FarmVille*
<http://content.usatoday.com/communities/ondeadline/post/2010/10/virtual-crop-insurance-comes-to-virtual-farmville/1#.VO3FhUIae9s> accessed 25 February 2015

Yeung 2013 <http://thenextweb.com/facebook/2013/03/21/zynga-com-moves-away-from-facebook-connect/>

Yeung K 2013 *Zynga.com Drops Facebook Connect as the Games Company Moves to Its Own Account System* <http://thenextweb.com/facebook/2013/03/21/zynga-com-moves-away-from-facebook-connect/> accessed 25 February 2015

Yoon 2004 <http://ssrn.com/abstract=1113327>

Yoon U 2004 *Real Money Trading in MMORPG Items from a Legal and Policy Perspective* <http://ssrn.com/abstract=1113327> accessed 26 February 2015

Zynga 2013 <http://blog.zynga.com/2013/01/04/farmville2infographic/>

Zynga 2013 *The FarmVille 2 Almanac of Records and Facts*
<http://blog.zynga.com/2013/01/04/farmville2infographic/> accessed 25 February 2015

LIST OF ABBREVIATIONS

Apps	(Computer or Mobile) Applications
ATM	Automated Teller Machine
BU L Rev	Boston University Law Review
CLJ	Cambridge Law Journal
CLR	California Law Review
DSB	Dirk Scheringa Beheer (Dutch Bank)
E-book	Electronic book
EPLJ	European Property Law Journal
EULA	End User Licence Agreement

IP	Intellectual property
IP	Internet Protocol (disambiguation)
ILSA J Int'l Comp L	ILSA Journal of International and Comparative Law
JICLT	Journal of International Commercial Law and Technology
MMORPG	Massively Multiplayer Online Role Playing Game
NYU L Rev	New York University Law Review
Pierce L Rev	Pierce Law Review
SSRN	Social Sciences Research Network
Tex L Rev	Texas Law Review
URL	Uniform Resource Locator
USD	United States Dollar
VoIP	Voice over Internet Protocol
WoW	World of Warcraft
Yale LJ	Yale Law Journal