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Virtual Property Problem: What Property Rights in Virtual Resources Might Look like, How They Might Work, and Why They Are a Bad Idea, The

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The Virtual Property Problem: What Property Rights in Virtual Resources Might Look Like, How They Might Work, and Why They Are a Bad Idea

John William Nelson*

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ABSTRACT

“Virtual property” is a solution looking for a problem. Arguments justifying “virtual property” lie among three common themes—Lockean labor theory, theft protection and deterrence, and market efficiency. This Article goes beyond those who advocate for or against the creation of “virtual property” by first dismissing Locke’s labor theory as a justification. Then, this Article explores two models of what property rights may look like when applied to virtual resources. These models are

then applied to six different virtual world scenarios in order to see the effects of "virtual property." Finally, this Article explains the failure of property rights to benefit the users, developers, and virtual resources of virtual worlds.

I. INTRODUCING THE VIRTUAL PROPERTY PROBLEM

The owner of Fenway Park sells tickets to Red Sox games. These tickets allocate seats in Fenway to individual spectators. Some of these tickets are sold for an entire season, guaranteeing the same seat to the buyer for each game of the season. Season ticket holders are able to renew their purchases each year. Some have done so for many years. Others' season tickets have been passed down through family members. The tickets once owned by a grandfather are now owned by the grandson. These season ticket holders have put tremendous time and money into being able to sit in these same seats each year for every game. Should these fans be granted a property right in their seats? What of the tickets themselves—should spectators be allowed to resell them? If so, how should the law protect the sale?

Now think about a group of residents living near a city park who have taken it upon themselves to help beautify the park. They plant grass, replenish flower gardens, and repair jungle gyms. The park is now a jewel in the city because of their efforts. The city, however, has decided to sell the land to a property developer. Despite the wishes of the residents who helped beautify the park, there is nothing that can stop the sale. Should these residents have a property right in the park they spent so much time restoring?

The virtual property problem works in a way similar to the scenarios above. The important question is how laws should protect the users, developers, and virtual resources of virtual worlds. One suggestion is to extend property rights to the resources in virtual worlds.

Property rights, however, will not meet the goals of those who seek to protect users, developers, and virtual resources. Such an extension of property rights will provide little protection beyond that which already exists, and it will add increased complexity to virtual worlds. In the end, the very value sought to protected will be destroyed.

This Article examines the virtual property problem. It relies on United States legal theory to analyze the problem for two reasons. First, the virtual property problem is first and foremost a theoretical problem. This is because "virtual property" does not currently exist, and, therefore, the arguments for and against recognizing such property rights lie more in theory and less in practice. As such, the insights and answers provided should be understandable to anyone coming from a common law tradition. Second, many large, commercial virtual worlds are operated by United States companies—including the current leader, Activision-Blizzard's *World of Warcraft*. These virtual worlds are governed by End User

License Agreements that often contain choice of law clauses that designate United States law as the contract's governing law where possible.¹

Section II begins by redefining virtual property as virtual resources. Section III outlines the reasons why we might want to recognize property rights in virtual resources and how it may be accomplished. Then this Article discusses positive and normative models for extending property rights to virtual resources. Section IV applies these two models to six different scenarios in order to understand how virtual resource property rights will affect users, developers, and virtual worlds. Section V argues that extending property rights to virtual resources does not meet the goals of those who seek such an action.

II. REDEFINING VIRTUAL PROPERTY AS VIRTUAL RESOURCES

Virtual property is a problematic metaphor. It carries not only the baggage all metaphors carry—an inexact, albeit evocative definition—but also the baggage associated with the word “property.” Property means different things to various groups of people, yet each of these groups engages in the virtual property debate.

A. *The Problem with Metaphors*

Metaphors take attributes from one concept and ascribe them to another,² thereby sometimes taking attributes out of context. One way to analyze a metaphor is to divide it into two parts: the target and the source.³

The items, objects, and characters within a virtual world are the target of the virtual property metaphor. The attributes of the metaphor's source are then ascribed to these targets. The concept of property is that source, but property has a problematic history of inexact meaning and competing views as to its true attributes.

1. See, e.g., World of Warcraft, End User License Agreement, North America, <http://www.worldofwarcraft.com/legal/eula.html> (last visited Aug. 1, 2009) (on file with the *McGeorge Law Review*) (designating Delaware law as the governing law in paragraph 15(F) of the American-based agreement); Second Life, Terms of Service, <http://secondlife.com/corporate/tos.php> (last visited Aug. 1, 2009) (on file with the *McGeorge Law Review*) (designating California law in paragraph 7.1); Everquest, User Agreement and Software License, http://help.station.sony.com/cgi-bin/soe.cfg/php/enduser/std_adp.php?p_faaid=12248 (last visited Aug. 1, 2009) (on file with the *McGeorge Law Review*) (designating California law in paragraph 16); EA Online Privacy Policy and Terms of Use, <http://legal.ea.com/legal/legal.jsp?language=en> (last visited Aug. 1, 2009) (on file with the *McGeorge Law Review*) (governing both Dark Age of Camelot and Ultima Online and, in paragraph 17(d), providing for British law to govern for residents of the European Union (EU) and for California law to govern everyone else). But see EVE Online, End User License Agreement, <http://www.eveonline.com/pnp/eula.asp> (last visited Aug. 1, 2009) (on file with the *McGeorge Law Review*) (designating Republic of Iceland law as the governing law in paragraph 16); World of Warcraft, End User License Agreement, European Union, <http://www.wow-europe.com/en/legal/eula.html> (last visited Aug. 1, 2009) (on file with the *McGeorge Law Review*) (providing no specific governing law in EU-based agreement).

2. See I. A. RICHARDS, *THE PHILOSOPHY OF RHETORIC* 116 (1936) (defining “metaphor” as “compound[ing] different uses of the word into one, and speak[ing] of something as though it were another”).

3. See *id.* at 96-101 (using the terms “tenor” and “vehicle” as “target” and “source”).

The problem is that metaphors can distort the target's true nature under the metaphorical blanket of the source's context. Property's slippery definition and chameleon terms add to this problem. Thus, the virtual property metaphor confuses the debate by redirecting discussion away from the target—the attributes and nature of virtual items—and towards the source—the confused concept of property.

B. *The Different Meanings of "Property"*

Much of the confusion over the meaning of "property" arises from the differences between lay, legal, and economic uses of the word. Laymen often view property in terms of objects and things that can be owned and possessed.⁴ Lawyers tend to view property in terms of rights to a thing, thus the famous "bundle of rights" definition.⁵ Economists focus on relationships between people and, in this way, use property interchangeably with entitlements.⁶ Accordingly, the concept of property simultaneously includes rights to things and land, liability to another in tort, and obligations to others through contract.⁷ The attributes ascribed through the virtual property metaphor vary depending on which of these property views a person accepts.

C. *Exchanging the Term "Property" for the Term "Resources"*

Central to the concept of property is the allocation of assets within virtual worlds between the developers of the world and the world's users. For this reason, virtual assets should be termed "virtual resources" rather than "virtual property." Resources are assets available to an individual or group.⁸ These assets take various forms: money, materials, staff, promises, liabilities, and more.⁹ The accounts, characters, and items within virtual worlds may also be considered

4. Early English legal books illustrate this by describing property as "that generall lawe or generall custome of propertye wherby goodis mouable and vnmouable be brought in to a certayne propertye/ so that euery man may knowe his owne thyng. And this law is called the law or general custom of property because it is diffused throughout the whole world." G. E. Aylmer, *The Meaning and Definition of "Property" in Seventeenth-Century England*, PAST & PRESENT, Feb. 1980, at 87, 87 (citing ST. GERMAN'S DOCTOR AND STUDENT 33 (T.F.T. Plucknett & J.L. Barton eds., 1974)).

5. See, e.g., *Kaiser Aetna v. United States*, 444 U.S. 164, 176 (1979) (viewing property rights as a "bundle of rights").

6. FRANK H. STEPHEN, *THE ECONOMICS OF THE LAW* 11 (1988) ("[T]he economist's notion of property is much broader than that of the lawyer[,] . . . [i]t includes both tort and contract law, common and statutory law, civil and criminal law, vested and non-vested rights and civil rights."); see also Guido Calabresi & A. Douglas Melamed, *Property Rules, Liability Rules, and Inalienability: One View of the Cathedral*, 85 HARV. L. REV. 1089, 1089 (1972) (arguing for a framework of viewing these "rights" as "entitlements").

7. STEPHEN, *supra* note 6, at 11.

8. A definition of "resource" is "a stock or supply of money, materials, staff, and other assets that can be drawn on by a person or organization in order to function effectively." THE NEW OXFORD AMERICAN DICTIONARY 1450 (Elizabeth J. Jewell & Frank Abate eds., 2001).

9. See *id.*

assets.¹⁰ The question is how property protections may extend to virtual resources and what effect this extension will have on the rights and liabilities of users and developers.

III. EXTENDING PROPERTY PROTECTIONS TO VIRTUAL RESOURCES

A. Why Is This Important?

1. The Value of Virtual Resources

Virtual resources have real-world value. Virtual world currency, accounts, and items are bought and sold in gray markets, which Edward Castronova has documented.¹¹ Castronova looked at the gray market value of virtual resources from Sony's *Everquest*,¹² a massively multiplayer online role-playing game.¹³ He estimated the gross national product (GNP) of *Everquest*'s servers in 2001 to be roughly \$135 million.¹⁴ Per capita, this translated into approximately \$2,266 earned annually.¹⁵

Nearly eight years have passed since Castronova examined *Everquest*'s gray market in virtual resources. *Everquest* is no longer the market leader in the number of virtual world users—that title now belongs to Activision-Blizzard's *World of Warcraft*.¹⁶ A non-empirical spot-check of some gray market vendors indicates their continued strength.

Table 1 lists the prices for 5,000 World of Warcraft gold pieces on the *World of Warcraft* Whisperwind server.¹⁷ Since trade between the two factions in *World of Warcraft* is limited, data for the Alliance faction is used.¹⁸

10. See *id.*

11. Edward Castronova, *Virtual Worlds: A First-Hand Account of Market and Society on the Cyberian Frontier* (CESifo, Working Paper No. 618, 2001), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=294828.

12. See generally *EverQuest Universe*, <http://everquest.station.sony.com> (last visited Aug. 1, 2009) (on file with the *McGeorge Law Review*).

13. Massive multiplayer online (MMO) is a descriptive term for "game software that lets hundreds of users participate simultaneously." DOUGLAS A. DOWNING ET AL., *DICTIONARY OF COMPUTER AND INTERNET TERMS* 314 (10th ed. 2009).

14. Castronova, *supra* note 11, at 32-33. Castronova based this estimation on the number from the market for user accounts. This is an inexact estimate, as Castronova himself recognizes, but it does illustrate the value placed on the characters and objects in virtual worlds. *Id.*

15. *Id.*

16. MMOGChart.com, <http://www.mmogchart.com/Chart7.html> (last visited Aug. 4, 2009) (on file with the *McGeorge Law Review*) (providing a pie chart that shows *World of Warcraft* holding a sixty-two percent market share for massively multiplayer online games (MMOG) as of April 2008).

17. For a description of the different realms in *World of Warcraft*, see *WorldofWarcraft.com*, Realm Types, <http://www.worldofwarcraft.com/info/basics/realmtypes.html> (last visited, Aug. 2, 2009) (on file with the *McGeorge Law Review*).

18. See *WorldofWarcraft.com*, Getting Started, <http://www.worldofwarcraft.com/info/basics/gettingstarted.html> (last visited Aug. 2, 2009) (on file with the *McGeorge Law Review*) (describing the existence of the two factions and the difficulties of trading between the two).

<i>Gold Selling Company</i>	<i>Price for 5,000 Gold Pieces</i>
<i>Guy4Game</i> ¹⁹	\$45.87
<i>Game4Power</i> ²⁰	\$46.99
<i>Gold4Power</i> ²¹	\$69.99
<i>Wow Mine</i> ²²	\$18.75

Table 1 – The cost of 5,000 World of Warcraft Gold Pieces on June 27, 2009.

Castronova estimated the GNP of *Everquest* through an analysis rooted in the price for *Everquest* character accounts.²³ Gray markets sell *World of Warcraft* character accounts just as they sold *Everquest* characters during Castronova's study. Table 2 lists examples of real money value placed on a level 80 paladin character in *World of Warcraft*.²⁴

<i>Account Selling Company</i>	<i>Price for a Level 80 Paladin</i>
<i>BuyMMOAccounts.com</i> ²⁵	\$717.00
	\$667.00
	\$667.00
<i>Guy4Game</i> ²⁶	\$657.30
	\$530.80
	\$527.60

Table 2 – Example prices for Level 80 Paladins on June 27, 2009.

The above examples illustrate the continued vitality of gray markets for virtual resources. Where there is value, legal protections soon follow. The

19. See Guy4Game, <http://www.guy4game.com/home.php?cat=961> (last visited June 27, 2009) (on file with the *McGeorge Law Review*).

20. See Game4Power, <http://www.game4power.com/World-of-Warcraft-US/Whisperwind-Alliance.html> (last visited June 27, 2009) (on file with the *McGeorge Law Review*).

21. See Gold4Power, <http://www.gold4power.com/World-of-Warcraft-US/Whisperwind-Alliance.html> (last visited June 27, 2009) (on file with the *McGeorge Law Review*).

22. See WoWMine, <http://www.wowmine.org/> (last visited June 27, 2009) (on file with the *McGeorge Law Review*).

23. Castronova, *supra* note 11, at 32-33.

24. For a definition of classes and a brief description of each, see WorldofWarcraft.com, Classes, <http://www.worldofwarcraft.com/info/classes/index.html> (last visited Aug. 1, 2009) (on file with the *McGeorge Law Review*).

25. See BuyMMOAccounts.com, Buy WoW Alliance Paladin Accounts, <http://www.buymmoaccounts.com/wow-accounts/paladin.php?faction=alliance&sortby=price&sort=desc> (last visited June 27, 2009) (on file with the *McGeorge Law Review*).

26. See Guy4Game.com, Buy WoW Accounts, http://www.guy4game.com/world-of-warcraft-us/wow-accounts/index.php?gclid=CNrO_JCHrJsCFRmbnAod3yWNCw#Level=80&Gender=All&Class=Paladin&Race=All&Role_ori=All&Price=All&Faction=All&Order=Price&Page=1&Talent=All&OrderMethod=desc (last visited June 27, 2009) (on file with the *McGeorge Law Review*).

important question is how this value should be protected. Extending property rights to virtual resources is one of the solutions many commentators offer.

2. *The Need for Practical Proposals*

Despite calls for extending property rights to virtual resources, commentators so far have neglected to present a clear outline of how it should be done. Where does a “virtual property” begin, and where does it end? How do these rights interact with the rights of other users and the developers of virtual worlds?

Two prominent articles on the virtual property debate represent this lack of a solution. In their article, Lastowka and Hunter suggest that extending property rights to virtual resources is reasonable.²⁷ This logic is based on three normative accounts of property: a utilitarian theory, a Lockean labor theory, and a personality theory.²⁸ Nevertheless, Lastowka and Hunter never outline how property rights should apply to virtual resources; rather, they list accounts, avatars, and items in virtual worlds as falling under the “virtual property” umbrella.²⁹

Joshua Fairfield goes further in defining how property rights should extend to virtual worlds.³⁰ Fairfield relies on three “characteristics that virtual property shares with real property” in order to define when virtual resources should be imbued with property rights: (1) rivalrousness, (2) persistence, and (3) interconnectivity.³¹ Fairfield further attempts to encapsulate virtual resources within a nebulous idea he calls “code.”³² This does not appear to be code in the programming sense, but rather code-based objects, such as accounts, virtual land, and items in virtual worlds.³³ This approach is ambiguous, however, and does not provide a clear outline of how property rights will apply to virtual resources.

The articles described above advance the idea that property rights should extend to virtual resources, but they go no further in laying out how this might be accomplished. Other articles arguing for the extension of property rights to virtual resources function similarly; they argue for extending the common law of property to virtual worlds and virtual resources, but they fail to provide a path for implementing their goal.³⁴

27. F. Gregory Lastowka & Dan Hunter, *The Laws of the Virtual Worlds*, 92 CAL. L. REV. 1, 43-50 (2004).

28. *Id.*

29. *Id.* at 37-43. Note that Lastowka and Hunter’s article does mention ways in which virtual property problems have been addressed for other tangible property. *Id.* at 4-43.

30. Joshua A.T. Fairfield, *Virtual Property*, 85 B.U. L. REV. 1047 (2005).

31. *Id.* at 1053.

32. *Id.* at 1077-78.

33. *Id.*

34. See, e.g., Michael Meehan, *Virtual Property: Protecting Bits in Context*, 13 RICH. J.L. & TECH. 1 (2006) (arguing for a conceptualization of virtual property as “bits in context,” but failing to articulate specific property rights to be applied to the “bits”); Ryan Vacca, *Viewing Virtual Property Ownership Through the Lens*

A general lack of criticism for the idea of extending property rights to virtual resources also creates a need for grounded and practical attempts to outline the methods and ramifications of extending property rights to virtual resources. Lack of criticism leaves preconceived notions unchallenged. Further, most articles that criticize virtual property rights focus on holes in the logic of those arguing for a property extension but themselves provide limited examples of what such an extension might actually mean.³⁵

B. Why Would We Want to Do This?

Legal commentators have advanced three thematic reasons to support the extension of property rights to virtual resources. The first is a labor theory justification for property rights based on the idea that users should gain rights in the virtual resources they spend time, money, and effort developing. The second is a justification founded upon the desire to protect users and deter theft. The third justification is based on the idea that extending property rights to virtual resources will enable the creation of efficient markets for these resources, allowing for their most beneficial development.

1. A Justification Based on the Idea That Users Deserve a Right in the Things on Which They Labor

a. The Labor Theory Justification

The idea behind the labor theory justification for extending property rights to virtual resources is simple. Users expend labor on these resources in the form of time, money, and skill. These resources gain value through the expense of this labor. For instance, characters that become more powerful because of the time their users spend on gaining levels and acquiring new weapons and armor are worth more on the gray market. Under this theory, users should have a right in the value they create.

The labor theory justification is based upon fairness. In the minds of this justification's advocates, it is only fair for the user to benefit from the labor he applies to a virtual resource.³⁶ Property rights can provide that benefit to the user.

of *Innovation*, 76 TENN. L. REV. 33 (2008) (arguing for virtual property rights, but passing on defining them or providing a specific model of implementation); Theodore J. Westbrook, *Owned: Finding a Place for Virtual World Property Rights*, 2006 MICH. ST. L. REV. 779 (2006) (arguing for applying common law of property to virtual resources, but failing to indicate what specific rights are created).

35. See, e.g., Dan E. Lawrence, *It Really Is Just a Game: The Impracticability of Common Law Property Rights in Virtual Property*, 47 WASHBURN L.J. 505 (2008) (arguing against virtual property based upon flaws in the theories of virtual property advocates); John William Nelson, *Fiber Optic Foxes: Virtual Objects and Virtual Worlds Through the Lens of Pierson v. Post and the Law of Capture*, 14 J. TECH. L. & POL'Y 5 (2009) (arguing that virtual objects lack the necessary qualities of property, and therefore property should not be used to regulate those objects).

36. LASTOWKA & HUNTER, *supra* note 27, at 46-47.

Labor theorists also rely on John Locke's labor theory of property acquisition to support their argument. Locke wrote: "[w]hatsoever [man] removes out of the State that Nature hath provided, and left it in, he hath mixed his Labor with it, and joined to it something that is his own, and thereby makes it his Property."³⁷

As applied to virtual resources, the argument is that the mixing of the user's labor with virtual resources gives the user a property interest in the resources. The mixing of labor and resources might be a functional mixing through the game code—such as a user mining virtual ore and using that ore to create a weapon—or it might be an abstract layer on top of the game code—such as the creation of a background story or history for a user-made character, guild, or town.

Recognizing this mixing of labor with resources, Lastowka and Hunter argue that Locke's labor theory leads to the logical extension of property rights to these virtual resources.³⁸ "The application of work and the expenditure of effort, at least in the [model] world that was Locke's . . . , justify the allocation of property interests."³⁹ The problem with this argument is that it ignores fundamental aspects of Locke's labor theory of acquisition as well as the current state of property law regarding labor and property acquisition.

b. Why a Lockean Analysis Does Not Work

Locke's labor theory is concerned with the fountainhead of property—where property acquisition from nature first begins—and how concepts of human rights justify this acquisition from nature.⁴⁰ This is why Locke focuses on labor that removes a resource "out of the State that Nature hath provided."⁴¹ Chain of property must begin somewhere, and Locke reasons that it begins when humankind first mixes labor with an object existing in a state of nature.⁴²

Virtual resources, however, do not exist in a state of nature. These resources have already been plucked from nature, labored upon by the game's developer, and offered to users for consumption. Therefore, even though Lastowka and Hunter are correct that "the assets in question emerge from the time and effort of the players,"⁴³ time and effort expended by developers has already plucked those assets from the state of nature.

37. JOHN LOCKE, TWO TREATISES OF GOVERNMENT § 27, at 185 (The Lawbook Exchange, Ltd. 2005) (1698).

38. Lastowka & Hunter, *supra* note 27, at 46-48.

39. *Id.* at 46.

40. See Adam Mossoff, *What Is Property? Putting the Pieces Back Together*, 45 ARIZ. L. REV. 371, 390-93 (2003) (introducing the underlying philosophical debates over the origins of property).

41. LOCKE, *supra* note 37, § 27, at 185.

42. *Id.* § 28, at 186 ("We see in Commons, which remain so by Compact, that 'tis the taking any part of what is common, and removing it out of the state Nature leaves it in, which begins the Property . . .").

43. Lastowka & Hunter, *supra* note 27, at 46.

The weakness of labor theory as applied to virtual property can be illustrated using Lastowka and Hunter's own virtual forge analogy.⁴⁴ Applying Locke's labor theory to the real world, a blacksmith who unearths ore, transports it to his forge, smelts it, and then produces a sword has removed that ore from nature and, therefore, deserves property rights in the ore and the resulting sword. Virtual worlds simulate this process by allowing users to mine ore, transport it back to a forge, and then craft a sword. Nevertheless, it was the labor of the game developer that created the graphics representing the ore, the code functions allowing the user to mine the ore, and the hardware that runs the code so that the user can access and interact with the ore.

This is comparable to a real-world situation where the blacksmith does not mine his own ore. Rather, imagine the blacksmith buying his ore from a miner. It is the miner who labored in order to remove the ore from the earth. Therefore, it is the miner who deserves a property right in the ore under Locke's labor theory.

The blacksmith, on the other hand, has no property right in the ore until he purchases the ore from the miner. Once purchased, the blacksmith transforms the ore into a sword. Does the blacksmith deserve property rights in the sword because of his labor upon the ore? No, the blacksmith deserves property rights in the sword, because it was derived from the ore he owned by chain of title, not from the blacksmith's labor upon the ore.⁴⁵

Under Locke's labor theory, labor only justifies the initial acquisition of property from the state of nature;⁴⁶ it does not justify a later acquisition of property rights in an object that another person has already removed from nature.⁴⁷ In the example above, the chain of title passes from the earth to the miner via Locke's labor theory and from the miner to the blacksmith under the prevailing legal theory of property transfer.

c. *Why a Lockean Analysis Ignores Current Legal Reasoning
Regarding Labor Theory and Property Acquisition*

A labor theory justification for extending property rights to virtual resources is unpersuasive for another reason. Namely, courts in the United States have routinely rejected the labor theory of property acquisition. Attempts to assert property rights based on the labor and effort invested in a resource take us back to that most celebrated of all property law cases: *Pierson v. Post*.⁴⁸

44. *Id.* at 46-47.

45. *See* LOCKE, *supra* note 37, § 34, at 190 ("He that had as good left for his Improvement, as was already taken up, needed not complain, ought not to meddle with what was already improved by another's Labour: If he did, 'tis plain he desired the benefit of another's Pains which he had no right to.").

46. *See id.* § 28, at 186.

47. *See id.* § 34, at 190.

48. 3 Cai. 175 (N.Y. Sup. Ct. 1805).

Pierson overturned the trial court's ruling that Lodowick Post, the plaintiff, possessed a property right in a hunted fox.⁴⁹ The trial court's implied reasoning was that Post's right to the fox came from his lengthy pursuit of it with a retinue of hounds and horses.⁵⁰ *Pierson* rejected this idea, finding a property right exists only when there is actual possession or the mortal wounding of the fox.⁵¹

Copyright law, for a time, contained a doctrine similar to a labor theory of property acquisition. Known as the "sweat of the brow" doctrine, early copyright looked as much at the labor put into a work as the originality it possessed.⁵² Facts and other information residing in the public domain could be converted into intellectual property through an author's labor under this doctrine.⁵³

The Supreme Court's decision in *Feist Publications v. Rural Telephone Service Co.* put a decided end to this doctrine. Justice O'Connor, writing for the majority, stated that "[s]weat of the brow" courts . . . eschew[] the most fundamental axiom of copyright law—that no one may copyright facts or ideas."⁵⁴ The Court ruled against a labor theory of intellectual property acquisition, instead relying on the fundamental copyright requirement of originality.⁵⁵

These two cases outline the general hostility of United States law to a labor theory of property rights. Hard work and sincere effort are admirable, but these qualities alone do not create property interests in something. In each case, another step is required before property is gained. In *Pierson*, the next step was, at the least, the mortal wounding of the fox.⁵⁶ In *Feist*, the next step was an original expression of facts—and even this did not grant a property interest in the facts themselves, but only in the original expression.⁵⁷

*d. A Summary of Why Labor Theory Fails as a Justification for
Property Rights in Virtual Resources*

In sum, a labor theory justification for extending property rights to virtual resources does not work for two reasons. First, Locke's labor theory concerns the acquisition of property rights in an object taken from a state of nature. Virtual property does not exist within a state of nature, however, and therefore cannot be acquired via Locke's labor theory. Second, United States law has routinely rejected the labor theory of property acquisition. *Pierson* and *Feist* both illustrate

49. *Id.*

50. *See id.*

51. *Id.* at 178.

52. *Feist Publ'ns, Inc. v. Rural Tel. Serv. Co., Inc.*, 499 U.S. 340, 352-53 (1991) (describing different court interpretations of the Copyright Act of 1909).

53. *See id.* at 353-54.

54. *Id.* at 353.

55. *See id.* at 363-64.

56. *Pierson v. Post*, 3 Cai. 175, 178 (N.Y. Sup. Ct. 1805).

57. *Feist Publ'ns*, 499 U.S. at 363-64.

these rejections. The fox in *Pierson* was acquired through capture, not through the effort and labor of the foxhunter in chasing it down.⁵⁸ Similarly, the application of labor in compiling facts held in the public domain did not grant creators of a phone book intellectual property rights in those facts.⁵⁹ Therefore, adopting this labor theory approach in the concept of virtual property would require fundamental changes to property theory and law.

2. A Justification Based on the Idea That Users Deserve Theft Protection and Deterrence

A second rationale for the recognition of property rights for virtual resources is that it “makes users better off by increasing enforcement rights in virtual property.”⁶⁰ Fairfield outlines how this justification has been used to protect property in China,⁶¹ Korea,⁶² and Taiwan.⁶³ The implicit argument is that users need property rights in virtual resources in order to better protect against, punish, and deter theft by people who illegally gain access to virtual world accounts.

There is strength behind this argument. Law enforcement often refuses to investigate the theft of virtual items. There seems to be a lack of seriousness in law enforcement over the theft of intangible, “imaginary” things. After all, drunk drivers, murderers, and car thieves have a more immediate and recognizable effect on communities.

In one such incident, a user of the virtual world, *Final Fantasy XI*, lost his account and its resources to a hacker,⁶⁴ who either deleted or sold everything.⁶⁵ According to the user, the estimated gray market value of the items was \$3,800.⁶⁶ The police, however, declined to investigate on the grounds that “points earned in games are devoid of monetary value.”⁶⁷

One goal of extending property rights to virtual resources, then, is to provide users with the ability to punish and deter those who hack⁶⁸ into accounts and steal virtual resources. The reasoning is that, backed by property rights, law

58. *Pierson*, 3 Cai. at 178.

59. *Feist Publ'ns*, 499 U.S. at 363-64.

60. Garrett Ledgerwood, Note, *Virtually Liable*, 66 WASH. & LEE L. REV. 811, 850 (2009).

61. Fairfield, *supra* note 30, at 1084 (examining the Chinese case of *Li Hongchen v. Beijing Arctic Ice Technology Development Co.*, which involved a dispute arising out of a third party stealing virtual property from Li Hongchen's account).

62. *Id.* at 1088 (detailing the Korean system of dealing with the theft of virtual property).

63. *Id.* at 1086 (highlighting the protection of electronic records in Taiwan under the law of theft).

64. A hacker is “a person who ‘breaks into’ computers without authorization, either for malicious reasons or just to prove it can be done.” DOWNING ET AL., *supra* note 13, at 223. They are also known as “crackers.” *Id.* at 118.

65. John Brewer, *When a Virtual Crook Struck This Gamer, He Called Real Cops*, ST. PAUL PIONEER PRESS, Jan. 31, 2008, at A1.

66. *Id.*

67. *Id.*

68. Also known as “hackers.” See *supra* note 64.

enforcement and civil courts will have to take these intrusions into a user's account more seriously. Consequently, users will be provided with remedies, and abusers will be deterred from future illegal conduct.

3. *A Justification Based on the Idea That Virtual Resources Should Be Allowed to Develop in an Efficient Manner*

a. *The Importance of Efficient Markets*

Greater market efficiency leads to an increase in productivity. In turn, greater productivity leads to an increase in overall value. This greater value increases the welfare of everyone. This is the idea behind the famous phrase, "a rising tide lifts all boats,"⁶⁹ and it is a foundational concept in capitalist markets.⁷⁰

Increasing the size of the economic pie and, therefore, increasing the baseline size of everyone's slice from that pie is the goal behind increasing efficiency.⁷¹ In contrast, equity in economics is concerned with the size of everyone's slice of pie relative to one another's.⁷² The argument that property rights should extend to virtual items tends to focus on efficiency interests, or the increase of the pie's size, rather than equity interests.

In economics, "[e]fficiency dictates that resources should move into the hands of the highest valuing user,"⁷³ because the highest valuing user will develop the resource in the most beneficial way.⁷⁴ In turn, this beneficial use will increase the overall productivity of the resource.⁷⁵ Efficient markets facilitate this transfer.⁷⁶

b. *The Concern*

Fairfield believes that developments in technology have created new possibilities and "new uses of resources."⁷⁷ Property law, he argues, is the best way to efficiently allocate these new uses,⁷⁸ because "[f]ailure to recognize

69. See James R. Hines, Jr. et al., *Another Look at Whether a Rising Tide Lifts All Boats* 1-2 (NBER, Working Paper No. 8412, 2001), available at <http://www.nber.org/papers/w8412.pdf>.

70. See A. MITCHELL POLINSKY, *AN INTRODUCTION TO LAW AND ECONOMICS* 7 (3d ed. 2003) ("The attractiveness of efficiency . . . is that . . . everyone can be made better off if society is organized in an efficient manner."); THOMAS J. MICELI, *ECONOMICS OF THE LAW: TORTS, CONTRACTS, PROPERTY, LITIGATION* 127 (1997) (arguing that the protection of property rights allows for the efficient transfer of property).

71. POLINSKY, *supra* note 70, at 7-8.

72. *Id.* at 7.

73. MICELI, *supra* note 70, at 127.

74. *Id.*

75. *Id.*

76. *Id.*

77. Fairfield, *supra* note 30, at 1065.

78. *Id.* at 1089-90.

virtual property raises both negotiation and search costs for third parties.”⁷⁹ Transaction costs, such as the costs of searching and negotiating, may become so high that an efficient transaction cannot occur.⁸⁰ The fear of law and economics devotees who advocate for property rights in virtual resources is that, without property rights, transaction costs will remain too high for beneficial transfers to occur.⁸¹

C. What Do We Mean by Property Protection?

Property protections mean the enjoyment of those benefits that come with possessing property rights. Property rights, however, are slippery fish—easy to invoke but difficult to define. Defining these rights is critical to the discussion of extending them to virtual resources.

There are three classic property rights—acquisition, use, and disposal.⁸² These rights are exercised through a fourth right—the right to exclude others from acquiring, using, or disposing of the true owner’s property.⁸³ Extending property rights to virtual resources means those resources will be imbued with these four rights.

Whether one right is more important than another is not relevant—this Article does not care whether exclusion is the *sine qua non* of property.⁸⁴ Further, this Article eschews the economic view of property as an entitlement exercisable against another.⁸⁵ In other words, this Article does not care whether property is an *in personam* relationship between members of society⁸⁶ or a collection of core *in rem* rights.⁸⁷

D. How Can We Attach Property Protections to Virtual Resources?

Extending property rights to virtual resources means imbuing those resources with the four traditional property rights. Therefore, people will be able to acquire a virtual resource, use it, and then dispose of it. Further, that person will be able

79. *Id.* at 1090.

80. See R.H. Coase, *The Problem of Social Cost*, 3 J.L. & ECON. 1, 15 (1960) (“In order to carry out a market transaction it is necessary to discover who it is that one wishes to deal with, to inform people that one wishes to deal and on what terms, to conduct negotiations leading up to a bargain . . . , and so on.”).

81. See Fairfield, *supra* note 30, at 1090.

82. Mossoff, *supra* note 40, at 390-92.

83. *Id.* at 393-97.

84. Thomas W. Merrill argues that the right to exclude is more than just one right in a bundle of sticks, but is rather the *sine qua non* of property. Thomas W. Merrill, *Property and the Right to Exclude*, 77 NEB. L. REV. 730, 730 (1998).

85. See *supra* note 6.

86. See J.E. Penner, *The “Bundle of Rights” Picture of Property*, 43 UCLA L. REV. 711, 712, 724-31 (1996) (analyzing Hohfield’s view of property rights as social relations, not *in rem*).

87. See Mossoff, *supra* note 40, at 390-97 (arguing for an integrated approach that keeps the view of property rights being *in rem*).

to exclude others from doing the same with that specific virtual resource. Less clear is who should be given virtual property rights. One can attach property rights to virtual resources in many ways, granting different people those four property rights. This Article will focus on two models: a positive approach and a normative approach.

1. A Positive Model for Extending Property Protection to Virtual Resources

The positive model grants property rights in virtual resources to the developer of a virtual world. These rights are derived from the developer's underlying property rights in his hardware and intellectual property that make up the virtual world. The developer's property rights in virtual resources flow from those underlying rights and to the virtual resources.

However, the positive model does not necessarily reflect the current state of the law. Courts and legislatures have not carved out virtual resources from the underlying hardware and intellectual property upon which they depend. Because courts have not yet grappled with this issue, no courts in the U.S. currently view these resources as separate assets.

The developer in this positive model possesses a property right to virtual resources. The developer may acquire, use, and dispose of the virtual resource as he sees fit. Disposal may be accomplished through transfer of the virtual resource and its attendant property rights to a user of the virtual world.

2. A Normative Model for Extending Property Protection to Virtual Resources

The normative model grants property rights in virtual resources to the users of virtual worlds. These rights are derived from the two remaining justifications—the need to punish and deter theft and the need to create efficient virtual resource markets. Therefore, in this normative model, users will possess the rights to acquire, use, and dispose of virtual resources, and the user will be able to exclude others from exercising those same rights. The normative model may be applied in two ways. The first is a *carte-blanc* approach to property rights in virtual resources. The second is a qualified approach.

a. The Carte-Blanche Approach

The *carte-blanc* approach extends unrestrained property rights to virtual resources. The user holds these rights as against the world, including the developer. Therefore, once a user acquires a virtual resource, the user has the full right to use it and dispose of it as he chooses. This may be best analogized as the wholesale application of the common law of property to these virtual resources. The user holds his rights to the exclusion of all others, including the developer, and can bring a legal action against those who interfere with these rights.

b. *The Qualified Approach*

The qualified approach leaves the user's right to his or her virtual resources subject to the rights of others (i.e., the developer and other users). Under this approach, the user possesses a right to use and dispose of his virtual resources, but it is not an absolute right as in the *carte-blanche* approach above. This is because the user's rights are subject to the underlying rights of the developer in the code and hardware. Further, conditions and exceptions outlined by the underlying mechanics of the virtual world (such as whether users can steal from each other), as well as the Terms of Use⁸⁸ and End User License Agreement,⁸⁹ limit the user's rights.

IV. WHAT HAPPENS WHEN WE APPLY THESE MODELS TO SCENARIOS INVOLVING VIRTUAL RESOURCES?

The next step is to apply the positive and normative property protection models to scenarios involving virtual resources by focusing on two different ways in which virtual resources may be transferred—theft and market transactions.

A. *Theft*

Theft scenarios are most relevant to the justification based on a desire to grant users theft protection and deterrence. This section examines three theft-based scenarios: first, theft based upon unauthorized access to a user's account; second, theft based upon allowable in-game mechanics (essentially, the in-game pick-pocketing of a user by another user); and third, theft through software bug exploits.

Conversion will be used as the legal cause of action in each scenario. Trespass to chattels may also apply, but it has "fall[en] more or less into disuse in the case of chattels" since the development of conversion through *trover*.⁹⁰ The Restatement (Second) of Torts defines conversion as "an intentional exercise of dominion or control over a chattel which so seriously interferes with the right of another to control it that the actor may justly be required to pay the other the full value of the chattel."⁹¹ This interference must be substantial in nature and not

88. Sometimes called Terms of Service (ToS), this is the agreement between the user and software developer governing the user's access to the Massively Multiplayer Online service. It usually provides behavioral guidelines as well as other terms.

89. Abbreviated as EULA, the end-user-license-agreement is "the agreement that the user of a piece of software is required to accept when installing it" or prior to using it. DOWNING, *supra* note 13, at 176.

90. W. PAGE KEETON ET AL., PROSSER AND KEETON ON TORTS §§ 14-15 (5th ed. 1984).

91. RESTATEMENT (SECOND) OF TORTS: CONVERSION § 222A(1) (1965).

result in mere alteration of the property.⁹² Further, the plaintiff must have a property interest in the property.⁹³

1. Hacked Accounts

Consider a hypothetical situation in which a thief steals a user's virtual property by gaining unauthorized access to the user's account. The property loss includes the user's character, all of his equipment, and his game currency. The gray market value of these lost virtual resources is roughly \$700. The user knows who the thief is and is therefore able to serve process and hale the thief into court.

a. The Effect of the Positive Model

The positive model vests virtual resource property rights in the developer. Therefore, the ability of the user to bring a conversion lawsuit against the thief depends upon whether the developer transferred any property rights to the user. Most virtual worlds employ End User License Agreements that leave all property rights in the hands of the developer, granting the user only a revocable license to access the property.⁹⁴

The user has no legal recourse in this situation. Conversion requires a plaintiff to possess a property interest in the object interfered with⁹⁵—here, only the developer has that property interest. Accordingly, only the developer can bring a conversion suit against the thief. Further, the theft has not met the elements of conversion as against the developer. The developer still retains control over the lost items if they remain in the virtual world. After all, the developer is the world's "superuser"⁹⁶—able to create and delete new objects at will.

92. See *id.* § 222A(1), illus. 18 (citing *Simmons v. Lillystone*, (1853) 155 Eng. Rep. 1417 (U.K.)).

93. 90 C.J.S. *Trover and Conversion* § 4 (2002); see also *In re Emery*, 317 F.3d 1064, 1069 (9th Cir. 2003) (finding that California law requires plaintiffs to own or have a right to possess the stolen property); *In re PSI Industries, Inc.*, 306 B.R. 377, 387 (Bankr. S.D. Fla. 2003) (finding that Florida requires plaintiffs to show a right to the stolen property).

94. See, e.g., World of Warcraft, End User License Agreement, <http://www.worldofwarcraft.com/legal/eula.html> (last visited Aug. 1, 2009) (on file with the *McGeorge Law Review*) (reserving in Blizzard all rights to objects and characters in *World of Warcraft* in paragraph 4); Everquest, User Agreement and Software License, http://help.station.sony.com/cgi-bin/soe.cfg/php/enduser/std_adp.php?p_faaid=12248 (last visited Aug. 1, 2009) (on file with the *McGeorge Law Review*) (reserving in Sony all rights to objects and characters in *Everquest* in paragraph 8); EVE Online, End User License Agreement, <http://www.eveonline.com/pnp/eula.asp> (last visited Aug. 1, 2009) (on file with the *McGeorge Law Review*) (reserving in CCP all rights in objects and characters in *EVE Online* in paragraph 11).

95. See 90 C.J.S. *Trover and Conversion* § 4 (2002).

96. Computer systems have regular and non-regular accounts. Non-regular accounts with greater access and powers than regular accounts are called "superusers." For example, "[o]n a UNIX system, the superuser refers to a privileged account with unrestricted access to all files and commands." AILEEN FRISCH, *ESSENTIAL SYSTEM ADMINISTRATION* 6 (3d ed. 2002). Virtual world superusers may be able to add or delete accounts,

b. *The Effect of the Normative Model*

The normative model vests virtual resource property rights in the user. Therefore, the user may bring a conversion claim against the thief. The thief intentionally interfered with the user's virtual resources. Further, this interference is material and substantial since the resources have been transferred out of the user's control or deleted. The loss is a complete loss, not a minor interference. Accordingly, the thief may be liable for conversion and will have to pay the user the \$700 value of the stolen resources.

This result is the same under both the carte-blanche and qualified approaches to the normative model. The carte-blanche approach grants the user property rights as against all other people, including the developer. The thief has clearly interfered with those rights in this scenario.

The qualified approach grants the user property rights subject to qualifications and limitations. The first major qualification is that the user's property rights are subject to the developer's rights. The second qualification is that the user's property rights are subject to the virtual world's internal game mechanics. Assuming that neither the developer nor internal game mechanics allowed the thief to steal the user's virtual resources in this scenario, none of the qualifications to the user's property rights under the qualified approach are implicated. Instead, there is a clear interference with the user's property rights in the virtual resources.

2. *In-Game Theft*

In this scenario, a thief steals a user's virtual property through game mechanics. *Ultima Online* allowed user characters to kill each other, loot each other's corpses, and pick each other's pockets.⁹⁷ Origins, the game's developer at the time, purposefully included these game mechanics.⁹⁸ Killing or stealing from other user characters was not against the rules, nor was it against the purpose and design of the developers.⁹⁹

Assume that a thief in *Ultima Online* picks the pocket of another user, stealing a valuable sword and shield. The sword and shield are worth roughly \$150 on the gray market. As above, the user knows the thief and therefore is able to serve process and hale the thief into court.

items, monsters, and characters.

97. See Cindy Yans, *Ultima Online: Playing in the Garden of Eden*, COMPUTER GAMES STRATEGY PLUS, July 1997, at 44, 48 (on file with the *McGeorge Law Review*) ("If you are alone, it is probable that bands of thieves or animals will loot your corpse . . ."); Cover Story, *Ultima Online*, PC GAMER, Oct. 1996, at 100-01 (on file with the *McGeorge Law Review*) (quoting Associate Producer of *Ultima Online*, Starr Long: "If people want to be 'the bad guy,' more power to them. We're not going to *not* make them do that.").

98. See *supra* note 97.

99. *Id.*

a. *The Effect of the Positive Model*

As above, the developer possesses the stolen virtual resource's property rights unless they have been transferred to the user. The user will likely not have a property right in the sword and shield, but merely a revocable license, since most developers retain all property rights in virtual resources through End User License Agreements.¹⁰⁰ Therefore, without property rights in the virtual resources, the user will have no conversion claim.¹⁰¹

b. *The Effect of the Normative Model*

Recall that the carte-blanche approach to the normative model grants the user property rights exclusive to all others. Therefore, the carte-blanche approach allows the user to sue the thief in a real-world court for an in-world action that the virtual world's game mechanics allow. In this hypothetical situation, the thief has interfered with the personal property of the user by pick-pocketing the sword and shield. This interference is material as the user completely lost both items to the thief. Accordingly, the theft technically satisfies the elements of conversion, and the thief should pay the user \$150 for the value of the items.

The carte-blanche approach works fine in the first example above, but it appears to go too far in this scenario. The thief was acting within the allowable guidelines of the virtual world's game mechanics. Nevertheless, the thief could be liable for conversion, since the virtual resources he pick-pocketed are imbued with property rights. This result seems extreme, and only diehard virtual property advocates are likely to argue for it.

The qualified approach can overcome this flaw by making the user's property rights in his virtual resources subject to the internal game mechanics of the virtual world. The user assumes the risk of property loss by agreeing to enter and interact within the virtual world. This agreement may be formalized through the End User License Agreement. The user will not have a conversion claim against the thief under the qualified approach. The thief intended to steal the user's sword and shield, but the user's property rights in the sword and shield are subject to the thief's ability, through game mechanics, to steal them. In this sense, the user's property rights in virtual resources are subject to the conditions of the virtual world.

3. *Software Bug Exploits*

A thief steals a user's virtual property through the use of a software bug (an unintended game feature).¹⁰² For example, users in *Second Life* found a bug that

100. See *supra* note 94.

101. See 90 C.J.S. *Trover and Conversion* § 4 (2002).

102. See DOWNING, *supra* note 13, at 68 (defining a "bug" as "an error in a computer program").

allowed the unauthorized duplication of products. *Second Life* grants its users the right to copyright their creations¹⁰³ and enforces these copyrights through code-based restrictions on item duplication. The bug, however, allowed users to circumvent *Second Life*'s code-based restrictions and duplicate copyright creations without authorization.¹⁰⁴

Suppose there is a feature that allows users to open a trade window in order to transfer items between each other. Once the items to be traded are placed in the window, the users must accept the trade by clicking a button. Nevertheless, something in the code allows thieves to take a user's items without a reciprocating transfer occurring—all the thief needs to do is log off before the trade is completed.¹⁰⁵ Assume that a thief uses this feature to take 5,000 gold pieces from another user. The gray market value of 5,000 gold pieces is roughly \$50. As above, the user knows the thief and therefore is able to serve process and hale the thief into court.

a. *The Effect of the Positive Model*

As above, the user will not have a conversion claim if we assume that the standard industry End User License Agreement explicitly states that the developer retains all property rights in virtual resources. Conversion requires the plaintiff to possess a property interest in the lost object,¹⁰⁶ and the user does not possess such an interest under the positive model unless the developer grants it to him. Therefore, the user cannot meet a required element of the tort of conversion.

b. *The Effect of the Normative Model*

The thief's actions here are a hybrid of the first two scenarios. The thief acted within the internal game mechanics of the virtual world but outside of the authorization of the developer and user. The software bug's feature that allowed the theft is an unintended result of developer error, not an intended and allowed method of playing the game as in the virtual pick-pocketing scenario.

The carte-blanche approach allows the user to bring a conversion claim against the thief. The thief intentionally interfered with the user's property rights

103. *Second Life*, Terms of Service, <http://secondlife.com/corporate/tos.php> (last visited Aug. 1, 2009) (on file with the *McGeorge Law Review*) (granting users copyrights in their created content, subject to some mandatory licensing limitations in paragraph 3.2).

104. See Benjamin Duranske, *Six Major Second Life Content Creators Sue Alleged Copyright Infringer in NY Federal District Court*, VIRTUALLY BLIND, Oct. 27, 2007, <http://virtuallyblind.com/2007/10/27/content-creators-sue-rase-kenzol> (on file with the *McGeorge Law Review*).

105. This is based upon an actual *World of Warcraft* bug, although it only allowed someone to duplicate items—not steal them. See Funky Zealot, *World of Warcraft Impacted by Duping Bug*, GAMEPRO, July 19, 2005, <http://www.gamepro.com/article/news/46851/world-of-warcraft-impacted-by-duping-bug/> (on file with the *McGeorge Law Review*).

106. See 90 C.J.S. *Trover and Conversion* § 4 (2002).

in the 5,000 gold pieces. This interference resulted in the complete loss of the virtual resource. Therefore, the thief is liable for the \$50 value of the 5,000 gold pieces.

However, the *carte-blanche* approach creates additional liabilities. The user's loss was the result of the developer's error. Issues of negligence may find the developer liable for the user's loss alongside the thief. After all, premises liability extends negligence claims to property owners who fail to properly fix sidewalks¹⁰⁷ or provide enough nighttime lighting to deter muggers.¹⁰⁸

Nevertheless, the developer may be able to absolve himself of liability through End User License Agreements. The agreement may serve as an express assumption of risk. This works in a way similar to the release signed prior to whitewater rafting.¹⁰⁹ This solution chips away at the extensive property rights granted to the user under the *carte-blanche* approach. In fact, this approach creates an exception to the user's property rights in his virtual resources in ways similar to the qualified approach.

Liability under the qualified approach is less clear. The unauthorized actions of the thief make it tempting to declare him liable for his intentional act. Still, this differs from the first scenario, because the thief did not access the account of the user; rather, the thief exploited an unintentional feature—the software bug—in the mechanics of the virtual world. Where the line for the basis of liability is drawn makes the difference. The qualified approach draws this line at authorization, not intent. Therefore, the thief is liable since he did not have authorization from either the user or the developer to use the software bug to take the user's virtual resources.

Further, questions of developer liability for negligence are also resolved under the qualified approach. The user cannot sue the developer for negligence since the user's property rights in his virtual resources are subject to the rights of the developer in the qualified approach. Explicit waivers are not needed to accomplish this under the qualified approach.

4. Summary of the Positive and Normative Models' Effects on Theft Scenarios

Each scenario provides a different outcome under the normative model depending upon which approach is taken. In contrast, the positive model results in the same outcome—no possibility of a conversion claim unless the developer has transferred his property rights in the virtual resource to the user. Even if such

107. See *Breskin v. 535 Fifth Ave.*, 113 A.2d 316, 318 (Pa. 1955) (finding a four- to five-inch break in the sidewalk sufficient for a jury to impose liability).

108. See *Willie v. Am. Cas. Co.*, 547 So. 2d 1075, 1084 (La. Ct. App. 1989) (citing inadequate lighting as a factor supporting the liability of premises owner).

109. See *Murphy v. N. Am. River Runners, Inc.*, 412 S.E.2d 504 (W. Va. 1991) (outlining the limits and effects of an express assumption of risk through a waiver for whitewater rafting).

a transfer did occur, however, there would still need to be a determination of whether a carte-blanche or qualified approach should be used.

The carte-blanche approach is the simplest, but it arrives at questionable outcomes in the second and third scenarios. The qualified approach appears to balance the competing property interests of the developer, the user, and third parties, but this balance comes at the cost of increased complexity.

Nevertheless, qualified approaches to property are nothing new. Blackstone's image of a property owner having rights as against the entire world has never been entirely accurate.¹¹⁰ Tort laws limit how we use our property, as do nuisance laws. Our property has always been subject to the rights of those around us.

The qualified approach, however, goes further than this traditional property subjugation. The user's property right is not only subject to others around him, but it is also inferior to that of the developer. The developer has priority over the user's property rights, effectively slicing the user's rights horizontally. This horizontal slicing can be pictured through analogy. Imagine a row of buildings on a city street. A renter's right in his residence is separated vertically from his neighbor's through the vertical wall. Nevertheless, he has a landlord. The landlord has a right between the renter and the ground. This is a horizontal slicing of the rights in the building. The landlord's property rights separate the renter from the underlying right in the land and the building.

This is, of course, simplified. Courts and legislatures have acted in ways to protect the right of the lessee and limit the actions the underlying rights holder—the landlord—can take with his property.¹¹¹ Nevertheless, the analogy can help illustrate how virtual property will work under the qualified approach.

B. Virtual Markets

Examining markets for the purchase and sale of virtual resources is most relevant to the efficient market justification for extending property rights to virtual resources. The idea behind this justification is that property rights will help reduce search and negotiation costs for buyers and sellers, which will, in turn, reduce negotiation costs.

This section examines three market transaction scenarios: first, transactions involving internal virtual resource transfers between two users; second, transactions involving partially external virtual resource transfer—those transfers currently typified by gray markets; and third, transactions involving internal resource transfers between the developer and a user. Before these scenarios can be explored, however, the effect of code on transfer costs must be understood.

110. Even Blackstone knew this, stating in a less quoted phrase that property rights were not subject to "any control or diminution, *save only by the laws of the land*." WILLIAM BLACKSTONE, 1 COMMENTARIES 138 (1803) (emphasis added).

111. For example, the federal Fair Housing Act makes it unlawful for a landlord to discriminate against tenants based on "race, color, religion, sex, familial status, or national origin." 42 U.S.C. § 3604 (2006).

1. *The Effect of Code on Transaction Costs*

Code affects the transaction costs of virtual resources. Code allows users of *World of Warcraft* and *EVE Online* to post auctions for their virtual resources through which other users can browse and bid. This reduces the search costs of buyers seeking out specific items by creating a single location where items can be bought and sold.

Code also affects transaction costs in virtual worlds on a more fundamental level. It dictates whether or not virtual resources may be traded between users of a virtual world. Further, the scope of a seller's right to an object, as well as the identification of what that object is able to do, is clearly outlined by the code. Either the seller can transfer the item to the buyer or he cannot. Either the item will heal a specific disease or it will not.

Code affects transaction costs because all transactions involving virtual resources are regulated by code at some point. Purely internal transactions clearly rely upon the code regulating trade among users. Partially external transactions rely in part upon external regulation, but they all inevitably return to the virtual world and its code-based regulation to complete the transaction.

2. *The Transaction Costs of an Internal Asset Transfer*

A buyer agrees to pay the seller 1,000 gold pieces for a special sword. The gold pieces are exchanged for the sword through game mechanics. The question is whether extending property rights to the sword will have an effect on the transaction costs of this internal asset transfer.

The search costs of the buyer are dictated by the virtual world's code describing the sword and allowing its transfer. Extending property rights to the sword in either the positive or normative models will not change the internal code-based regulation of the transfer.

Search costs under the positive model will remain equal to the search costs imposed by the code-based regulation, because the code-based regulation functions as an implicit license from the developer on how the sword can be used. This implicit license through code-based regulation will not be altered under the positive model, since it is imposed by the owner of the property rights. Therefore, the buyer's search costs will include only those associated with the code-based regulation.

Code-based regulation of the sword's transfer may be altered under the normative model, since the user, not the developer, will possess the sword's property rights. This is most likely in the *carte-blanche* approach. The buyer's search costs are increased in this circumstance, because the differences in the seller's scope of rights from the code-based regulation and rights from property law will need to be determined separately and potentially may need to be reconciled.

The buyer, for instance, may not be allowed to transfer the sword to another player after buying it from the seller. It may become bound to his character. Property law in general, however, limits the impact of terms in a transfer that restrict the alienability of property.¹¹² Therefore, the code-based regulation restricting future transfer may conflict with legal regulation encouraging property alienation.

The qualified approach will not run into this problem since the seller's and buyer's property rights in the sword are subject to the virtual world's game mechanics, or code-based regulation. Therefore, if code-based regulation restricts future transfers of the sword, the user's alienation rights (i.e., his disposal rights) are subject to that code-based restriction.

3. The Transaction Costs of a Partially External Virtual Resource Transfer

Assume that a buyer agrees to pay the seller \$100 for 5,000 gold pieces from a virtual world. The real-money transaction occurs outside of the virtual world on the seller's trading website. The virtual world currency transaction occurs internally to the virtual world and is subject to any of the world's code-based regulations.

Like the internal transaction above, the buyer's search costs for this partially external transaction are dictated by the internal code-based regulations of the gold pieces and their transfer. The attributes of the gold pieces are dictated not through the law, nor through the efforts of the seller, but by the virtual world's code. Similarly, the ability to transfer those gold pieces depends upon how the code allows gold pieces to be transferred.

The positive model does not change the buyer's search costs in this scenario. The seller does not possess property rights in the gold pieces unless the developer has transferred his rights to the seller. Further, as above, the developer is unlikely to change code or legal rights so that they are not in line with each other.

The normative model presents the same issues as in the first scenario. The carte-blanche approach provides the seller with property rights in the gold, which can then be transferred to the buyer, but these rights may be different from those granted by the virtual world's code-based regulation. For example, users of the virtual world may not be allowed to transfer money to each other. This contradicts the seller's disposal rights in his virtual resources granted through the carte-blanche approach.

The qualified approach solves this problem. The seller's rights in the gold pieces could not exceed those granted by the virtual world's code in this approach. Nevertheless, this does nothing more than bring the transaction costs

112. See 6 AMERICAN LAW OF PROPERTY § 26.1, at 409 (1952) ("Since an early date in the history of the English common law it has been thought socially and economically desirable that the owner of [an] . . . absolute interest in chattels, should have the power to transfer his interest.").

back to what they are in the positive model or under current law, which does not provide property protection.

4. *Transaction Costs in a Real-World Money Transfer of Virtual Assets Between the Developer and a User*

Second Life, *Entropia Universe*, and some other virtual worlds allow users to spend real-world money in order to purchase equipment and virtual lands.¹¹³ Imagine a user purchasing a new vehicle from the developer for \$500. Depending on how the developer designs his game, this transaction may occur internally within the game. Regardless, the transaction remains within the same internal network of systems owned and controlled by the developer.

The user possesses property rights in this new vehicle under both the positive and normative models. The question is how this affects the transaction costs for the transfer. The two approaches to property rights in virtual resources apply to both models here—the *carte-blanche* approach and the qualified approach.

The *carte-blanche* approach grants the user absolute rights over his new vehicle. Anything less changes the transaction from a transfer to a license to use the vehicle. The qualified approach subjects the vehicle to the underlying rights of the developer and the code-based regulations of the virtual world.

Search costs in this transaction are dictated once again by the code-based regulations of the virtual world. The *carte-blanche* approach ends with the same problem of having to reconcile the legal attributes of the vehicle, such as the unqualified right to use and dispose of it, with the code-based regulations of the vehicle. Code may limit how the vehicle is transferred or where and how it can be used. The user will need to expend more effort in his search to determine what these differences are and how they can be reconciled than he would under either the qualified approach or the current system, in which there are no property rights in virtual resources.

The qualified approach ends up working more like an implied license of the vehicle. The vehicle is subject to the developer's underlying rights in hardware and software, as well as any code-based regulations within the game. The user cannot fully control how his vehicle is used, as the code may change where and when it can be accessed.

The search costs of the qualified approach, then, remain the same as if property rights were never extended to virtual resources to begin with. The rights are nothing more than a mirror of the virtual world's code-based regulations—or, in another sense, a mirror of the virtual world's laws.¹¹⁴

113. See SecondLife.com, Purchasing Land, <http://secondlife.com/land/purchasing.php> (last visited Aug. 3, 2009) (on file with the *McGeorge Law Review*); Entropia Universe, <http://www.entropiauniverse.com/> (last visited Aug. 3, 2009) (on file with the *McGeorge Law Review*) ("The first virtual universe with a real cash economy.").

114. See LAWRENCE LESSIG, CODE AND OTHER LAWS OF CYBERSPACE 6 (1999) (discussing the concept

5. *Summary of the Effects on Market Transactions*

Each of the scenarios above ends with no reduction in transaction costs when property rights are extended to virtual resources. Worse, the carte-blanche approach results in an increase in transaction costs. Ultimately, external legal regulations will conflict with internal code-based regulation, leaving the developer and legal authorities with the need to find a way to reconcile the two.

Similar to the increased regulation of home rental markets, virtual worlds may find legislatures and courts reaching into them in order to reconcile legal rights with code-based rights. This will necessarily limit what developers are allowed to do with their property, the virtual worlds themselves, and how those worlds may be developed. If this occurs, the real world will be invading the fantasy world, destroying the game conceit created by its developers.¹¹⁵

V. EXTENDING PROPERTY RIGHTS TO VIRTUAL RESOURCES DOES NOT MEET THE GOALS OF THOSE WHO ADVOCATE FOR SUCH AN ACTION

A. *Property Rights in Virtual Resources Provide Limited Theft Protection and Deterrence*

A carte-blanche property rights model for virtual resources goes too far. Such rights would allow users to sue other users who steal virtual resources through in-game mechanics such as pick-pocketing. The virtual world allows those actions, but the carte-blanche approach does not. This puts legal rights in tension with the code-based rights of a user in a virtual world. Additionally, developers may be liable for virtual resource losses resulting from software bugs or other malfunctions in the virtual world.

On the other hand, the positive model provides no theft protection or deterrence to users. The user cannot gain such protection in the positive model unless the developer transfers his rights to the user. This leaves us with the qualified approach to the normative model.

The qualified approach rests in the middle of the two extremes. Users gain some measure of protection from theft, but the negative effects of the carte-blanche approach are limited by this approach's qualifications. Nevertheless, this approach only protects against the unauthorized access of a user's virtual resources.

of code as law). Lessig delves deeper into this concept throughout the entire book.

115. See Richard A. Bartle, *Virtual Worldliness: What the Imaginary Asks of the Real*, 49 N.Y.L. SCH. L. REV. 19, 33-43 (2004) (providing an in-depth analysis of how real-world legal institutions reaching into virtual worlds will destroy the worlds' conceit, or fantasy).

B. Virtual Resource Property Rights Will Make Virtual Resource Markets No More Efficient and Possibly Less Efficient

Extending property rights to virtual resources does not make more efficient markets for those resources. The qualified approach to virtual resource property rights provides no reductions in the search costs of a buyer since the legal rights and attributes of those resources mirror those granted by the virtual world's code-based regulations. Worse, a carte-blanche approach will increase search costs by requiring a buyer to determine where the code-based rights and attributes of a resource deviate from its legal rights and attributes.

Therefore, the efficient market justifications for virtual resource property rights cannot be satisfied under either the carte-blanche or qualified approach to virtual resource property rights. The only way this justification may be satisfied is if legislatures and courts reach into the virtual worlds and mandate specific rights and attributes that virtual resources can have.

C. Legal Regulation of the Internal Workings of Virtual Worlds Devalue Those Worlds

Virtual worlds gain value in that they allow users to leave the real world behind for a world of fantasy.¹¹⁶ Each virtual world has its own value because it offers a different virtual experience. *World of Warcraft* is a sword and sorcery adventure game. *Second Life* is a community oriented, relationship-based world. *EVE Online* is a space-based adventure simulation.

The encroachment of legal regulations into these worlds would chip away at this fantasy¹¹⁷ by forcing each world to conform to the regulations imposed. Imagine a regulation that required all virtual assets to be alienable. Perhaps *Second Life* and *EVE Online* already allow this. *World of Warcraft*, however, has special weapons that bind to the player who first picks them up. This unique aspect of the game would be removed, leaving *World of Warcraft* the same in this respect as *Second Life* and *EVE Online*.

The level of encroachment required to bring greater efficiency to virtual resource markets will do more than chip away at the fantasy; such regulation will destroy the fantasy outright. Imagine again a virtual world that uses a communal property approach. Regulations requiring developers to recognize property rights in the virtual assets of a virtual world's user may render such an experiment moot. Perhaps the virtual world's code will still allow a communal sharing, but users may now go to real-world courts to enforce their acquisition, usage, and disposal rights to the trees they plant and the houses they build, ending the world's communal approach.

116. See *id.* at 22, 22 n.8 (describing a virtual world's power to do things, to bring freedom, and to make "imagination non-imaginary").

117. See *id.* 33-43.

This real-world intrusion into virtual worlds is necessary to implement property rights sufficient to increase market efficiency. Nevertheless, it breaks the fantasy of a virtual-world “other,” wiping away the escapism and bringing us back to reality.¹¹⁸ This destruction of the fantasy aspect of virtual worlds would devalue the overall experience as well as all resources associated with it.

VI. CONCLUSION

Extending property law to cover virtual resources does not meet the goals of those who seek to protect the users, developers, and virtual resources of virtual worlds. The limited protections provided in scenarios involving theft may also be provided through remedies not dependent upon property law. For example, privacy laws protecting against intrusion into seclusion are designed to address the mental harm of such an interference.¹¹⁹ Similarly, the intrusion of a hacker into one's accounts has a mental impact upon that person. In addition, the Computer Fraud and Abuse Act may be exercised in both criminal and civil actions against such a hacker.¹²⁰

Moreover, virtual resources would not benefit from an extension of property law protection. Virtual resource property rights will not create more efficient markets. Rather, these markets may become less efficient unless courts and legislatures invade the virtual world and impose constraints on the design and transfer of virtual resources. The value of virtual resources will be destroyed rather than protected by such an action.

Finally, developers of virtual worlds will also suffer if virtual resources are provided property protections. A virtual world is molded from the creativity and imagination of the developer through years of sweat, toil, and ingenuity. A developer's rights in his hardware and intellectual property are horizontally sliced if a new property form is carved out of them. Any way it is sliced, the developer is left with fewer rights in his creations. Therefore, property rights should not be extended to virtual resources.

118. *See id.*

119. Prosser believed the tort of intrusion into seclusion protected primarily a mental interest. William L. Prosser, *Privacy*, 48 CAL. L. REV. 383, 392 (1960).

120. *See* Lawrence, *supra* note 35, at 532-40 (applying the Computer Fraud and Abuse Act, 18 U.S.C. § 1030 (2006), to virtual worlds).

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