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FINDING MEANING IN THE DEATH OF VIRTUAL IDENTITIES

JORDAN L. WALBESSER¹

ABSTRACT

Historically speaking, legal fiction assumes that identity and the credentials proving identity are one and the same. It is an important fiction that allows us to access information associated with our identity and restrict others from doing the same. Crimes of identity theft are commonly manifested through the usurpation of one's credentials to falsely verify identity. Legal doctrine such as agency theory makes the assumption that identity and credentials are only transferrable together. Technology, especially the Internet, alters this fiction by allowing the creation of multiple credentials that enable access to multiple identities manifested throughout the world. The one-to-one relationship between credentials and identity is severed, thus making existing legal analogies insufficient in the virtual world. A number of these issues can be obviated by restructuring the legal fiction to embrace separate and distinct credentials and identities. This paper will discuss how the two-pronged approach applies to the death of virtual identities.

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INTRODUCTION

The concept of identity is as complex as our own sense of self. We use identity every day to confirm that we are who we say we are.² Yet, how can we define what identity is? Despite our constant use of identity in the physical world, identity is a virtual thing, impossible to empirically define.³ Philosophers use the term “identity” to denote a variety of fluid meanings including persistence, personhood and distinctiveness.⁴ Instead of diving deeply into the metaphysical, this paper will address the idea of identification as the perceptions interpreted by other individuals that uniquely identify us.⁵ This paper will refer to these identifying perceptions as *credentials*, and the entity that the credentials help to identify is the *identity*. Ordinarily, we group credentials and identity into a single, indivisible unit, failing to

² *E.g.* NYS DMV – IDENTIFICATION REQUIRED TO APPLY FOR A DRIVER LICENSE, <http://dmv.ny.gov/driver-license/prove-identity-age-permitlicense> (last visited Sept. 20, 2014); *see also* David A. Szwak, *Credit Cards in America*, 13 J. MARSHALL J. COMPUTER & INFO. L., 573, 574 (1995) (explaining how identification is fundamental to a working credit industry).

³ Zoe Bray, *Boundaries and Identities in Bidasoa-Txingundi, on the Franco-Spanish frontier* (July 2002) (unpublished Ph.D. dissertation, European University Institute) (on file with European University Institute).

⁴ *See id.* at 27.

⁵ DAVID A. WHETTEN & PAUL C. GODFREY, *IDENTITY IN ORGANIZATIONS* 19 (1998).

differentiate between the two.⁶

We consistently transfer and convey our identities to others within the framework of legal fiction.⁷ This framework is an important legal fiction that allows us to access information associated with our identity and restrict others from doing the same. For example, agency law permits a principal to transfer his identity and credentials to an agent, allowing the agent to perform tasks under the guise (and legal protection) of the principal.⁸ Legal fiction also allows for the creation of fictitious identities, such as corporations, and the transfer of their identities to the actions of others.⁹ Despite being the same physical person, our existing legal fiction shields a CEO from liability because she was acting under the identity of the corporation.¹⁰ Conversely, in situations classified as “identity theft,” only credentials are fraudulently acquired. Although the identity thief may later use those credentials to assume the identity of the victim, the victim will always retain their own identity separately and independently from the thief.¹¹ When the false assumption is discovered, the victim simply asserts his or her own identity to rebuff the thief’s actions.¹²

In order for virtual identities to be as useful as physical-world identities (as well as compatible with our traditional legal notions), credentials need to be separated from identity and made transferable from one entity to another. In a world connected by social media, a single human cannot possibly interact on an individual level with hundreds of millions.¹³ Identities created for customer service cannot

⁶ See Stephen Mihm, *Dumpster-Diving For Your Identity*, N.Y. TIMES MAGAZINE, December 21, 2003, at 42; L.A. Lorek, *Stolen Identity: Law Enforcement Can't Keep Up with Electronic-Age Crime*, SAN ANTONIO EXPRESS NEWS, Sept. 12, 2002, at 1E.

⁷ See, e.g., RESTATEMENT (SECOND) OF AGENCY § 1 (1958) (transferring personal identities and credentials to an agent); See also *Practical Guide 8: How to Report Changes in Identify of Legal Entities*, EUROPEAN CHEMICALS AGENCY, (2010), http://echa.europa.eu/documents/10162/13643/pg_8_legal_entity_change_en.pdf (last visited Sept. 20, 2014) (Explaining how corporate identities are transferred and credentials in acquisitions).

⁸ See, e.g., RESTATEMENT (SECOND) OF AGENCY § 1 (1958).

⁹ *Waters-Pierce Oil Co. v. Texas*, 177 U.S. 28, 43-44 (1900) (concluding corporations are legal creatures separate and distinct from their shareholders); See also 18 AM. JUR. 2D *Corporations* § 1 (2014).

¹⁰ *Waters-Pierce Oil Co.*, 177 U.S. at 43-44.

¹¹ See, e.g., U.S. FEDERAL TRADE COMMISSION, *TAKING CHARGE: WHAT TO DO IF YOUR IDENTITY IS STOLEN* (April 2013) at 3-4, available at <http://www.consumer.ftc.gov/articles/pdf-0009-taking-charge.pdf>.

¹² *Id.* at 13-14.

¹³ Robin Dunbar, *Neocortex Size as a Constraint on Group Size in Primates*, 22 J. HUMAN EVOLUTION 469-93 (1992) (discussing the suggested cognitive limit to the number of people with whom one can maintain stable social relationships as a value between 100-230 based on human brain size and extrapolations from primate results).

be staffed every hour of the day, every day of the year without sharing the related credentials among a group of people.¹⁴ In another example, it is customary for a Twitter feed corresponding to a single person to be authored by many diverse people.¹⁵ Likewise, an individual may want to post content under a single alias for the purposes of parody, or perhaps for a more altruistic purpose.¹⁶

Another major problem occurs at the death of an individual. In the physical world, the identity is extinguished because the person no longer exists. However, the credentials of the person remain because others will still recognize an identity beyond their death.¹⁷ Bodies of law have been formed to deal with the transfer of credentials for the profit of the decedent's beneficiaries.¹⁸ However, an identity created in the virtual world does not immediately extinguish. An avatar in a computer game will continue to exist after the owner's death,¹⁹ social networking profiles remain visible,²⁰ and, without intervention, the accounts linking an individual to online shops and services remain open. Furthermore, the credentials (such as usernames and passwords for websites)

¹⁴ See Rodney B. Wallace & Ward Whitt, *A Staffing Algorithm for Call Centers with Skill-Based Routing*, 7 MFG. & SERV. OPERATIONS MGMT. 276-77 (2005) (discussing the use of automatic call distributors to assign calls to credentialed agents with appropriate skills to represent facets of a single corporate identity).

¹⁵ See, e.g., Twitter account of Barack Obama (accessible at <https://twitter.com/BarackObama>) ("This account is run by Organizing for Action staff. Tweets from the President are signed '-bo.'") (October 18, 2014); See also Paul Boutin, *Obama Starts Tweeting for Himself*, N.Y. TIMES, June 20, 2011 (available at <http://gadgetwise.blogs.nytimes.com/2011/06/20/obama-starts-tweeting-for-himself/>) ("During the 2008 campaign, Democratic National Committee staffers wrote all the tweets to the @BarackObama account, according to a White House spokesman.").

¹⁶ See, e.g., Samantha McHugh, *Twitter Parody Accounts: The Inside Story on Adam Gilchrist's Twitter Twin*, July 17, 2013 (accessible at <http://www.ipwhiteboard.com.au/twitter-parody-accounts-the-inside-story-on-adam-gilchrists-twitter-twin/#page=1>) (discussing why one author chose to create a parody Twitter account for entertainment and to start a cultural exchange).

¹⁷ See Dorothy Pomerantz, *The Top-Earning Dead Celebrities*, FORBES (October 25, 2011), available at <http://www.forbes.com/sites/dorothypomerantz/2011/10/25/the-top-earning-dead-celebrities/>) (describing that the estate of Marilyn Monroe made \$27 million in earnings under Authentic Brand Management licensing deals).

¹⁸ Mitchell M. Gans, Bridget J. Crawford, & Jonathan G. Blattmachr, *Postmortem Rights of Publicity: The Federal Estate Tax Consequences of New State-Law Property Rights*, YALE L. J. POCKET PART 203 (2008), 203 (March 31, 2008) (citing CAL. CIV. CODE § 3344.1 (West Supp. 2008) and A8836, State Assem., 2007-2008 Reg. Sess. (N.Y. 2007)).

¹⁹ Bill Coffin, *Rest in Pieces*, RISK MGMT MAGAZINE, available at <http://www.rmmag.org/Magazine/PrintTemplate.cfm?AID=3126> (last visited Sept. 20, 2014) (avatars having a virtual funeral for the deceased).

²⁰ *What Happens When a Deceased Person's Account is Memorialized*, <https://www.facebook.com/help/103897939701143/> last visited, October 1, 2013) (explaining Facebook's process of permanently memorializing the accounts of deceased users).

generally perish with the individual, preventing access to these identities, and any value they have accrued.

The internet alters our existing legal fiction by allowing us to create multiple credentials that enable access to multiple identities on different platforms. The one-to-one relationship between credentials and identity is severed, thus making existing legal analogies insufficient in the virtual world. Part I of this paper will broadly discuss classical theories of identity and where these notions succeed or fail in the virtual realm. Part II will classify the “real world” problems that occur due to the lack of identity transferability in the virtual world including the creation, use and destruction of virtual identities. Part III will focus on the shortcomings that technical solutions to the problem present and how they do not truly address the underlying theoretical issue. Finally, Part IV will outline how the theory regarding separation of credentials from identity solves these problems.

I. WHAT IS IDENTITY, ANYWAY?

By no means is this paper a discussion on the variety of theories surrounding our conception of identity. However, we will examine two major theories and assess their relevance to the concept of virtual identity. Common among them are three themes: Persistence, Distinctiveness and Personhood. Locke and Hume were both philosophical luminaries with divergent views. As we discuss below, Locke focuses on an intrinsic source of identity while Hume emphasizes an extrinsic approach. Because of computer systems and the network between individuals is external to one’s self, Hume’s extrinsic source theory is more aptly suited for virtual identity.

A. *Locke’s View on Personal Identity*

“Thus it is always as to our present sensations and perceptions: and by this everyone is to himself that which he calls ‘self’ For since consciousness always accompanies thinking, and it is that that makes everyone to be what he calls “self,” and thereby distinguishes himself from all other thinking things; in this alone consists personal identity”.²¹

Locke theorized that the linchpin to personal identity is the owner’s consciousness. However, consciousness is “interrupted always by forgetfulness, there being no moment of our lives wherein we have

²¹ JOHN LOCKE, AN ESSAY CONCERNING HUMAN UNDERSTANDING 226 (T. Tegg and Son, 27th ed. 1836) (1690).

the whole train of all our past actions before our eyes in one view”.²² Locke concludes that in order to maintain identity through bouts of unconsciousness, there requires some form of persistence. Thus, for an identity to be viable, Locke posits that the identity must persist even when the person is not actively thinking. However, Locke does not attribute identity to physical existence. “In the state of living creatures, their identity depends not on a mass of the same particles, but on something else. For in them the various of great parcels of matter alters not the identity.”²³

The concept of persistence fits well with the idea of virtual identities. When we create an identity online—be it a character in World of Warcraft, an account on Amazon, or a Facebook profile—it persists after we leave the webpage or game. Despite turning the computer off and leaving for an extended period, the identity still exists and can be proven to exist through repeated access. In fact, we depend on this persistence in both physical and virtual worlds. Obviously, our social system is founded on the fact that identity endures the passage of time my mother will still be my mother no matter how much time passes between my phone calls. Likewise, we depend on the fact that the identities we create online do not need constant maintenance and will continue to exist during times of inactivity.²⁴

In addition to the persistence of identity, Locke requires the identity to have distinctiveness. He writes:

(1) one thing cannot have two beginnings of existence nor (2) two things one beginning: it being impossible for (3) two things of the same kind to be or exist in the same instant in the very same place, or (4) one and the same thing in different places. That, therefore, that had one beginning of existence is the same thing; and that which had a different beginning in time and place from that is not the same.²⁵

Applying Locke’s distinctiveness principle to virtual identities is problematic. Distinctiveness with virtual identity is not a certainty. Online, an identity can have two beginnings of existence. For instance,

²² *Id.*

²³ *Id.* at 222.

²⁴ See, e.g., Dormant Addresses — Gmail Help, <http://mail.google.com/support/bin/answer.py?hl=en&answer=6832> (Gmail identities will remain active for nine consecutive months before deletion due to inactivity).

²⁵ Harold Noonan, *Locke on Personal Identity*, 53 PHIL. 343,343 (1978) (citing JOHN LOCKE, ESSAY CONCERNING HUMAN UNDERSTANDING, at Book II, Ch. xxvii, 1 (Yolton ed., Everyman’s Library, 1961)).

in Lineage II²⁶ one can “reset” their identity such that their character no longer exists and can be replaced with another, completely different one, all the while using the same credentials and display name. In opposition to Locke’s requirements, internet-based applications allow two things of the same kind to exist at the same instant and the same place. For example, identities (such as an email account) can often be accessed by more than one person at once, and perform different tasks simultaneously (A sends email to B using A’s credentials, while simultaneously C sends email to D using A’s credentials on the same identity).²⁷ It should be made clear that none of the foregoing is an attempt to disparage Locke’s theory of physical-space identity. Rather, it is an indication that Locke’s theory may not cleanly apply to virtual identities.

Locke’s theory of a completely distinct personal identity conveniently skirts the real-world analog of corporate identity.²⁸ For example, in agency relationships there can be many concurrent agents under the mask of the same identity.²⁹ But according to Locke, the corporation itself lacks “consciousness,” and therefore is incapable of having identity. Yet corporations spend significant time and money molding their identity.³⁰

Locke’s theory also hinges on the internal manifestation of identity and requires a “consciousness” component before identity can be realized.³¹ In the virtual realm, personhood is generally associated with an identity. For example, the European Union has decided that an IP address of a specific computer can be associated with a personal identity.³² But, identity can also be associated to computers instead of

²⁶ See generally Lineage II - WIKIPEDIA, http://en.wikipedia.org/wiki/Lineage_2 (last visited Sept. 3, 2014).

²⁷ See, e.g., Last account activity — Gmail Help, <http://mail.google.com/support/bin/answer.py?hl=en&answer=45938> (showing that concurrent users may access and use a single Gmail account/identity at the same time).

²⁸ In fairness, the modern-day concept of a corporation did not exist at the time of Locke’s writing. For example, the seminal case in corporation law, *Trustees of Dartmouth College v. Woodward*, 17 U.S. 518 (1819), was decided almost 130 years after Locke’s work.

²⁹ In re Tumilewicz’s Estate, 340 N.Y.S.2d 159 (1973).

³⁰ See, e.g., V. Kumar and Rohan Mirchandani, *Increasing the ROI of Social Media Marketing*, 54 MIT SLOAN MANAGEMENT REVIEW, no. 1, Fall 2012, 55 (describing the brand identity building approach taken by Hokey Pokey, a super-premium ice cream retailer in India); *Online Evolution: 2013 Marks the Year of Brand Advertising*, NIELSEN COMPANY (April 18, 2013) available at <http://www.nielsen.com/us/en/newswire/2013/online-evolution—2013-marks-the-year-of-brand-advertising.html> (showing a 63% growth in brand advertising in 2013).

³¹ *Supra* note 20.

³² *Opinion of Art. 29 Data Protection Working Party on Concept of Personal Data*, 01248/07/EN/WP 136, 16 (June 20, 2007) [hereinafter opinion 4/2007],

the people using them.³³ Because of this inconsistency, the courts have been hesitant to equate an IP address with a person.³⁴ Furthermore, Locke's theory precludes the idea that one person could have multiple simultaneous identities as is often the case in Massive Multiplayer Games.³⁵ For example, World of Warcraft allows a single player to create more than one avatar in their account.³⁶ In this way, a single player can have an "evil" character to perform misdeeds and a "good" character to correct them.³⁷

Although certainly relevant to the philosophy surrounding identity, Locke's views do not match well with some of the paradigm shifting nuances of the internet. Both Locke's theory of identity and virtual identities require persistence.³⁸ However, Locke's requirement of distinctiveness for identity cannot be reconciled with the common implementations of virtual identity.³⁹ Furthermore, Locke's requirement for personhood as a foundation of identity is in sharp contrast to the idea that individual computers or devices may have a clear identity of their own.⁴⁰ As we will see below, only Locke's views on persistence are shared with Hume's contrasting identity theory.⁴¹

B. Hume's View on Personal Identity

Where Locke dealt with the intrinsic nature of identity, Hume approaches it from an extrinsic point of view: "[W]e are never intimately conscious of anything but a particular perception; a man is a 'bundle or collection of different perceptions which succeed one another with an inconceivable rapidity and are in a perpetual flux and

http://ec.europa.eu/justice_home/fsj/privacy/docs/wpdocs/2007/wp13_en.pdf; *Opinion of Art. 29 Data Protection Working Party on Data Protection Issues Related to Search Engines*, 007373/EN/WP 148, 8 (Apr. 4, 2008) [hereinafter *Opinion 1/2008*], http://ec.europa.eu/justice_home/fsj/privacy/docs/wpdocs/2008/wp148_en.pdf.

³³ See *Apparatus and Method for Providing Remote Users with the Same Unique IP address Upon Each Network Access*, U.S. Patent No. 5,598,536 (filed Aug. 9, 1994).

³⁴ See *In re Bittorrent Adult Film Copyright Infringement cases*, 2:11-cv-03995-DRH-GRB (E.D.N.Y. 2012) (holding that "[a]n IP address provides only the location at which one of any number of computer devices may be deployed, much like a telephone number can be used for any number of telephones. . . . Thus, it is no more likely that the subscriber to an IP address carried out a particular computer function – here the purported illegal downloading of a single pornographic film – than to say an individual who pays the telephone bill made a specific telephone call.")

³⁵ See *generally Alternate Character*, WIKIPEDIA (January 27, 2014, 12:53 AM), http://en.wikipedia.org/wiki/Alternate_character.

³⁶ WOWWIKI, <http://www.wowwiki.com/Alt>

³⁷ *Id.*

³⁸ *Supra* note 22.

³⁹ See *supra* notes 20-23.

⁴⁰ Noonan, *supra* note 24.

⁴¹ JOHN LESLIE MACKIE, *PROBLEMS FROM LOCKE* 140 (1975).

movement”.⁴² In other words, in Hume’s theory of identity consists of only perceivable properties and nothing more. For example, this “bundle theory” would imply that an identity is a collection of perceivable data - height, weight, facial shape, social security number, likes, dislikes, mother’s maiden name, voice, etc.

Locke and Hume share a similar view on persistence. “We have a distinct idea of an object, that remains invariable and uninterrupted through a supposed variation of time, and this idea we call that of *identity* or *sameness*.”⁴³ Like Locke, Hume believed that the properties that define identity persist over time. As stated earlier, this analogy fits well with both the physical and virtual concept of identity.⁴⁴ Since Hume’s concept of identity comes from the perceiver, not the perceived, it follows that the original identity can cease to exist and the related credentials could be transferred to another identity, much as we do in an intellectual property license.⁴⁵

In the physical realm, identities are, for the most part, distinct. If we think of individuals, they are just that: individual. Even if another uses an identity, it can still only belong to one person. “Whatever is distinct, is distinguishable; and whatever is distinguishable, is separable by the thought or imagination.”⁴⁶ To some extent, virtual identities are distinct as well. There can only be one set of credentials per identity per site. Each user is distinguishable through some method with their descriptive credentials, be it user name, password, IP address, social security number or some combination of these credentials.

On the topic of personhood, a single person could have a number of virtual identities. Imagine an actor with a number of masks: by switching these masks, we relate his actions with a separate identity, even though it is clearly the same person. Likewise, a single user may have multiple identities, or characters, online. Hume makes no

⁴² DAVID HUME, A TREATISE OF HUMAN NATURE 667 (Lewis Amherst Selby-Bigge ed., Oxford University Press 1888) (1739).

⁴³ *Id.* at 253 (emphasis in the original).

⁴⁴ See *supra* text accompanying notes 17-19 page 4.

⁴⁵ *Id.* at 24 (“Trademark trade permits trademarks to change hands out of the view of the customer.”); see generally, INTA, Fact Sheets - Assignments, Licenses and Valuation,

<http://www.inta.org/TrademarkBasics/FactSheets/Pages/TrademarkLicensing.aspx> (“A trademark license is an agreement between a trademark owner (the “licensor”) and another person (the “licensee”) in which the licensor permits the licensee to use its trademark in commerce.”); see also, Howard P. Marvel and Lixin Ye, *Trademark Sales, Entry, and the Value of Reputation* at 1 (accessed at <http://economics.sbs.ohio-state.edu/lixinye/Research/trademark-revised.pdf>) (“Trademarks are thus the legal form of names that serve as carriers of reputation.”); *Id.* at 24 (“Trademark trade permits trademarks to change hands out of the view of the customer.”)

⁴⁶ HUME, *supra* note 41 at 634.

distinction here because his conception of identity stems only from what we can perceive, not from within the person.⁴⁷

To say that virtual identities and physical identities are completely distinct and separable is nonsense. "Identity is clearly related to community. The Enlightenment promoted the concept of the individual, who sets herself apart from the collection of other individuals In as much as we wear a mask, it is to assume a role in the social sphere."⁴⁸ Virtual identities become manifestations of our own physical identity. They allow us to learn the strengths and weaknesses of our own identity.⁴⁹ The internet also provides a safety net of sorts that allows us to create masks that cannot be penetrated through normal means. The mask is detached somewhat from our physical identity due to the pervasive anonymity of the internet.

Coyne and Wiszniewski believe the internet changed how we view the fundamentals of identity,⁵⁰ the greatest change being the great fluidity in the transformation of identity.⁵¹ As an example, Coyne and Wiszniewski point to how easily one can wear a mask, pretending to be a different age, gender, or appearance.⁵² Although not perfect, we have seen that Hume's definition of identity is more relevant to the virtual world. As discussed above, Hume's categorization of persistence, distinctiveness, and personhood more accurately captures the paradigm of virtual identity. With this lens, we will view some of the problems that occur with virtual identity, as we know it today.

II. WITH VIRTUAL IDENTITY COMES ACTUAL PROBLEMS

Inherent differences exist between identities in the analog world and the digital. For example, the Internet alters our understating by allowing us to create multiple credentials that enable access to multiple identities on different websites. The one-to-one relationship between credentials and identity is severed, thus making existing legal analogies insufficient in the virtual world. We create photographic identification as a form of credentials such that we can link what we can perceive (height, weight, physical description, etc.) to what we cannot (name,

⁴⁷ HUME, *supra* note 41 at 667.

⁴⁸ DORIAN WISZNIEWSKI AND RICHARD COYNE, BUILDING VIRTUAL COMMUNITIES: LEARNING AND CHANGE IN CYBERSPACE 191-92 (2002). (Describing how we utilize masks in a social context to hide and express aspects of our identity in virtual and physical contexts).

⁴⁹ *Id.* at 192.

⁵⁰ *Id.*

⁵¹ *Id.*

⁵² *Id.* (citing S. Turkle, *Life on the Screen: Identity in the age of the Internet* (1995); J. H. Murray, *Hamlet on the holodeck: The future of narrative in cyberspace.* (1999)).

social security number, etc.). This multiplicity is one of the special characteristics that separate virtual identity from physical identity.

Although a website cannot perceive identity in the classical sense, they are programmed in such a way that assumes they are being requested by a human being.⁵³ We submit credentials to these websites in the forms of user names and passwords such that the computer can distinguish between identities that access the site.⁵⁴ Because of this, problems emerge during the lifespan of virtual identities. Some of these problems will be addressed later, in Section IV of this paper.

Sometimes it is necessary to create multiple legitimate identities for ourselves online.⁵⁵ For example, we often choose to separate our work identities from our personal identities.⁵⁶ We may have multiple email addresses, Twitter accounts, shopping accounts simply based on whether we are operating in a professional or personal context. Other times it is necessary for one person to create online identities for other people.⁵⁷ For example, we may set up Skype accounts for our older relatives to keep in contact over vast distances. In another example, a website owner may want to create a limited number of identities to distribute on a first-come, first-served basis without knowing whom they may correspond to.⁵⁸ In the physical world, creating new identities for ourselves is generally discouraged, if not illegal.⁵⁹ However, there is no such penalty online. Since there is virtually no limitation to what identities one can make, vengeful people have created identities with the intent to falsely associate the account with another person.⁶⁰ Little recourse is available in the paradigm of virtual identity. However, numerous states have started to implement “cyber-bullying” laws to

⁵³ See RICHARD ATTERER, MONIKA WNUK AND ALBRECHT SCHMIDT, KNOWING THE USER'S EVERY MOVE: USER ACTIVITY TRACKING FOR WEBSITE USABILITY EVALUATION AND IMPLICIT INTERACTION 203-12 (2006).

⁵⁴ *Id.*

⁵⁵ EDWARD F. GEHRINGER, *Personal vs. Professional E-mail: the Palin Case*, 2009 AM. SOC'Y FOR ENG'G EDUC. 4-6 (Separate mail accounts often exist for professional and personal use).

⁵⁶ *Id.*

⁵⁷ BETH A. KIRSCHNER, THOMAS J. HACKER, WILLIAM A. ADAMSON, BRIAN D. ATHEY, *Walden: A Scalable Solution for Grid Account Management*, 5TH IEEE/ACM INT'L WORKSHOP ON GRID COMPUTING (2004) (Authentication system creates new accounts and identities on the fly for temporary, but meaningful access).

⁵⁸ *Id.*

⁵⁹ See N.Y. PENAL § 170.20 (2006) (Illegality of creating a forged instrument to prove identity); See also, *Name Change Forms & Requirements*, NY COURTS (last visited Oct. 18, 2014) <http://www.courts.state.ny.us/forms/namechange.shtml> (Process to change identity is costly and time consuming).

⁶⁰ Tom Zeller Jr., *A Sinister Web Entraps Victims of Cyberstalkers*, N.Y. TIMES, (April 17, 2006).

solve these problems.⁶¹

On the other hand, many of these accounts do not have a malicious intent and simply intend to parody the target identity.⁶² In fact, one of the greatest strengths of virtual identity is the ability to create an anonymous identity that does not clearly link back to an individual.⁶³

Once an identity is created, relatively few fundamental changes can be made in the physical world. Short of witness protection programs,⁶⁴ identities cannot be disposed of. Some legal fictions, such as power of attorney, allow one to make decisions on the authority of another's identity, but in this fiction identities are never fully transferred (e.g. the attorney does not assume his client's identity despite the fact that his actions are binding on the client).⁶⁵

In the virtual world, there may come a time when one wants to transfer his or her virtual identity to another person. Perhaps a user tires of playing an online game and wishes to realize the fruits of their labor by selling the identity (or simply gifting it) to another. Some websites do not allow this sort of outright transfer.⁶⁶ Such prohibitions often lead to a sharing of credentials between users. Some municipalities have resorted to legislation to prevent credential sharing,⁶⁷ while others have embraced the idea.⁶⁸ Coyne and Wiszniewski believe that virtual identities allow one to express specific

⁶¹ See, Sameer Hinduja and Justin W. Patchin, *A Brief Review of State Cyberbullying Laws and Policies* (July 2013) (accessed at http://www.cyberbullying.us/Bullying_and_Cyberbullying_Laws.pdf).

⁶² *Supra* note 15.

⁶³ E.g., Michael Fitzpatrick, *South Korea Wants to Gag the Noisy Internet Rabble*, THE GUARDIAN, (October 9, 2008), at Technology p. 6 (Backlash against anonymous posters in Korea that use anonymity for social harm).

⁶⁴ See generally 18 U.S.C.A § 3521 (2014).

⁶⁵ BRYAN A. GARNER ed., BLACK'S LAW DICTIONARY (8th ed. 2004). See also B. NO. 345 H.R. 147 (Del. 2015) (enacted) (wherein a "fiduciary may exercise control over any and all rights in digital assets and digital accounts of an account holder" but does not assume the identity of the account holder).

⁶⁶ Blizzard Support, (last updated Aug. 12, 2014), <http://us.blizzard.com/support/article.xml?articleId=20558> ("The paid character transfer feature allows you to move characters to other realms as well as between accounts where you are the registered user.") (Users are not allowed to transfer characters to other users).

⁶⁷ Andrew Malcolm, *Tennessee outlaws sharing passwords to Hulu, Netflix, Rhapsody and other sites*, L.A. TIMES (March 6, 2011), (available at <http://latimesblogs.latimes.com/washington/2011/06/tennessee-outlaws-sharing-passwords-to-hulu-netflix-rhapsody-and-others.html>).

⁶⁸ Janko Roettgers, *Netflix CEO: Password sharing not a big deal*, USA TODAY (April 23, 2013) (available at <http://www.usatoday.com/story/tech/2013/04/23/netflix-ceo-password-sharing/2106261/>) ("Hastings said that sharing passwords with extended family members is "not what we would consider appropriate," but he added that most of the account sharing would happen within the immediate family.").

facets of their own identity,⁶⁹ thus it seems important for users to be able to share certain virtual identities with others while keeping others “walled off.”

In the physical world, when we die, our identity is extinguished and is no longer be used. According to Hume, this would be because no entity can perceive the bundle of characteristics that make up that particular identity.⁷⁰ However, in cyberspace, all of the numerous identities we create persist forever, or at least until they are deleted. This phase of virtual identity deserves the most investigation by the legal community.

Some social networking sites, such as Facebook, have already established policies that “will change a person’s profile to a ‘memorial state’ once officials have been notified of a user’s death.”⁷¹ Other companies are resistant to removing identities even when their owners die.⁷² Fun and games aside, virtual identities can control immensely valuable virtual assets.⁷³ Ownership of valuable assets begs the question, “What happens when a user dies in the possession of virtual property? Can that virtual property be transferred in a will?”

“More problematic . . . would be laws that require estate administrators to take on responsibility for the proper transfer of assets to beneficiaries. Because most virtual assets are locked behind password-protected accounts, it would be incumbent on the administrator to try to figure out how to get access to those accounts.”⁷⁴

Nonetheless, Delaware has become the first state in the United States to enact a law that ensures families’ rights to access the digital

⁶⁹ See *supra* note 26 at 193.

⁷⁰ *Supra* note 22.

⁷¹ William Weir, *Social Networking Sites Offer Alternative Place to Mourn*, THE HARTFORD COURANT, (May 9, 2009).

⁷² Peter Svensson, *Death Leaves Online Lives in Limbo*, March 15, 2009 (World of Warcraft would not allow access to an account without credentials even after owner’s death).

⁷³ Roger Parloff, *From Megs to Riches*, CNN (Mar. 9, 2009), http://money.cnn.com/magazines/fortune/fortune_archive/2005/11/28/8361953/index.htm (In 2005, Anshe Chung “has accumulated more than \$200,000 worth of . . . ‘land holdings’”); Will Knight, *Virtual World Grows Real Economy*, <http://www.newscientist.com/article/dn1847-virtual-world-grows-real-economy.html> (“A computer game played by thousands of enthusiasts over the Internet has spawned an economy with a per-capita income comparable to that of a small country.”).

⁷⁴ IRS taxation of game assets inevitable, <http://www.gamespot.com/news/6162654.html>.

assets of loved ones during incapacitation or death.⁷⁵ Based on the Uniform Law Commission's model legislation, the law permits a fiduciary to exercise control over any and all rights in digital assets and digital accounts of a decedent.⁷⁶ According to Suzanne Walsh, the chair of the nonprofit group that drafted the model legislation, the law gives fiduciaries "a means to contact the company and say . . . "I'm the fiduciary and I need you to *reassign the password*."⁷⁷ In other words, reassign the credentials. But the law that remains does not address transferring identity.⁷⁸

Some sites will not allow an identity to be transferred even in the case of death.⁷⁹ Other entrepreneurs have started companies that effectively allow a user to convey information, such as credentials allowing access to these identities, in the instance of their deaths.⁸⁰ Some companies refer to this as "information insurance," preventing a user from dying with computer passwords, bank accounts, or other secrets "in [their] head."⁸¹

As the cyber-generation grows older, handling not only the death of a person but also of their virtual identities will become increasingly relevant. Virtual identities are now gateways to actual financial assets.⁸² The response by some to solve and correct the aforementioned problems is usually technical in nature, but as the next section of this paper will show, these solutions are often not the best.

III. WHY TECHNICAL SOLUTIONS ARE NOT THE ANSWER

Technical solutions that attempt to solve the problems addressed in the creation, usage and death of virtual identities⁸³ often fall short of their intended goal by creating other, more difficult problems as a consequence. To begin, when a user goes online intending to create a virtual identity, the user must do so on a site-by-site basis. In addition, the credentials that the user supplies for identity validation may not be

⁷⁵ B. No. 345 H.R. 147 (Del. 2015) (enacted).

⁷⁶ *Id.* at § 5004.

⁷⁷ Jeff John Roberts, *Tech firms bristle at new digital death laws, but will have to get used to them*, GIGAOM (August 21, 2014, 1:06 PM), <http://gigaom.com/2014/08/21/tech-firms-bristle-at-new-digital-death-laws-but-will-have-to-get-used-to-them/>, (last accessed September 9, 2014.)

⁷⁸ *Supra* note 74.

⁷⁹ MACKIE, *supra* note 40.

⁸⁰ *See* SLIGHTLY MORBID, <https://www.slightlymorbid.com> (last visited Sept. 20, 2014).

⁸¹ DEATH SWITCH, <http://www.deathswitch.com/> (last visited Sept. 20, 2014).

⁸² WHETTEN & GODFREY, *supra* note 43.

⁸³ *See infra* Part II.

consistent for each site.⁸⁴ Governmental agencies have attempted to create standards for credentials⁸⁵, however since the internet is global, these standards may be conflicting⁸⁶ and not widely adopted. Commentators call this phenomenon “password fatigue”, where users can no longer manage multiple unique credentials.⁸⁷ Although, having multiple unique credentials is not necessarily a bad thing. If someone does manage to steal a user’s credentials, the damage would only be limited to a single online identity.⁸⁸ It also allows us to separate areas of our virtual identities. For instance, allocating separate credentials for financial use and adult escapades is advantageous. In the event of the misuse or sharing of these credentials, there is no conveyance of an absolute right to the identity.

Some technologists argue for convergence to a single set of credentials in order to manage our multiple online identities.⁸⁹ John Brody, Vice President of Marketing for TriCipher explains,

“Federation is a common standard for exchanging IDs for previously authenticated users. After you’ve authenticated yourself to one service, federation makes it possible to pass the credentials to another service. This saves users from logging on multiple times. More and more services are aggregations of multiple services—for instance, health information systems that integrate hospitals and insurance providers—so you can move through the system and even authorize payment with a single logon.”⁹⁰

Although this solution provides a valuable choice to the user, it fails to account for how we transfer credentials and identity in the physical world. What Brody and others⁹¹ suggest is that we create a

⁸⁴ See, e.g., <http://h3h.net/2007/09/bank-of-americas-retarded-password-policy/> (Bank of America only allows passwords between 8-20 characters, and must contain letters and numbers, but no special symbols); Cf. <https://www.google.com/accounts/PasswordHelp> (last visited Sept. 20, 2014) (Google Accounts allow special symbols, are case sensitive and can be of any length).

⁸⁵ See Password Standard Draft, New Zealand State Services Commission, August 25, 2005 at § 6.4, http://www.jipdec.or.jp/archives/PKI-J/shiryoe/e-autho_policy/Guide_Auth_%20Std_Online_Services_E.pdf.

⁸⁶ *Id.*; Cf., FIPS 112 - PASSWORD USAGE, <http://www.itl.nist.gov/fipspubs/fip112.htm> at § 3.1.

⁸⁷ Benjamin Tomkins, *Dealing With Password Fatigue*, FORBES, April 24, 2009.

⁸⁸ Angus Kidman, *How to Choose and Remember Secure Passwords*, LIFE HACKER (May 6, 2009, 12:20 PM), <http://www.lifehacker.com.au/2009/05/how-to-choose-and-remember-secure-passwords/>.

⁸⁹ ATTERER ET AL., *supra* note 52.

⁹⁰ *Id.*

⁹¹ See OpenID, <http://openid.net/what/> (last visited Sept. 20, 2014).

virtual key that can unlock access to every identity we create. The physical analog to this would be a key that unlocks your house, car, and gun safe, and gives access to your bank account, health records, and records of communications with others. Not only does the impact from theft increase, but it also makes it less appealing to lend your credentials (or physically, the über-key) to others. For instance, let us say that a user wanted to transfer control of his identity in Second Life, only temporarily, to a first time user to get a feel for the game. The first user would be unable to partition access to the Second Life identity without including the credentials to access his bank accounts, personal email, and other critical information, making the transaction less appealing.

Converging physical identity with virtual identity causes problems as well. We enjoy a one-to-one relationship between ourselves and how our physical identity is perceived. Some scientists believe that computers should perceive our identities for authentication purposes in the form of biometrics.⁹²

“While the word, ‘biometrics,’ sounds very new and ‘high tech,’ it stands for a very old and simple concept—human recognition. In technical terms, biometrics is the automated technique of measuring a physical characteristic or personal trait of an individual and comparing that characteristic or trait to a database for purposes of recognizing that individual.”⁹³

Biometrics would solve the issue of having to remember a password for each individual website, and it would reduce the amount of identity theft. On the other hand, biometrics create a strict one-to-one relationship that cannot be delegated to others. It would effectively restrict others from accessing an account under any circumstance, even with permission from the owner. How would one be able to transfer an account to another, as is often the case in games like *World of Warcraft* and *Lineage II*? This becomes especially troubling in the instance of the death of a user. Without their biometric signature, there would be no way to access the identities they have created without intervention from each site.

Accordingly, part of the usefulness of identity is transferability. Most of the technical solutions to the virtual identity problem involves

⁹² John D. Woodward, Jr., *Biometrics: Identifying Law & Policy Concerns*, in *BIOMETRICS: PERSONAL IDENTIFICATION IN NETWORKED SOCIETY* 386 (Anil K. Jain ed., 1998).

⁹³ *Id.* at 387.

enforcing the strict one-to-one relationship between physical and online identity and restricts what can be transferred to others. Some of these restrictions are undoubtedly a good thing, since they protect our identities from the increasing risk of identity theft.⁹⁴ However, by structuring the concept of identity differently, we can better apply our physical and legal standards to the virtual world while remaining protected.

IV. HOW SEPARATING CREDENTIALS FROM IDENTITY SOLVES THE PROBLEM

In this paper, we have discussed and applied a number of theories to explain the phenomenon of identity. We also identified⁹⁵ major issues that occur when the conventional doctrines of identity are applied to the virtual realm and concluded that technological solutions to these problems may inherently create more of a headache than facilitate relief. Instead, there is a far simpler and more elegant solution involving the reclassification of identity that fits well with our existing legal fiction and expands cleanly into the virtual world.

Hume's views on identity, although admittedly not perfect,⁹⁶ seem to apply well for this narrow examination of the legal fictions for virtual and physical identity. Hume's theory of identity emphasizes an extrinsic source of identity. In this sense, 'credentials' are the bundle of perceptions we (or a computer) perceives where 'identity' is simply the owner of those characteristics. In the physical world, 'credentials' might be a driver's license, passport, physical appearance, or social security number, while in the virtual world they may be a user name, password or IP address.

The crime of identity theft, for instance, never has been about taking away someone's identity; instead, it was always about stealing someone's credentials and using them maliciously.⁹⁷ Agency theory revolves around the apparent authority of an agent, often supported by

⁹⁴ See George R. Milne, Andrew J. Rohm & Shalini Bahl, *Consumer's Protection of Online Privacy and Identity*, 38 JOURNAL OF CONSUMER AFFAIRS 217, 229 (Winter 2004).

⁹⁵ No pun intended.

⁹⁶ Corliss Gayda Swain, *Being Sure of Oneself: Hume on Personal Identity*, 17 HUME STUDIES 107, 107-08 (Nov. 1991) (Hume himself was never perfectly satisfied with his theory on personal identity claiming the problem is "too hard for [his] understanding.").

⁹⁷ N.Y. PENAL LAW § 190.78 (McKinney 2002) (New York seems to agree with this theory stating, "A person is guilty of identity theft in the third degree when he or she knowingly and with intent to defraud assumes the identity of another person by presenting himself or herself as that other person, or by acting as that other person or by *using personal identifying information* of that other person") (emphasis added).

the credentials they utilize (uniform, business card, letterhead, etc.) in order to bind their actions to another identity.⁹⁸ Likewise, when we speak of virtual identities, the password and user name are the credentials that the computer perceives in order to validate the identity of the user supplying them. When we separate the two concepts of 'identity' and 'credentials,' many of the aforementioned problems⁹⁹ become trivial.

A. Creation of Virtual Identities and Credentials

If accounts are created online *en masse*, for example on a university computer system, it is conceptually simpler to transfer the credentials to the end-user (e.g. students) while retaining the right to the identity created than transferring both the credentials and identity. This way, the owner of the website can retain control and have the final say over content posted contractually instead of delivering a quasi-property right in a virtual identity. In situations where someone is maliciously creating identities online to slander another individual, the courts, or more preferably the companies hosting such material, can transfer ownership of the credentials to the harmed person such that they can best repair the damage done by deleting the identity outright or correcting the information stored within while preventing access to the malicious actor.

Separating identity from credentials continues to make anonymity possible. Instead of requiring a strict and unbreakable relationship between physical identity and virtual credentials like those that some governments are attempting,¹⁰⁰ credentials are only what we define them as. Market forces are causing migrations to websites that pledge to sustain anonymity and keep identity and credentials separate.¹⁰¹ Perhaps some identities could be linked to physical credentials, but others can be free of such an encumbrance. Countervailing arguments exist that in some cases, physical identities should be revealed. For instance, a Texas bill may require sex offenders to register online identities with law enforcement.¹⁰² In a contrasting example, journalists and their source may want to maintain anonymity, and as such, related

⁹⁸ See generally, RICHARD LORD 12 Williston on Contracts § 35:11 (4th ed.).

⁹⁹ See *Infra Part II.2*.

¹⁰⁰ *South Korean Users Go Into Cyber-Exile*, THE HANKYOREH, Apr. 25, 2009 (South Korea legislation will require the equivalent of a social security number to be given whenever creating a new identity online and many people are utilizing foreign services to remain anonymous).

¹⁰¹ *Id.*

¹⁰² H.B. 22, 81st Gen. Assem., Reg. Sess. (Tex. 2009).

physical identities should remain hidden.¹⁰³

B. Lifetime of Virtual Identities and Credentials

Transferring identities is big business online.¹⁰⁴ Generally speaking, websites do not encourage others to share their identities with other people.¹⁰⁵ However, as shown before, there are legitimate reasons to do so. Instead of sharing the complete perception of identity, only the credentials are actually shared between users. This simplifies transactions between users since the recipient only needs to receive the “keys to the car” (credentials) in order to enjoy the value of the identity. Having separate and distinct credentials for online identities also allows a user to wall off and permit access to (or sell) any combination of areas.

Allowing the conveyance of credentials and identity separately does create some interesting questions that will have to be independently addressed. For instance, online identities can acquire a positive reputation in an online community.¹⁰⁶ One argument for a universal online identity is that reputation could be acquired and transferred among accounts on separate websites, thus removing the need to gain credibility in a newly joined community. When two pseudonymous identities propose to enter into an online transaction, the deal can succeed only if parties are willing to trust each other, despite the fact that they have no rational basis for doing so. Reputation systems tend to create rational reasons to trust an identity despite the lack of a physical analog. Therefore, allowing identities and credentials to be transferred may have a negative effect on services that rely on reputation in order to conduct business, for example, eBay. It is not suggested that the transferability of identities and credentials should supersede the contractual agreements between users and service providers for exactly this reason. Still, there may be economic incentives for buying and selling high-reputation identities.¹⁰⁷ If a high-

¹⁰³ Society of Professional Journalists, *SPJ Ethics Committee Position Papers - Anonymous Sources*, <http://www.spj.org/ethics-papers-anonymity.asp> (“Anonymous sources are sometimes the only key to unlocking that big story, throwing back the curtain on corruption, fulfilling the journalistic missions of watchdog on the government and informant to the citizens.”).

¹⁰⁴ *E.g.*, *BUYMMOACCOUNTS*, <http://www.buymmoaccounts.com> (Online identities can fetch over hundreds of dollars online).

¹⁰⁵ *See, e.g. supra* note 49 (“Never tell your password to anyone (this includes significant others, roommates, parrots, etc.).”).

¹⁰⁶ *See* Shai Rubin, Mihai Christodorescu, et al., *An Auctioning Reputation System Based on Anomaly Detection*, UNIV. OF WIS. COMPUTER SCI. DEPT., 1 (2005).

¹⁰⁷ Dorothy Cohen, *Trademark Strategy*, 50 JOURNAL OF MKTG. 61, 61 (Jan. 1986) (“[I]t has been suggested that if all the plants and inventories of the Coca-Cola

reputation identity were to be sold at high value, it would only seem logical that the goodwill be utilized instead of squandered.

C. Death of Virtual Identities and Credentials

The theory of separately transferable credentials and identities will make the greatest impact during the death of a user and the impending need to convey their virtual identities. The issues surrounding the death of virtual identities can be best solved by embracing Hume's view that identity is external and that there exists a basic separation between identity and credentials.

One method of handling the death of a user would be to delete the identity. If identities are deleted after certain lengths of disuse, the efficiency of determining which identities are eligible for deletion is high. However, this method would run contrary to certain financial interests (identities linked to virtual property with real value¹⁰⁸) or websites that thrive from long-lasting reputation-ranked identities (genealogy, auction, and technical support websites). Additionally, service providers might provide a mechanism to delete accounts on receipt of a death certificate or other sufficient documentation.

Another method would be to allow the account to exist indefinitely, regardless of the death of a user. Technologically, this may have some repercussions since space on a server would need to be permanently partitioned for these accounts. Persistent virtual identities will require some form of transferable credentials or identities (when credentials are not available). With the increasing value of virtual property linked to a virtual identity, users will want to convey these "possessions" upon their deaths. A similar analogy exists within the idea of a security deposit box. Upon death, the key to such a box could be conveyed to the next of kin, such that the contents can be enjoyed by the receiving party. Unless the user has enough foresight to record their credentials for the innumerable websites and services they have enlisted (which providers do not recommend)¹⁰⁹ the credentials are lost forever. In that case, the transferability of online identity falls to the whim (or contractual agreements) of the service providers. In order to avoid issues involving conveyance of the actual identity itself, the credentials should be conveyed instead. This would allow the executor to access all of the deceased's property, virtual or not. Without the transferability of credentials, laws that require executors to take on full

Company were to go up in smoke overnight, the company could acquire funds to rebuild by using the inherent goodwill").

¹⁰⁸ *Supra* note 42.

¹⁰⁹ *Supra* note 68.

responsibility for the proper transfer of assets to beneficiaries would be hampered due to the restricted access of the identity.¹¹⁰

As the old adage goes, only two things are certain in life: death and taxes. Likewise, if we begin to convey credentials (and the access to the virtual property that goes along with them) at the time of death, a large tax-free area of inheritance emerges. Credentials themselves have little pecuniary value. Much like a key they are worthless without the thing they unlock, so there would be no issues surrounding taxable value there. However, the credentials may offer access to a virtual identity containing significant assets. Under Article 61 of the United States Tax Code, “[G]ross income means all income from whatever source derived, including . . . Income from an interest in an estate or trust.”¹¹¹ The question then becomes whether there is a profit after the virtual assets from an estate are disbursed. If the virtual property market remains strong and viable, the IRS may need to clamp down on taxation for virtual property conveyances, otherwise savvy individuals could avoid estate taxes by purchasing virtual property through identities and then transfer the credentials for these identities to the next generation, tax-free.

In my opinion, no social right exists to inherit another person’s identity upon death. Physical identities themselves are inherently non-transferable. Just because virtual identities can be transferred does not mean they should be. The operating costs of these transfers may be extraordinarily high with respect to the relatively low cost of transferring credentials. Credential transfers frequently occur after the death of the owner in the physical realm. Clearly, the deceased can no longer use their credentials in order to withdraw funds from an account or transfer deed to a home. Instead, the executor is vested with proper credentials in order to enable the transfer. This analogy should be carried over to virtual identities to enable proper heirs the access needed to liquidate the decedent’s assets. More research will need to be done on the effects of such liquidation and taxation, especially due to the super-national territoriality of the internet. For the time being, conveyance of credentials is the easiest and most efficient method to effectuate these proceedings and conveyances in the virtual space should be a taxable event, much like any other physical property.

CONCLUSION

This paper has examined a number of topics, including a discussion on philosophical identity and the need for credential

¹¹⁰ *Supra* note 43.

¹¹¹ 26 U.S.C. § 61 (2006).

conveyance on death. In order for virtual identities to be as useful as physical identities (as well as compatible with our traditional legal notions), credentials will need to be separated from identity and made transferable from one entity to another.

Historically speaking, legal fiction has assumed that identity and the credentials proving identity are one and the same. The Internet alters this fiction by allowing us to create multiple credentials that enable access to multiple identities on different websites. The one-to-one relationship between credentials and identity is severed, thus making existing legal analogies insufficient in the virtual world. This fiction will change with or without the blessing of the courts and legislature. With more and more virtual identities existing every day, their credentials and identities will become separated in order to efficiently conduct business, and life, on the internet.

More research will need to be conducted on how this partitioning of credentials and identity would affect the virtual property market. It is my belief that taxation of virtual assets will be fast approaching when conveyance of such property becomes more prevalent. In the meantime, users would be best positioned to proceed by conveying their credentials in a will so that any heirs will be able to access the information and property within.