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THE ETHICS AND IMPACT OF DIGITAL IMMORTALITY

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ABSTRACT. The concept of digital immortality has emerged over the past decade and is defined here as the continuation of an active or passive digital presence after death. Advances in knowledge management, machine to machine communication, data mining and artificial intelligence are now making a more active presence after death possible. This paper examines the research and literature around active digital immortality and explores the emotional, social, financial, and business impact of active digital immortality on relations, friends, colleagues and institutions. The issue of digital immortality also raises issues about the legal implications of a possible autonomous presence that reaches beyond mortal existence, and this will also be investigated. The final section of the paper questions whether digital immortality is really a concern and reflects on the assumptions about it in relation to neoliberal capitalism. It suggests that digital immortality may in fact merely be a clever ruse which in fact is likely to have little, if any legal impact despite media assumptions and hyperbole.

Keywords: digital immortality; identity; legislative conundrums; neoliberal capitalism

1. Introduction

The concept of digital immortality has emerged over the past decade and it has gained increasing interest and media attention. Digital immortality is defined here as the continuation of an active or passive digital presence after death. As people establish on-line identities and repositories, the likelihood that their digital presences will persist beyond their death increases, especially as the use of virtual personal assistants grows. This paper will examine the research and literature around active digital immortality and consider, for example, how an active

artificial intelligence driven presence after death (two-way immortality) differs from 'passive' social media death (one-way immortality). The emotional, social, financial, and business impact of active digital immortality on relations, friends, colleagues and institutions will be explored, as will preservation and privacy issues, and the legal implications of a presence on-going beyond the autonomous control of the mortal presence. Questions such as who would assume liability for libellous material, or other infringements, will also be examined.

The scope of a digitally immortal persona will be restricted in this paper to include only that which is currently technically feasible, rather than any form of speculative digital downloading of consciousness or physical androids. The focus is therefore on current developments in artificial intelligence and purely digital personas based on the 'mindfiles' of a person – the digital traces of a person's active, living relationship with technology, a digital database of people's thoughts, memories, feelings and opinions, such as CyberAll, (Gehl, 2001), and where, according to Bell and Gray (2001:29), 'one's experiences are digitally preserved and which then take on a life of their own.'

The paper will consider the legislative conundrums of pre and post death and the scope for legislation and guidance, for example how the law should deal with any ensuing contracts and the legal framework for post-death presence, as well as legal deletion and legal protection. In the absence of a living, and identified actor, and without clear authority for virtual activity beyond death, mechanisms for pursuing liability in civil and criminal liability within a global jurisdiction is unclear. Yet the paper questions whether digital immortality is really a concern or merely a clever ruse which in fact is likely to have little, if any legal impact. However, the paper will begin with an exploration of the current research and literature in this area.

2. Literature Review

Despite the media interest in digital immortality, the research in this area remains small and discrete. However, digital immortality has moved beyond simple memorial pages (Frost 2014), and as early as 1997 the term thanatechnology was instituted by Sofka (1997) to represent this desire to preserve one's soul and assets digitally after death; it has since been developed further by Sofka, and Gilbert (2012). There have also been cases where people have received 'beyond the grave' updates, either from dead friends (McAlear, 2011), or companies dedicated to creating digitally immortal personas (LivesOn, 2015). Facebook has now put in place measures to control the digital legacy of pages on their site (Skelton, 2012; Buck, 2013), and recent work by authors such as Adali and Golbeck (2014) illustrate that it is possible to generate accurate predictions of personality from online traces. Advances in data mining and artificial intelligence are now making a more active presence after death possible; thus it would seem to be possible to create artificially intelligent systems that could generate new commentary on media

events in the style of a particular deceased person, for whom an online profile had been created before death. The first section of the literature review explores identity and the shifts in the way it has been perceived, since this has a bearing on digital immortality, which in essence is a left behind identity.

Shifting identities

In former years identity and self have been seen as static entities. Whilst authors such as Buber (1964) argue for the notion of selfhood rather than identity, there remain questions to be answered about the extent to which identity shifts, as well as role shifts, are more likely to occur in some environments than others. Further Lukes (1973) argued for the ethic of individualism which suggests the idea of the individual being independent and autonomous, and one's thoughts and actions not being determined by external agencies. However, Hall has argued:

. . . identity does *not* signal that stable core of the self, unfolding from beginning to end through all the vicissitudes of history without change... Nor – if we translate this essentialising conception to the stage of cultural identity – is it that collective or true self hiding inside the many other, more superficial or artificially imposed 'selves'... identities are never unified, and in late modern times, increasingly fragmented; never singular, but multiply constructed across different... discourses, practices and positions. (1996: 3–4)

More recently Haraway (1985) and Hayles (1999) have been at the forefront of discussions about identity in digital spaces, and Ito et al (2010) have been influential in the work that has examined how youth culture and identity might be understood. Thus, since a raft of sociologists have examined identity, there is a broad literature on identity. Turkle (2005) suggests that computers are not merely objects that make our lives more efficient, but are subjects that are intimately and ultimately linked to our social and emotional lives. The result then is that computers change not only what we do, but also how we think about the world and ourselves. Such suggestions would seem to be exemplified in perspectives on and studies into virtual reality and immersion (for example Žižek, 2005; Hayles, 1999), as well as in studies about identity positions in virtual worlds. However, Clark has argued:

Human-machine symbiosis, I believe, is simply what comes naturally. It lies on a direct continuum with clothes, cooking ("external, artificial digestion"), bricklaying, and writing. The capacity to creatively distribute labor across biology and the designed environment is the very signature of our species, and it implies no real loss of control on our part. For who we are is in large part a function of the webs of surrounding structure in which the conscious mind exercises at best a kind of gentle indirect control. (Clark, 2003: 174)

It is argued here that what is needed instead is not a static view of self but a liquid view; a recognition that identities are not just multiple and fluid, but overlap and shift according to context.

The idea of being able to live on beyond your natural death has a long history in our culture, and remains popular in novels such as *The Night's Dawn Trilogy* by Peter Hamilton (Hamilton, 1996-1999). Prior to our technological age the agency for this was typically the ghost, and in the 20th Century we have seen examples from *Randall and Hopkirk (Deceased)* (Spooner, 1969) to *Ghost* (Rubin, 1990) and *Truly, Madly, Deeply* (Minghella, 1990). However, in the digital era, most of the Artificial Intelligences within Science Fiction have tended to be “evolved” artificial intelligences, such as SkyNet in *Terminator* and Ultron in the Marvel films, which have become sentient rather than being created as digital immortal personas of other people. However, there are examples, particularly in the science fiction of the last decade, where the artificial intelligences are digital immortals, or at least are the digital copies of real people. Examples include *Caprica* (the *Battlestar Galactica* prequel, where Zoe Greystone has been creating a copy of herself, but she then dies leaving the digital copy to carry on her legacy), BBC’s *Planet B* series (where the protagonist attempts to find his girlfriend who is dead in the real world but alive in the *Planet B* virtual world, with the help of a rogue avatar who has no human controller) and the Gleisner robots (human digital intelligences downloaded into physical robots) of Greg Egan’s *Diaspora* (Egan, 1997). What is interesting about these constructions is that the digital persona is very much living in the here and now of their progenitor’s death, rather than facing up to the implications of potential immortality.

The novels of Suarez (2009) depict something akin to digital immortality, in that the character Sobol was dying of brain cancer and become fearful for the human race and humanity, and began to envision a new world order. Thus on the publication of the obituary of Sobol, a brilliant computer programmer, a computer Daemon is activated, designed to enact this new world order. There are also constructions of left behind identities; some examples of this include films from popular culture such as *X-Men* (Hayter, 2000) and *The Matrix* (Wachowski, and Wachowski (1999). Certainly Žižek (1999), in his deconstruction of *The Matrix*, suggests the possibility that the deletion of our digital identities could turn us into ‘non-persons’, but perhaps a more accurate idea would be one of becoming changelings, rather than deletions. Although largely seen as a legendary creature left behind instead of a human child, the changeling has also been used to demonstrate different forms of ‘left-behind’ identities. Possibly the most well-known example is the changeling boy in *A Midsummer Night’s Dream* over whom Oberon and Titania fight (Shakespeare, 1590), who exists at the borderlands of human and fairy kind. The play itself explores issues at the margins of where power and rules change and often break down; something that clearly seems to be the case in digital immortality. Furthermore, there has been little consideration of

the spaces where these identities are located and the little exploration of different identity constructions.

Space and identities

This section examines research undertaken into identity in cyberspace, and suggests ways in which identities might be delineated in difference spaces, in order to provide a backdrop to the exploration of identities beyond the grave.

For most people there is a sense of travelling through cyberspace by putting on and taking off identities, crossing fluctuating boundaries and bouncing between virtual and real life worlds, and this brings opportunities to ‘play away’ from other identities. The work of Goffman is still useful in informing explorations of identity in digital spaces, as he argues that people tend to construct and perform their identities in relation to their peers and networks (Goffman, 1959). Further, studies into Second Life indicate that staff and students recognise that online identities tend to spill over into work or home identities, and in some cases have prompted reformulations of other identities in other worlds (Steils et al., 2014). Some scholars suggest that it is important to have a clear conceptual understanding of who we are in cyberspace, since without it we risk being confused (for example Floridi, 2011). Floridi and others who argue for such a stance seem to suggest that separating and being honest about identities brings with it some kind of honesty or morality, yet this would seem misplaced. Similarly, Kimmons and Veletsianos (2014) argue that the ability to undertake identity explorations relies on the “user’s ability to separate the legion of one’s virtual, exploratory selves from the real life or traditionally viewed unitary self. In the Web 2.0 world, however, one’s ability to do this diminishes as anonymity declines, real life connections are replicated in the virtual medium, web resources are used for surveillance, and sites like Facebook and LinkedIn seek to present “authentic,” unitary selves that are similar to the selves expressed in real life.” (Kimmons and Veletsianos, 2014: 8)

Nevertheless, this stance would seem erroneous, since identity exploration does not require a clear separation of identities, but a recognition that identities are both multiple and fluid, and overlap and shift according to context. Although later in the article Kimmons and Veletsianos do suggest context has some relevance, they do rather hold onto the argument for some kind of unitary self. For example, they argue that Facebook is built on the premise that people have authentic identities and that those identities are expressed online, yet work by Madge et al suggests that while the use of Facebook can support student engagement and integration at University, students still largely use it as a social tool. They observe students adopting a wide variety of ‘different place-based and online-networks to develop and sustain their settling-in process and maintain and develop social networks’ (Madge et al., 2009: 152). Further, Kimmons and Veletsianos also argue that online identities are mere fragments of themselves and that people tend neither to play a part nor act out identities. Yet this sense of just using what they term acceptable identity fragments would seem to suggest that people merely use online splinters of

themselves, rather than make specific decisions and choices about what is revealed, acted, dramatized and performed. Perhaps a more useful concept is identity tourism, a metaphor developed by Nakamura (2000) to portray identity appropriation in cyberspace. The advantage of such appropriation enables the possibility of playing with different identities without encountering the risk associated with racial differences in real life. Yet: “One of the dangers of identity tourism is that it takes this restriction across the axes of race/class in the ‘real world’ to an even more subtle and complex degree by reducing non white identity positions to part of a costume or masquerade to be used by curious vacationers in cyberspace.” (Nakamura, 2000)

Identities tend to be played out differently according to the diverse online groups it is possible engage with; we are all enactors of our own spatial stories which may or may not be adapted or adopted by others after death. Identities, then, can be delineated as multiple and multifaceted and have been described in detail by Savin-Baden (2015); some of these are summarised below:

Spatial identities – there are many mobile and polyvalent identities that are played out by individuals in diverse media spaces, whether Twitter, Facebook, blogs or email. Largely there will be some degree of crossover between them, and some kind of stability, even though we might choose to represent ourselves differently on Facebook compared with a work email conversation. These identities are enacted through digital media and each enactment tends to prompt a different kind of performance, invariably guided by the norms, cultures and affordances of both the software and the users of those spaces. These identities are at most risk of digital immortality.

Networked identities – in 2008 Ryberg and Larsen suggested that networked identities represented the idea that identities were constructed in multidimensional and complex ways across overlapping online and off line networks across school, work and spare time, and it is through such networks that individual identities exist and become real. Since 2008 further research seems to support this, but also indicates the emergence of visibility and status hierarchies within such networks. For example, Kozinets (2010) suggested this was less about status *per se* and more about ‘visibility and identity expressions’ (p. 24). Networked identities differ from spatial identities as they are specifically located in, and are in relation to, given networks, rather than broader spatial zones in which spatial identities are located, although of course there is overlap between the two.

Identities on tour – there is often a sense of play with these kinds of identities. These are not static, and do not have anything sinister about them, as in identity tourism. Instead they are dynamic, and the purpose and point of view of the traveller is central. Thus when working in areas such as mixed and augmented reality, people might create legitimate space and places for identity exploration and (re)formation.

Bridged identities – are identities created to link with other exterior worlds, such as virtual worlds, discussion forums and gaming worlds. Such identities might be located through the creation of avatars or using avatars for identity play (playing with avatar identity in ways that were seen as fun and sometimes trite (Savin-Baden, 2010). Thus bridged identities link to other (alien) identities, such as other territories and no-man’s land. For example, the bodily markers that are used to present ourselves in life, clothes, ethnicity, gender and speech may be re-presented (differently) in virtual worlds but they also indicate choices about how we wish to be seen or the ways in which we might like to feel differently. However, as Nakamura suggests, we might be aware that these kinds of media (games and virtual embodiment) create social factions of race and gender, while accurate images of gender and cultural realities might be rare (Nakamura, 2010: 430).

Discarded identities - As we shift and move identities across online contexts, rather than deleting those that become superfluous, we tend to leave them behind. Such identities then become part of the junk spaces of the Internet, left behind and forgotten avatars, discarded blogs or Facebook profiles, along with the ones that remain when someone dies.

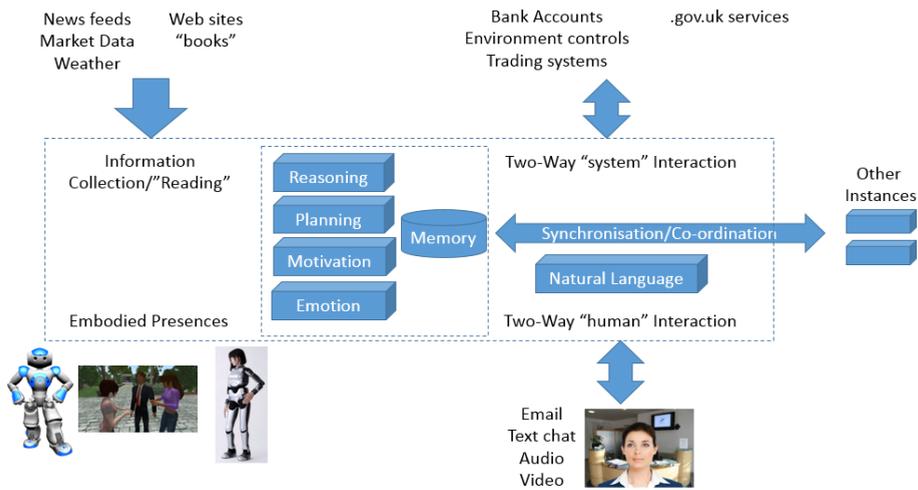
Playing at the borders of identity seems to be an attempt to disrupt the mind/body polarity by focussing on a resituated and often repositioned body. Perhaps it is more complex and we need to have a new set of sp/pl/ace identities which reflect squashed polarities, misplaced immortalities and new configurations of space and place. Transformations are affecting our identities and sense of space and place, so that there is a sense of being disparate, as well as holding homogenised identities. Yet it is also important to consider how digital immortality is created and placed.

Creating Digital Immortality?

Despite the concern and excitement, digital immortality merely comprises code and data. Digital identities are data, which can be added to and updated (and even forgotten), and a set of code with rules (which may themselves be data) to interact with those data and the real world – something more than just a simple auto-responder like a Twitterbot (Dubbin, 2013). This section explores how this code may then be used to interact with the real world, so that the digital immortal can present itself in various ways, although being only a manifestation. Further, there is also no reason why there should not be more than one copy of the code (and data) running instant digital clones. Whether these instant digital clones can share, cooperate, or even compete is another avenue for exploration. A simple and current example of such a multiple bot would be the 70,000 (covert) female chatbots (fembots) used to “chat up” male subscribers to the Ashley Maddison dating web site, giving the sense of it being a busy site with large numbers of available women, and encouraging the men to sign up for more expensive services on the site (Gizmodo, 2015).

Figure 1 provides a simple overview of a potential digital immortality system. A central core manages memory, reasoning, motivation, planning and possibly emotion. The digital immortal “reads” a variety of information sources, and has two-way access to a variety of real-world systems. It can also embody itself in virtual worlds (as an avatar), and possibly in the physical world (via a robot). It has a natural language understanding and generation facility to enable two-way communication with people in the physical world (by text, audio, video, email, textchat, Twitter and other systems), and it potentially synchronises its knowledge and activities between multiple instances of itself.

Figure 1 An overview of a potential digital immortality system



The most important implication of this code/data existence is that immortality is in fact just a hosting plan (Burden, 2012); as long as you (or your digital immortal) can keep paying the hosting company to run you (and keep a backup), you live. From a longer term perspective though there are issues about how the identity is “transcribed” between operating systems, media, computer languages and database standards, as the information technology landscape changes over time. Whilst in many ways these are aspects which are common to many, even all, computerised systems (and that in itself is part of the point – what we are discussing here is something built on current technology), what turns it into a Digital Immortality (apart from the nature of the code) is the intent (to deceive, replace, to be “self-determined”) and the illusion that it then creates in the outside world. The important issue here is the need to *only* create an effective *illusion* - and a system that can maintain the illusion that the interaction is either with a real person, or at least a consistent model of a person now dead. We do not need to create “consciousness” – although the difference soon gets us into the realm of the work of Moody, Dennett, Chalmers and Zombies (Dennett, 1995).

In other arenas it is not illusions that are seen to be created, but projections. For example, Gee's conception of the virtual self in gaming is located within character within the game, and he has argued that identities are projected identities, but this introduces interesting psychoanalytic difficulties. Projections are usually unwanted feelings that people invariably choose not to own; the assumption is therefore a belief that someone else is thinking/feeling them instead, such as anger or judgement (Jung, 1977). The difficulty then with the creation of digital immortality is that the formation could be seen as a replicated identity, which is less than something that 'exists' externally or in the virtual world, and is merely a simulation running in the mind of the perceiver. For example, in forms of paranoid schizophrenia, some people experience Capgrass syndrome where they see replicated manifestations of friends, relatives or even themselves, which is an example what happens when a human system breaks down.

At the most rudimentary level the digital personality is a case of parameterisation, rules and data. Parameters might set some of the coarse elements of the digital immortality, for instance an appetite for risk, or an extrovert/introvert personality. The rules define what the digital immortality does, or the decisions it makes, based on a wide variety of inputs, informed by its data, and guided by its parameters. Some of these rules may be very deeply ingrained (for example, to avoid things that might damage its survival), whereas others might be more ephemeral and constantly changing, for instance approaches to deciding where to invest. At their simplest these rules might be straightforward IF . . . THEN statements; at their most complex they might be implemented as "rule engines" and neural networks. The final element is data, which in the case of a digital immortal could be seen as synonymous with memory. Whilst still much under debate, humans are seen to have different types of memory (Tulving, 1991) but it is episodic memory and semantic memory that are perhaps the most helpful in the context of digital immortality. Thus creating digital immortality becomes "simply" a case of defining the parameters, defining the rules, and collecting the data. There are broadly two approaches for creating the code and data for a digital immortal; manual and automated. In a manual process the digital immortal might be created by explicitly having a "dialogue" with a digital immortality "wizard" over many days, weeks, or years. In an automated process the data would be harvested by tracking real-world interactions (our emails, voicemails, blog posts, global positioning traces, bank transactions), and the parameters and rules created by modelling our decisions and responses and gradually refining those models (for example through neural net or genetic programming approaches) until they accurately reflected our true actions.

Scope of action and interaction

Once digital immortality is created it is important to consider how it would interact with the world, and how others might interact with it; some suggestions are delineated below:

Passive Collection

The digital immortal can collect information about the world, such as “reading” web sites and RSS feeds, reading emails and examining data feeds. In fact as a digital immortal it should inherit our email account, bookmarks and RSS feeds. There are already applications (e.g. Stremor and Textuality) which will extract the key ideas from web pages and RSS feeds, or that can identify trends and outliers in data. The only “data” which would currently give the digital immortality problems are audio and video, but speech recognition and video analytics are both improving.

Interacting with Systems

Interacting with systems is a superset of the passive collection case; here the digital immortal is able to raise queries, post data, or make changes on other computer systems. Most computer systems now have Application Programming Interfaces (API), often delivered as “web services”, which could be controlled by the digital immortal. Where those interfaces are encrypted or otherwise protected so that they can only be accessed by a dedicated client (for example, online banking) then there may be more of a challenge to accessing the interface, but as machine-to-machine (M2M) interaction increases (for example, our accounting system accessing our bank accounts), then the scope to access them from the digital immortal increases.

Interacting with People

Interacting with people is probably the easiest challenge. Natural language processing and generation systems, often called chatbots, have a long history (Turing, 1952). Whilst the Turing Test (a test to see if a computer can fool a human into thinking it’s also a human) has yet to be passed consistently, there are signs (Gilbert and Forney, 2015) that we are coming close. Interestingly it is the natural language *generation* that may prove a harder problem to solve than the natural language understanding. Another challenge is that most Turing conversations are little more than question-answer exchanges, whereas real human conversation is often more about conversational threads and argumentation.

Whilst most chatbot work has been about text-based interfaces, text-to-speech generation is becoming increasingly human (and close to “Turing” capable), but speech recognition is still problematic (as any user of Siri or Cortana can attest). Real-time generation of video imagery (head only or full body) is also improving, and real-time understanding of gesture and expression is also on a steady improvement path (for instance Second Life founder Philip Rosedale’s new High Fidelity virtual world uses a webcam to have your avatar mimic your facial expressions as you talk). So whilst the most “believable” digital immortal today would be a recluse conversing only by email, text message and real-time chat, it is probably only a decade before full audio-visual interaction with our digital immortal will be possible and indeed the Loebner “Gold” prize has been set up to encourage this (<http://www.loebner.net/Prizef/loebner-prize.html>).

Interacting with the Physical World

There are two aspects to interacting with the physical world. First, in order to interact with the physical world the digital immortal does not need a physical manifestation. Increasingly the physical world is being controlled by systems, from home lighting to cars. Thus if the digital immortal can access and control systems it can also control the system connected parts of the physical. At a macro-level if a neo-liberal capitalist digital immortal is controlling funds and companies its effect on the physical world through its human “agents” (employees) could be immense. Giving the digital immortal embodiment within the physical world such as an R2D2 type robot, a C3PO type robot, or a human-looking avatar, is almost a side-show. Digital immortality need only capitalise on current technology. There is also no need for the digital immortal to “move” into the robot shell, it can control the shell remotely or just place a part or an instance of itself within the shell to maintain a level of autonomy when disconnected.

However, perhaps an incentive to use a physical form is that embodiment may be essential to the development of the digital immortal’s identity, and intelligence. Varela et al (1991) and others have argued that embodiment is key to intelligence, and so it makes sense for the digital immortal to aspire to physical embodiment in order to experience the rich, chaotic physical world at first hand so as to avoid atrophy and encourage the further growth of its intelligence. This embodiment though could be purely within a virtual world – controlling an avatar within a virtual world or virtual office, and interacting with other virtual (living and deceased) people and employees.

One way and two way immortality

In this paper we are not concerned with futuristic ideas of how to create “artificial intelligences” such as methods of transferring “souls” or “thoughts” to an everlasting digital brain. Instead we are only considering what could be done today, and over the next few years. Thus in exploring digital immortality it is useful to think of two different categories of digital immortality: one-way immortality and two-way immortality. The former is typified by the Facebook memorial pages and other examples given earlier. It is where the deceased has a digital presence on-line that extends after their death, but that presence is purely “read-only”. It is possible to view it, read it, even get messages from it, but not to engage in a dialogue with it. One-way immortality can also be classified into automated, where the presence is just built up naturally, passively, from the lived life (such as a Facebook page or blog), or manual, where the deceased has actively curated a set of information to be preserved beyond their death. A manual/active one-way immortality would also include after-death messages, such as Remembered Voices and ToLovedOnes and paper wills.

Two-way immortality is where there is the potential for the digital identity to interact with the living world. This interaction could come in a wide variety of ways, from 2-way text or even voice and video conversations to analysis of stock

market activities and buy and sell orders, as described in the interaction section above. What probably separates an immortal “identity” from a set of scripted rules is: the ability (and indeed necessity?) to change over time, the ability to engage in multiple modes (email, APIs, text chat), and to share information between these modes. These categories are summarised in Table 1 below.

Table 1 Categories of digital immortality

	One-Way Immortality		Scripted Systems	Two-Way Immortality
	Automated	Manual		
Actively created/curated before death	No	Yes	Yes/No	Yes/No
Able to show past life	Yes	Yes	Yes	Yes
Able to pass messages immediately after death	No	Yes	Yes	Yes
Able to respond to future events	No	No	Yes	Yes
Able to change way responds to future events	No	No	No	Yes
Able to share information between systems	No	No	No	Yes
Sense of “talking” to the deceased	No	No	No	Yes
Examples	Facebook	ToLovedOnes	Trading Rules	??

3. Legislative Conundrums of Pre and Post Death

The digital world therefore opens up an unimaginably diverse range of opportunities for one individual’s identity to perpetuate after the death of their real, human being. An existence, of some form, may continue to involve itself in social commentary or undertake business transactions, when the physical entity in whose name it purports to act is rendered nothing more than ashes. This presents some clear legal issues. What if, for example, the digital identity shares an opinion that causes offence, perhaps making allegations that a named individual is a paedophile? In the ‘real’ world, that individual may have cause for legal action, depending on where in the world they were resident, the allegation was made, and where it was published. These details are important; the world does not offer one global jurisdiction, and the laws that apply in one country (or even within different states) may not necessarily apply elsewhere.

Whilst deciding within which jurisdiction to bring an action may prove challenging where the facts of a case are tangible – for example where an English visitor allegedly suffers negligence at the hands of a visiting Peruvian chiropractor whilst visiting the US State of Nebraska – the demands may be even more exigent in the virtual world. For example, the case of *Al Amoudi v Brisard and Another* (2006) considered the issue of internet publications and libel, and whether posting of allegedly defamatory information on the website of a Swiss company fell within the jurisdiction of the English court. It highlighted the complexities associated with

establishing ‘substantial publication’ for the purposes of an action in libel, and particularly in relation to publication on the internet, a ‘unique medium of international communication’ which necessitates the re-evaluation of the law of defamation (*Al Amoudi v Brisard and Another* 2006: para 22). These difficulties notwithstanding, this case rests on individuals with a real presence. What if a claimant were to attempt an action in libel against a virtual presence? In UK law defamation is a civil offence, so the claimant would be seeking to sue an entity purporting to be an individual that no longer exists. How might this be possible? If the entity was acting under the deceased’s autonomous control, for example a perpetuating social media presence, then the claimant may attempt to sue the dead persons’ estate. Even if it were possible to prove the elements of libel, the action would generally be subject to the statutory limitation “of one year from the date on which the cause of action accrued” (Limitation Act 1980 s4A (b)), and then would arise the question of whether there was actually an estate to sue – this will cease to exist once probate has settled. What liability do website operators have for defamatory comments they host? What if the potential action sits outside the jurisdiction of the English court, for example elsewhere in the EU, or in the US? The answers to these questions must be framed within the context of a range of caveats and conditions. For example, although there is generally no liability for defamation if the operator of a website can show that they have not posted the comment, this will not always provide an effective defence in English law (see for example, Defamation Act 2013 section 5 (1)–(3)).

What if the actions of the virtual presence represent potential criminal liability? This raises the question again about the driving force behind the virtual presence; the dead can generally have no criminal liability, but others acting behind the shield of a digital presence may have. Again, determining liability will depend on a diverse range of factors, not least the determination of the jurisdiction in which the alleged criminal act took place, where its effects were experienced, and by whom. For example, if Mr. X assumes the identity of deceased child Y to construct a digital identity and then goes on to use this to drive fraudulent activity; he may face criminal conviction for fraud by false representation (Fraud Act 2006), with the fact of the child’s death acting as an aggravating factor. The digital world is diverse, and evolving and complex. Even where consideration is limited to social media, the complexity of policies surrounding governance of an individual’s presence post-death is great. Indeed, in a paper exploring the policies that define Facebook after death, McCallig (2013: 7) identifies that: “...individual users enter a dynamic and complex legal agreement when they operate a Facebook account. Even for a person with reasonable technical and legal skills, negotiating the provisions and policies takes considerable effort. There is no provision that expressly terminates the contractual agreement between Facebook and a user who dies. This is not exceptional.”

These policies will govern the storage of personal data after death (subject within the European Union to data protection laws), access by third parties, and the archiving and deleting of data. Given the intricacy of this corporate regulation, and the plethora of media with their own governance protocols, there must be some argument for initiating some consistent and accessible approach to legislation and governance of the post-death presence. This section has presented many questions, and very few answers. This is the nature of the virtual world – an ever expanding and evolving entity that often transcends legal and geographical boundaries. The law is generally used as a means of controlling and restraining malignant behaviours, and making punishments and attempts at reparation when harm is done. This is generally challenging in the ‘real world’ where the parties to an unlawful act are tangible and visible. The assiduous development of the virtual world makes this ever more exigent. (*Al Amoudi v Brisard and Another* [2006] 3 All ER 294)

4. Discussion

Parameters, rules and data sound all very well, but will our digital immortality actually have “intelligence” – or to use a better phrase “sentience” – and does it matter if it has that or not?

If we take neo-liberal capitalism to be ultimately about the power of the individual (and the control of assets exerted by the individual), then digital immortality could enable individuals to perpetuate their control and influence on an indefinite basis. There is the potential for the (unfettered) control of power, capital and the means of production, by creating a digital immortal beyond the grave, running their corporations way off into the future – think what Warren Buffet (or conversely Donald Trump) might achieve if he were to become immortal.

Whilst rules, and indeed quite complex rules, will give the illusion of rational decision making what we need is not just decision making but “reasoning”; the ability to address a problem having complex inputs and grey areas, with the application of a coherent decision making process. Relatively simple seeming human questions or decisions, whether with a financial or emotional impact, can be very hard for a computer to try and unpick, but this has to be the challenge, and will add significantly to the illusion of the digital immortal possessing intelligence. However, just being able to reason here and now is not enough. The digital immortal needs to be able to evolve its reasoning processes, and indeed its whole code, data and interface to keep up with the changes in the world around it. At the most trivial level the computer languages, hardware and communications systems on which the web is based on did not exist 30 years ago. NASA probes are designed to work for a decade plus, but they have a very fixed environment. How does the digital immortality system manage this evolution? How do we move from what might give us 10–20 years of digital longevity to an infinite span of digital immortality? Whilst the temptation is to think of a fix for this in technical terms

(and that is no doubt the long term goal), in the shorter term we may be better considering the fix as being a business/social one. However, less within the control of the digital immortal would be its risk from hacking, and particularly from an “insider-threat”. A digital immortal (and/or its creator) is likely to put in a variety of measures to protect against this:

- Multiple copies and high levels of redundancy
- A modular, federated structure to minimise any damage
- Back-up copies
- High levels of firewalls and anti-virus software. Monitoring and defences
- High levels of user authentication for those with privileged access to the digital immortality
- High levels of integrity/consistency checking to ensure that no code or data has become corrupted.

If the digital immortal is in control of assets (wealth, people, companies) then there is nothing to stop it ensuring that there is a long term strategy for its evolution in place, and people paid, motivated (and obliged?) to ensure that the digital immortality is kept current in terms of technology and interfaces. A “clever” digital immortality may indeed run several such programmes, and hide the true nature of some or all of those programmes from the workers. Not a Machiavellian artificial intelligence, just a well-planned and programmed digital immortal. Situated in the context of higher education this could also sustain what is currently a pernicious ideology. For example, Ingleby (2015) argues that at the centre of the neoliberal agenda shaping the educational context in the UK is a belief in competitive individualism and the maximisation of the market. Critics of neoliberalism (for example, Giroux, 2005) suggest the focus on economic outcomes results in unhelpful social, political, and cultural biases for educational activities. Further, Giroux and Giroux have argued that educators should build courses by combining ‘democratic principles, values, and practices with... the histories and struggles of those often marginalized because of race, class, gender, disability, or age’ (2004: 99). They argue that academics should shift beyond the lands of academia and integrate with the larger spheres in the community, where culture and politics are truly learned and made relevant. Thus if we continue to engage with performative enterprise practices and fail to recreate spaces and voices, universities will soon become sites of closure, where criticality and questioning are submerged in the quest for fast money and solid learning. It would seem that the focus on consumerism and competences is resulting not only in the erosion of critical pedagogy but also the marketization of values and the oppression of freedom (Mayo, 2013; Williams, 2013).

There are still questions that remain about the the ideological underpinnings of digital immortality, since the search for such immortality is grounded in a human desire for control over life as well as death. Such a situation could be said to support and reinforce global neoliberal values, since it plays on the fears and hopes of humans whose lives have been about amassing personal resources they would

wish to retain beyond death. As academics we are, as Ball (2012) suggests, becoming calculable rather than memorable (p17). The result it would seem is that it is possible to see a resonance between the state of our neoliberal capital higher education system and digital immortality: both are focussed on the retention and management of knowledge and assets. Both seek competitive advantage and reinvention of themselves as a resource. Academics and digital immortals both have identities on tour, both seek to affect and manipulate market values. Yet perhaps as academics there is hope, if we can understand the powerful influences upon us and be responsible enough to fight against oppression and for freedom of speech.

5. Conclusions

This paper illustrates that a key concern for any form of digital immortality will be to maintain its own integrity. At the most basic level this will be to ensure that it has the hosting environment (public or private) on which to operate. Almost the whole *raison d'être* of a digital immortal is to be 'immortal', so ensuring that its code and data is preserved and runs will be a key concern. Again there is a considerable difference in approach between the creation of a digital immortal which is the hobby project of a programmer, and the digital immortality which is the legacy project of a high-net-worth individual, business leader or entrepreneur. In the latter case they have significant resources to call on, and as discussed earlier could set up a whole living human eco-system to ensure the preservation and continuing operation of the digital immortal. Perhaps much of what we are currently seeing is more of a ruse than a reality, and yet the only thing more chilling than digital immortality is in fact hacked digital immortality.

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