'These our actors': the representation of players in the legal game

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Abstract

Recent trends in litigation, corporate structuring and technological innovation have highlighted core dynamics concerning identities generally, and legal personhood in particular. This paper seeks to explore and question the concept of the legal person, itself, as an actor, and its construction through quasi-juridical systems of power. We argue that there is an ontological separation between living men and women and their legal representations, and propose a conceptual schema based in part on the games studies literature, wherein actorial identities known as 'Avatars' are created by performative declarations (Searle, 2006), and act within a bounded Framework. This schema is employed to distinguish corporations from individuals, to model the use of legal ‘Avatars’ by Apple Inc. and show unique properties of Bitcoin technology as well as the novelty of decentralized autonomous organizations such as zero-member LLCs (Bayern, 2014).
1. Introduction

Our paper seeks to explore and question the concept of the legal person, itself\(^1\), as an actor; two words which have a long association as the word ‘person’ derives from the mask worn by actors in ancient Greek and Roman theatre. Adopted into legal practice, the word *persona* originally referenced artificial beings, and a man’s rank or status; not the man himself, but ‘...the state of the man [sic], the part he plays in society, abstractly, without considering the individual.’ (Andrews, 1910 p.157, 159-160).

We see this as doubly significant because agency and the construction of actors *within the legal world* are typically not of central concern in management and organisation studies’ extensive conversation—most notably in institutional theory—about the relationship between actors and institutions. For instance, the corporation is fundamentally a *legal entity*; though this is, at best, only explored in the margins of the vast literatures on corporate social responsibility, agency theory and bureaucracy (Veldman and Parker, 2012; Veldman and Willmott, 2013; Crane, Matten and Moon, 2008). In agency theory, for example, the managers are agents of the *legal entity* that is the corporation (not, as is sometimes believed, the shareholders (Stout, 2012). Likewise, in Weberian bureaucracies there is a clear distinction—sometimes constituted in a quasi-legal sense but routinely adjudicated on and governed by the courts of the land—between the bureaucratic position and the human individual who fills the role. It is this perspective that we seek to foreground in this paper.

In the next section, we set out the theoretical position that has informed our inquiry, and then

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\(^1\) We will use gender-neutral pronouns like ‘itself’ because the legal entity might not necessarily be constituted as either male or female.
we proceed to present and explain our analytical schema.

2. Theoretical Positioning

2.1 Legal Personhood

The concept of legal personhood has been problematised in recent years through the activities of activists (Gardner, 2011) and pro se litigants (Veracini, 2016) who see a separation between living men and women and their legal representations, so that it has been suggested that "individuals can somehow exist in two separate but related states" (Salyzyn, 2013 p.227). Such a separation is supported by the existence of ‘non-persons’, or ‘stateless people’ in various parts of the world who are unable to utilise public services due to a lack of a legal representation (Sawyer and Blitz, 2011). Two UN Conventions sought to grant legal status to those who are not nationals of any country and to address some of the causes, but their recommendations have only been ratified by a few countries (Berkeley, 2009). In practice this means that, despite being very much alive and capable of trade and activity, stateless people often lack the capacity to interface with legal and economic systems. In this sense, they resemble US slaves prior to the passing of the Fourteenth Amendment (Stein and Bauer, 1996), as well as many indigenous tribes in recent years (Bosselmann, 1997; Bryant, 1992) and aboriginal people in Australia prior to 1967 (Manderson, 2008). Legal personhood can also be removed from those who possess it, due to political upheaval and expulsion (Stein and Bauer, 1996). In exceedingly rare instances, legal process can render a living man or woman’s person legally deceased (Rawle, 2015; BBC, 2013a and 2013b) and so unable to interface with aspects of the legal system; a condition similar to the archaic practice of monks and certain convicts being considered ‘civilly dead’ (McLennan, 2011). Meanwhile, being dead is not, in itself, an impediment to holding
property, suing, or being sued (Wall, 1996). All of this indicates that legal personhood is not an innate quality immanent to all by virtue of being human. It would therefore be a simplification to suggest an isomorphic, one-to-one, correspondence between living human men and women and the means by which they are represented within a legal system; a separation is evident between the physical world and the legal system which represents it.

Given that such isomorphism does not obtain, it would seem incumbent to consider an extract from a legal definition of the term ‘person’, which is identified as: ‘The object of rights and duties, that is, capable of having rights and of being liable to duties.’ (Osborn’s 1927, p.208). This use of language appears to obscure meaning as much as reveal it (Fowler 1995), but like a gun or other artifact (Latour, 1994), it would appear that a legal person is not endowed with its own will, and that such an entity can better be conceived of as an Avatar; a medium through which the will of a living person is expressed. That is to say, while legal personhood is the means by which men and women are represented within a legal system, the lack of isomorphism between living people and the legal persons that represent them (discussed further in subsequent sections), and the character of legal persons as being ‘objects of rights and duties’ would seem to indicate a separation between the physical world and the legal system which represents it. This is analogous to the manner in which financial reporting representations signify aspects of the world, but must maintain the fiction that the representations are the things themselves, as to simultaneously describe the world referred to by different terms, would split apart signifier and signified in such a way as to negate the function (Hines, 1991 pp.321-322).

This representational character is perhaps more evident with corporations, which have been characterised as “A new form of spectral life ... a reified creation, building on an emergent representation of the aggregation of individuals” (Veldman and Parker, 2012 p.418); which
have ‘become endowed with an (agential) capacity which empowers them to own other legal entities’ (Veldman and Wilmott, 2013 pp.608-609).

2.2 Three informing literatures

As with any inquiry, we come to the research question with a mix of theoretical positions and it is useful, to begin with, to sketch these out. In particular, we are informed by three literatures: systems theory, actor-network theory, and games.

There is a very large literature under the general umbrella of systems theory that spans cybernetics, open systems theory, soft systems methodology, contingency theory and other theoretical positions that privilege metaphors from living systems and biology. Indeed, Morgan (1986/2006) sees this as the dominant way of thinking about organisations and his classic book *Images of Organization* provides a good summary of the major contributions to the variants of systems theory that abound. One theorist that Morgan doesn’t reference is the sociologist Niklas Luhmann who sees society as composed of communications between individuals and social systems, which are essentially communication systems that enable interaction and problem-solving. Luhmann (1982, 1985, 1995) postulates a somewhat unfashionable functionalist view of society as a system that has evolved into functionally differentiated, quasi-autonomous problem areas, such as economy, law, health, education, religion, etc. For him, these systems are not ‘real’, nor are they made up of people, but are only instantiated in communication between people. So, for instance, the legal system only exists in the moment when a jury makes its decision on the guilt or innocence of a defendant; outside of such moments of interaction it doesn’t, in an ontological sense, ‘exist’. At the same time, such systems typically have an autopoetic character which means they have the ability to self-
reproduce through these moments of interaction.

Actor-network theory (ANT) is a second theoretical position that has informed our research though here ‘theory’ is perhaps better understood as a method or set of methodological preferences. ANT invites us to look at the familiar in new ways; to see my computer as an agent; to question the ontological status of boundaries like the distinction between ‘me’ and the ‘computer’ that ‘I’ am now using. Paraphrasing Marx, ANT invites us to sweep away all fixed, fast-frozen relations with their train of ancient and venerable prejudices. This, perhaps, is ANT’s most enduring virtue: an enthusiastic willingness to question our most robust mental categories. Hence, Bruno Latour, a leading author in the actor-network tradition, has little truck with Luhmann’s concept of system, as, for him, the boundary of any system is the thing to be explained rather than an *a priori*. Hence, ANT seeks to avoid nouns, as nouns necessarily imply that a ‘thing’ exists and ANT is fundamentally opposed to such essentialism. So, for instance, John Law (1994, p.15) advocates a “sociology of verbs rather than a sociology of nouns”, which is somewhat akin to Tsoukas and Chia’s (2002) arguments for a “weak ontology of becoming”. And so the actor-network tradition is to ‘verb’ nouns—organisation to organising, market to marketing, theory to theorising, actor to acting—and even if it is impossible to dispense with nouns tout court, ANT at least foregrounds their problematic nature and asks us to consider how these ‘things’ come to be. This, briefly, is precisely our focus.

Our analysis is also structured around a Framework developed out of the game studies literature, which we have found to be particularly helpful in understanding the legal world. The law, after all, can be thought of as a form of game. Games are complex and elusive phenomena; on the one hand they can be understood as ‘closed, formal systems’ (Fullerton, Swain and Hoffman, 2008 p.42), and as such they are self-sufficient and complete unto themselves,
representing a subset of reality. Others disagree with this ‘autotelic’ view of games, and instead see the boundaries between the game and ‘real’ world as fuzzy, under constant negotiation, and anything but closed (Juul 2005 p.36; Woods 2012). We broadly take the latter position, following Luhmann’s (1995) understanding of systems, which we see as especially relevant given his writings on law as a social system (Luhmann et al. 2004).

One relevant sub-field of game studies is the literature on Avatars; digital representations which feature in video games and on social media sites (Aboujaoude, 2012; Bessière, Seay, & Kiesler, 2007; Suler, 2004; Yee & Bailenson, 2007). Hogan (2010) relates these Avatars to Goffman’s (1959) pre-internet idea of the ‘presentation of self” as a ‘metaphorical technique to explain how an individual presents an “idealized” rather than authentic version of herself.’ Goffman’s idea derives from the notion that, even in the non-virtual or ‘real’ world, we roleplay—aiming to present or project an identity of someone we aspire to be; we assume identities. As Hogan puts it, we ‘engage in performances, which Goffman (1959, p.13) defines as “activity of an individual which occurs during a period marked by his continuous presence before a particular set of observers”’. Meanwhile, performative language (Kavanagh, Lightfoot & Lilley, 2014 pp.136-142) has been shown to do more than describe, but actually manifest phenomena (Pellandini-Simányi, Hammer & Vargha., 2011 p.736).

Having introduced some of these concepts, we now integrate them into an analytical schema.

3. Analytical Schema

3.1 Players and Avatars

One of our key points is that prior to—and requisite for—engaging in relations or exchanges,
legal entities must first be constituted or acquired. Here, we follow Lindberg and Czarniawska (2006, p.294) who propose that, rather than seeing actors as antecedent to actions, actors are initially, themselves, constituted by actions; that a first step is the acquisition of an ‘actorial’ identity, a process we term ‘articulating’, which emerges from actions, so that "by a kind of performative declaration, the corporation comes into existence" (Searle, 2006 p.22). Within the syntax of language—which requires nouns ab initio, and where the passive voice is denigrated—this can be difficult to comprehend or illustrate, but a crucial analytical point is that action comes first. That is, the starting point of our conceptual schema is that via an action, an identity is created or selected, with our lexicon for this elaborated below.

A simple model of the relationship between a living person (which we term in general a ‘Player’\(^2\)) and their representation (their ‘Avatar’) may be observed in the relationship between a Player of a boardgame and the piece on the table that represents that Player, through which they engage in actions, which are legitimised by the piece within the game world. Beyond this simple analogy we also observe that game playing has a broad cultural and social presence, since commentators use the metaphor of the ‘game’ for virtually every kind of human activity, including politics (Cox and McCubbins, 1986), business (Carr, 1968; Stack & Burlingham, 1992) and the market (Hamington 2009). Wittgenstein (1953) examines the relationship (or analogy) between our complex and imprecise use of everyday language and the remarkable variety and purpose of games we play, concluding: ‘the result of this examination is: we see a complicated network of similarities overlapping and criss-crossing: sometimes overall similarities, sometimes similarities of detail’ (Wittgenstein 1953, p. 31).

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\(^2\) We capitalise the words ‘Player’, ‘Avatar’ and ‘Framework’, to differentiate them as specific terms within the schema, much as capitonyms are used within legal terminology.
In the context of the Player/Avatar relationship we may take the example of the game of *Monopoly*. In that game, each Player selects an Avatar—a tiny iron, hat, car, or other such token—which represents the Player throughout the game. The game of chess is somewhat more complicated as the chess Player enters the game by formally adopting the pieces, or Avatars, each having an identity only within the limits of the 64 squares of the board. Beyond that board and the individual game, we encounter MacIntyre’s (1981/1984, p. 194) distinction between chess (the game) as a practice and the chess club as an institution. Following MacIntyre, the club may be affiliated to a national body, or to the World Chess Federation (FIDE). Each separate institution has officers, elected or appointed (and with their identity derived from each institution), to define and monitor the rules under which chess competitions are legitimised and played.

### 3.2 Frameworks

The role of institutions is important in the construction of actorial identity, with Lindberg and Czarniawska (1997) observing that ‘it is institutions that endow the actors with their identity rather than the other way round’ (p.67). As noted, an actor, in our lexicon, can be of two kinds—a Player or an Avatar. If we consider the example of a social networking website, or online virtual world, it is easy to conceive of the institution which created it determining the parameters of the form and capacities an actorial identity (Avatar) might have. Such institutions, or systems within which action takes place, we term ‘Frameworks’. Following Searle (2006, p.15), we see these as being epistemically objective while ontologically subjective, in that while the environment of a Framework may be structured and organised, and
while one can have objective knowledge of its dynamics, such as the many intricacies of a legal Framework, the institutions about which one holds knowledge are themselves ontologically subjective in nature.

In studying simulated online worlds, Davis et al. (2009, p.93) distinguish between ‘People’ as the users of the system, and ‘Avatars’ as the representations that symbolise them within said systems. For ‘People’ we substitute ‘Players’ (Westbrook, 2008), and hence our analytical schema is structured around three primary elements: the ‘Player’, ‘Avatar’ and ‘Framework’. In terms of the legal system (or legal Framework), ‘Players’ are the living men and women behind the representational ‘Avatars’ of Natural Persons, as considered below. In line with Bentham’s (1789/1996) philosophy, when we speak of Players we give primacy to the actual bodily experience of pain and pleasure, both of which are the most experiential or innermost sensations. Legal persons, in contrast, are beyond both pain and pleasure, though quite real
nonetheless. These distinctions are set out in Table 1.

As noted earlier, it is possible for Players to have no Avatar within the legal system; to be seen as “non-persons”, “undocumented aliens”, or “stateless persons”. To better illustrate the analogies described, it is evident that being permitted to use a social media account or an account for a virtual online environment is not an inherent right that a legal person has, but rather a privilege granted by the operator of the system. A corporation operating such a system could refuse or rescind the user rights to such an account. The same is true of a Player’s use of an Avatar within the legal Framework. A US Supreme Court case considered this point, noting that:

“To be a citizen of the United States is a political privilege which no one not born to can assume without its consent in some form. The Indians in Oregon, not being born subject to the jurisdiction of the United States, were not born citizens thereof, and I am not aware of any law or treaty by which any of them have been made so since.”
(Elk v Wilkins, 1884 at 109)

In our proposed lexicon, the Indian polity would be considered a separate legal Framework to that of the United States, and as this had not been articulated as one and the same as the US legal Framework, Avatars of the Indian legal Framework were not considered to be Avatars of the US legal Framework. Stein and Bauer (1996, p.129) note that a visiting non-US legal person within the United States does not change their status merely by their presence in the US, but retains their existing nationality. That is to say, an Avatar nested in a legal Framework remains part of that Framework even if they are present in another one. While it is possible to transfer
permanently to another Framework, this requires that the Avatar disconnect from their existing Framework in order to do so, or in legal terms, that they effect a “complete surrender to jurisdiction” (Ibid). This has parallels with the archaic ‘civil death’ of monks on joining a religious order (McLennan, 2011); they were seen as having “left the temporal world for the spiritual by entering a monastery”, with any will that they may have made taking effect as if they had died (Black’s Law Dictionary, 2009, p.456).

3.3 To Articulate

We have discussed the nouns of the lexicon, but we now introduce a verb—*to articulate*—which we illustrate with reference to a social media Framework. A Player in this scenario would be the living person who seeks to use the social media Framework. Prior to being able to act within it, they must create a user account; that is, they must articulate (create) an Avatar, setting forth its name and other properties as specified by the parameters of the Framework. By then logging in through that account, the Player joins with that Avatar—or the Player *articulates* their actions as being those of the Avatar. Thereby, the Player has the capacity to act within the Framework, and so interact with other Avatars, while the actions will be seen as those of their own Avatar.

The verb ‘articulate’ is chosen due to it embodying three pertinent meanings: to ‘express in words’; ‘to join, to attach by joints,’; ‘to set forth in articles.’ (Online Etymology Dictionary, 2016). It applies to both the initial creation of an Avatar as well as subsequent instances where one actor (whether Player or Avatar) elects to act as another (an Avatar).
1) ‘express in words’: in many instances, the action of electing to act as a particular Avatar will be expressed by a performative statement such as ‘I am Joe Bloggs’ or ‘I am playing as the top hat’.

2) ‘to join, to attach by joints’: whereby one actor is joined to another, much as in the theatre, where a mask is placed on the face of an actor to convey that their words are those of the character represented. In the legal Framework this may be considered analogous to the legal term ‘joinder’, which means ‘Joining or coupling together; uniting two or more constituents or elements in one; uniting with another person in some legal step or proceeding’ (Black, 1891 p.650).

3) ‘to set forth in articles’: again, with reference to the legal Framework, this can be considered a point of performative creation; the articles of association of a corporation are subscribed by its members and ‘create the corporate union between them’ (Black, 1891 p.92).

As a general term for Players and Avatars, without making a distinction, we use the word ‘actor’. To apply this conceptual schema to the legal Framework, the starting point is the same—that an actor, via an action, articulates an Avatar. So, a living man or woman, in respect of the legal Framework, would be considered a Player; external to the Framework itself, for reasons explored in the next section. By engaging in an action (the registration of a birth), a legal person is articulated; this serves as an Avatar, via which the Player can interface with the legal Framework and interact with other Avatars.

<table>
<thead>
<tr>
<th>Construct</th>
<th>Examples</th>
<th>Our definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Actors</td>
<td>Avatar</td>
<td>Individual(^3) (or corporation in legal system); a user account (online); playing piece (board game).</td>
</tr>
<tr>
<td>----------</td>
<td>------------------------------------------------------------------------</td>
<td>------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Player</td>
<td>A physical, living, human; (in legal system); a user (online); a game participant (board game).</td>
<td>A physical living human being, as distinguished from a legal or virtual representation, or agency. An actor which is outside of the Framework being referenced.</td>
</tr>
<tr>
<td>Articulation</td>
<td>The act of a Monopoly Player expressing the intention to ‘become’ the top hat. A living human declaring themselves to be ‘Mr Smith’, or ‘Mr Smith’ declaring themselves to be ‘Regional Manager for Acme Ltd.’. Also, the act of registering a legal person or online user account into existence, and similarly also the subsequent act of a user logging in to such an account.</td>
<td>The formal declaration or acknowledgment that an Avatar is (or represents) a Player (or other Avatar). Also the moment of creation, when an Avatar is called into being.</td>
</tr>
<tr>
<td>Framework</td>
<td>UK Legal System, US Legal System</td>
<td>The matrix within which Avatars exist and act.</td>
</tr>
</tbody>
</table>

**Table 1: Analytical Schema.**

3.4 First and Second Order Avatars

The registration of a birth is when a new legal person is articulated. This same dynamic—the articulation of an Avatar—is evident within the legal Framework. Much as a Player can articulate a new legal person, which, in this example, we might consider a first-order Avatar

\(^3\) In the legal lexicon, the term ‘Individual’ is synonymous with ‘Natural Person’ (Ballentine, 1969 p.613).
(created via the registration of a birth), that first-order Avatar, likewise, can itself articulate another kind of Avatar; a corporation, or in common parlance, Mr Bloggs could register a company. This illustrates a further distinction, made to varying degrees in different Frameworks—that Avatars exist at different levels, or orders.

Osborn's (1927, p.208) law dictionary states that: ‘Persons are of two kinds, natural and artificial. A Natural Person is a human being, an artificial person is a collection or succession of Natural Persons forming a corporation.’ So, two categories are identified by legal terminology: a Natural Person (eg. Mr Bloggs) and an Artificial Person (eg. Acme Ltd), with the former giving rise to the latter. For instance, in the legal Framework, corporations can be viewed as one such Artificial Person. Table 2 seeks to clarify these ideas.

<table>
<thead>
<tr>
<th>Construct</th>
<th>Examples</th>
<th>Legal person</th>
<th>Feels Pleasure / Pain</th>
<th>Our terminology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Living Person</td>
<td>me, you</td>
<td>No</td>
<td>Yes</td>
<td>Player</td>
</tr>
<tr>
<td>Natural Person</td>
<td>Mr, Mrs, Miss, Individual</td>
<td>Yes</td>
<td>No</td>
<td>first-order Avatar</td>
</tr>
<tr>
<td>Artificial Person</td>
<td>Corporation, Association, Partnership,</td>
<td>Yes</td>
<td>No</td>
<td>second-order Avatar</td>
</tr>
</tbody>
</table>

Table 2: An example of first order and second order Avatars in the legal Framework.

Veldman and Parker (2012, p.417) identify Natural Persons as the building blocks of legal systems, while describing a corporation as an “aggregation of individuals”; a “legal reified representation”. The registration, or creation, of a corporation in the UK, Ireland and most western countries, can only take place via the use of a pre-existing Natural Person, hence
Bayern (2015, p.112) refers to the corporation generally as a “legal alter ego for natural persons”. In this example, we therefore identify the corporation as a second order Avatar, being two degrees separated from the initial actor— the Player. The terms ‘first order Avatar’, ‘second order Avatar’ etc. do not refer to inherent and fixed properties of a category of legal entity. Rather, they describe the relative position of an entity in respect to another actor; what might be termed degrees of separation. That is, rather than communicating specific fixed positions for corporations, Natural Persons or other categories of legal entity within the schema, the label is a function of the number of intermediate Avatars between an initial actor and the subsequent Avatars described. In this way, a corporation may be a second order Avatar in respect to a living man or woman, in a chain that would run as shown in table 2, above.

Similarly, if the schema were applied to describing the perspective of a holding corporation, as the starting point in a chain, its direct subsidiary would be labelled a first order Avatar, with subsequent subsidiaries in orders below that. Although these orders are relative, rather than absolute, terms, the word 'Player' is reserved for living men and women, to conserve the ontological point that distinguishes living men and women from the products of accounting processes (Avatars).

3.5 Creating through accounting

Within the legal Framework, in order to articulate an Avatar in the form of a Natural Person, an application is initially made for an entry in the Births Marriages and Deaths register. A certificate is then issued evidencing the entry, known as a ‘Birth Certificate’. For the other category of legal Avatars, Artificial Persons, the process can be similar. In the case of a
corporation, the means by which the actorial identity is articulated, at least in most common law jurisdictions, is through an application (by a Natural Person⁴) to the central register of companies (in the UK, this is Companies House). An entry is made in the Companies Register and a Certificate of Incorporation is then issued, evidencing this. The parallels in the two processes indicate that both Avatars share some common attributes at least in their formation, and this is reflected in convention. In official communications, both Natural Persons and Artificial Persons will identify themselves by a name and address, as well as possibly by a registry number such as a National Insurance Number or Company Registration Number, depending on the nature of the interaction.

3.6 The Player is outside the game

We argue that interactions and exchanges take place between Avatars, and in this sense the Players remain outside the game. To understand this counterintuitive idea, it is worth remembering that Players cannot physically enter a computer game, and therefore can only act via a ‘representational device [which] stands proxy for what (or who) it represents’ (Lynch, 2014 p.324). However, an ontological distinction remains between the representation and that which is ostensibly represented (Barad, 2003 p.804). A similar example may be observed in a board game where one Player needs to retire and, to keep the game going, another steps in to take their place. In this situation the Avatar of the playing piece is, in effect, withdrawn (or disarticulated) from one Player and articulated as the other.

⁴ The Small Business, Enterprise and Employment Act (2015) mandates that all directors of UK corporations must be Natural Persons, as opposed to Artificial Persons, however as of the time of writing its commencement has been delayed so that it is not yet in force.
This situation intriguingly resembles that where an ambassador, presents their ‘letter of credence’ (allowing them to represent their government to a foreign power), while also presenting a ‘letter of recall’ to the previous ambassador.

Computer games or other simulated online environments offer great potential for research (Bainbridge, 2007), and a field has developed wherein analyses framed around real-world laws and practices are applied to these simulations (Balkin, 2004; Bradley and Froomkin, 2004; MacInnes, 2006; Westbook, 2006). However, they also have the potential to illustrate real-world problems. By applying the logic of games to the real world, the phenomenon of ‘articulation’ can be illustrated before being used to analyse existing legal and economic systems.

Before interaction can occur within any game/system, an actorial identity must be articulated; that is, identified or created. For example, a user of an online system—whether this be a game or a social networking website—must register an account, and in doing so, acquire a means to interact within the system; an Avatar by which they are represented (Capin et al., 1999). Much like other registers, such as those of the banking system (Millo et al., 2005), this constitutes a Framework within which interaction can take place between previously disconnected actors. Players are not, themselves, within the system, even if their Avatar carries their name; yet they have the capacity to act within it through the medium of the Avatar. This can be illustrated by analogy to a rail network, composed of several nodes known as stations. The stations themselves often carry the names of the towns or cities in which they are located; they are articulated as being ‘Sheffield’, ‘Leicester’ or ‘Derby’, and within the Framework that is indeed what they represent, so that the stations can be seen as Avatars within the rail Framework. As such, even though they carry the name of a city, they
are not literally the city itself, but rather a point within the rail Framework that interfaces with the city. Similarly, the word ‘Leicester’ in the context of the rail Framework designates that particular node of the Framework itself, while in other contexts the same word would designate a node within another Framework, where such exists; this could be a football team, a university or the branch a business. Consequently, Avatars are not merely self-contained entities freely existing, but rather bounded nodes within the Frameworks in which they are articulated. A social media account exists within the Framework of the social media Framework; a train station exists within the rail Framework, and a legal person exists within the legal Framework, however that is not to say that any of these are entirely closed systems.

In the UK and Ireland, when a corporation is registered it is assigned a unique Company Number, which identifies that entry, or account, in the country's registry of companies. The taxation authorities issue a different number, identifying the corporation's account there, through which taxation liabilities are settled.

In applying our schema to describing these two areas of activity, we term them the legal Framework and taxation Framework.

3.6 Apple's Avatars

There has been much attention paid in recent years to the way in which Apple Inc. structures its activities outside the United States (Linden, Dedrick and Kraemer, 2011; Clelland, 2011); particularly in relation to the corporate structure of its Irish subsidiaries, which has been the subject of investigation by both the European Commission (2016a) and the United States
Senate's Permanent Subcommittee on Investigations (2013). The latter considered the purported status of these subsidiaries; whether they were merely instrumentalities of the parent company and should be treated as such. These entities are identified in the diagram below.

Figure 2 - Part of Apple Inc.'s group structure, depicted using our schema. Adapted from Permanent Subcommittee on Investigations (2013, p.192).

As Apple Inc. is incorporated in the United States, according to the country's taxation model it should pay tax there, including on dividend, interest and royalty payments (termed 'passive income') between controlled non-US subsidiaries (Permanent Subcommittee on Investigations 2013, p.6). However, the 1996 introduction of the 'check-the-box' accounting classification by the IRS gave rise to the category of a 'disregarded entity' whereby for
taxation purposes a corporation could elect to treat itself and its subsidiaries as if they were all a single corporation (Hayes, 1997 p.1160). Together with a 2006 change to tax laws on offshore income, this meant that by declaring its Irish subsidiaries to be 'disregarded entities' on tax forms, Apple Inc. was not required to pay taxes in the US on offshore transfers to its Irish subsidiaries. Meanwhile, under Irish tax law companies are only considered to be resident in Ireland if they are controlled and managed there, but the companies in question were controlled and managed from the US (Permanent Subcommittee on Investigations 2013, p.3). Although the companies were legally registered in Ireland, because the head offices of both Apple Operations Europe and Apple Sales International were said to be outside of Ireland, and as most profits were allocated to these offices, the overwhelming share of their activities were said to not be taxable in Ireland (European Commission, 2016a). Similarly Apple Operations International was not taxable in either the US or Ireland (Permanent Subcommittee on Investigations 2013, p.3), so that using this structure, Apple was able to avoid paying tax on a sum in excess of $100 billion (Permanent Subcommittee on Investigations, 2013 p.2).

On the one hand, Apple Inc. represented the three Irish companies as being in a separate jurisdiction from Apple Inc., so that their profits were not subject to US corporation tax. On the other hand, in Ireland they represented them as not being controlled and managed in Ireland, and so not subject to corporation tax there. Finally, transfers from subsidiaries in other jurisdictions (such as Apple Retail UK Limited) to the three Irish companies could have been taxable, but for these purposes the subsidiaries were treated as 'disregarded entities', as if they were all part of one corporation—the subsidiaries are consolidated into the parent and disappear. Since a transfer within a single corporation is not a taxable event, tax liability for
these transfers was also avoided.

To use our terminology, we would say that for corporation tax purposes, in the US tax Framework, the initial actor, Apple, articulated itself as being in the US legal Framework and articulated its three Irish Avatars (AOI, AOE and ASI) as being in the Irish legal Framework. Meanwhile, in the Irish tax Framework, Apple articulated the same Avatars as being in the US legal Framework. Concerning passive income, Apple articulated that it had no Avatars.

Figure 3 - Apple Inc. in its treatment of subsidiaries as disregarded entities.

We have shown that Avatars exist within Frameworks; Apple Inc. exists within the United States legal Framework. Both the United States and Apple Inc. are recognised as legal persons, yet one exists within the other. This, we describe as nestedness, which we explore in the next section.

3.7 Nestedness

What is at one level a Framework (e.g. the US legal system), within which Avatars exist, is at another level itself an Avatar—a created identity. This nested quality is illustrated with the example of the corporation and social media platform, Facebook. From the perspective of an
employee or investor in Facebook Inc., the corporation is a second order Avatar. That is, a living man or woman must act through an intermediate entity, a Natural Person, in order to act in some capacity within (or as / as part of) the corporation.

Meanwhile, users can utilise Avatars within the social media platform directly, without necessarily utilising an intermediate Avatar. A man or woman can select a name, an Avatar, of their choosing when using this Framework.

A man or woman (Player) using this Framework might choose to use the same name for their Facebook Avatar as for their Natural Person. This might be seen as a connection of sorts between the Facebook Framework and legal Framework. However, such a connection is made firmer in cases where administrators of the Facebook Framework insist upon verification of the ‘user’s’ identity. This can happen in instance of a user losing access to the account, or where there is suspicious activity. Where this happens, the user is articulated as being a specific Natural Person (e.g. Mr Joe Bloggs). Where previously the Facebook account
was a first order Avatar of the Player, it is now a second order Avatar of the Player, as an intermediate Avatar has been interposed in between (compare figures 5 and 1).

Figure 5 - Facebook user articulated as a Natural Person

3.7 Why Bitcoin\(^5\) is different

Much as with the Facebook Framework, for a Player to interact with the Bitcoin Framework, they must first articulate an Avatar, known as a ‘key’ (both public and private) (see Ly, 2014

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\(^5\) In referring to ‘Bitcoin’ specifically, we do not exclude other cryptocurrencies, but take it to some extent as a synecdoche for this varied and exotic family, with the caveat that due to the variations in their respective designs, not all cryptocurrencies share the fundamental properties that would enable them to be subsumed within this shorthand, or to match the descriptions provided.
for a description of the Bitcoin ecosystem). This Avatar provides an interface through which the Player interacts with other Avatars, and as in other Frameworks the Player remains outside of the Framework, and their actions are seen to be those of their Avatar. In this way it is not particularly distinct. What does separate it from other Frameworks, however, is that it is not nested within the legal Framework.

In contrast, a social media Avatar or online game Avatar is nested within the internal Framework⁶ of the corporation that created the social media platform or online game, respectively, and the corporation itself is nested in the legal Framework. Where a payment is made by actors, for the use of an online game, this action takes place between Avatars within the legal Framework. All such transactions connect back to first order Avatars; the Natural Person of the customer, and, ultimately, the Natural Persons of the corporation’s employees, directors and shareholders.

However, the Bitcoin Framework operates differently. Bitcoins are not held in a bank account, and unlike most shares, there isn't an ownership register that identifies legal persons as the owners (Ly, 2014). In this sense they might be compared to bearer shares, although again there are differences in that the bearer shares represent rights within the legal Framework, while bitcoins broadly do not (with limited recognition being granted in some countries). When a payment is made via Bitcoin, no such connections as those described above need to be present. The transaction takes place within the Bitcoin Framework, but does not necessarily involve Avatars of the legal Framework. Players utilising the Framework, via the keys which serve as Avatars, operate outside the legal Framework, and said keys are

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⁶ Where the Player has articulated the user as being a legal person.
effectively new first-order Avatars, without evident connection to pre-existing Avatars utilised by the Player in other Frameworks. That is to say, in using the services of a bank a Player must operate through two levels of Avatars within the legal Framework; a first-order Avatar (a Natural Person) and a second-order Avatar, in the form of the bank itself.

Contrastingly, in the Bitcoin Framework a Player may operate more directly, through only a first order Avatar.

Figure 6 - Avatars in the Bitcoin Framework

A significant property of the Bitcoin Avatars - the public keys that serve as accounts within that system - is that they can be created at the press of a button. Indeed, while in other Frameworks described above transactions or interactions will typically occur repeatedly through generally fixed and limited numbers of Avatars, in principle a new Bitcoin Avatar could be created for each transaction/interaction.

Comparing this mechanism of operation to the international structuring of multinational
corporations, such as that illustrated in the Apple example, there are some commonalities. Both utilise multiple Avatars, and in so doing avoid taxation of transactions. A significant difference between the two examples is that Apple’s corporate structure falls within legal Frameworks (even if it arguably may fall out of taxation Frameworks), while Bitcoin Avatars are largely outside of legal Frameworks; a point considered further below. More significant, perhaps, are the relative costs involved in each, with Apple’s corporate structure involving considerable setup and maintenance costs, including those associated with recruiting legal and taxation services. The barriers to accessing the Bitcoin Framework are considerably lower than those involved in setting up a multinational corporate structure, requiring only a computer, phone or other suitable electronic device. One key point, however, is that for those already acting within the Framework, the articulation of a new Avatar is a costless and practically instantaneous action. In contrast, even in jurisdictions with relatively streamlined corporate registration such as the UK, setting up a new Avatar within the legal Framework is not without cost, or processing time. Critically, the property which most separates the two examples is that new Avatars within the legal Framework are explicitly linked to pre-existing Avatars, while those within the Bitcoin Framework, broadly, are not. That is, a pre-existing Avatar is required to articulate a new one within the legal Framework; even the registration of a Natural Person is an action initiated by an ‘informant’, and registered by a registrar, themselves acting via the Avatar of a legal person. Within the Bitcoin Framework, each Avatar is explicitly independent of each other.

That is, while Germany, for example, has proposed to make Bitcoins taxable (The Telegraph, 2013), this is not a proposal to place Bitcoins within that legal Framework per se, but rather transactions in Bitcoins between Natural Persons – who are already within the legal system.
The distinction is that it is the actions of the Avatars within the legal Framework that are subject to it, rather than the Bitcoin Framework itself. This is demonstrated where there are disputes involving actors utilising the Bitcoin Framework, as in 2014 when some $450 million in bitcoins went ‘missing’ when the bitcoin exchange Mt. Gox closed down (Reuters, 2014), and in June 2016 when a hacker succeeded in stealing $53m in digital currency from the DAO, a non-hierarchical collective Ethereum investment fund (Russon, 2016). This was also seen with the receivership of the corporation formerly operating the US-based Bitcoin trading platform Cryptsy.com (Riley, 2016), where it is alleged that account holders' funds were illegally taken by the operators.

In the latter case, those using the website operated not merely via first order Avatars (Bitcoin keys) but also a second order Avatar, in the form of an account on the Cryptsy trading platform, without requiring an Avatar of the legal Framework. That is, the Player was outside of the legal Framework. When the website stopped operating and its users could not access their accounts, they wished to raise a dispute. However, they could not do so in the capacity of one Avatar in the Bitcoin Framework acting against another Avatar of the Bitcoin Framework, since the Framework does not have an arbitration function. So instead the users raised a dispute within the US legal Framework.

This raises a problem, as transactions between Bitcoin keys per se are not subject to the control of the US legal Framework, however, transactions between US legal persons are.

To file the claim, the Players interposed a legal Avatar between themselves and the Bitcoin Framework. Just as is illustrated in Diagrams 1 and 5, regarding the use of the Facebook Framework, where initially the user was not articulated as being a legal Avatar, and
subsequently it was. Consequently, instead of a dispute between a Bitcoin key and a legal person, it was articulated as a dispute between a legal person and another legal person, both of which are within the US legal Framework. That legal Framework then effectively has control over those Bitcoin transactions, because it has control over the Avatars involved. A recent European Commission (2016b, p.30) directive demonstrates the same approach, as control is asserted over Bitcoin transactions where they are "accepted by natural or legal persons as a means of payment".

The above considers the utilisation of Avatars within the Bitcoin Framework by a Player, both directly (without a legal Avatar) and indirectly (via a legal Avatar). However, Bayern (2014 p.1492) notes another possibility; that computer software can operate a Bitcoin Avatar directly, transmitting value “without interacting with the existing financial system—and perhaps, as it turns out, without even interacting with humans.”. That is, the only identity directly involved in the operation of such an autonomous system would be a Bitcoin Avatar. Further, Bayern suggests a curious, if anomalous possibility: that such an autonomous system could even hold legal personhood. He describes how, due to what may be a legislative oversight, in New York “it appears remarkably straightforward to set up a perpetual LLC that has no members in its final, planned operational state.” (Ibid,p.1497). With such a corporation operated by an artificial intelligence, via a Bitcoin Avatar, he foresees the potential for the realisation of the ‘self-owning company’ envisioned by Wolff (1938, pp.505-506), Conard (1976, p.160) and Dan-Cohen (1986, pp.46-49). However, a scenario like this would not confer all of the attributes of legal personhood, and would render such an autonomous system “merely the “instrumentality” of a legal person under existing law” (Bayern, 2015 p.112). Häusermann (2016) doesn’t see the same potential under current Swiss
law, but suggests that while this is uncharted legal territory, the likelihood is that as the sophistication of such systems improves there will be demand for autonomous corporations, potentially replacing human managers and boards of directors, albeit not at the governance level of determining a corporation’s purpose. With the growth in the potential for blockchain-executed contracts (Bloomberg, 2017; Reuters, 2017) there is now the prospect of Bitcoin-like technology being used to manage corporate governance, finance, accounting and payroll functions (Mizrahi, 2017), so that autonomous organisations may be moving closer to a reality. This will call for a new understanding of legal persons and identity dynamics generally that is capable of distinguishing between human and non-human actors, and modelling the relations between them.

4. Conclusion

We have argued that legal personhood is not a universal attribute of human beings, but rather is created via accounting processes, via the recording of entries in registers. These persons serve as ‘Avatars’, and are distinct from the human beings that animate them, being components of the legal Frameworks in which they exist. We have proposed a conceptual schema for modelling and analysing the core dynamics of such systems which indicates that the ‘Avatars’ which populate them are nested in nature, so that an Avatar at one level can itself comprise a ‘Framework’ within which other Avatars exist. We have demonstrated the application of this schema with reference to the social media platform Facebook, to Apple Inc.’s group corporate structure, and to the cryptocurrency Bitcoin.

The schema is not intended as a replacement for legal terminology in academic discussion, or
to be utilised in describing the kinds of minutiae to which legal terminology is best adapted. However, we argue that legal Frameworks employ language in such a way as to obscure meaning (Fowler 1995) and conceal dynamics of both the system itself and that which is external to it, so that the latter is rendered invisible. The contribution of this paper is to provide a schema that renders visible many of these distinctions, and provides a means of describing them, enabling a degree of comparability between systems on the plane of relations between identities and the matrices within which they exist. To describe an 'avatar' of a 'Framework' shortcuts legal jargon and technical language of other fields as well as avoiding the ambiguity inherent in trying to describe systems within their own loaded terms of reference.

Taken together, the model provides a novel understanding of how actorial identity is created and maintained within an institutional context, and the crucial role played by legal discourse in the constitution of both actors and institutions. Particularly, the paper highlights the separation between a living being and Natural Person; between a 'Player' and their legal 'Avatar'; a distinction which is otherwise not made in the literature.
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