

# Additional Thoughts Concerning the Legal Status of a Non-biological Machine

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## Abstract

Law, as a pragmatic tool, provides us with a way to test, at a conceptual level, whether a humanly created non-biological machine could be considered a legal person. This paper looks first at the history of law in order to set the foundation for the suggestion that as a normative system it is based on a folk psychology model. Accepting this as a starting point allows us to look to empirical studies in this area to gather support for the idea that “intentionality”, in the folk psychology sense, can give us a principled way to argue that non-biological machines can become legal persons. In support of this argument I also look at corporate law theory. However, as is often the case, because law has historically been viewed as a human endeavor, complications arise when we attempt to apply its concepts to non-human persons. The distinction between human, person and property is discussed in this regard, with particular note being taken of the concept of slavery. The conclusion drawn is that intentionality in the folk sense is a reasonable basis upon which to rest at least one leg of an argument that a non-biological machine can be viewed as a legal person.

## 1. Introduction

Law is a socially constructed, intensely practical evaluative system of rules and institutions that guides and governs human action, that help us live together. It tells citizens what they may, must, and may not do, and what they are entitled to, and it includes institutions to ensure that law is made and enforced. (Morse 2004)

This definition, on its face, seems to be elegant and concise but, like an iceberg, it is deceptive. In order to determine whether “law” has any normative value when it is used to evaluate the idea of treating a non-biological machine as a legal person we first need to gain at least a basic understanding of how this thing we call “law” is formulated at a conceptual level. By understanding what we mean when we speak of law, where it derives its ability to regulate human conduct, we can perhaps begin to formulate criteria by which some aspects of law could also be used to test the idea that something we have

created in a machine substrate is capable of being designated a legal person. Once we have set the framework, we can begin to look at specific components of law and the interaction of law and other fields of study such as folk psychology to determine if they have any applicability in guiding designers of non-biological machines. If our inquiry can be made in a way which is meaningful to both those who will be faced with deciding how to regulate such an entity and to the designers who are actually making the effort to create such an artifact, then it is worth the effort. As stated by Solum (1992):

First, putting the AI debate in a concrete legal context acts as a pragmatic Occam’s razor. By examining positions taken in cognitive science or the philosophy of artificial intelligence as legal arguments, we are forced to see them anew in a relentlessly pragmatic context. ...

Second, and more controversially, we can view the legal system as a repository of knowledge – a formal accumulation of practical judgments. ... In addition, the law embodies practical knowledge in a form that is subject to public examination and discussion.

As with most endeavors, it is often the question one asks at the outset which determines the nature of the debate and directs the form of the ultimate outcome. If we want to design a non-biological machine which we will at some later point in time claim has the same legal attributes we now ascribe to humans or other specific entities, we should determine as early as possible in the process whether the result we seek will stand up to scrutiny. One way to do this is to ask if the machine will ever be able to meet the criteria established for a “legal person”. Only in this way will the results of the design effort be amenable to evaluation in a way which is consistent with the way humans govern themselves and view each other.

## 2. Law as a Normative System

While acknowledging that there are many variations and nuances in legal theory, it is generally recognized that there have been two major historic themes which

have, for the last few hundred years, dominated the debate about what “law” means.

One of the most familiar ideas to western societies is the concept of natural law, which was originally based on the Judeo-Christian belief that God is the source of all law. It was this belief which underpinned most of western civilization until the Enlightenment period. Prominent thinkers such as Augustine and Thomas Aquinas are two examples of this predominant orthodoxy. In essence, natural law proponents argue that law is inextricably linked with morality and therefore an ‘unjust law is no law’.

With the Enlightenment came a decreasing emphasis on God as the giver of all law, and an increasing development of the idea that humans possessed innate qualities which gave rise to “law”. As members of society, humans were capable of effecting their own decisions and consequently were entitled to govern their own actions based upon their intrinsic worth as individuals. While this concept was originally suggested by Hugo Grotius (1625), and later refined by John Locke (1739/1967), it arguably reached its most notable actual expression in the system of laws ultimately idealized by the drafters of the United States Declaration of Independence. Drawing on a similar argument and applying it to moral philosophy, Emmanuel Kant hypothesized that humans were, by the exercise of their reason, capable of determining rules that were universally acceptable and applicable, and in turn able to use those rules to govern their conduct. (Kant 1785)

More recently, John Finnis, building on ideas reminiscent of Kant, has outlined what he calls basic goods (which exist without any hierarchical ranking), and then has posited the existence of principles which are used to guide a person’s choice when there are alternative goods to choose from. These principles, which he describes as the “basic requirements of practical reasonableness”, are the connection between the basic good and ultimate moral choice. Derived from this view, law is the way in which groups of people are coordinated in order to effect a social good or to ease the way to reach other basic goods. Because law has the effect of promoting moral obligations, it necessarily has binding effect. (Finnis 1980) Similarly, Lon Fuller argued that law is a normative system for guiding people, and must therefore have an internal moral value in order to give it its validity. Only in this way can law fulfill its function; to subject human conduct to the governance of rules. (Fuller 1958; 1969) Another important modern theorist in this natural law tradition is Ronald Dworkin. Dworkin advocates a thesis which states in essence that legal principles are moral propositions grounded on past official acts such as statutes or precedent. As such, normative moral evaluation is required in order to

understand law and how it should be applied. (Dworkin 1978)

In contrast to the basic premise of natural law, that law and morality are inextricably intertwined, stands the doctrine of legal positivism. Initially articulated by Jeremy Bentham, and derived from his view that the belief in natural rights was “nonsense on stilts”, criticism of natural law centered around the proposition that law is the command of the sovereign, while morality tells us what law ought to be. (Bentham 1824) This idea of law as a system of rules “laid down for the guidance of an intelligent being by an intelligent being having power over him”, was given full voice by Bentham’s protégé, John Austin. In its simplest form this idea is premised on the belief that law is a creature of society and is a normative system based upon the will of those ruled as expressed by the sovereign. Law derives its normative power from the citizen’s ability to know and predict what the sovereign will do if the law is transgressed. (Austin 1832)

Austin’s position, that law was based on the coercive power of the sovereign, has been severely criticized by the modern positivist H.L.A. Hart who has argued that law requires more than mere sanctions: there must be reasons and justifications why those sanctions properly should apply. While neither of these positions rule out the overlap between law and morality, both do argue that what constitutes law in a society is based on social convention. Hart goes further and states that this convention forms a rule of recognition, under which the law is accepted by the interpreters of the law, i.e. judges. (Hart 1958; 1961) In contrast, Joseph Raz argues that law is normative and derives its authority from the fact that it is a social institution which can claim legitimate authority to set normative standards. Law serves an essential function as a mediator between its subjects and points them to the right reason in any given circumstance, without the need to refer to external normative systems such as morality. (Raz 1975)

It is conceded that the above exposition is vastly oversimplified and does not do justice to the nuances of any of the described theories. None the less, it can serve as a basis upon which to premise the contention that despite the seeming difference between the two views of law, there is an important point of commonality. Returning to the definition with which we started this paper, we can see that it is inherently legal positivist in its outlook. However, its central idea, that law is a normative system by which humans govern their conduct, seems to be a characteristic shared by both major theories of law and therefore is one upon which we can profitably ground some further speculation. To the extent that law requires humans to act in accordance either with a moral norm established in accordance with a theological or natural

theory, or to the extent it is a normative system based on one's recognition of and compliance with a socially created standard of conduct, it is premised on the belief that humans are capable of, and regularly engage in, independent reflective thought and are able to make determinations which direct their actions based upon those thoughts. Described in a slightly different way, law is based on the premise that humans are capable of making determinations about their actions based on reason.

Human action is distinguished from all other phenomena because only action is explained by reasons resulting from desires and beliefs, rather than simply by mechanistic causes. Only human beings are fully intentional creatures. To ask why a person acted a certain way is to ask for reasons for action, not the reductionist biophysical, psychological, or sociological explanations. To comprehend fully why an agent has particular desires, beliefs, and reasons requires biophysical, psychological, and sociological explanations, but ultimately, human action is not simply the mechanistic outcome of mechanistic variables. Only persons can deliberate about what action to perform and can determine their conduct by practical reason. (Morse 2004)

Similarly, Gazzaniga and Steven (2004), express the idea as follows:

At the crux of the problem is the legal systems view of human behavior. It assumes (X) is a "practical reasoner", a person who acts because he has freely chosen to act. This simple but powerful assumption drives the entire legal system.

While this perspective is not universally accepted by philosophers of law, it can be used as the basis from which to argue that despite obvious difficulties, it is not entirely illogical to assert that a non-biological machine can be treated as a legally responsible entity. Interestingly enough, it is possible that while the criteria we establish may affect the basic machine design, it is equally likely that if the design is ultimately successful, we may have to revisit some of the basic premises of law.

### **3. Law and Folk Psychology**

As the quote which began this paper suggests, law is based upon the idea that it has as its target, entities which are susceptible to practical reason. Morse has also written that law "employs the folk psychology model of human action". (Morse 2004a) Consequently, if, for the sake of argument, we accept this formulation of the law, then we can use studies of folk psychology to determine if there are some empirical findings that will shed light

on how we can delineate the parameters of a legal person. If we do in fact accept the argument that looking at folk psychology is a legitimate exercise to further examine whether the creation of an artificial entity, which follows this model, can by definition be viewed as a legal person, we can further speculate on the effects of this attribution. It is just such a line of speculation which follows in this paper.

At the outset a word of caution is required. It is important to point out that this paper deals with isolated attributes and not overall theories which would fully define a legal person. What follows is not a complete answer to the question of what are the necessary and sufficient attributes of a legal person. That task is well beyond the scope of this short paper. Elsewhere, I have suggested that autonomy is one attribute of this overall ascription and I will not address that point further here. (Calverley 2005) In this paper I am suggesting a second aspect of the overall picture, one which has been addressed both in the context of folk psychology and also in corporate law theory: the concept of "intentionality". Let us begin by looking at what acceptance of the idea that law follows the folk psychology model might suggest about intentionality.

There are at least two meanings of the word "intentionality", and those meanings should not be confused because they are not the same. From a philosophical point of view, starting with Franz Brentano and continuing through later commentators, the philosophical idea of intentionality has referred to the ability of our thoughts to be about something or to represent something. For example, the sentence, "The White House is in Washington D.C.", is a sentence about the location of the White House, and also a statement about a feature of Washington D.C., namely that it is the site of the White House. John Searle has stated that "(i)ntentionality is that feature of the mind by which mental states are directed at, or are about or of, or refer to, or aim at, states of affairs in the world." (Searle 1999) Further, there is no necessary connection between intentionality in this sense and consciousness. One can have an intentional belief even while one is asleep.

That is not what is meant by intentionality in law. Nor, as we will see in a moment, is it what is meant by intentionality in folk psychology.

The law clearly treats people as intentional agents and not simply as part of the biophysical flotsam and jetsam of the causal universe. ... (L)aw and morality are systems of rules that at the least are meant to guide or influence behavior ... They operate within the domain of practical reason. ...

All things being equal, intentional action or forbearance is the only aspect of the human condition that is fully “up to us,” that is fully within our control, and that can be fully guided by and produced by our reason. (Morse 2004a)

From this we see that the legal definition of intentionality differs from the philosophical. Legal intentionality is concerned more with the concept that people act for reasons which they themselves control. Likewise, folk psychology has a different perspective.

According to the folk psychology conception, the direct cause of an “intentional action” is an “intention”. An intention is action directed. It is based, in a hierarchical relationship, upon two inter-related but different concepts; a desire for an outcome, and a belief about the consequences of the act before it takes place. Both components are necessary to form an intention, so in this sense the intention is derived from the presence of desire and belief, but they are not sufficient for us to take the next step and ascribe intentionality on the strength of the existence of an intention alone. Similarly, desire alone, or belief alone, is not sufficient to give rise to the intention. In order for an action to be performed intentionally, the intention has to be present as we have noted, but more is required. In order for there to be intentionality, there must be an intention coupled with action and accompanied by the skill to perform the act and awareness that the act is being performed. The awareness component specifies the agent’s state of mind at the time of acting (knowing what he or she is doing), and the skill component refers to the agent’s ability and skill to perform the action he or she intends. (Malle & Knobe 1997; Malle & Nelson 2003)

It is important to note that desire differs from intent in that intention represents a mental state which presages an action. It is based on reasoning and involves commitment to act whereas desire is not based on reasoning or commitment. We see from this that it is the intention that is relevant to the legal system because it is the point at which acting begins.

We need to be careful in this regard, because, as Malle and Nelson (2003) strongly suggest, the folk definition actually differs from the legal definition in large part because there really is no single clearly understood legal definition which is consistent. In fact, some of the legal definitions are often at odds with the folk sense of intentionality. For our purposes this simply means that we cannot apply legal definitions of intentionality taken from statutes or cases without further understanding the components which make them up and the instances to which they refer. To do so runs the risk of creating further confusion in the attempt to delineate a course of action which we can rely upon to lay out the parameters

of what it would take for a non-biological machine to become a legal person. However, in the broad theoretical sense we can still use the folk psychology definition as a way to argue in favor of it supporting our claim that it can serve as a component of legal personality. Again, a word of caution is in order. Recent work (Knobe, 2003; Nadelhoffer, 2005), seems to point to the fact that a persons view of the morality of an action also has significant impact on the determination of whether it was intentional or not. This has interesting implications for any position which is based on a purely positivist view of law, and may indicate that a natural rights view is more pervasive at a folk level. If this is the case, then designers of non-biological machines may have to take this moral component in to account as well.

Returning then to our analysis, if we can argue that a non-biological machine can form an intention and can act intentionally based upon that intention, there seems again to be no theoretical reason why it could not be viewed as a legal person by the average lay person applying common sense. But our intuition seems to tell us that more may be required, so our inquiry cannot stop at this point.

#### **4. Humans, persons and property.**

In presenting arguments which would tend to support the idea that a machine can in some way be developed to a point where it could make a plausible claim that it is entitled to legal recognition, other factors are implicated. Here I am specifically thinking about the issues which come to mind when we consider the related concepts of human, person and property.

Legal theory has historically drawn a distinction between property and person, but with the implicit understanding that person equates to human. In order to define a category of right holder which is distinguishable from human, but nonetheless comprehensible, we can resort, as has been done in the past, to a form of “fiction.” This proposition is subject to much debate, but at least one generally accepted instance where the fiction has been used can be shown by the comparison between a being of the species “homo sapiens” and the legal concept of the corporation as a person (Note, 1987).

Only when a legal system has abandoned clan or family responsibility, and individuals are seen as primary agents, does the class of persons coincide with the class of biological individual human beings. In principle, and often in law, they need not.... The issue of whether the class of persons exactly coincides with the class of biologically defined human being – whether corporations, Venusians, mongolian idiots, and fetuses are persons – is in part a conceptual question. It is a question about whether the

relevant base for the classification of persons requires attention to whether things look like “us,” whether they are made out of stuff like “ours,” or whether it is enough that they function as we take “ourselves” to function. If Venusians and robots come to be thought of as persons, at least part of the argument that will establish them will be that they function as we do: that while they are not the same organisms that we are, they are in the appropriate sense the same type of organism or entity. (Rorty, 1976)

The distinction between human and person is controversial. For example, in the sanctity of life debate currently being played out in the United States, serious arguments are addressed to the question whether a human fetus becomes a person at conception or at a later point of viability. Similar questions attach at the end of life: do humans in a persistent vegetative state lose the status of legal person while still remaining human at the genetic level. Likewise, children and mental incompetents are treated as persons for some purposes but not for all, despite the fact they are clearly human. From this we can conclude that personhood can be defined in a way which gives moral and legal weight to attributes which we ultimately define as relevant without the requirement that the entity either be given the full legal rights of competent adult humans or burden them with the duties those rights imply.

Others have stated “[i]n books of law, as in other books, and in common speech, ‘person’ is often used as meaning a human being, but the technical legal meaning of ‘person’ is a subject of legal rights and duties.” (Gray 1909) However, by qualifying this definition with the caution that it only makes sense to give this appellation to beings which exhibit “intelligence” and “will”, Gray equated person with human. In each instance cited, the authors are struggling to establish that law is particularly interested in defining who, or what, will be the objects to which it applies. In order to move our inquiry forward, a brief history of the concept of “person”, in juxtaposition to “human” will be helpful.

The word “person” is derived from the Latin word “persona” which originally referred to a mask worn by a human who was conveying a particular role in a play. In time it took on the sense of describing a guise one took on to express certain characteristics. Only later did the term become coextensive with the actual human who was taking on the persona, and thus become interchangeable with the term human. Even as this transformation in linguistic meaning was taking place, the concepts of person and human remained distinct. To Greeks such as Aristotle, slaves and women did not possess souls. Consequently, while they were nominally human, they were not capable of fully participating in the civic life of

the City and therefore not recognized as persons before the law. Because they were not legal persons, they had none of the rights possessed by full members of Athenian society. Similarly, Roman law, drawing heavily from Greek antecedents, made clear distinctions, drawing lines between property and persons, but allowing for gradations in status and in the case of slaves, permitting movement between categories.

As society developed in the Middle Ages in Western Europe, most particularly in England, the concepts of a legal person and property became less distinct. Over time, a person was defined in terms of the status he held in relationship to property, particularly real property. It was not until much later, with the rise of liberal individualism, that a shift from status based concepts to contract based concepts of individual rights forced legal institutions to begin to clarify the distinctions and tensions between the definition of human, person and property.

The idea that there is an underlying conflict between the view of “human” and “person” as the same thing, has been expressed in a somewhat different fashion as follows:

The apparent conflict between the definitions of “person” and “human being” as legal concepts seems to be an important one that needs to be addressed in relation to the liberal democratic preoccupation with the broad concept of rights and liberties.

...

The idea of rights and liberties is rooted, within a liberal democratic society, in the concept of property. This idea finds its best overall expression through the writings of Locke. The individual’s relationship to society and the state becomes the focus of these rights and liberties which are based upon the broad concept of property, so that participation within the political society as one of its members, becomes crucial for the preservation and self-fulfillment of the individual. Rights and liberties are an instrument to be employed in support of this role of the individual in order to guarantee the individual’s ability to participate completely and meaningfully as a member of society and to achieve the full potential as a citizen. It is only through being participating members of the political community that individuals can influence the state, determine its composition and nature, and protect themselves against its encroachments. (McHugh 1992)

It was from this view of a person as property holder that the so called Fiction Theory of corporate personality

initially derived. Because synthetic entities such as corporations were authorized by their state granted charters of organization to own property, they were deemed to be “persons”. In the earliest cases the idea that the corporation was an artificial entity was based solely on this derivative claim. It was only later, following the US Civil War, when courts were forced to respond to arguments based on the anti-slavery amendments, that the concept of a corporation as the equivalent of a person began to be articulated. The answer was that the use of the term “person” in the language of the 14<sup>th</sup> Amendment to the Bill of Rights<sup>1</sup> was broad enough to apply to artificial groupings of people not just humans. This idea, based on the view that corporations are nothing more than a grouping of individual persons who have come together for a particular purpose, has come to be known as the Aggregate Theory. It is beyond the scope of this paper to explore this dichotomy between the views in any detail because if we are correct that an artifact of human making can exhibit relevant characteristics for our purposes, such an artifact will not be an aggregation of humans. True, it may be the aggregation of human ideas and handiwork which led to its creation, but the issues raised by that assertion are better handled by other concepts such as intellectual property rights.

Can we look at this “fictional” entity and determine if intentionality has any bearing on how it is treated before the law? Certainly we can, if, as we have noted above, there is a distinction between a legal person and a moral person, and we set that distinction aside for the time being and focus more on the underlying conditions required for there to be any sort of “intentionality”. With this caveat, we see that the topic has been the subject of some debate in the literature. Peter A. French is perhaps the person most noted for advocating the idea that a corporation is something more than a mere legal fiction or an aggregation of human employees or shareholders. His view is that the corporation has natural rights and should be treated as a moral person, in part because it can act intentionally. In this context French uses the term “intentionally” in virtually the same sense that the folk psychologists do. Thus, it offers some meaningful basis for comparison.

French’s premise is that “... to be a moral person is to be both an intentional actor and an entity with the capacity or ability to intentionally modify its behavioral

patterns, habits, or modus operandi after it has learned that untoward or valued events (defined in legal, moral, or even prudential terms) were caused by its past unintentional behavior.” (French, 1984)

Needless to say, French is not without his critics. Donaldson (1982) argues from an Aggregate Theory stance that the corporation cannot have a single unified intention to act. He then goes on to argue that simply having intention is not enough to make the claim that the actor has moral agency, a position at odds with most of the animal rights movement. Werhane (1985) carries this point further and, using the example of a computer system, argues that the appearance of intentionality does not necessarily mean that it acts out of real desires or beliefs. In other words intentionality does not imply that it is also free and autonomous. While I recognize Werhane’s point, I disagree that such a system is impossible to construct. One example of a theory which could lead to just such a functional artificial agent is set forth in Pollock (2006). Further, drawing on Daniel Dennett’s ideas concerning intentional systems, one can certainly argue that Werhane’s position requires one to accept the premise that only phenomenological intentionality counts for moral and perhaps legal purposes. But that does not appear to be supported by intuition. Functional intentionality is probably enough in a folk psychology sense to convince people that a non-biological system is acting intentionally. Solum (1992) suggests as much in the following language:

How would the legal system deal with the objection that the AI does not really have “intentionality” despite its seemingly intentional behaviors? The case against real intentionality could begin with the observation that behaving as if you know something is not the same as really knowing it. ... My suspicion is that judges and juries would be rather impatient with the metaphysical argument that AIs cannot really have intentionality. ...

If the complexity of AI behavior did not exceed that of a thermostat, then it is not likely that anyone would be convinced that AIs really possess intentional states—that they really believe things or know things. But if interaction with AIs exhibiting symptoms of complex intentionality (of a human quality) were an everyday occurrence, the presumption might be overcome.

## 5. Potential problems

But before we go further it is necessary to turn to a possible further complication if we were to uncritically accept the position just asserted. This problem also arises from the dichotomy we mentioned earlier between person and property. If we are to ascribe to an AI moral

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<sup>1</sup> Section 1. All persons born or naturalized in the United States, and subject to the jurisdiction thereof, are citizens of the United States and of the state wherein they reside. No state shall make or enforce any law which shall abridge the privileges or immunities of citizens of the United States; nor shall any state deprive any person of life, liberty, or property, without due process of law; nor deny to any person within its jurisdiction the equal protection of the laws.

agency because of its functional attributes of intentionality for example, and derive from that the conclusion that the AI is in fact entitled to make an argument that it is a person (either legal or moral, it really does not matter for this purpose), then it is equally conceivable that the AI could claim that it is a person for constitutional purposes. In this context most commentators, including Solum for example, refer to the United States Constitution which secures enumerated rights to “persons”, but the argument does not necessarily need to be restricted in this fashion particularly if one accepts a natural law view of the world.

Perhaps the most obvious and well known social institution where this tension came to the attention of the Courts was with the institution of slavery. As a preliminary note, although slavery as practiced in the seventeenth, eighteenth, and nineteenth centuries, particularly in the Americas, had, at least superficially, a strong racial component, most of the actual writings and cases from contemporary sources indicate that race actually played only a small part in the legal discussions of the institution. The theoretical underpinnings were non-racial in origin and related more to status as property than to skin color. (Tushnet 1975) This was also true in other countries at the same time such as Russia with its system of serfdom, which was clearly as oppressive as American slavery.

In looking at the reported cases decided at that time, we can see that the real struggle the Courts were having was with the justification of defining a human as property, that is, as a non-person for purposes of the law. In a famous English case, *Somerset's case*, a slave was brought from the Americas to England by his owner. When he arrived, he argued that he should be set free by his master. The master's response was that he was property and should not be free. The Court stated that there was no issue with the black man's humanity, he clearly was human. As a slave, he had been deprived of his right to freedom and was treated as property in parts of the world. However, because there was no provision in English positive law which permitted a human being to be deprived of his freedom and treated as property, he could not be deemed a slave under English law. Note however, the careful way in which the ruling was limited to the fact that it was positive law which did not allow the enslavement of this human and thereby led to the conclusion that *Somerset* could not continue to be held as a slave. The clear implication is that if positive law had been different, the result might also have been different. The Court was drawing a clear distinction between *Somerset's* status as a human and his status as a legal person. Similar theoretical justification can be seen in early cases decided in the United States, until the passage in most southern states of what are generally called the

Slave Acts. From this we can conclude that it is the exercise of positive law, making, defining and formalizing the institution of slavery through manipulating the definition of the legal concept of person that is the defining characteristic of these cases. It is not the slave's status as human being.

To the extent that the machine is “only property” then there is no reason to even consider the issue of slavery. None of us would suggest for an instance that my computer is a slave or that even my dog, which has a claim to a certain level of moral consideration, is anything more than my property. I can sell either of them, I can put them to work in my interest so long as I do not abuse them, and I can routinely restrict their freedom in myriad ways. So too would be the case with our theoretical machine so long as it did not exhibit something more. It is only if we begin to ascribe human like characteristics and motives to the machine that we implicate more serious issues. Once we do however, then we open up the entire scope of moral and legal issues and we must be prepared to address the potential criticism in a forth right manner.

It is beyond the scope of this short paper to delve into what are the necessary and sufficient conditions to definitively establish that something is a legal person. (Solum 1992; Rivaud 1992) It is my more limited contention that, if we accept the notion that the definition of legal person is a concept about which we do not as yet have defining limits, folk psychology gives us a starting point from which to begin our analysis. While it may not be easy to determine whether the aspects we have discussed are necessary and sufficient to meet the minimum requirement of legal personhood, it is possible to get a meaningful sense of what would be acceptable to people if they were faced with the question. Certainly under some theories of law, such as positivism, it is logically possible to argue that to the extent law defines what a legal person is, law could simply define a legal person to be anything law chooses it to be, much like Humpty Dumpty in *Alice in Wonderland*, “nothing more and nothing less”. But, this would be a meaningless exercise and intellectually barren. If on the other hand, law, rather than being viewed as a closed system which makes up its own rules and simply applies them to its objects, was in fact viewed as a limited domain which, while it did not necessarily rely upon morality for its validity, drew upon factors outside the law to define its concepts, we could articulate the concept of a person by using factors identified by folk psychology, which are related more to function, without the need for phenomenal consciousness. So long as the non-biological machine has a level of mental activity in areas deemed relevant to law, such as autonomy or intentionality, then it could be a legal person with

independent existence separate and apart from its origins as property. Given the wide range of entities and the variety of types of conduct that the law has brought within its scope, we need to identify those aspects of what Leonard Angel called “functional simimorphy”. (Angel 1989) Certainly there is just this type of simimorphy when we look at corporations, and I suggest that nothing we have seen so far requires us to categorically rule out non-biological entities from the equation. If this simimorphy is found to exist in the case of our non-biological machine then not only must we consider its status as a legal person, but all of the implications which flow from that conclusion.

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