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Legal personality of robots, corporations, idols and chimpanzees: a quest for legitimacy

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Abstract

Robots are now associated with various aspects of our lives. These sophisticated machines have been increasingly used in different manufacturing industries and services sectors for decades. During this time, they have been a factor in causing significant harm to humans, prompting questions of liability. Industrial robots are presently regarded as products for liability purposes. In contrast, some commentators have proposed that robots be granted legal personality, with an overarching aim of exonerating the respective creators and users of these artefacts from liability. This article is concerned mainly with industrial robots that exercise some degree of self-control as programmed, though the creation of fully autonomous robots is still a long way off. The proponents of the robot's personality compare these machines generally with corporations, and sporadically with, inter alia, animals, and idols, in substantiating their arguments. This article discusses the attributes of legal personhood and the justifications for the separate personality of corporations and idols. It then demonstrates the reasons for refusal of an animal's personality. It concludes that robots are ineligible to be persons, based on the requirements of personhood.

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2 **A Quest for Legitimacy**

3 **Abstract**

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5 machines have been increasingly used in different manufacturing industries and
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16 personhood and the justifications for the separate personality of corporations and
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18 concludes that robots are ineligible to be persons, based on the requirements of
19 personhood.

20 *Keywords: Legal Personality, Robots, Corporations, Idols, Chimpanzees*

21 *Running Title: Legal Personality of Robots*

22 **1. Introduction**

23 Robots have been slowly but steadily permeating our life in many respects, ranging
24 from manufacturing industries to the administration of justice. Amongst their various

25 usages, the increase in the use of industrial robots (IRs or IR in singular) is perhaps
26 most phenomenal. The International Federation for Robotics (IFR) in a 2015 report on
27 IRs found an increase in the usage of robots by 29 percent in 2014, which recorded
28 the highest sales of 229,261 units for a single year (IFR 2015). IFR estimates that
29 about 1.3 million new IRs will be employed to work alongside humans in factories
30 worldwide between 2015 and 2018 (IFR 2015). IFR has termed this incredible rise as
31 ‘conquering the world’ by robots (IFR 2015).

32

33 Parallel to this proliferation of IRs, IFR predicts an exponential rise in service robots
34 too, which will reach 31m by 2018 (Cookson 2015). The Foundation for Responsible
35 Robotics (FRR) identifies the areas of usage of service robots: these machines are
36 operational in, inter alia, entertaining and taking care of children and elderly people,
37 preparing food and cooking in restaurants, cleaning residential premises, and milking
38 cows (Cookson 2015). There are presently a total of 12m service robots employed
39 across the globe, as reported by FRR (Cookson 2015).

40

41 The usefulness of robots is undeniable; however, what concerns us are the serious
42 risks associated with the usage of these robots, as co-workers at work or as
43 companions of the vulnerable in particular. This is because they have already been
44 involved in causing numerous deaths around the world. For example, there have been
45 a total of 26 deaths killed by robots’ malfunctions in the United States (US) over the
46 past 30 years, whilst the United Kingdom (UK) recorded 77 robot related fatal
47 accidents in 2005 alone (Noack 2015, quoted from *The Economist*). A recent accident,
48 in Frankfurt at a Volkswagen factory on 29 June 2015, was the death of a 22-year old
49 worker at the hand of a robot, but prosecutors are still undecided as to who should be

50 prosecuted for this tragic death (Bora 2015). Worryingly, the robotic industry itself
51 has its own share of accidents (Dhillon 1991). Even medical robots are not always
52 trustworthy: a recent study released in July 2015 reveals that surgical robots have
53 been linked to the deaths of at least 144 and injuries of 1,391 over a period of 14 years
54 (2000-2013) in the US (Alemzadeh et al. 2015). Many believe that even more harmful
55 consequences are ‘lying around the corner’ (Cookson 2015), and that these machines
56 are destined to take over the world (see Leenes and Lucivero 2014).

57 Despite such a distressing picture, legislators and policymakers remain largely
58 unmoved. Robotics Professor Noel Sharkey, Chairman of FRR, asserts that it is time
59 now to take action before robots cause further harm (Cookson 2015). Consistently, the
60 UK Health and Safety Executive emphasises the need for adequate protection of
61 people from malfunctioning collaborative robots at work (Health and Safety
62 Executive 2012). This protection requires regulation, which generally entails
63 ascription of liability for harm committed by humans or human-made machines.

64

65 Some academic discourse has viewed differently the need for the separate legal
66 personhood of the possessor of artificial intelligence (PAI) such as robots for decades
67 (Pagallo2013). Therefore, a debate persists in the absence of concrete guidelines
68 about the ‘persons’¹ to be held liable as to who should take responsibility for such
69 harm: the manufacturer, the employer, or the machines themselves. One group of the
70 debate argues that robots should be conferred with personality in order to exonerate
71 their makers and users from potential liability; the other group strongly opposes this
72 view. The primary basis of the proponent’s arguments is an analogy between robots
73 and corporations, though robots are sporadically likened to, animals and idols as well.

¹ The terms ‘person’ or ‘persons’ in this article refers to ‘legal personality’ unless otherwise mentioned, because we omit ‘moral personality’ from consideration in this piece.

74

75 This article critically examines the attributes of personality from legal points of view
76 in exclusion of moral personality² and applies them to corporations, idols,
77 chimpanzees and robots, with a view to finding a rationale for ascribing legal
78 personality to robots. Admittedly, corporations have legal personality recognised
79 worldwide; idols' legal personality is accepted in some jurisdictions, chimpanzees'
80 personality has been denied repeatedly, whilst robots' legal personhood has not been
81 recognised as yet anywhere, to the best of our knowledge. The analysis in this article
82 relies on both judicial and scholarly interpretations of the attributes of legal
83 personality, and concludes that industrial and services robots do not meet those
84 personhood qualities, and therefore the claim for their personality is unfounded.

85

86 **2. Concept of Legal Personhood – Creation and Recognition**

87 None of the three 'human' creations being robots, idols and corporations – nor the
88 animal chimpanzees that are the concern of this article can be defined as a person,
89 according to the ordinary dictionary meaning of the word, which recognises the
90 personhood of living human beings only. None of these three are rational-creations
91 with the capability of 'feeling' and 'willing' that would be directly comparable with
92 that of humans, except chimpanzees which have some similarities with human beings.
93 However, legal personhood is not necessarily synonymous with or confined to human
94 beings (*Byrn v New York City Health & Hosp Corp* 1972). When the term
95 'personality' comes to legal concepts, conferring this status (personality) on any entity
96 depends upon a given jurisdiction having an independent legal system. This is why
97 there is no uniformity across legal systems in recognising entities as a legal person

² For differences between legal and moral personality, see Blyth (1906).

98 (Gray 1909). For example, some idols are legal persons in some countries such as
99 India, but not in others, such as the UK, and this dissimilarity exists even though both
100 countries belong to the common law family (see *Bumper Development Corp Ltd v*
101 *Commissioner of Police of the Metropolis* 1991).

102

103 Generally, law confers certain rights and imposes specific duties on legal persons,
104 entitles them to own and dispose of property and to sue others in their own right in
105 order to enforce these entitlements, and permits them to be sued by others following
106 any breach of legal duty owed to another person or to the rest of the world. A person
107 is thus defined in law by reference to ‘rights’ and ‘duties’, which means that a legally
108 recognised person is subject to legal rights and duties (Smith 1928, see also Gray
109 1909). As defined in Black’s Law Dictionary, a person is a ‘human being,’ or ‘natural
110 person,’ and ‘[a]n entity (such as a corporation) that is recognised by law as having
111 the rights and duties of a human being’ (see *Matter of Nonhuman Rights Project, Inc v*
112 *Stanley* 2015/hereinafter *Stanley* 2015’).³ Similarly, covering both natural and
113 artificial persons, Butterworths Australian Legal Dictionary describes a person as ‘a
114 separate legal entity, recognised by the law as having rights and obligations’ that
115 includes human beings and entities of humans only whom ‘the law regards as capable
116 of rights and duties’ (Nygh 1997, citations omitted). It further clarifies, referring to
117 Salmond, that the capability of enjoying rights and performing duties is the *exclusive*
118 criterion of legal personality, and adds that any beings who possess this capability are
119 legal persons, and conversely other beings who lack this capability are not such
120 persons, regardless of whether the beings are human or not (Nygh 1997). Hence,

³ Cited in *Stanley* 2015). However, the citation in *People ex rel Nonhuman Rights Project, Inc v Lavery* 2014/ ‘*Lavery* 2014’) was: ‘Black’s Law Dictionary defines the term “person” as “[a] human being” or, as relevant here, “[a]n entity (such as a corporation) that is recognized by law as having the rights and duties [of] a human being” [emphasis added]: Garner (1999). The court also cited (Salmond 1947) for a similar view.

121 conferring legal personality is inherently connected with the conferral of legal rights
122 and the imposition of legal duties (see Gray 1909; Salmond 1916; Holland 1900;
123 Pollock 1923).

124

125 The recognition of legal personality is a means of mutually respecting persons' rights
126 and of enforcing legal control against any breaches thereof. When P is compelled by
127 the society or the state (state and society are used interchangeably) to do or to forbear
128 something in favour of Q, and this compulsion is backed up by a threat of legal
129 sanctions, it implies that the latter has a legal right and the former owes a
130 corresponding duty (Corbin 1920).⁴ Hence, mutual rights and duties necessarily set up
131 a legal relation between two persons, and no such relation can exist between a person
132 and a thing or property such as an animal or a car (Corbin 1920). The relation
133 between a person and a thing or property is rather 'physical';⁵ however, the owner of
134 the thing has many legal relations to other persons surrounding it, for example,
135 preventing others from trespassing on it, or transferring it to anyone (Corbin 1920).
136 To clarify, a legal relation represents facts embracing 'acts' and 'events' (Corbin
137 1920). As defined by Corbin, '[a]n act is one of that class of facts manifest to the
138 senses that consists of voluntary physical movements ... of human beings' (Corbin
139 1920). An act also includes forbearance that denotes 'a consciously willed absence of
140 physical movement. Animals other than men can act or forbear, but they do not
141 become parties to a legal relation' (Corbin 1920). Corbin also defines 'events' to
142 mean changes in the prevailing 'totality of facts, including the acts of human beings'
143 (Corbin 1920). The assertion of the presence of a specific legal relation implicitly
144 denotes the existence of certain facts expressing our existing mental concept of future

⁴ For an analysis of the words 'rights' 'duties' and 'liabilities, see Corbin (1920).

⁵ Physical Relation: 'A relation perceivable by the senses, between two physical objects. This would include relations of space, time, weight, color, density, and the like': Corbin (1920).

145 social consequences (Corbin 1920). For example, Corbin provides that a ‘statement
146 that a legal relation exists between A and B is a *prediction* as to what society, acting
147 through its courts or executive agents, will do or not do for one and against the other’
148 (Corbin 1920).

149

150 Unlike the relation between two individuals, the relation between an individual and a
151 corporation as a person may always be reduced to many legal relations separately,
152 with every individual standing behind it, though they are combined into one for
153 convenience (Corbin 1920). According to Salmond, a more satisfactory definition of
154 legal personality refers to the capacity for legal relations (Salmond 1916; Holland
155 1900). It means that a legal person shall have the capacity to establish, maintain and
156 effectuate legal relations with others, staying within the bounds of law.

157

158 The word ‘rights’ used in describing personality connotes legal relations between
159 persons. It is interconnected with duties and it contains legally enforceable claims
160 against others who are obliged not to breach such relations (Corbin 1920). A legal
161 person who knows that he/she has a certain right should be able to answer the
162 question: ‘What *must another do* for me?’ Corbin (1920). Hence the holder of rights
163 needs to have the awareness of its own entitlements and others’ obligations of
164 performance. To compel such performance, the possessor of a right is entitled to
165 utilise the available legal recourses through the state (Corbin 1924). A right provides
166 an option to its holder to do or not to do a certain act that is not forbidden nor
167 commanded by law, while the act forms the content of the right in question (Terry
168 1916). Again, the existence of a right is a question of law, and the exercise of the right
169 entails its holder’s conscious choice about doing or not doing something.

170

171 As implied above, the enjoyment of one's rights requires the existence of duties of
172 others and their performance of those duties. Duties of a person as a constituent
173 element of legal relations are described as responsibilities commanded by law to do or
174 to forbear something for the benefit of others, the failure in, or disobedience of,
175 which will attract a remedy (Terry 1916; Corbin 1920). A person who bears a
176 particular duty with the knowledge of its existence, compulsion in its performance,
177 and sanctions against its disobedience, should be able to answer the question: 'What
178 *must I do* for another?' (Corbin 1920) Similar to the enjoyment of rights, the
179 performance of duties warrants their subject to have awareness of his/her/its
180 (subject's) relevant obligations, and to perform such obligations accordingly, in order
181 to avoid legal sanctions to be exerted by the society in the event of failure or
182 disobedience. For example, trespass to land or trespass to the person with the required
183 guilty mind demonstrates disobedience to one's obligations to refrain from doing so,
184 thus committing trespass attracts liability under both torts and criminal law.

185

186 The rights and duties discussed above as essential ingredients of personality justify
187 the ascription of personhood from the viewpoint of its purposes. The principal
188 purpose of legal personhood, conferred on whomever or whatever, is to facilitate the
189 regulation of human conduct by an organised society (Smith 1928). This facilitation is
190 effected through the regulation of the conduct of the subjects of law by reference to
191 legal relations, while conduct includes both acts and omissions (Terry 1916).
192 Generally, any legal liability is imposed for a breach of someone's right with an
193 ultimate objective of maintaining order in the society. For example, killing of a person
194 by an intentional act or a grossly negligent omission is penalised due to the violation

195 of the right to life of the deceased. To this end, the imposition of a duty aims to
196 prevent consequences which may come about in the absence or non-performance of
197 the duty at hand; the duty not to kill someone aims to avoid that death, for example
198 (Terry 1916). This consequence can amount to a violation of one's right (Terry 1916).
199 According to Lundstedt's conception of the meaning of legal right, the sole purpose
200 for which law exists is to prevent harm of the community or to confer social benefit
201 (Lundstedt cited in Allen 1931). The law protects these rights by imposing duties on
202 others and providing remedies against any breach thereof. More precisely, as West
203 terms it, a 'breach of duty is an act of injustice' (West 2010).

204

205 The duty imposed on a person is said to correspond to the right of another where the
206 former owes the duty to the latter; however, when the duty is imposed by criminal
207 law, it is regarded as owed to the state (Terry 1916). Some of the paramount duties
208 imposed by law generally include: (i) duties not to do any act which will cause
209 injuries or death to others; (ii) duties of possessors of actively dangerous things, such
210 as ferocious animals or man-made treacherous products (industrial or social robots,
211 for example) to prevent them from causing harm; and (iii) duties not to take
212 possession of property in violation of others' rights or legal interest (Terry 1916). A
213 legal interest is defined as '[t]he aggregate of the legal relations of a person with
214 respect to some specific physical object or the physical relations of specific objects'
215 (Corbin 1920).

216

217 Case law has consistently recognised the correlative rights and duties that attach to
218 legal personhood.⁶ It is judicially recognised that ‘[s]o far as legal theory is
219 concerned, a person is any being whom the law regards as capable of rights and
220 duties. . . . Persons are the substances of which rights and duties are the attributes. It is
221 only in this respect that persons possess juridical significance, and this is the exclusive
222 point of view from which personality receives legal recognition’ (*Lavery* 2014,
223 citations omitted). Most recently the Supreme Court of New York (NY-SC) in *Matter*
224 *of Nonhuman Rights Project, Inc. v Stanley* (*Stanley*) upheld that the autonomy and
225 self-determination of any entity are not regarded as the basis for granting it rights
226 (*Stanley* 2015). Rather, the Appellate Division of the NY-SC (NY-SCAD) in *People*
227 *ex rel Nonhuman Rights Project Inc v Lavery* (*Lavery*), which was followed in
228 *Stanley*, applied the prevailing attributes of personality, in determining the
229 personhood of a chimpanzee, that legal personhood has unfailingly been defined by
230 reference to both rights and duties (*Lavery* 2014). Central to the legal personality is
231 thus the ability to enjoy rights and to discharge duties (Duff 1929).

232

233 Free will is a critical element of personhood where the person is subject of a legal
234 right, because its existence is needed to exercise such a right, and it is not necessary to
235 have this power for a person who is bound by a legal duty (Gray 1909). However, a
236 different view exists that gives emphasis to duties instead of rights with respect to a
237 juristic person (Machen Jr 1911). A ‘juristic person’, as Gray describes, is one who is
238 not a human being, but rather a legal person composed of humans with the objective
239 of advancing certain interests, for example states and corporations (Gray 1909). Also,

⁶ The case can be found in: *Smith v ConAgra Foods, Inc* (2013) ; *Calaway v Practice Mgt Servs, Inc* (2010); *Wartelle v Women's & Children's Hosp, Inc* (1997): Cited in *People ex rel Nonhuman Rights Project Inc v Lavery* (2014).

240 with respect to affording legal personality, authorities primarily consider whether law
241 can address its commands to those who are seeking personhood, as understanding and
242 acting upon such commands is only possible for those who are rational beings having
243 the capability of feeling and volition (Machen Jr 1911). Gray thinks that there can be
244 no legal personhood without having a will to exercise the right, and its (right) owner
245 must exercise the willpower in enjoying it (Gray 1909). Linking this with the concept
246 of right, Salmond says that in order to have right, one must be capable of interests that
247 may be affected by others, and correspondingly, also be capable of duties not to act
248 affecting the interests of others (Salmond 1916).

249

250 Thus the idea of personhood entails an entity to be a legal subject able to enjoy rights
251 and to perform duties, rather than being merely an object, in order for it to be a legally
252 recognised person. This concept of personhood, developed by experts of Canon law in
253 the 13th century (Pagallo 2013), continues to dominate the administration of justice to
254 date, as most recently interpreted by the NY-SC in *Stanley*, which involved the
255 determination of personhood of two chimpanzees (*Stanley* 2015).⁷

256

257 In a nutshell, the requirements or attributes of legal personhood are: (i) a person shall
258 be capable of being a subject of law; (ii) being a legal subject entails the ability to
259 exercise rights and to perform duties; and (iii) the enjoyment of rights needs to
260 exercise awareness and choice.

261

262 Different kinds of persons that may be recognised by various legal systems can be
263 classified as: normal human beings; abnormal human beings (eg, infants);

⁷ The case has been discussed at some length further later in this article.

264 supernatural beings (eg, angels); animals; inanimate objects (eg, idols); and
265 incorporated entities (eg, corporations) (Gray 1909). This article examines the legal
266 status of the latter three categories, excluding human and supernatural beings, with a
267 view to assessing the presence of the personhood attributes in robots and in light of
268 these three. In doing so, an emphasis will be given to the corporate legal personality,
269 which is often compared with robots in advocating the latter's legal personality (see
270 Hallevy 2010a, b).⁸ Robots are also sometimes likened to animals (see Bertolini
271 2013). However, Bertolini rejects that analogy, asserting that the central argument of
272 those who make such a comparison – that weakly autonomous robots and animals
273 behave sensing the environmental conditions independently of human directions – is
274 not sufficient to equate these two unequals: one is natural whilst the other is a human
275 creation (Bertolini 2013). Therefore this untenable comparison does not warrant any
276 changes to be brought about in the existing legal paradigm by affording personality to
277 robots (Bertolini 2013). Both idols and chimpanzees have been included in the present
278 article in order to show the reasons for recognising the former's personality while
279 refusing the latter's. Those reasons will provide insight into the lack of substance in
280 the advocacy of robots' personhood.

281

282 **3. Corporations as a Legal Person**

283 A company or corporation (used interchangeably) from a legal viewpoint is an entity
284 created by humans and recognised by law as an artificial person having attributes of
285 personhood conferred on it through incorporation by a state agency, mainly for the
286 convenience of all others in dealing with this organisation, which operates for profits
287 or other purposes with perpetuity in its existence and simplicity in its relations with

⁸ Idols are also regarded as a 'juristic person' as will be shown later in this article.

288 the rest of the world. Corporations emerged as a division of society and progressively
289 changed to an association of individuals (Davis 1909); however, at present a single
290 person is sufficient to form a company.⁹ Corporations are now major players in both
291 national and international economies, while contemporary societies are intensely
292 dependent upon these entities: we are all affected by them one way or another. This
293 reality necessitates the regulation of corporations, which has ultimately become a part
294 of social governance (Farrar 2005). Despite such significance of corporations for
295 human societies, obtaining the recognition of corporations as a separate legal person
296 was a difficult task. The difficulty lies in the attribute that legal persons bear legal
297 duties in exchange for their legal rights (Lavery 2014). Given these personhood
298 attributes, it has ‘puzzled legal theorists’ (Ripken 2010)¹⁰ for years as to whether a
299 corporation should be regarded as a separate person independent of its owners and
300 managers (see, for example, Freund 1897; Hallis 1930; Nekam 1938; Stoljar 1973;
301 Cohen 1935; Radin 1932; Vinogradoff 1924; Wolff 1938). Nevertheless the corporate
302 separate personality is now recognised in all legal systems, based mainly on the
303 principle established in *Salomon v Salomon & Co Ltd* [1897] AC 22 though their
304 liabilities may vary depending on the specific provisions of a given jurisdiction.¹¹
305 This personality enables the entity to serve as a single contracting party independent
306 of its owners and managers, and this is said to be the first and foremost contribution
307 of corporate law (Kraakman et al. 2009). This personality has a strong bearing on its
308 operations and interaction with others.

309 **Significance of the Separate personality**

⁹ For example, see s114 of the Corporations Act 2001 (Cth); s123 of the Companies Act 2006 (UK).

¹⁰ This article has been generously followed in discussing the corporate personality section in the present article.

¹¹ In Germany, corporations cannot be held liable under criminal law, however can be fined for regulatory offences, in contrast, they can be criminally liable even for manslaughter in major common law countries including the United Kingdom, the United States, Australia.

310 The separate personality bestows the legal capacity of entering into almost all legal
311 relations with other persons.¹² It demarcates the assets of the entity itself and those of
312 its owners; as a result it can shield its own assets from the intervention of its owners
313 or their personal creditors, because company's creditors are given priority over
314 investors – this is called 'entity shielding' (see Hansmann et al. 2006).

315 Another important rule in this regard is 'liquidation protection', which makes
316 shareholders or their personal creditors unable to withdraw their investment at the
317 time of financial trouble of the company (Hansmann and Kraakman 2001). This
318 shielding makes corporate contractual commitments credible to the outside world
319 (Kraakman et al. 2009). A corporation is entitled to enter into a contract like an
320 individual (see s124 of the Corporations Act 2001 (Cth)). Indeed, it can sue and be
321 sued; another important benefit of this personality is the elimination of the need to
322 name or specify in judicial proceedings, all shareholders and other individuals behind
323 the corporation that intends to sue another or is sued by others, such as a creditor or
324 regulator (Kraakman et al. 2009). All these entitlements are critical to the operation of
325 a business with a separate personality, as they enhance the credibility of corporate
326 transactions and afford simplicity in dealing with a corporation for business and
327 governance purposes (Kraakman et al. 2009). These benefits are convincing for the
328 separate personhood of corporations, and this has been granted based on the attributes
329 of rights and duties. Although there is almost complete unanimity on the need for
330 corporate personality, it is viewed differently in legal discourses that have contributed
331 to the emergence of different theories of corporations.

332 **Legal Theories of the Corporate Separate Personality**

¹² See, for example, s 124 of the Corporations Act 2001 (Cth) in Australia. It begins with: 'A company has the legal capacity and powers of an individual....'

333 There are three prominent theories of corporate separate personhood: (i) an artificial
334 and dependent person theory; (ii) an aggregate person theory; and (iii) a real and
335 independent person theory (Ripken 2010). These theories view corporations
336 differently from one another, to some extent. These theories are briefly discussed
337 below with a view to finding a rationale for corporate separate personhood (For a
338 detailed discussion of these theories, see Ripken 2010).

339 **Artificial and Dependent Person Theory**

340 The theory of artificial and dependent persons believes that there is no physical
341 existence of a corporation: it is an abstract idea constructed by law. So a corporation
342 is just a legal construct, an artificial creation of law and humans; its personhood is a
343 legal fiction conferred by law solely for the facilitation of trade and commerce
344 (Ripken 2010). Maitland stipulated that a corporation itself can do only one thing:
345 appoint an agent to act on its behalf (cited in Duff 1929). Duff explains that if
346 shareholders in a meeting adopt three resolutions – appointing an employee; entering
347 into a contract by accepting an offer; and inciting the commission of an offence – only
348 the first one would be the act of the entity: the other two may be either acts of its
349 agents or not acts at all, depending on governing laws (Duff 1929).

350 The second characteristic of a company under this theory is its dependence on law; as
351 Niman states, a corporation does not come into being until the legal formalities are
352 met and its incorporation is certified by the appropriate state agency (Niman 2012,
353 citations omitted).

354 Regarding the rights and duties which are our basic concerns, Gray asserts that the
355 name of a corporation is basically an abbreviation used in law and commerce in order
356 to confer specific rights on, and perform duties by, individuals contractually or
357 otherwise related to or affected by the entity (see Gray 1909; Wolff 1938). As stated

358 by Marshal CJ in *Trustees of Dartmouth College v Woodward* (1819) 17 U S 518
359 about corporations, '[i]t is chiefly for the purpose of clothing bodies of men, in
360 succession, with these qualities and capacities, that corporations were invented, and
361 are in use.' However, English courts repeatedly rejected the notion that a corporation
362 is just a name to avoid the trouble with using the names of numerous individuals,
363 because it did not seem to reflect the economic and psychological facts of a
364 corporation with which the law must deal (for example, *Salomon v Solomon Co Ltd*
365 1897; *Mlacaura v Northern Assurance Co* 1925).

366

367 It is to be conceded that the personality of a corporation came into existence through
368 incorporation by appropriate state authorities as part of a legal process. However, the
369 concept of artificiality is old, and the assertion that the rights and duties of a
370 corporation represent those of individuals remained prevalent in this theory. This old
371 concept changed over time in the mid-19th century, which gave a perception that the
372 incorporation process is merely a formality. It is now widely believed that the
373 existence of a company is owed to the natural persons called 'corporators' who form
374 it, and this has significantly diminished the force of the artificial person theory
375 (Ripken 2010). An alternative view of the perception of a corporate entity as an
376 aggregate of persons emerged in the second half of the 19th century (Ripken 2010).

377

Aggregate Person Theory

378 The main weakness in the aggregate person theory is that its proponents do not
379 recognise a corporation as a separate and distinct person. They believe that a
380 corporation is not an artificial entity nor merely a creation of law as such; rather it is
381 an organisation or association of a group of people who form its individual human
382 constituents and without whom it would not have any identity of its own or any ability

383 to function towards its goals (Ripken 2010; see also Blumberg 1093). Similarly, as
384 Cressey stipulates, a corporation is virtually a manifestation of natural persons
385 because it is created, owned, managed and administered by those who thus become
386 the ultimate actors of the body corporate (cited in Ripken 2010). Diminishing the
387 distinct personality, the US-SC in *Santa Clara County v Southern Pacific Railroad*
388 *Company* (1886) 118 U S 394 in 1886 pronounced that company's properties are
389 those of the individuals behind it. Likewise, according to Morawetz (1886), this
390 theory reinforces that the rights and duties of a corporation are factually those of
391 corporators, rather than those of an imaginary person. Salmond spelt out that there are
392 some natural persons behind every corporation, and initially the interests of those
393 persons are fictitiously attributed to their corporation, and subsequently their conduct
394 or acts are also imputed to it in the same way (cited in Duff 1929). This means that a
395 company represents both the interests and the acts of individuals, rather than those of
396 its own in the true sense, hence a distinct personality does not exist according to this
397 theory.

398

399 This theory is thus in sharp contrast to the artificial person theory, as it recognises that
400 a corporation is not a fiction, but rather does exist as an aggregate of individuals, not
401 as a separate person independent of its corporators. The basic tenets of this theory are
402 the negation of artificiality in the corporation as a separate entity, and the merger of
403 individuals and the entity together, eliminating the distinction between a corporation
404 and its corporators in term of rights, duties, and properties. However, this does not
405 reflect the contemporary view of corporations.

406

407 The limited liability feature of modern corporations stimulated the general public to
408 invest in securities which contributed to dispersing the spectrum of shareholders and
409 enlarging corporations by the early twentieth century. This development even more
410 clearly separated the ownership and control of corporations, given the inability of the
411 large number of widely scattered shareholders to stay interconnected and to control
412 their entities, as observed by Berle Jr and Means (1932). This deep separation, which
413 makes the aggregate theory largely redundant (Phillips 1994), has given birth to a new
414 theory called the real and independent person theory.

415

416 **Real and Independent Person Theory**

417 The real and independent person theory argues that the corporate personality is both
418 real and natural as opposed to fictitious, and that States have just recognised the
419 existing fact, rather than creating it (Machen Jr 1911). Gierke posits that once an
420 organisation has been created by a group of human beings, a body corporate or a
421 corporate organism is founded *per se*, which is recognised by law in order to facilitate
422 trade and commerce by and with this newly created entity (cited in Machen Jr 1911).
423 They contend that the existence of corporations is an objective fact, and that the
424 entities have a real presence in our society; therefore corporate life comes into
425 existence independently of law, and States only officially recognise the pre-existing
426 fact (Ripken 2010). This doctrine accepts the separation of the entity from its owners
427 and others who are involved in the corporate enterprise, recognises the perpetuity of
428 the organisation regardless of any changes in its ownership and management, and at
429 the same time distinguishes between the personality of a natural person and that of a
430 corporation (Ripken 2010). Machen asserts that when we admit a corporation is
431 created by the State, it cannot be fictitious at the same time (Machen Jr 1911).

432

433 Currently the predominant view is that corporations are real: we recognise that their
434 citizenship compares with that of humans, they pay taxes and bear social
435 responsibility, they can be held liable for committing both civil wrongs and crimes in
436 addition to regulatory breaches. We have thus brought them within the purview of
437 social governance as a necessity, in that we are all affected by them one way or
438 another.

439

440 Whichever theory we accept, in reality both individuals and corporations can be held
441 liable for corporate wrongdoings.¹³ This means that despite the separation of
442 personality by law, individuals behind a corporation are not immune from the liability
443 that may arise from the breach of a corporate duty committed by individuals wearing
444 the veil of incorporation. On the other hand, as well as managers/controllers,
445 shareholders may be held liable for corporate debts to varying extents, depending on
446 the type of their company.¹⁴ Any pecuniary fines paid by corporations are eventually
447 imposed on stockholders, who are the residual claimants of corporate assets.
448 Correspondingly, any profits of a corporation are likely to benefit its corporators in
449 the course of time, in the form of dividends, capital gains or residual payments.
450 Corporate personhood, discussed below, is based on these theories of corporations
451 and attributes of personality.

452

453 **Corporation as a Legal Person – Do They Satisfy the Attributes of Personhood?**

¹³ See more than 50 sections listed in s1317E on civil penalty and Schedule 3 containing 346 sections on criminal liability of the Corporations Act 2001 (Cth), Australia.

¹⁴ Generally, a company can be of different types by reference to the liability of its shareholders in the event of its winding up. These are: company limited by shares, company limited by guarantee, company limited by both shares and guarantees, unlimited company, and no liability company: For details (see Harris et al. 2016).

454 Corporations are called a ‘juristic person’, the essence of which lies in subjection to
455 duties, rather than in the possession of rights (Machen Jr 1911). Corporate personality
456 will be negated if the ordinary meaning of personhood is applied, because it is not a
457 rational being, it is incapable of understanding legal commands and it is unable to do
458 anything without its human agents (Machen Jr 1911). So when law commands a
459 corporation to do or not to do certain things, it goes in essence to the individuals
460 behind it; if the commands are violated, a corporation can be penalised as a way of
461 directly or indirectly punishing the people who manage (Machen Jr 1911) and/or own
462 it.¹⁵ According to Machen Jr (2011), corporate entity is used by law as a mere sight
463 aiming at shooting the individuals hiding behind it. So individuals are not immune
464 from liabilities arising from failure in discharging corporate duties or in complying
465 with law.¹⁶ Both corporations and individuals wearing the veil of incorporation can be
466 held liable under administrative,¹⁷ civil (see, for civil cases, Hubbard 2014; Sexton et
467 al. 2010), civil penalty¹⁸ and even criminal liability¹⁹ regimes. Notably, regarding
468 offences, both the *actus reus* (physical element) and *mens rea* (mental element) of an
469 offence are imputed to the company from its directing mind and will under the
470 common law organic theory of corporation, also known as the directing mind theory
471 or the identification doctrine, as expounded by the House of Lords in *Tesco*

¹⁵ The owners are punished in effect when a corporation is penalised in that any pecuniary penalties reduce the value of their ownership holdings, and if a corporate capital punishment is awarded, then the owners are in most cases likely to suffer even more financial losses given the additional costs involved in the winding up or liquidation procedure, which will be paid as a priority payment.

¹⁶ For numerous civil cases where corporations and/or individuals were held liable for corporate wrongdoings (see Hubbard 2014; Sexton et al. 2010).

¹⁷ See, for example of administrative actions against corporations and individuals, Australian Securities and Investment Commission (ASIC 2015).

¹⁸ Recent leading cases in Australia under its corporate civil penalty regime: *ASIC v Macdonald (No 11)* (2009); *ASIC v Macdonald (No 12)* (2009); *ASIC v Hellicar* (2012); *A v Healey* (2011); *ASIC v Healey (No 2)* (2011).

¹⁹ See for recent several manslaughter cases in the United Kingdom: *Filedfisher* (2015).

472 *Supermarkets Ltd v Natrass* [1972] AC 153.²⁰ Put simply, only senior executives of a
473 company can be its directing mind and will.

474

475 Similar to the indirect imposition of duties and corresponding penalties on human
476 being who clothe the corporation, legal rights too, when conferred on such an entity,
477 are due to be carried to those individuals who compose it (Machen Jr 1911). Ihering
478 notes that individuals, not corporations, are the real subject of the rights conferred on
479 corporations (Machen Jr 1911). Moreover, the legal personhood of corporations is not
480 absolute because the corporate separate personality may be ignored for liability
481 purposes in some instances by lifting the corporate veil (see *Sloan Shipyards*
482 *Corporation v Emergency Fleet Corporation* 1921; *United States v Walter* 1923).

483

484 Hence, corporations are, in reality, formed by humans and recognised by the State as
485 being all for the purposes of human benefits. Individuals embody a corporation: the
486 rights and duties of the latter effectually refer to those of the former. When it comes to
487 any wrongdoings, both physical and mental elements are attributed from individuals
488 to their corporate entity. Hence, in recognising the juristic personality of a
489 corporation, all of the personality attributes of individuals behind it are directly
490 imputed to their corporation. We can now conclude that the personhood of
491 corporation does meet the needs of legal personality (i.e., subject of law, rights,
492 duties, awareness, and willpower).

493

4. Idols as a Legal Person

²⁰ The doctrine was applied in a more recent case of *Transco PLC v Her Majesty's Advocate* (2004). For its initial consideration, see *Lennard's Carrying Co Ltd v Asiatic Petroleum Co Ltd* (1915). A discussion of this common law theory falls beyond the scope of this article, however, for its analysis at some length see Solaiman and Begum (2014).

494 An idol is a statue created and worshipped by humans as a god or goddess, perhaps
495 most popularly in the Hindu religion. As a legal person, a Hindu idol has been held to
496 have peculiar desires and a will of its own which must be respected, as held by the
497 Privy Council in *Pramatha Nath Mullick v Pradyumna Kumar Mullick* (1925) 27
498 BOMLR 1064 (*Mullick*) in 1925 (see also Yesey-Fitzgrad 1925). Hence, Hindu idols
499 have long been judicially recognised in some jurisdictions, such as India, as a legal
500 person, founded upon religious customs (Duff 1929; Lord Shaw in *Mullick* 1925).
501 Shaw J held in *Mullick* (1925), which involved a dispute arising out of the controlling
502 and worship of a Hindu family idol, ruled that such an idol is a juristic person and
503 held:

504

505 A Hindu idol is, according to long established authority, founded upon the religious
506 customs of the Hindus, and the recognition thereof by Courts of law, a “juristic
507 entity.” It has a juridical status with the power of suing and being sued. Its interests
508 are attended to by the person who has the deity in his charge and who is in law its
509 manager with all the powers which would, in such circumstances, on analogy, be
510 given to the manager of the estate of an infant heir, [i]t is unnecessary to quote the
511 authorities; for this doctrine, thus simply stated, is firmly established.

512

513 The Privy Council further clarified that a Hindu idol is not a chattel or personal
514 property as such. It ruled that ‘this was not a dedication, in any sense of the word, of
515 the idol as property, nor of the idol at all. It was a dedication of real estate in trust for
516 the idol, recognised as a legal entity, to which such dedication might be made’
517 (*Mullick* 1925).

518

519 These powerful judicial stipulations resemble the most fundamental feature of
520 corporations in articulating the legal status of an idol.

521

522 Although an idol differs overtly from a company in terms of physique, they are
523 comparable to each other in that their attributes of personality are borrowed from
524 human beings who are lawfully entitled to manage them with all the powers, as with a
525 guardian or manager of an infant and his/her assets (Duff 1929; Lord Shaw in *Mullick*
526 1925). In other words, an idol's legal interests are attended to by its managers.
527 Savigny thus rightly compared a corporation with an idol in respect of juristic
528 personality, which is composed of humans (Duff 1929). Consistently, referring to the
529 capacity for rights and liabilities, Duff admits that a recognised idol is a legal person
530 as good as a human being and a body corporate (Duff 1929). This capacity does refer
531 to that of managers of respective idols. When an idol's legal personality comes to its
532 power of will, a question may emerge as to how to ascertain such a will. Perhaps the
533 best answer would be that whatever the relevant law regards as its power of will,
534 giving due consideration to the interests of the worshipers as well as social interests in
535 materialising the wishes of pious founders, will be the idol's will (Duff 1929; Lord
536 Shaw in *Mullick* 1925). To clarify further, the Privy Council in *Mullick* 1925
537 pronounced that the will of the idol will be expressed by its guardian, the manager.

538

539 Therefore, rights and duties of an idol are those of the individuals having managerial
540 powers. Based on the similarities between corporations and idols in terms of
541 personality attributes, we can draw a conclusion that an idol's personhood is justified,
542 and that the corpus of an idol is used just as a symbol of power, god or goddess,
543 whose affairs are managed by humans.

544

545

5. Chimpanzee as a Legal Person

546 An animal is distinct from corporations and idols in that it is naturally a living thing,
547 with its peculiar characteristics being vicious or otherwise, and is capable of doing
548 acts that include both things it has been trained for, and anything of its own will,
549 depending on the very nature of a particular animal and the erratic behaviour of others
550 that may cause the animal's behavioural deviation (Bertolini 2013). Bertolini (2013)
551 appreciates the prevailing owners' liability provisions for their animals' misconduct,
552 and in the same way he positively argues that the owner or user of the robot can be
553 held liable for the harm caused by robot. However, he also adds that makers or
554 manufacturers can also be held liable if their products were found to be defective
555 (Bertolini 2013). Although an animal's personality is not recognised in law, it has
556 recently and recurrently become an issue before the courts in the US, the decisions of
557 which would be useful for determining the eligibility of robots' personhood,
558 particularly with respect to robot's so-called 'autonomy', the central issue of
559 advocating the machine's personality.

560 On 30 July 2015, the NY-SC in a landmark judgment in *Stanley* (2015) pronounced
561 that chimpanzees are not legal persons. The verdict was delivered following a writ
562 petition of *habeas corpus* by an organisation, *Nonhuman Rights Project, Inc* (NhRP).
563 The NhRP submitted the writ petition for freeing two chimpanzees kept in a
564 laboratory of the Stony Brook University, New York for biomedical experimentation.
565 They first unsuccessfully lodged their petition on behalf of the detained chimpanzees
566 with the Suffolk County Supreme Court (Suffolk Court) in December 2013, where
567 their petition was dismissed by its Appellate Division on the ground that the NhRP
568 did not have the right to appeal on behalf of chimpanzees (NhRP 2015). In their

569 petition, the NhRP asked for the termination of the chimpanzees' captivity and for
570 releasing them into the care of 'Save the Chimps', a sanctuary in Florida (NhRP
571 2015). They likened the animals' captivity to human imprisonment, and claimed that
572 the chimpanzees had the right to not be imprisoned against their will (NhRP 2015).

573 The NhRP took the dismissal as an error of the Suffolk Court and then moved to the
574 NY-SC in Manhattan in March 2015. They lodged their proceeding pursuant to Art 70
575 of the *Civil Practice Law and Rules* (CPLR) and under the common law for a writ of
576 *habeas corpus* on behalf of the two chimpanzees. Unlike the original petition in
577 Suffolk, this time they were initially successful in obtaining a show cause order from
578 the NY-SC issued by Judge Barbara Jaffe in the first of a two-step process (first show
579 cause and then determination). However, Jaffe J in the second step rejected the
580 petition in July 2015, pronouncing that chimpanzees are not legal persons, and the
581 court strictly relied upon the precedent set forth in the *Lavery* (2014) in 2014.

582 The petition required a determination as to whether chimpanzees are legal persons
583 entitled to bring a writ of *habeas corpus*, a legal challenge against unlawful detention
584 typically brought by human prisoners, and sometimes in child custody cases. The
585 NhRP tried to take advantage of the absence of definition of 'person' in both Article
586 70 of the CPLR and the common law of *habeas corpus* (Stanley 2015). The Court
587 found no previous judicial decisions evidencing that such a writ had ever been granted
588 to anyone other than human beings under Article 70 or common law. Nonetheless, the
589 NY-SC had dealt with the petition referring to *Lavery* (2014), that the lack of
590 precedent does not in itself end the inquiry into whether *habeas corpus* relief may be
591 extended to chimpanzees (Stanley 2015). Notably, the petitioner had not claimed the
592 human rights of chimpanzees, but rather had contended that 'the law can and should

593 employ the legal fiction that chimpanzees are legal persons solely for the purpose of
594 endowing them with the right of habeas corpus, as the law accepts in other contexts
595 the “legal fiction” that nonhuman entities, such as corporations, may be deemed legal
596 persons, with the rights incident thereto’ (*Stanley* 2015). The petition likened
597 chimpanzees to humans and further maintained that ‘because chimpanzees possess
598 fundamental attributes of personhood in that they are demonstrably autonomous, self-
599 aware, and self-determining, and otherwise are very much like humans, “justice
600 demands” that they be granted the fundamental rights of liberty and equality afforded
601 to humans’ (*Stanley* 2015).²¹

602 *Amicus curiae* in presenting independent arguments made a reference to the definition
603 of ‘person’ provided in the New York State Penal Law (s10.7) that a person
604 conclusively denotes ‘a human being, and where appropriate, a public or private
605 corporation, an unincorporated association, a partnership, a government or a
606 governmental instrumentality.’ *Amicus curiae* opined that the personality of all these
607 entities is justified because they are composed of human beings (*Stanley* 2015).
608 Referring to this extension of the subjects of the penal provisions, *Amicus curiae*
609 persuasively argued that ‘the expanded definition of person in a restricted context
610 connotes a legislative intent that the definition not be further expanded.... nowhere in
611 that statute are animals defined as persons’ (*Stanley* 2015).

612 The Court critically examines the current trends towards the empathy for animals,
613 particularly the demands for pets’ legal personhood. For example, given the rights,
614 love and attachment for pet animals, some commentators argue that animals are
615 currently ‘quasi-persons’ in law as they are entitled to some rights and protection

²¹ Autonomous intelligence denotes the ‘capabilities for solving problems involving pattern recognition, automated scheduling, and planning based on prior experience’ (Koditschek 1989).

616 though not others (*Stanley* 2015 citing Matambanadzo 2012). However, Jaffe J states
617 that as the law presently regards, there is no ‘in-between’ position of personhood for
618 the purposes of establishing rights because entities are categorised in a simple, binary,
619 ‘all-or-nothing’ fashion (*Stanley* 2015, citations omitted). Distinguishing persons from
620 things, Jaffe J adds that the beings recognised as persons have rights to enjoy and
621 duties to perform, whereas ‘things’ do not have these legal entitlements and
622 responsibilities (*Stanley* 2015, citations omitted). Her Honour thus reaffirms that
623 legally, all animals, regardless of their level of intelligence and physical appearance,
624 are property (*Stanley* 2015).

625 Jaffe J noted the previous 2014 determination of the NY-SCAD in *Lavery* (2014),
626 which involved an identical issue, and the court ruled that ascribing legal personhood
627 to chimpanzees is ‘inappropriate as they are incapable of bearing any legal
628 responsibilities and societal duties’ (cited in *Stanley* 2015). The NY-SCAD, citing
629 several judicial decisions, distinguished between chimpanzees and currently
630 recognised legal persons, and stated that corporations are composed of human beings,
631 therefore they are able to bear legal duties in return for their legal rights, hence their
632 legal personality is justified (*Lavery* 2014, citations omitted). Alongside the reliance
633 on judicial authorities, the courts in both *Lavery* (2014) and *Stanley* (2015) also noted,
634 as further sources of support, the definition of person provided in Black’s Law
635 Dictionary stated earlier. The Court in *Lavery* (2014) finally affirmed the denial of
636 writ of *habeas corpus* and held that:

637 A chimpanzee was not a ‘person’ entitled to the rights and protections afforded by the
638 writ of habeas corpus ... because animals, unlike human persons, corporations, and
639 municipal entities, could not bear any legal duties, submit to societal responsibilities,
640 or be held legally accountable for their actions; the incapability to bear any legal

641 responsibilities and societal duties rendered it inappropriate to confer upon
642 chimpanzees legal rights.

643 Jaffe J, in deciding the personhood of chimpanzees in *Stanley* (2015), overtly relied
644 upon the precedent set out in *Lavery* (2014), and rejected the petitioner’s argument
645 against the applicability of the previous decision ‘that the decision in *Lavery* (2014) is
646 based on an erroneous legal analysis or “unsettled” law is immaterial’ (*Stanley* 2015).
647 Her Honour thus finally dismissed the proceeding in *Stanley* (2015) stating that
648 *Lavery* (2014) has binding effects according to the doctrine of precedent. Therefore,
649 chimpanzees are not legal persons based precisely on the lack of being capable of
650 rights and duties, an essential requirement of personhood (*Stanley* 2015; *Lavery*
651 2014)), despite the important pieces of scientific expert evidence presented before the
652 Court in *Stanley* (2015) that:

653 ‘ ... humans and chimpanzees share almost 99 percent of their DNA, and
654 chimpanzees ... closely related to human beings They share with humans
655 similarities in brain structure and cognitive development, including a parallel
656 development of communications skills, as shown by their use and understanding of
657 sign language.... Chimpanzees also demonstrate self-awareness, recognizing
658 themselves in mirrors and photographs and on television, and have the capacity to
659 reflect on their behavior. They manifest a capacity for empathy, are attuned to the
660 experiences and emotions of others, and imitate and emulate others.... They behave
661 in ways that reflect moral inclinations ... and demonstrate compassion and depression
662 when a member of their community or familial group dies They also have a
663 cooperative social life ... engage in imaginary play, and display a sense of humor

664 Therefore both *Stanley* and *Lavery* categorically rejected the demand for personhood
665 of chimpanzees, which are argued to be closest to humans in terms of appearance and

666 of some basic human attributes. Both courts reinforced that a legal person must have
667 the capability of rights and duties, which requires the ability to properly understand
668 and follow the commands of law, and that no derogation from this critical need is
669 currently permissible in legal domains unless any statutes specifically provide
670 otherwise. The NY-SC further confirmed, no any attributes of human beings (as
671 identified in the above quotation of scientific evidence on chimpanzee) other than
672 being capable of rights and duties, nor the look-like physical appearance of any
673 ‘things’, is a determinant in deciding the legal personality of any entities. We can now
674 look to the position of robots.

675 **6. Industrial Robots as a Potential Legal Person**

676 A robot as a possessor of artificial intelligence (PAI) is said to have five attributes: (i)
677 the ability to communicate with others; (ii) internal knowledge;²² (iii) external or
678 outside world knowledge;²³ (iv) some degree of intentionality;²⁴ and (v) some degree
679 of creativity.²⁵ Despite having all these, robots are presently recognised as a product
680 or property at law (see Bertolini 2013; Sexton et al 2010; Hubbard 2014). Floridi
681 (2009) compares robots with tools which are no different from hammers. However, in
682 view of the above attributes, some commentators are arguing for partial (quasi) or
683 full-fledged personhood of these machines.

684 Asaro (2007) proposes a concept of creating ‘quasi-persons’ for robots, which will
685 enjoy only partial rights and duties. Solum (1992) argues for a ‘borderline status’
686 though indecisively. He critically analysed the personhood of a PAI relying on two
687 different tests: (i) whether a PAI can serve as a trustee; and (ii) whether a PAI can be

²² Some knowledge about themselves – what they need, what they think etc.

²³ Awareness of the outside world, past experience etc.

²⁴ The ability to act towards achieving specific goals.

²⁵ For details of these attributes, see Schank (1987).

688 granted the rights of constitutional personhood. He has provided two scenarios for
689 these two tests and has discussed potential objections that may be raised against a
690 PAI's personality claim (Solum 1992). Regarding the first test, he identified two
691 objections: the reasonability objection and the judgment objection. Three different
692 potential objections have been discussed in relation to the second test: a PAI is not a
693 human; the missing-something argument; and a PAI ought to be property.²⁶ Having
694 addressed all these potential issues, Solum could not firmly conclude that a PAI be
695 granted legal personality. Rather he has argued for a borderline status in some way,
696 pointing out reasons for hesitation and uneasiness surrounding the personhood, even
697 against this new approach (Solum 1992). However, he has clearly mentioned that
698 'thinking about personhood for a PAI forces us to acknowledge that we currently lack
699 the resources to develop a fully satisfactory theory of legal and moral personhood'
700 (Solum 1992). Quite logically, Solum (1992) finally concludes in favour of the 'rights
701 and duties' construct of legal personality.

702 It should be noted that while arguing for a borderline status, Solum refers to the
703 behavioural aspect of these machines and submits that they 'behaved the right way
704 and if cognitive science confirmed that the underlying processes producing these
705 behaviors were relatively similar to the processes of the human mind, we would have
706 very good reason to treat an AI as persons' (Solum 1992). As noted earlier, this point
707 had been strongly raised and considered carefully by the NY-SC in *Stanley* in 2015,
708 following credible evidence in favour of chimpanzees' personality, and it did not
709 succeed (*Stanley* 2015, citations omitted). It means we are not finding any compelling
710 reasons for robots' legal personality in this argument.

²⁶ Discussions of these arguments and objections at some length have been avoided in order to keep this piece in a manageable size. For details, see Solum (1992).

711 Hallevy (2010a,b) seems to be a frontrunner in soliciting the world for robots' full
712 personality, based mainly on an analogy between robots and corporations with respect
713 to criminal liability, though he has sometimes compared robots with animals as well
714 (see Hallevy 2010a, b). The gist of his (Hallevy 2010a, b) arguments is, in his own
715 words:

716 Why should AI entities be different from corporations? AI entities are taking larger
717 and larger parts in human activities, as do corporations. Offenses have already been
718 committed by AI entities or through them. AI entities have no soul, and some AI
719 entities have neither body nor soul. Thus, there is no substantive legal difference
720 between the idea of criminal responsibility imposed on corporations and on AI
721 entities. It would be outrageous not to subordinate them to human laws, as
722 corporations have been. ... What else is needed?

723

724 While we disagree with the concept that robots have committed offences in the true
725 sense, the above quoted assertions implicitly deny or plainly overlook the fact that any
726 punishment imposed on a corporation effectively punishes human beings behind it
727 (managers and/or owners). Likewise, this article advocates punishing individuals
728 whose fault, if any, caused the robot's malfunction contributing to harm sustained by
729 humans. To the best of our understanding, Hallevy's submissions in two of his
730 articles (Hallevy 2010a, b) and in his book titled *When Robots Kill: Artificial*
731 *Intelligence under Criminal Law* – strongly criticised by Charney (2015), – contain
732 fundamentally the same arguments in favour of robots' criminal liability which entails
733 separate legal personality. He has endeavoured to demonstrate that robots have the
734 ability to commit *actus reus* of different types of offences with the requisite
735 negligence and subjective *mens mea*, and therefore the machines themselves should
736 be punished, and Hallevy argues that the objectives of punishment can be achieved by

737 punishing these machines (Hallevy 2010a, b; Hallevy 2013). An analysis of the
738 constituent elements of different types of offences, along with the objectives of
739 punishment, a huge task by itself, obviously falls outside the scope of the present
740 article, which aims to be confined to the attributes of legal personality alone.
741 However, interestingly, he has recommended imposition of criminal liability on
742 robots without having to justify their legal personality anywhere in his articles apart
743 from superficial comparison with corporations (Hallevy 2010a, b; Hallevy 2013).
744 While a separate initiative is intended to be undertaken to critically analyse Hallevy's
745 claims about robots' physical and mental capabilities and the justifications for
746 applying human punishment to machines, from our present perspective there is
747 evidence that industrial and social robots are still a long way off from attaining such
748 human capabilities (see Weng et al. 2009; Demaitre 2016). Sartor (2009) asserts that
749 'the substitution of intelligent machine for humans in creative tasks is very far away'.
750 Further to those claims arguing robots' lacking of the requisite capability, Solum
751 (1992) iterates that robots do lack several critical attributes of personhood, such as,
752 intentionality, desires and interests, and therefore they lack the prerequisites laid
753 down for attributing criminal liability.²⁷ All these are relevant to the commission of
754 *actus reus* with *mens rea*. For example, an act constituting *actus reus* requires 'a
755 volitional bodily movement' exercising power of will (Terry 1916), which cannot
756 exist in an entity that lacks, intentionality, desires and interests. Vladeck (2014)
757 mentions that the current law is not necessarily equipped to deal with the incidents in
758 which injuries will be caused by malfunction of such machines in the absence of a
759 principal directing the unlawful acts.

760

²⁷ Although the notion of BDI (Belief-Desire-Intention) plays an important role in Multi Agent Systems (Rao and Geogeff 1995), these terms have a very technical meaning in that context, which does not entirely correspond to that intended by Solum.

761 Therefore, robots are still being justifiably treated as ‘products’ for the purposes of
762 liability (Bertolini 2013). Some commentators suggest that even if we compare robots
763 with corporations, with respect to rights and responsibilities, a separate set of laws
764 would be needed for robots (Weng et al. 2009). In contrast to Hallevy, they (Weng et
765 al. 2009) validly point out that even if robots are ever held responsible for their
766 actions, a major issue will be determining punishment. They raise doubts about the
767 effectiveness of applying human punishment to robots, and refer to Asaro who utterly
768 denied the usefulness punishment claimed by Hallevy (Weng et al. 2009). Charney
769 (2015) has unequivocally denied Hallevy’s arguments regarding robots’ physical and
770 mental capabilities with reasons, and so also the justifications for applying the
771 conventional criminal punishments developed for and applied to humans.

772

773 In anticipation of creating fully autonomous machines in the future, Vladeck (2014)
774 advocates robots’ personhood for civil law purposes at some point, by arguing that the
775 ascription of personality would resolve the agency issue because the machines
776 themselves will become principals in their own right and then self-insurance will be
777 required in order to meet any legal obligations arising from the damage caused by
778 their conduct. He then suggests that a broader range of ‘audience’, including the
779 owner of the faulty machine, will participate in funding the insurance (Vladeck
780 (2014). These arguments seem self-conflicting in that when the machine will be a
781 separate person, why should ‘other persons’ pay for the insurance of robots? Then a
782 counter question may be raised as to who pays for the corporate insurance. The
783 answer would be the corporation itself, which is *made up of human beings* through
784 whom the entity operates as it does not have any physical or intellectual ability to do
785 anything whatsoever without its human agents. This is a critical point where machines

786 *made by humans* differ absolutely from corporations. Quite consistently, Bertolini
787 (2013) argues in respect of civil liability that even if a separate personality is
788 attributed to a software agent, it does not make any difference with respect to liability
789 because the same humans or corporations standing behind it will still have to bear the
790 liability unless robots earn revenue from their operation.

791

792 Having shown the aforesaid rebuttals of Hallevy's solicitation for robots' personhood,
793 we consider that no further discussion of elements of crime is warranted in this article
794 to determine robots' personhood attributes. Instead, if we turn to our requirement of
795 the capability of rights and duties, robots are unlikely to meet the judicial
796 interpretations of this essential requisite, given that they are human-made products
797 with limited self-control as programmed-to date, particularly those used in industrial
798 and social sectors. Other human characteristics as found in chimpanzees, even if they
799 are present in robots, will not help much in conferring legal personhood on these
800 machines as those were rejected by the NY-SC in *Stanley*. The arguments for
801 corporate personality may apply to idols' personhood, as their interests are attended to
802 by humans and any religious devotion can be expressed only by human beings in an
803 acceptable manner, but the same rationales do not apply to robots and chimpanzees.
804 Rather, the latter two, robots and chimpanzees, may be compared to each other to
805 some extent, in terms for example of temperament, ability to act, but those are
806 insufficient for separate personhood as decreed judicially. It could also be argued that
807 an idol can be constructed with a physically unique appearance as an art, and can
808 therefore be bodily destroyed as well. These features of an idol may equally apply to
809 robots. However, they are, as artefacts, just objects, therefore are not directly subjects
810 of legal rights and duties. Referring to robots as artefacts, Leenes and Lucivero (2014)

811 emphasise ‘they do not have legal rights and legal duties and they cannot perform
812 legal acts’. Nevertheless, as alluded to earlier, a Hindu idol is recognised as a legal
813 person clearly because of its being a juristic person that distinguishes it from a robot.

814

815 As Jaffe J points out in *Stanley* (2015, citations omitted), referring to rights and duties
816 for the purposes of legal personhood, creatures are categorised into two: either a legal
817 person or not (‘all-or-nothing’ fashion). If we give due consideration to the foregoing
818 discussion of legal personality in respect of corporations, idols and chimpanzees, we
819 can logically infer that robots, as a *prima facie* case, should not be granted
820 personhood, precisely because they do not meet the fundamental tenets of such legal
821 recognition as is inextricably linked with rights and duties. Through this link,
822 personhood is generally attached to human beings, and although law recognises
823 personality of corporations in all legal systems, and of idols in some jurisdictions,
824 these latter two are juristic persons composed of human beings one way or another,
825 and they cannot do anything without their human agents. Therefore, the rights and
826 duties relevant to their personality refer basically to those of humans behind them,
827 which stands in stark contrast to the advocacy for robots’ personhood. When we argue
828 for robots’ personality on the basis of artificial knowledge, or ability to make
829 independent decisions of their own, they still cannot satisfy the personhood attributes
830 as interpreted by both the judiciary and academia. Chimpanzees had all of these
831 attributes which are argued to be present in robots; nonetheless the repeated appeals
832 for the animals’ personality have failed mainly due to their inability to perform duties.
833 Hence any move to obtain robots’ personality is arguably destined to be unsuccessful
834 at this stage. Therefore we can conclude that robots are yet to be competent to have
835 independent personality.

7. Conclusions

836

837 The determination of personality in order to identify the subject of law is the foremost
838 requirement of a legal solution to any dispute, because a law can be broken by its
839 ‘subjects’ alone. Levy, like many others, predicts that robots will be found in the
840 majority of households by the end of the 21st century (Weng et al. 2009). Meanwhile,
841 robots are being used in their millions, and have already proved sometimes dangerous,
842 causing significant amounts of harm. The personality of robots has thus been a critical
843 concern for many countries around the world.

844 The proponents of robots’ personality rely basically on the personhood of
845 corporations, ignoring the fundamental consideration that corporate personality is
846 essentially a symbol of people standing behind the entity. The rights and duties of a
847 corporation resemble those of individuals who own and manage it, as alluded to
848 earlier; this is where the justification for corporate personhood lies. On the other hand,
849 the rationale for the recognition of idols’ personality is akin to that of corporations in
850 that idols’ rights and duties are attended to by their managers or custodians, who are
851 human beings. Thus robots are not comparable with either of these two recognised
852 legal persons. Rather, these machines can be better compared to animals in terms, for
853 instance, of so-called autonomy, self-awareness, or self-determination, though the
854 latter may be more autonomous compared to the former; and they are different by
855 nature – one is a human-made product, whilst the other is a living animal. However,
856 they are again similar, as both of them are regarded as property and thus are mere
857 ‘objects’ of law, rather than ‘subjects’. Leenes and Lucivero (2014) reinforce that
858 from legal perspective, robots are ‘treated as tools and it is always a human being that

859 is legally responsible for the robot's actions and hence responsible for ensuring that
860 they operate within the boundaries of the law.'

861

862 Autonomy and self-determination are not regarded as foundations of conferring legal
863 rights on any entity (*Stanley 2015*). The NY-SCAD in *Lavery* reaffirmed that rights
864 cannot be recognised in isolation from societal considerations, and thus granting legal
865 rights has historically been attached to the imposition of social obligations and duties
866 (*Lavery 2014*). As a member of a society, everyone should be subject to rights and
867 duties in order to live in an orderly manner. This subjection requires a being to have
868 the capability of these two attributes. Principles of social contract thus warrant
869 reciprocity between rights and duties (*Lavery 2014*, citations omitted). Pursuant to
870 this view, rights of persons are recognised in exchange for an express or implicit
871 agreement from them to submit to social duties (*Lavery 2014*). A right is attached to
872 moral agency and to the ability to shoulder social responsibility in exchange for that
873 entitlement (*Lavery 2014*, citations omitted). According to Bryson (2010), 'calling a
874 robot a moral agent is not only false but an abrogation of our own responsibility'.

875

876 The capability of rights and duties is therefore the sole attribute that is exclusively
877 considered by courts in determining legal personality of any entities, in the absence of
878 any succinct statutory provisions defining personality of any beings. Both
879 chimpanzees and robots lack this critical attribute as demonstrated previously.

880 Industrial and social robots have been empowered to do different types of acts for us.
881 In doing their jobs, robots have already malfunctioned resulting in enormous harm.
882 The machines might have gone beyond their programmed functions for some reason,

883 such as internal defects in manufacturing, or operational mistakes at some stage, or a
884 plausible reason that could never be detected. In the event of not finding any fault or
885 scientific reason for robots' malfunction, the resultant harm should be redressed under
886 a mandatory insurance system. Otherwise, we recommend that legal persons from
887 either or both of the supply and user sides of the faulty robots be held liable for the
888 harm in question, depending on the cause of their wrongful conduct and the
889 corresponding involvement or fault of the legal persons (corporations and humans) in
890 a given case. Nugenborg, comparing robots with pets, advocates owner's liability
891 (Weng et al. 2009; see also Leenes and Lucivero 2014), while others prefer
892 manufacturers' liability under the product liability regime (see Bertolini 2013).
893 Liability is, for a rational being, an incentive, rather than a deterrent, in the sense that
894 it inspires fear in wrongdoers, contributing to compliance with law and to the resultant
895 prevention of harm (Allen 1931). Granting legal personality to robots may not be a
896 panacea; rather it may turn out to be Pandora's box, if we transform the machines to
897 our masters: as Smith (1928) commented, '[l]egal personality is a good servant, but it
898 may be a bad master'. The robots' personality could be that 'bad master', as recently
899 Stephen Hawking, like many others, has given an alarming warning that artificial
900 intelligence could end humankind (Cellan-Jones 2014). The personality in question
901 may thus exacerbate the dangers by exonerating humans from liability and thereby
902 diluting the effectiveness of deterrence. Moreover, robots do not as yet meet the
903 requirements of personality, and we also need to think about the query and concerns
904 expressed by Sartor (2009) in relation to robots: 'Shall we delegate so much to them,
905 and become so dependent on them that we will lose our ability to think and act on our
906 own?' In response, we may concur with Bryson's view that 'we are obliged not to the

907 robots, but to our society. We are obliged to educate consumers and producers alike to
908 their real obligations with respect to robotics' (Bryson 2010).

909

910 **References**

911 Alemzadeh1 H, Iyer1 RK, Kalbarczyk1 Z, Leveson N, Raman J (2015) Adverse
912 events in robotic surgery: a retrospective study of 14 years of FDA data.
913 <http://arxiv.org/ftp/arxiv/papers/1507/1507.03518.pdf>. Accessed 25 December 2015

914

915 Allen CK (1931) Legal Duties. *Yale Law Journal* 40(3):331-380.

916

917 Asaro Peter (2007) Robots and responsibility from a legal perspective.

918 <http://www.peterasaro.org/writing/ASARO%20Legal%20Perspective.pdf>. Accessed
919 20 December 2015

920

921 ASIC (2015), ASIC enforcement outcomes: January to June 2015.

922 [http://asic.gov.au/regulatory-resources/find-a-document/reports/rep-444-asic-
923 enforcement-outcomes-january-to-june-2015/](http://asic.gov.au/regulatory-resources/find-a-document/reports/rep-444-asic-enforcement-outcomes-january-to-june-2015/). Accessed 24 December 2015

924

925 Berle AA Jr. and Gardiner C Means (1932) *The modern corporation and private
926 property*. The Macmillan Company, New York

927

928 Bertolini Andrea (2013) Robots as products: the case for a realistic analysis of robotic
929 applications and liability rules. *Law, Innovation and Technology* 5(2): 214-247.

930

931 Blumberg PI (1993) *The multinational challenge to corporation law: the search for a
932 new corporate personality*. Oxford, Oxford University Press

933

934 Bora K (2 July 2015) Volkswagen German plant accident: robot grabs, crushes man to
935 death. *The International Business Times*. [http://www.ibtimes.com/volkswagen-
936 german-plant-accident-robot-grabs-crushes-man-death-1993475](http://www.ibtimes.com/volkswagen-german-plant-accident-robot-grabs-crushes-man-death-1993475). Accessed 7
937 December 2015

938

939 Blyth EK (1906) Moral personality and legal personality. *Canadian Law Review*
940 5(3):166-172

941

942 Bryson JJ (2010), Robots should be slaves. In: in Wilks Y (ed), *Close engagements
943 with artificial companions: key social, psychological, ethical and design issue*. John
944 Benjamins Publishing Company, Amsterdam pp 63-74

945

946 Cellan-Jones R (2014) Technology: Stephen Hawking warns artificial intelligence
947 could end mankind' <http://www.bbc.com/news/technology-30290540>. Accessed 10
948 January 2016

949

946 Cellan-Jones R (2014) Technology: Stephen Hawking warns artificial intelligence
947 could end mankind' <http://www.bbc.com/news/technology-30290540>. Accessed 10
948 January 2016

949

950 Charney R (2015) Can android plead automatism? A review of when kill: artificial
951 intelligence under the criminal law by Gabriel Hallevy. University of Toronto
952 Faculty of Law Review 73(1): 69-72
953
954 Cohen FS (1935) Transcendental nonsense and the functional approach. Columbia
955 Law Review 35 (6): 809-849
956
957 Cressey DR (1989), The poverty of theory in corporate crime research. In: Laufer
958 WS, Adler F (eds) Advances in Criminological Theory – Volume One. Transaction
959 Publishers, New Brunswick pp 31-55
960
961 Cookson C (11 December 2015) Scientists appeal for ethical use of robots. The
962 Financial Times, UK
963
964 Corbin AL (1920) Legal analysis and terminology. Yale Law Journal 29 (2):163-17
965
966 Corbin AL (1924) Rights and duties. Yale Law Journal 33(5):501-527
967
968 Davis JP (1909) Corporations: a study of the origin and development of great business
969 combinations and of their relation to the authority of the state. New York: B Franklin
970
971 Demaitre E (2016) Five robotics predictions for 2016. Robotics Business Review
972 http://www.roboticsbusinessreview.com/article/five_robotics_predictions_for_2016/m
973 [medical_assistive](http://www.roboticsbusinessreview.com/article/five_robotics_predictions_for_2016/m). Accessed 19 January 2016
974
975 Dhillon BS (1991) Robot reliability and safety.
976 http://link.springer.com/chapter/10.1007/978-1-4612-3148-6_4#page-2. Accessed 14
977 December 2015
978
979 Duff PW (1929) The personality of an idol. Cambridge Law Journal 3(1):42-48
980
981 Farrar J (2005) Corporate governance – theories, principles and practice. Melbourne,
982 Oxford University Press
983
984 Filedfisher (2015), ‘Corporate manslaughter case tracker.
985 <http://www.fieldfisher.com/media/3694153/corporate-manslaughter-tracker.pdf>.
986 Accessed 15 December 2015
987
988 Floridi L (2009) Artificial companions and their philosophical challenges. *Dialogue*
989 *and Universalism* 19:31-36
990
991 Freund E (1897) The legal nature of corporations. Chicago, The University of
992 Chicago Press
993
994 Garner BA (ed in chief) (1999) Black's law dictionary. St Paul, Minn, West Group
995
996 Gray JC (1909) The nature and sources of the law. York, Columbia University Press
997
998 Hallevy G (2010a) Virtual criminal responsibility. Original Law Review 6(1):6-27

999 Hallevy G (2010b) The criminal liability of artificial intelligence entities – from
1000 science fiction to legal social control. *Akron Intellectual Property Journal* 4:171-201
1001
1002 Hallevy G (2013) *When robots kill: artificial intelligence under criminal law*. Boston,
1003 Northeastern University Press
1004
1005 Hallis F (1930) *Corporate personality: a study in jurisprudence*. London, Oxford
1006 University Press
1007
1008 Hansmann H, Kraakman R, Squire Richard (2006) Law and the rise of the firm.
1009 *Harvard Law Review* 119(5):1335-1403
1010
1011 Hansmann H, Kraakman R (2001) The essential role of organisational law. *Yale Law*
1012 *Journal* pp 110(3):387-440
1013
1014 Harris J, Hargovan A, Adams M (2016), *Australian corporate law*. Chatswood, NSW,
1015 LexisNexis Butterworths
1016
1017 Health and Safety Executive (HSE) UK (2012) Collision and injury criteria when
1018 working with collaborative robots. <http://www.hse.gov.uk/research/rrhtm/rr906.htm>.
1019 Accessed 17 December 2015.
1020
1021 Holland TE (1900) *The elements of jurisprudence*. New York, Oxford University
1022 Press
1023
1024 Hubbard F P (2014) “Sophisticated Robots”: balancing liability, regulation, and
1025 innovation. *Florida Law Review* 66(5):1803-1872
1026
1027
1028 International Federation of Robotics (IFR) (2015) Industrial robot statistics.
1029 <http://www.ifr.org/industrial-robots/statistics/>. Accessed 22 October 2015
1030
1031 Koditschek DE (1989) Robot planning and control via potential functions. In: O
1032 Khatib O, Craig J J, Lozano-Pérez T (eds) *The robotics review 1*. Cambridge MA,
1033 The MIT Press pp 349-367
1034
1035 Kraakman R et al. (2009) *The anatomy of corporate law – a comparative and*
1036 *functional approach*. Oxford, Oxford University Press
1037
1038 Leenes R, Lucivero F (2014) Laws on robots, laws by robots, laws in robots:
1039 regulating robot behaviour by design. *Law, Innovation and Technology* 6(2):193-220
1040
1041 Machen AW Jr (1911) *Corporate personality*. *Harvard Law Review* 24(4):253-267
1042
1043 Matambanadzo SM (2012) *Embodying vulnerability: a feminist theory of the person*.
1044 *Duke Journal of Gender Law & Policy* 20:45-83
1045
1046 Morawetz V (1886) *A treatise on the law of private corporations*. Boston, Little,
1047 Brown & Co
1048

1049 Nekam A (1938) *The personality conception of the legal entity*. Cambridge, Harvard
1050 University Press
1051
1052 Niman J (2012) In support of creating a legal definition of personhood. *Journal of*
1053 *Law and Social Deviance* 3:142-244
1054
1055 Noack R (2 July 2015) A robot killed a factory worker in Germany- So who should go
1056 on trial?' *The Washington Post*, USA
1057
1058 Nonhuman Rights Project (2015), Judge recognizes two chimpanzees as legal
1059 persons, grants them writ of habeas corpus' Press Release, New York.
1060 [http://www.nonhumanrightsproject.org/2015/04/20/judge-recognizes-two-](http://www.nonhumanrightsproject.org/2015/04/20/judge-recognizes-two-chimpanzees-as-legal-persons-grants-them-writ-of-habeas-corporus/)
1061 [chimpanzees-as-legal-persons-grants-them-writ-of-habeas-corporus/](http://www.nonhumanrightsproject.org/2015/04/20/judge-recognizes-two-chimpanzees-as-legal-persons-grants-them-writ-of-habeas-corporus/). Accessed 17
1062 December 2015
1063
1064 Nygh PE (ed) (1997) *Butterworths Australian legal dictionary*. Adelaide, Butterworth
1065
1066 Pagallo U (2013) *The laws of robots – crimes, contracts, and torts*. Dordrecht,
1067 Springer
1068
1069 Phillips M J (1994) Reappraising the real entity theory of the corporation. *Florida*
1070 *State University Law Review* 21(4):1061-1123
1071
1072 Pollock S F (1923), *A first book of jurisprudence*. London, Macmillan & Co
1073
1074 Radin M (1932) The endless problem of corporate personality. *Columbia Law Review*
1075 32(4):643-667
1076
1077 Rao AS, Georgeff MP (1995) BDI agents: from theory to practice. 312-319
1078 <https://www.aaai.org/Papers/ICMAS/1995/ICMAS95-042.pdf>. Accessed 5 November
1079 2016

1080 Ripken SK (2010) Corporations are people too: a multi-dimensional approach to the
1081 corporate personhood puzzle. *Fordham Journal of Corporate & Financial Law* 15:97-
1082 177

1083 Rory CJ (2014) Technology: Stephen Hawking warns artificial intelligence could end
1084 mankind. <http://www.bbc.com/news/technology-30290540>. Accessed 10 January
1085 2016
1086
1087 Salmond JW (1916) *Jurisprudence*. London, Stevens and Haynes
1088
1089 Salmond JW (1947) *Jurisprudence*. London, Sweet and Maxwell
1090

1091 Sartor G (2009) Cognitive automata and the law: electronic contracting and the
1092 intentionality of software agents. *Artificial Intelligence and the Law* 17(4): 253-290

1093
1094 Schank RC, 'What is AI, anyway?' (1987) *AI Magazine* 8(4):59-65.

- 1095
1096 Sexton PA, Suroff AT, Zmijewski DR, McDowell LN ((2010) Recent development in
1097 products, general liability, and consumer law. Tort Trial & Insurance Practice Law
1098 Journal 45(2):517-542
1099
1100 Smith B (1928) Legal personality. Yale Law Journal 37(3):283-299
1101
1102 Solaiman SM, Begum A (2014) Impunity of frequent corporate homicides by
1103 recurrent fires at garment factories in Bangladesh: Bangladeshi culpable homicide
1104 compared with its equivalents in the United Kingdom and Australia. The Company
1105 Lawyer 35(10):289-309.
1106
1107 Solum LB (1992) Legal personhood for artificial intelligence. North Carolina Law
1108 Review 70(4):1231-1287
1109
1110 Stoljar SJ (1973) Groups and entities: an inquiry into corporate theory. Canberra,
1111 Australian National University Press
1112
1113 Terry HT (1916) The correspondence of duties and rights. Yale Law Journal
1114 25(3):171-193
1115
1116 Vinogradoff P (1924) Juridical persons. Columbia Law Review 24(6):594-604
1117
1118 Vladeck DC (2014) Machines without principals: liability rules and artificial
1119 intelligence. Washington Law Review 89(1):117-150
1120
1121 Weng YH, Chen CH, Sun CT (2009) Toward the human-robot co-existence society:
1122 on safety intelligence for next generation robots. International Journal of Social
1123 Robotics 1:267-282
1124
1125 West R (2010) Rights, harms, and duties: a response to justice for hedgehogs.
1126 Boston University Law Review 90:819-837
1127
1128 Wolff M (1938) On the nature of legal persons. Law Quarterly Review 54(4):494-
1129 521
1130
1131 Yesey-Fitzgfrad SG (1925) Idolon fori. Law Quarterly Review 41(4):419-422.
1132
1133
1134 **Cases**

1135 *Amadio v Levin* [Pa 1985] 501 A2d 1085
1136
1137 *A v Healey* [2011] FCA 717
1138
1139 *ASIC v Healey* (No 2) [2011] FCA 1003
1140
1141 *ASIC v Hellicar* [2012] HCA 17
1142
1143 *ASIC v Macdonald (No 11)* [2009] NSWSC 287

1144
1145 *ASIC v Macdonald (No 12)* [2009] NSWSC 714
1146
1147 *Bumper Development Corp Ltd v Commissioner of Police of the Metropolis and*
1148 *Others (Union of India & Others)* [1991] 4 All ER 638
1149
1150 *Byrn v New York City Health & Hosp Corp* [1972] 286 N E 2d 887
1151
1152 *Calaway v Practice Mgt Servs, Inc* [2010] Ark 432
1153
1154 *Lennard's Carrying Co Ltd v Asiatic Petroleum Co Ltd* [1915] ACT 705
1155
1156 *Matter of Nonhuman Rights Project, Inc v Stanley* [2015] NY Slip Op 31419(U)
1157 'Stanley (2015)
1158
1159 *Mlacaure v Northern Assurance Co* [1925] AC 619
1160
1161 *Nydam v R* [1977] VR 430
1162
1163 *People ex rel Nonhuman Rights Project, Inc v Lavery* [2014] 124 A D 3d 148
1164
1165 *Salomon v Solomon Co Ltd* [1897] AC 22
1166
1167 *Sloan Shipyards Corporation v Emergency Fleet Corporation, (1921)* 258 U S 549
1168
1169 *Smith v ConAgra Foods, Inc* [2013] Ark 502
1170
1171 *Transco PLC v Her Majesty's Advocate* (2004) SCCR 1
1172
1173 *United States v Walter* (1923) 263 U S 15
1174
1175 *Wartelle v Women's & Children's Hosp, Inc* [La 1997]704 So 2d 778
1176
1177