Embryos, Organoids and Robots: "legal subjects"?

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EMBRYOS, ORGANOIDS AND ROBOTS: "LEGAL SUBJECTS"?
ABSTRACT: The article addresses, in necessarily succinct terms, the theme of the reconfiguration of the concept of "legal subjectivity" and of "legal personhood" as a fundamental legal status for the human being, due to the scientific and technological developments, both in the field of human biological life and of artificial intelligence, considering, in particular, the cases of embryos, organoids, and AI-systems.

KEYWORDS: Human Dignity; Embryos; Organoids; Artificial Intelligence; Legal Personhood

SUMMARY: 1. The traditional "unidimensional" category of the "legal personhood" (for human beings) – 2. Human embryos and "legal subjectivity" – 3. AI-systems and "legal agency" – 4. Cerebral organoids: a disputable legal status – 5. Towards a new "multidimensional" category of "legal personhood" (for the disruptive techno-scientific developments).

1. The traditional "unidimensional" category of the "legal personhood" (for human beings)

As it is well known, the concept of "*legal personhood*" represents a cornerstone in legal theory since Roman Law. In the Justinian *Corpus Iuris Civilis*, it is remarked that: «*Omne autem ius quo utimur vel ad personas pertinet vel ad res vel ad actiones*»[1]. Beyond the issue of the different *status* recognized to freemen and slaves, and the absence in Roman Law of an abstract concept of "*legal personhood*" — able to comprehend all types of "juristic subjects", even collective —, the *status personae* was attributed, by the same Roman Law, only to *human beings* (*homo*) born alive[2] and with a human form. The deformed childbirth (*monstrum vel prodigium*) was usually *not* regarded as a human "person"[3], while the conceived, although it was *not* considered a person, was still legally differentiated from a mere "thing" and eventually equated to a newborn, but only for hereditary purposes (when favorable) and if the birth had occurred (a rule that it is still present in Art. 1 Italian Civil Code)[4].

While during the Middle Ages the unitary concept of legal personhood was absent, it is from Natural Law's jurisprudence (and Enlightened rationalism) that a unified dimension of the legal personhood arose (Hugo Grotius, Gottfried Leibniz — who is reported to be first to associate legal personhood with

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[1] Inst. 1.2 and D. 1.5.1.
[2] D. 50.16.129.
[3] D. 1.5.14 and D. 50.16.135.
[4] Inst. 1.13.

right-holding and duty-bearing — Christian Wolff) and was after cultivated by the Historical jurisprudence[5].

In particular, Friedrich von Savigny strictly connected the *legal personhood* to something so intertwined with the same *nature* of human-being that nothing more than the natural elements of birth and death were to be considered to define the boundaries of the beginning and the end of the same legal subjectivity[6].

That same "*natural*" dimension of the legal personhood — of course, referred to individuals and not the associations and organizations created by humans for collective purposes, that may be vested of legal relevance — can also be traced in Blackstone, according to whom the «persons are divided by the law into either natural persons, or artificial. Natural persons are such as the God of nature formed us; artificial are such as created and derived by human laws for the purposes of society and government, which are called corporations or bodies politic»[7].

Different, and in some way opposed, is the point of view of Hans Kelsen, who refused that *ontological-natural* dimension of legal personhood to embrace a "*purely legal*" — and therefore "stipulative" — concept of personhood. Assuming that a "person" — intended as a physical person and not as "juristic" person (*i.e.,* a corporation or association) – is «a human being considered as subject of duties and of rights», the legal personhood «exists insofar as he "has" duties and rights; apart from them the persons has no existence whatsoever»[8]. Therefore, in the "stipulative" view, the human being on one side, and the legal personhood, on the other, are two different concepts, laying on different floors. The first is biological, while the latter is a jurisprudence concept, and identifies a personified bulk of different norms, recognizing rights and imposing duties (on a human being regarding human behaviors, legally relevant).

In the Art. 16 of the Austrian Civil Code (ABGB 1811) is mentioned, probably for the first time in a legislative text, the "legal personhood" as a general aptitude to be subjected of rights, referred to every human being "as such". A similar concept of "legal personhood" (as legal capacity to be right-holder and duty-barer — *not* as legal competence to perform legal acts, which comes from age and sound mind), acquired by the human-being from the very moment of birth to death, is present also in Art. 1 of the German Civil Code (BGB 1900) and in Art. 1 of the Italian Civil Code (1942).

More recently, in the Art. 1 U.N. Universal Declaration of Human Rights (UDHR 1948) is affirmed that all human beings are born free and equal in dignity and rights, and in the subsequent Art. 6 is stated that everyone has the right to recognition everywhere as a person before the law.

In the Art. 22 of the Italian Constitution (1948) is written that no-one may be deprived of "legal capacity" (intended as "legal subjectivity": to be subject of rights and the bearer of duties) for "political reasons" (any reason for "state interests" — *not* of party affiliation). According to Articles 2 and 3 of the same Italian Constitution, that guarantee of the legal personhood is related to the equal dignity and the inviolable rights of everyman as an individual and as a part of social bodies.

[5] V.A.J. KURKI, *A Theory of Legal Personhood*, Oxford, 2019, 32-53.
[6] F. VON SAVIGNY, *System des heutigen Römischen Rechts*, 1840, II.17.
[7] W. BLACKSTONE, *Commentaries on the Laws of England*, 1765, I.1.
[8] H. KELSEN, *General Theory of Law and State*, 1945, I.IX.B.

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The dignity of the human being as an inviolable right is also protected by Art. 1 of the EU Charter of Fundamental Rights (ECHR 2000) and by the Art. 1 of the European Convention on Human Rights and Biomedicine (Oviedo 1997); it is also affirmed as a general principle in bioethics by the UNESCO Universal Declaration on Bioethics and Human Rights (Art. 3).
Those legal texts (and many others that might be eventually cited) show how being a "member of the human family" implies "inherently" to be vested of dignity, rights, and "legal personhood" as different sides of the same *indivisible* "*prism*".
However, facing the developments of biosciences and informatics technologies, that traditional legal view has been recently questioned at least under three different sides: the *embryos*, the *artificial intelligence*, and the *organoids* (in particular, the human cerebral type of organoid)[9].

2. Human embryos and "legal subjectivity"

The Art. 1 of the Italian Act 40/2004, on *in vitro fertilization*, recognizes the "*conceived*" as a "*subject*" of the rights protected by the same statute. Thus, for the first time in Italian primary legislation, the Act mentions a "human entity" (the *human embryo*) as vested of rights apart from the future event of birth and outside the realm of hereditary discipline. Under that point of view, the Act is departing from the traditional view of the Art. 1 of the Italian Civil Code. In fact, the "legal subjectivity", intended as the substrate of the capability to have "some" rights (the ones protected by the same Act 40/2020), has been recognized to a not-yet-born human being and outside patrimonial interests, even if the birth would never happen.
At the same time, the abovementioned Act 40/2020 does not qualify the conceived as a "*legal person*" but as a "*legal subject*". Therefore, it seems that the law-makers, even if they had tribute a "certain" legal capacity to the embryo (as titular of the fundamental personality rights guaranteed by the Act 40/2004), did not recognize any "full" legal capacity to the same embryo as it would have been if the law had used the term "*legal person*" instead of "*legal subject*".
In a case concerning the use of human embryos and the provisions of Italian Act n. 40/2004, the European Court of Human Rights affirmed that human embryos *could not be reduced to mere "possessions"* according to Article 1 of Protocol I of the same convention[10]. Therefore, the Court, even without defining embryos as "persons" or "subjects" of law, excluded them from the "things" (the "*res*" according to the Gaian tripartite division of Law).
In the matter of legal protection of biotechnological inventions, the Court of Justice of the European Union reiterated the principle that, in order to consider a specific entity a human embryo — and, therefore, something that is not patentable in light of the dignity principle, under Recital 13 of Directive 98/44/EC, in connection with Article 1 of the EUCFR and according to Article 6, Sect. 2 (c) of the same

[9] T. PIETRZYKOWSKI, *Personhood Beyond Humanism. Animals, Chimeras, Autonomous Agents and the Law*, Cham, 2018; V.A.J. KURKI, T. PIETRZYKOWSKI (eds.), *Legal Personhood: Animals, Artificial Intelligence and the Unborn*, Cham, 2017; and, eventually, F.G. PIZZETTI, *The Robot Sophia as a "New Citizen" of Saudi Arabia: what about granting legal personhood, "citizenship" and eventually dignity to non-human entities with artificial intelligence?*, in *Notizie di Politeia*, 2019, 63-70; A. LAVAZZA, F.G. PIZZETTI, *Human cerebral organoids as a new legal and ethical challenge*, in *JLB*, 2020.
[10] ECHR 46470/11, *Parrillo*.

Directive 98/44/EC — it is necessary that the cells possess the *inherent capacity of developing into a human being*[11].

The Italian Constitutional Court, scrutinizing the Act n. 40/2004, has considered the embryo as an *entity that has in itself the origin of life* and, consequently, has *dignity and some constitutionally relevant rights*, pursuant to Article 2 of the Italian Constitution, although in a stage of development not yet defined by law and that has not been unanimously ascertained by scientists[12]. The same Court also affirmed that an embryo has a *certain level of legal subjectivity* related to the genesis of life inside it[13], albeit, according to an old case about abortion, that was never overruled, the legal safeguarding of the fetus (and of the embryo) cannot be considered equivalent to the legal protection of the mother. In fact, the fetus (and the embryo) is *not yet a full legal person*, whereas, on the contrary, the woman holds *full legal personhood*[14].

All this case-law and the same Act n. 40/2004 (Art. 1) show a tendency in favor of the recognition of *dignity*, a degree of *legal subjectivity*, and some *fundamental rights* event to not-yet-born human entities but if they possess the principle of human life, and if they have a recognizable capability to self-develop into a human being (of course, with the support of a uterus or an incubator).

At the same time, all those cases remark the distinction between "*legal personhood*" (full legal capacity to be the owner of rights and the bearer of duties) and "*legal subjectivity*" (legal capacity to be vested of "some" fundamental rights).

The same courts also recognized the attribute of *human dignity* in any case when a *human being* — as a *human entity* able to self-develop into a fully human form, even if not-yet-born — is involved.

3. AI-systems and "legal agency"

Presumably more for symbolic, rather than legal, reasons, the Kingdom of Saudi Arabia has once given "citizenship" to a *robot* called "*Sophia*" and manufactured by Hong Kong-based company "*Hanson Robotics*". According to the Citizenship Act of the Kingdom of Saudi Arabia[15], Saudi citizenship should be recognized or attributed (only) to "individuals". Of course, citizenship is a *status* that, under general public law, requires as prerequisite the ownership of a "legal capacity". Therefore, from a legal point of view, the Saudi's decision could be considered as the first example of a recognition of a "certain" legal capacity (in order to confer to *Sophia* the *status civitatis*), and therefore, of a legal subjectivity, to a single non-human entity (an android).

The European Parliament, in a resolution of February 2017[16], called the Commission to explore the implications of "creating a specific legal status for robots" and of "applying electronic personality to cases where robots make smart autonomous decisions or otherwise interact with third parties independently". That statement has been opposed by an advice adopted on May-June 2017 by European

[11] ECJ C-36/13, *International Stem Cell Corporation*; ECJ C-34/10, *Oliver Brüstle*.
[12] It. Const. Court 84/2016.
[13] It. Const. Court 229/2015.
[14] It. Const. Court 27/1975.
[15] Decree 4/1374 Hijra (which corresponds to 1954 A.D.).
[16] *Civil Law Rules on Robotics*, 2015/2103/INL, §59.

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Economic and Social Committee, which considers that providing robots or artificial intelligence-AI (systems) of legal personality is «an unacceptable risk of moral hazard»[17]. The moral risks of recognizing legal personality to AI-systems has been remarked — the same year — by the COMEST UNESCO in a report passed in September 2017. The report argues that even if robots may be said to have some form of (algorithmic) rationality (because «they are able solve many demanding cognitive tasks on their own»), they should not be called «"persons" as long as they do not possess some additional qualities typically associated with human persons, such as freedom of will, intentionality, self-consciousness, moral agency or a sense of personal identity»[18].

In the latest white paper on AI-systems[19], completed in February 2020, the EU Commission seems to have put aside the question of creating a "e-personality" for the robots, preferring an approach oriented to the updating to AI-systems of the existing legal framework applicable to products manufacturing and liability, and data protection.

The same EU Parliament, more recently, seems to have re-examined its previous position by affirming in its resolution of October 2020 to the Commission on artificial intelligence that there is no need «to give legal personality to AI-systems»[20].

However, very influent legal scholars[21] have argued that insofar AI-systems become more and more autonomous in their algorithmically driven decision, even by self-learning from inputs in a way not previously determined by their software (and sometimes not even back-traceable by computer programmers), it would be better to analyze the hypothesis to provide those "artificial entities" some form of legal "subjectivity".

That does not imply any full "legal personhood", equated to the one recognized to humans, but a tailored legal position, connected to their capability to act and interact as "*agents*" in the real world with many juristic consequences (in terms of torts, contracts, administrative procedure, data management, serviced providing), alone or inside human-machine networks.

4. Cerebral organoids: a disputable legal status

Among the forefronts in biosciences and related technologies, there are the "organoids": in particular, the human cerebral ones. That type of organoids is created by cultivation, in some Petri dishes, of pluripotent human cells. When nurtured, those cells start progressively to reproduce (even without vascularization) the structures typical of natural brain tissues, such as the neurons. As quickly as they

[17] European Economic and Social Committee, *Artificial intelligence — The consequences of artificial intelligence on the (digital) single market, production, consumption, employment and society*, 2017/C 288/01, §3.33.

[18] World Commission on the Ethics of Scientific Knowledge and Technology (COMEST), *Robotics Ethics*, SHS/YES/COMEST-10/17/2 REV, §201.

[19] European Commission, *White Paper on Artificial Intelligence - A European approach to excellence and trust*, COM/2020/65 final.

[20] European Parliament – Think Tank, *Civil liability regime for artificial intelligence*, 2020/2014/INL, §7.

[21] A. SANTOSUOSSO, *If the agent is not necessarily a human being. Some legal thoughts*, in D. PROVOLO, S. RIONDATO, F. YENISEY (eds.), *Genetics, Robotics, Law, Punishment*, Padua, 2014, 545-561; G. TEUBNER, *Digital Personhood? The Status of Autonomous Software Agents in Private Law*, in *Ancilla Iuris*, 2018, 107-149.

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are growing in labs, those cerebral organoids became more and more able to show even complex electrochemical activity, quite similar to natural patterns. Although they seem quite far from be reached the threshold of experiencing some form of "consciousness", those organoids express rudimental "reactivity" to stimuli and are able to "process" simple "information" (*e.g.*, to send electrical signals in-and-out). Therefore, the debate on their moral and legal status have been opened[22].

As for the Italian legal framework, one must remember that, according to Art. 1 Act 578/1993, the legal death coincides with the irreversible termination of all the activities of the brain. The Italian Constitutional Court has evaluated that threshold as sufficient to admit the cease of the entire "*legal person*" because, according to the medical knowledge, when the whole brain is gone, the organic and coordinated unity of the body as an integrated system of anatomic parts it is lost forever[23].

Moving from that point of view, one may underline that even if the cerebral organoids have some "neuronal" activity of human type (like "mini-brains"), they should *not* be regarded in any case as "*legal persons*". Indeed, they do not perform any activity of "coordination" and "integration" of an entire human person, which is the requisite identified in the human brain as a whole, by the Italian Constitutional Court, to determine when the "legal personhood" of the individual has terminated.

Nor those organoids might be considered "*legal subjects*" because they are made of human cells, trying to adapt to cerebral organoids the legal pattern adopted by the Article 1 Act 40/2004 and the case-law abovementioned for an embryonic cell. Indeed, the cerebral organoids are just simple portions of human reprogrammed tissue, in any case *unable* to self-develop into a full human being as, on the contrary, the embryonic cell is capable to do.

5. Towards a new "multidimensional" category of "legal personhood" (for the disruptive techno-scientific developments)

Anyway, all these blurring scenarios show how, right now and eventually more in the future, we might have to "unbundle" the package of *legal personhood* by separating and distinguishing the "*legal personhood*" (*humans*) from the "*legal subjectivity*" (*embryos*, *AI-systems*).

The "*legal personhood*" remains the classical juristic condition of the physical individual's full aptitude to be the owner of rights and the bearer of duties. It is, typically, the (universal and equal) legal "status" of the *human-being*, *born* and *alive*.

The "*legal subjectivity*" might be, in some cases, also attributed to some entities that are not considered as legal persons. These cases comprehend the *embryos* as *human beings not-yet born and alive but capable of self-development into a human-being*, and (maybe) the *AI-system* as *sophisticated artificial beings capable of autonomous agentivity*. From this specific (and narrow) point of view, the legal subjectivity might be the conceptual juristic "substrate" for recognizing some specific rights to be protected and balanced with others' rights and interests (like life and health) such as in the case of embryos, or for imposing some responsibility for making good any damage they may cause (like tort and other illicit) such as in the case of the AI-systems.

[22] International Neuro-ethics Society, *Human Brain Organoids: the Science, the Ethics*, 2018.
[23] It. Const. Court 414/1995.

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At the same time, the case-law mentioned above reveals a fundamental juristic factor — *i.e.*, the "*human dignity*" (Art. 2 and 3 It. Const., Art. 1 CFUE, Art. 1 UDHR) — which, in any case and forever, distinguishes human beings (born and not-yet-born) from robots and AI-systems (and, at the same time, also from organoids).

As reported above, the courts consider human dignity strictly interwoven with *human life*, starting at its *inception*, even before birth.

If the proper characteristic of dignity is human life "as it is" (even at the embryonic stage, but capable of becoming a complete human person, not a synthetic "organoid," and until the individual's death), it is clear that human life cannot be shared with non-living and non-human artifacts. In fact, androids or other intelligent devices remain just "inanimate things," notwithstanding the level of skills — motor, sensitive, cognitive, or even "conscious" or "intelligent" — of their hyper-sophisticated technological bodies. Negating the attribution of "human dignity" to robots or AI-systems from a legal point of view seems also to be a strategic move. Even if it may be just dystopia, we do not know for sure if — as has been warned by Stephen Hawking[24] — artificial intelligence could outsmart all of us or act in a way we cannot simply understand, and, thus, if it presents (or not) a substantial threat to humankind in the future. Therefore, it could be necessary to establish specific, differentiated legal regimes for humans and robots, to prevent humans from being put in hazardous or harmful situations by the autonomous and intelligent behaviors of the artificial machines we might not control. As a consequence, we may need to ensure that the legal personhood, which will have been given to artificially intelligent machines, could be legally limited to set rules effective for avoiding behaviors that result in threats to mankind. Under this perspective, the value of dignity — as an exclusive position of mankind, that the robots are not vested in — might become a sufficient constitutional and international basis to justify, and tolerate, a legal diversity of the intelligent artifacts which limits even robustly their agentivity.

The organoids, on their side, are still just insulated part of human tissue, which will never become a human body so that they cannot be "equated", under the point of view of dignity, with the human entity "*as a whole*" (even if that human entity has not yet reached the stage of a human body like the embryos or the fetuses during the pregnancy). To attribute, for mere hypothesis, the human dignity to the organoids would mean, moreover, to assign the highest legal "value" to an entity that has never been incorporated in a human being composed of body and brain. The consequence would be, therefore, to implicitly "reduce" the "whole human being", deserving of dignity in its "organic entirety", to only a single, limited, part as it could be a "mini-brain". This does not exclude, of course, that if in the distant future, it were technically possible to make brain organoids reach very sophisticated levels of neuronal activity, legal measures could not be adopted to regulate the creation and use of such types of organoids.

There is no doubt that the framework that opens up, for the law, from technical and scientific evolution in the fields of biological and artificial systems is complex and rapidly changing, facing unexplored and sensitive evolutionary outcomes: it seems, therefore, particularly necessary that the law continues to exercise and refine its particular ability, so well emphasized by very prominent legal scholar, to be

[24] Notably, many of today's fears about the risks of un-controllable AI, which may try to overcome humans, have been encapsulated in the renowned movie "*2001: A Space Odyssey*" directed by Stanley Kubrick (1968).

«open, updated and attentive, in order to respect the complexity, fluidity and particularity of its object»[25].

[25] C. CASONATO, *The Essential Features of 21st Century Biolaw*, in E. VALDÉS, J.A. LECAROS, *Biolaw and Policy in the Twenty-First Century. Building Answers for New Questions*, Cham, 2019, 89.

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