# PRELIMINARY PROFILES ON THE CIVIL LIABILITY OF HEALTH ROBOTS*

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The themes of my presentation are about medical robots, algorithmic medical variables and profiles of civil responsibility.

The advent of Artificial Intelligence, of which there are traces even in the most ancient history of man, has made the human world, as well as legal, the specifically "regulatory" one of mechanical dynamics, very complex.

Artificial Intelligence has set foot in the most disparate areas of human life, especially in the health sector, on which I want to focus attention.

Everyone knows that some "bloated" machines have entered the world of medicine, either to assist the doctor or medical team, or to obtain "the best medical services". At this point, one might wonder if some "health negligence" determined by human doctors can be overcome by the "best health performance", obtainable with the "perfectible" help of robots[1].

The law, which has long since taken note of a similar "algorithmic and mechanistic irruption" in almost all areas of human daily life[2], must become even more aware of solving the problems that concern, in particular for the medical-health field, the "legal qualification[3]" of any civil liability deriving from the "cause" of physical and moral damage by health robots[4] and the consequent "remedial regime".

As is known, the new Gelli-Bianco Law[5] in Italy has qualified the responsibility towards the health facility as "contractual" and that towards the doctor as "non-contractual[6]". Starting from the somewhat "translational" assumption of Roman law that "*ex robot oritur ius*", the law must take note of the new tools and methods of algorithmic and mechanistic regulation and try to regulate their ontology and dynamics, even transversal. Hence, therefore, the analysis of the so-called "split" between the responsibility of the producer and the responsibility of the programmer. In this case, one must ask whether the malfunction of the

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[1] See L. Di Sofia, *Medicina e sanità: quale ruolo giocano oggi i robot collaborativi*, in *www.alumotion.it*, 18 febraury 2019; A. Beverina, *Robotica nella sanità, il futuro è cominciato e l'Italia è in partita: ecco 4 storie*, in *www.economyup.it*, 10 december 2018; G. Maglio, *Robot in Sanità, quali norme per l'innovazione*, in *www.agendadigitale.it*, 24 july 2017; A. R. Cillis, *Il robot entra in corsia e aiuta a fare la diagnosi*, in *La Repubblica*, 23 january 2019.

[2] See, for example, the field of home automation. On this point, please refer to L. Vizzoni, *Domotica e diritto. Problemi giuridici della smart home tra tutele e responsabilità*, Milan 2021.

[3] See E. Marchisio, *Medical civil liability without deterrence: preliminary remarks for future research*, in *Journal of civil law studies*, 13, n. 1/2020, pp. 87-118.

[4] See C. A. Agurto Gonzàles, *El daño a la persona en la experiencia juridica italiana*, Argentina 2020, p. 33 ss.

[5] Please refer to R. Trezza, *Responsabilità medica e autodeterminazione della persona. Gli orientamenti di legittimità dalla Legge Gelli-Bianco ad oggi*, in *Giustizia insieme*, 20 gennaio 2020, available online.

[6] Allow yourself to be deferred to R. Trezza, *Diritto alla vita, diritto alla salute e responsabilità medica. Riflessioni prospettiche sull'autodeterminazione della persona umana*, Salerno 2020 and R. Trezza, *La responsabilità civile del medico dall'oscurantismo al doppio positivismo. Focus sulla responsabilità civile del medico prenatale*, Salerno 2019.

medical robot causes the responsibility to be attributed solely to the manufacturer or also to the programmer. According to me, the responsibility should be attributed to the manufacturer if the medical robot does not work exactly; to the programmer, on the other hand, if the correct "health algorithmic variables" have not been entered[7].

In other cases, however, a joint responsibility may arise between the "introjector" of health principles and the "translator" of medical values and practices, if, in fact, there is a transmission error. However, there could still be the configurability of a contractual liability if the manufacturer makes use of another manufacturer for the perfect functioning of the same (among which there will certainly be, at the base, a contractual relationship) and, again, if the programmer uses a subject expert for the transmission of medical variables (among which there could certainly be an intellectual work relationship)[8].

One could therefore think, with regard to liability for damage caused by the medical robot, to apply, as is the case for driverless cars, a liability "proportional" to the degree of automation and based on the contribution of the human doctor. This should be studied in terms of establishing a responsible statute for robots acting in the healthcare sector[9]. It is inevitable that, if the doctor has control from the beginning, during and at the end of the robot, the responsibility for any damage will fall on him as the primary agent and only aided by the machine. The problem could arise when the doctor, during an operation, is unable to control the machine, as it is malfunctioning. It will certainly be easy to invoke producer responsibility and prove that you have done everything possible to avoid the damage. The practical and restorative implications are completely open[10].

But then, could a medical robot respond criminally? *Robot delinquere potest*? If you refer to art. 27 of the Italian Constitution, where it is stated that "criminal responsibility is personal", can the comparison with entities pursuant to Legislative Decree 231/2001 be extended to robots or not? And if it could commit a crime, could it also be punished? *Robot delinquere potest et puniri*? And with what sanction? With that (in) sensitive and (un) useful of destruction[11]?

From a regulatory point of view, however, it would then be likely that a medical robot could be equipped with mandatory insurance to cover any damage (in this case the structure could question the insurer as well as the doctor who, if held responsible for the residual part of his human work, could question his own insurance). The establishment of a mutual fund would also be desirable if some medical robots were not, perhaps temporarily, covered by insurance[12].

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[7] See R. Trezza, *Diritto e intelligenza artificiale. Etica, Privacy, Responsabilità, Decisione*, Pisa 2020.

[8] In this way, you can see R. Trezza, *Responsabilidades legales atribuibles a máquinas y algoritmos: ¿categorías tradicionales o género novum de responsabilidad?*, in *Actualidad civil*, n. 76/2020, pp. 155-177.

[9] As for driverless cars, where there is a different degree of responsibility depending on the degree of automation, the same argument should also apply to healthcare robots. On this point, please refer to R. Trezza, E. Quarta, *Driverless car o driverless law: quale direzione prenderà il diritto per evitare "incidenti sistematici"?*, in *Cultura giuridica e diritto vivente*, n. 8/2021, pp. 1-18.

[10] See E. Marchisio, *Evoluzione della responsabilità civile medica e medicina "difensiva"*, in *Rivista di diritto civile*, LXVI, n. 1/2020, pp. 189-220; Id., *In support of "no-fault" civil liability rules for artificial intelligence*, in *SN Social Sciences*, 11 gennaio 2021, pp. 1-25.

[11] In this way, you can see R. Trezza, *L'Intelligenza Artificiale come ausilio alla standardizzazione del modello 231: vantaggi "possibili" e rischi "celati"*, in *Giurisprudenza penale web*, n. 1bis/2021, pp. 2-12.

[12] See the Resolution of 16 February 2017, containing "*Recommendations to the Commission concerning civil law rules on robotics*". Furthermore, see also the Resolution of the European Parliament of 12 February 2019, on "*A comprehensive European industrial policy on robotics and artificial intelligence*", in which artificial

All this, however, leads, in conclusion, to a fundamental question. Does the medical robot have legal personality (so-called "mechanical subjectivity")? These are themes of the future, certainly not too far from us[13].

From the point of view of the recent Italian doctrine, we have to put the attention on an important contribution of National Committee for bioethics, National Committee for biosecurity, biotechnologies and life sciences[14], which states that "artificial intelligence must be considered exclusively as an aid in the doctor's decisions, which remain controlled and supervised by man. In any case, it remains up to the doctor to make the final decision, as the machine only and exclusively provides support for data collection and analysis, of an advisory nature". Also see, again in the same contribution, the argumentative details regarding the so-called "opacity" of algorithms[15] in medical choices and civil responsibility relating to medical systems of artificial intelligence, where it discusses any responsibility "from social contact[16]".

In this perspective, the idea of qualifying responsibility as a "social contact" is not at all correct, especially taking into account the Gelli-Bianco Law which, after the Balduzzi Law, qualified responsibility as "contractual" between patient and hospital , but "extra-contractual" between doctor and patient, with recourse action by the structure against the doctor.

For this purpose, informed consent should also be made suitable for intelligent medical systems, in particular by securing the patient and disclosing all the risks and consequences that could exist if he decides to undertake medical treatment through the aid of AI[17].

In conclusion, we can say that intelligent systems, especially those that have a close interaction with the human person, must be screened for their merit. We must move towards the construction of a "merit judgment" for intelligent systems. This means that an intelligent system must know what are the legal values on which the legal system is based and will have to make decisions and, therefore, act bearing in mind what those values are. Intelligent systems, as well as health robots, as well as driverless cars, must understand that the

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intelligence (AI) and robotics are transparent and integrate the ethical dimension they hold the potential to enrich our lives and further develop our capabilities, both as individuals and for the common good (see recital letter a). In this regard, it should be emphasized that at various levels, especially in Europe, a series of very specific refresher courses have started on the topics of scientific investigation. See, for example, G. Riggio, *A European online course on artificial intelligence*, in *Social Updates*, August-September 2020, pp. 606-607. On this point, see, lastly, the *White Paper adopted by the European Commission on artificial intelligence (A European approach to excellence and trust)*, COM (2020) 65 final, of 19 February 2020. See G. Bertelli, *Artificial intelligence, the European Parliament adopts three reports to regulate its use and promote innovation*, in *Ius in itinere*, 28 October 2020, available online. See also L. Mischitelli, *The European strategy on artificial intelligence: state of the art and future scenario*s, in *www.agendadigitale.it*, 6 october 2020, available online. See also the Resolution of European Parliament of October 2020 and the last of January 2021.

[13] In this way, you can see one the most important author of these themes Teubner, *Soggetti giuridici digitali? Sullo status privatistico degli agenti software autonomi*, Neaples  2019.

[14] See National Committee for bioethics, National Committee for biosecurity, biotechnologies and life sciences, *Artificial intelligence and medicine*, in *Il Regno*, n. 21/2020, especially p. 692.

[15] See National Committee for bioethics, National Committee for biosecurity, biotechnologies and life sciences, *Artificial intelligence and medicine*, cit., p. 693.

[16] See again National Committee for bioethics, National Committee for biosecurity, biotechnologies and life sciences, *Artificial intelligence and medicine*, cit., p. 696.

[17] On this point, also for reflections on the civil liability of health robots, see V. Rotondo, *Responsabilità medica e autodeterminazione della persona*, Naples 2020, p. 159, where the A. focuses precisely on the interaction between civil liability and robots and artificial intelligence in healthcare. In this regard, the Author seems to adhere to the thesis for which art. 2050 of the Italian Civil Code, as nothing prevents a similar artificial activity from falling under the so-called "Dangerous activities" (p. 173). Moreover, it seems, in a completely acceptable way, to reveal the configurability of a contractual liability of the health facility if a medical robot should malfunction or cause damage (pp. 179-180).

fundamental principle to be pursued is always the protection of the life of the human person and the achievement of best human protection.

*Homo juridicus*, therefore, will have to verify, already at the beginning, whether an intelligent system is able to protect the human person as a whole (*ethics by design*) and will also have to assess whether this system continues to be a protective tool for the human person, during its action and up to its material existence (*ethics by default*).

In closing, it is hoped that there can be an artificial judgment of merit, with which to understand which intelligent system is appropriate for the best possible achievement of the protection and psycho-physical-global well-being of the human person[18].

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[18] In this way, lastly, you can see R. Trezza, *Diritto e intelligenza artificiale. Etica, Privacy, Responsabilità, Decisione*, cit.; R. Trezza, *I diritti della persona tra "tecniche" e "intelligenze" artificiali. Casi, questioni, prospettive*, Chile 2021.