

**“LEGAL VALUES” AND “ALGORITHMIC VARIABLES”:
AN ETHICALLY ORIENTED
INTERPRETATION OF ARTIFICIAL INTELLIGENCE***

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SUMMARY: 1.- Electronic *eudaimonia* and juridical *humanitas*; 2.- Legal system and electronic system. *Homo informaticus* and *homo juridicus*; 3.- Examples; 4.- Introductory profiles on the responsibility of algorithms; 5.- Bias and “bias of bias”; 6.- Robot judge and “electronic due process”; 7.- Conclusions: humanization of the machine or dehumanization of man?

1.- Electronic *eudaimonia* and juridical *humanitas*

Today’s society is dotted with “engineering microcosms and macrocosms¹”, based on a very galloping development of technology² in all fields of human existence, which is also constantly in search of an “electronic eudaimony³”.

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¹ Among all, on the subject of “engineering inventions” based on the proper and improper use of artificial intelligence, see E. Spagnuolo, *8 invenzioni geniali del 21esimo secolo*, in *Focus*, 7 february 2015, available online. The author emphasizes some innovations “brilliant to say the least”, including the self-cleaning window, the invisible skyscraper, the swimming pool that cleans the river, the smog-eating concrete, the drinking water produced by a road sign, etc. ... For further information, please refer to F. Faggin, *Silicio. Dall’invenzione del microprocessore alla nuova scienza della consapevolezza*, Milan 2019.

² It is necessary, on this point, to refer to V. Frosini, *Il diritto nella società tecnologica*, Milan 1981; V. Zeno-Zencovich, *Informatica ed evoluzione del diritto*, in *Il diritto dell’informazione e dell’informatica*, n. 1/2003, 89 ss.; M. Mattioli Ragona (edited by), *L’informatica del diritto*, Milan 2004; P. Moro (edited by), *Etica, informatica, diritto*, Milan 2008; M. Durante, U. Pagallo (edited by), *Manuale di informatica giuridica e diritto delle nuove tecnologie*, Turin 2012; G. Sartor, *L’informatica giuridica e le tecnologie dell’informazione*, Turin 2012; U. Pagallo, *Il diritto nell’età dell’informazione. Il riposizionamento tecnologico degli ordinamenti giuridici tra complessità sociale, lotta per il potere e tutela dei diritti*, Turin 2014; M. Pietrangelo, *Il diritto e le tecnologie informative: qualche proposta per il nuovo millennio*, in G. Peruginelli-M. Ragona, *L’informatica giuridica in Italia. Cinquant’anni di studi, ricerche ed esperienze*, Naples 2014; G. Ziccardi, *Il computer e il giurista*, Milan 2015; G. Ziccardi, P. Perri, *Tecnologia e diritto. Vol. 1: Fondamenti d’informatica per il giurista*, Milan 2019; G. Ziccardi, P. Perri, *Tecnologia e diritto. Vol. 2: Informatica giuridica*, Milan 2019; G. Ziccardi, P. Perri, *Tecnologia e diritto. Vol. 3: Informatica giuridica avanzata*, Milan 2019.

³ See Aristotle, in *Etica nicomachea* (EN, X, 7), who states: “... if the activity of the intellect being contemplative, it seems to excel in dignity and does not aim at any other end than itself and to have its own perfect pleasure (which increases activity) and to be self-sufficient, easy, uninterrupted as far as it is possible for man and it seems that in this activity all the qualities that are attributed to the blessed man are found: then this will be the perfect happiness of man, if it has the entire duration of life”. By comparing this affirmation to the society in which we live, a new concept of happiness could be envisaged, one based on the use of technology “to the nth degree”. See, for a properly philosophical view of the concept, A.M. Pacilli, *La nostra felicità è “Eudaimonia”?*, in *Nel futuro, Web magazine di informazione e cultura*, available online. See also, G. Ceredi, *Eudaimonia. Fioritura umana, daimon e felicità*, Verbanò 2014.

One of the sectors most influenced by innovation – the general expression by which we want to understand the set of new technological means – is *sine dubio* the legal one⁴, and more specifically the branch of judicial decision⁵.

There is talk, at this point, of a “robot⁶” judge, that is to say of one who strips off the usual clothes of “legal *humanitas*” to wear those of an “unregulated machine”, which society, in its frenetic becoming, imposes. Think of the phenomenon of “deprocessualization⁷”, whereby telematics⁸ is increasingly replacing fundamental human work activities. As long as technology serves man to “lighten” the attitudinal load of monotony, it could also be appreciated for its service, completely disputing its influence on human intellectual activities (think of the robotic judicial decision⁹ and the so-called “predictive justice¹⁰”).

⁴ On the relationship between law and new technologies, please refer to M. L. Montagnani, M. Borghi, *Proprietà digitale. Diritti d'autore, nuove tecnologie e digital rights management*, Milan 2006; P. Perri, *Protezione dei dati e nuove tecnologie. Aspetti nazionali, europei e statunitensi*, Milan 2007; V. S. Destito, G. Dezzani, C. Santoriello, *Il diritto penale delle nuove tecnologie*, Padua 2007; G. Ziccardi, *Etica e informatica. Comportamenti, tecnologie e diritto*, Milan 2009; A. Santosuosso, *Diritto, scienza, nuove tecnologie*, Padua 2016; Aa. Vv., *Il diritto del Web. Reti, intelligence e nuove tecnologie. Manuale giuridico ed operativo di Internet*, Padua 2017; C. Faralli, *Diritto, diritti e nuove tecnologie*, Naples 2018; M. Iaselli, *Diritto e nuove tecnologie. Prontuario giuridico-informatico*, Altalex 2018; P. Comoglio, *Nuove tecnologie e disponibilità della prova. L'accertamento del fatto nella diffusione delle conoscenze*, Turin 2018; E. Rullani, F. Rullani, *Dentro la rivoluzione digitale. Per una nuova cultura dell'impresa e del management*, Turin 2018; E. Barrico, A. Sitzia, *Potere di controllo e privacy. Lavoro, riservatezza e nuove tecnologie*, Padua 2018; L. Palazzani, *Tecnologie dell'informazione e intelligenza artificiale. Sfide etiche al diritto*, Rome 2018; M. Farina, *Elementi di diritto dell'informatica*, Padua 2019; A. Santosuosso, *Intelligenza artificiale e diritto. Perché le tecnologie di IA sono una grande opportunità per il diritto*, Milan 2020.

⁵ Of all, see A. Carleo (edited by), *Decisione robotica*, Bologna 2019.

⁶ On the subject of robots and law, you see, among all, N. Irti, *Il tessitore di Goethe (per la decisione robotica)*, in *Decisione robotica* (edited by A. Carleo), Milan 2019, 17-22. Furthermore, always in the same curatorial office, see the contribution by G. Mammone, *Considerazioni introduttive sulla decisione robotica*, 23-30. The author, in fact, refers to the contributions of G. CANZIO, *Il dubbio e la legge*, in *Diritto penale contemporaneo*; CNB (Comitato Nazionale Bioetica) e CNBBSV (Comitato Nazionale Biosicurezza, Biotecnologie e Scienze della Vita), *Sviluppi della Robotica e della Roboetica, opinion of 17 July 2017*, in www.presidenza.governo.it; D. Di Sabato, *Gli smart contracts: robot che gestiscono il rischio contrattuale*, in *Contratto e impresa*, 2, 2017, 378; M. Faioli, *Con la “blockchain” migliorano politiche del lavoro e previdenza*, in *Il Sole 24 ore*, 17 August 2018, available online; D. Falcinelli, *Il dolo in cerca di una direzione penale. Il contributo della scienza robotica ad una teoria delle decisioni umane*, in *Archivio penale*, available online; N. Irti, *La crisi della fattispecie*, in *Rivista di diritto processuale*, n. 1/2014, 36; A. Santosuosso, C. Boscarato, F. Caroleo, *Robot e diritto: una prima ricognizione*, in *Nuova giurisprudenza civile commentata*, II, 2012, 494; M. Senior, *Come gli algoritmi predittivi cambieranno l'amministrazione della Giustizia*, in www.forumpa.it, available online; P. Serrao D'Aquino, *Digito ergo sum: la tutela giuridica della persona dagli algoritmi*, in *Questione giustizia*, available online. In the same editorship, regarding the relationship between law and robotics, see also A. Cartcaterra, *Machinae autonome e decisione robotica*, 33- 61, with comparative and international bibliography.

⁷ Dating back, but fundamental, the analysis of R. Lupi, *Meno processi per un processo più efficiente*, in *Ilsole24ore*, 1 July 2011, available online, where the author dwells on the fact that “processing less” is “processing better”.

⁸ On the telematic process, of all, see F. Buffa, *Il processo civile telematico. La giustizia informatizzata*, Giuffrè, Milan, 2002; S. Ines, I. Pisano, *Manuale di teoria e pratica del processo amministrativo telematico*, Giuffrè, Milan, 2013; V. Di Giacomo, *Il nuovo processo civile telematico*, Milan 2015; G. Ruffini, *Il processo telematico nel sistema del diritto processuale civile*, Milan 2019; L. Ripa, F. Alaimo, *Il processo tributario telematico. Tra ruolo del difensore, compiti di segreteria e attività del giudice. Gli strumenti necessari. Dal conferimento dell'incarico all'udienza a distanza*, Milan 2019; A. Ciriello, *Il processo telematico. Civile, penale, amministrativo, tributario, contabile*, Milan 2019.

⁹ See M. Luciani, *La decisione giudiziaria robotica*, in *Decisione robotica* (edited by A. Carleo), Milan 2019, 63-96; D. De Kerckhove, *La decisione datacratica*, in *Decisione robotica* (edited by A. Carleo), Milan 2019, 97-110. Some ideas can be found in E. Vincenti, *Il “problema” del giudice-robot*, in *Decisione robotica* (edited by A. Carleo), Milan 2019, 111-124.

¹⁰ By “predictive justice” we mean the possibility of predicting the outcome of a judgment through some calculations; it is not a question of predicting through magic formulas, but of predicting the probable sentence,

2.- Legal system and electronic system. *Homo informaticus* and *homo juridicus*

The law is investigating a lot, especially in recent years, especially after the adoption of the guidelines and guidelines on robotics and on the legal responsibility of automatons issued in Europe¹¹, the relationship between the legal system, steeped in fundamental values that they gave its shape and continue to be its “molding clay”, and the so-called ordering “electronic”, based on algorithmic variables of a computer nature that exclude the “transparent and egalitarian¹²” scope.

relating to a specific case, through the aid of algorithms. Law can be constructed as a science, which finds its main justification to the extent that it is a guarantee of certainty: the law was created to attribute certainty to human relationships, through a complex attribution of rights and duties (in Encyclopedia Treccani). See, on the subject, F. Rundo, A. L. Di Stallo, *Giustizia predittiva: algoritmi e deep-learning*, in *sicurezza e giustizia*, 2019, available online, 31-34; Aa. Vv., *La giustizia predittiva tra machine learning e certezza del diritto*, in *VGen*, available online; A. De La Oliva Santos, “*Giustizia predittiva*”, *interpretazione matematica delle norme, sentenze robotiche e la vecchia storia del “Justizklavier”*, in *Rivista Trimestrale Diritto e Procedura Civile*, n. 3/19, 883-895. See, C. Morelli, *Sentenze, predittività prudente. Il libero convincimento del giudice è valore primario*, in *Italiaoggi*, 5 July 2019, 5; M. Versiglioni, *Se l'algoritmo scrive la sentenza che almeno rispetti la logica*, in *Ilsole24ore*, 2019, available online. For a “panoramic” view on the mechanized decision, please refer to the Review written by R. Trezza on *Decisione robotica* (edited by A. Carleo), in *Istituzioni Diritto Economia*, n. 2/2020, 328-337. See, in this regard, on the point, M. Maugeri, *I robot e la possibile “prognosi” delle decisioni giudiziali*, in *Decisione robotica* (edited by A. Carleo), Bologna 2019, 159-164.

¹¹ 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 intelligence (AI) and robotics are transparent and integrate the ethical dimension they contain the potential to enrich lives and further develop the capabilities of each, both as individuals and for the common good (see recital letter a).

¹² See A. Alongi, *Intelligenza artificiale, algoritmi e trasparenza. La lezione britannica*, in *www.labparlamento.it.*, 27 June 2018, available online; S. Coppola, *Algoritmi e processo decisionale automatizzato, tra giustizia amministrativa e GDPR: che c'è da sapere*, in *www.cybersecurity360.it.*, 19 September 2019, available online; G. Del Gamba, S. Leucci, *Decisioni automatizzate dagli algoritmi: le tutele Gdpr e le eccezioni*, in *www.agendadigitale.it.*, 12 February 2019, available online. See, furthermore, with regard to the relationship between algorithms and transparency, A. Longo, *Serve una legge per la Pa per la trasparenza negli algoritmi*, in *Il Sole 24 ore*, 16 September 2019, available online; M. Gabusi, *Intelligenza Artificiale: verso nuove esigenze di trasparenza? L'open source rende il codice aperto. Ma davvero è possibile capire (e replicare) gli algoritmi dell'AI?*, in *www.ingenium.it*, 23 July 2019, available online; E. Lenzi, *Intelligenza artificiale e trasparenza degli algoritmi: un interessante caso di applicazione nella pubblica amministrazione*, in *www.studiolegalestefanelli.it*, 19 June 2019, available online; M. Bonafè, C. Trevisi, *Intelligenza artificiale, l'algoritmo “trasparente”: un rebus ancora da sciogliere*, in *www.agendadigitale.it*, 15 May 2019, available online; R. Antonucci, *La trasparenza dell'algoritmo è necessaria, per la giustizia amministrativa e il Garante*, in *www.agendadigitale.it.*, 9 October 2019, available online; G. Falsano, *Le decisioni automatizzate nella pubblica amministrazione: tra esigenze di semplificazione e trasparenza algoritmica*, in *Media Laws, Rivista di Diritto dei Media*, n. 3/2019, available online.

With this last concept we mean that the machine, which works through an external “*deus*¹³” – in itself the *homo informaticus*¹⁴ – which enters its contents, which for this reason can be defined as “heteroinput”, does not guarantee respect for values juridical – posed, instead, by *homo juridicus*¹⁵ – including the value of transparency of decisions¹⁶ and the supreme constitutional axiom of equality¹⁷ (article 3 of the Italian Constitution).

3.- Examples

A factual confirmation can be found – in a very comparative view – in the well-known Compas¹⁸ case, where a robot judge issued automated judicial decisions in the possibility that it could be twice as likely that black men would commit crimes than whites. To this end, one wonders

¹³ *Deus ex machina* is a Latin phrase borrowed from the Greek “Mechanè”, in ancient Greek: ἀπὸ μηχανῆς θεός (“apò mēchanēs theós”) which literally means “divinity (coming down) from the machine”. Originally, it indicates a character of Greek tragedy, or a divinity who appears on the scene to give a resolution to a plot that is now unsolvable according to the classic principles of cause and effect. The *ex machina* intervention of the gods was used, especially by the tragedian Euripides, to happily resolve an intricate situation and apparently with no possible way out. According to Aristotle, this expedient must not interfere with the λύσις, or with the dissolution of the work, but must take place outside the dramatic action. In the ancient world, excessive use of the *deus ex machina* was also considered the prerogative of unrefined authors who would otherwise not have been able to dissolve complex plots. Interesting and stimulating are the observations of F. Mammì, V. Giannettoni, New Deal Lab, focus “*Deus ex Machina*”: *etica e nuove tecnologie messe a confronto*, in *apuntadipenna.it*, 1st may 2019, available online; R. Notte, *Deus ex machina. Una storia di uomini e robot (Parte prima)*, in *parol.it*, available online, where the author talks about the real “myth” of the robot.

¹⁴ The expression is mine. However, it comes from a careful reading of the contribution by R. Borruso, S. Russo, C. Tiberi, *L'informatica per il giurista. Dal Bit a internet*, Milan 2009; D. Casalegno, *Uomini e computer. Storia delle macchine che hanno cambiato il mondo*, Milan 2010; Aa. Vv., *Human-computer interaction. Fondamenti teorici e metodologici per lo studio dell'interazione tra persone e tecnologie*, Milan 2012. Lastly, J. Barrat, *La nostra invenzione finale. L'intelligenza artificiale e la fine dell'età dell'uomo*, Rome 2019; E. Brynjofsson, A. McAfee, *La macchina e la folla. Come dominare il nostro futuro digitale*, Milan 2020.

¹⁵ The expression, very dear to me, is inspired by the work of A. Supiot, *Homo juridicus. Saggio sulla funzione antropologica del diritto*, Milan 2006, where the author reinterprets the writing, the law and the social organization that he himself forged in his own image through the construction of a shared meaning, capable of regulating life in common and justifying the place of each on this earth. The history of the West can be read as the history of this shared and binding meaning, as the history of the founding beliefs of the human being: respect for one's word and an equal law for all. The author reinterprets, therefore, this history in an era (ours) in which the decline of sovereignty, the feuding of freedoms and the gradual separation of power and authority undermine more than ever the centrality of law and therefore the very foundations of our culture.

¹⁶ See note number 12.

¹⁷ On this point, you see, absolutely not exhaustively, P. Perlingieri, *Il diritto civile nella legalità costituzionale secondo il sistema italo-comunitario delle fonti*, Naples 2006, 448 ss.; M. Cartabia, T. Vettor, *Le ragioni dell'uguaglianza. Atti del 6° Convegno della facoltà di giurisprudenza (Milan, 15-16 may 2008)*, Milan 2009; G. Silvestri, *Dal potere ai principi. Libertà ed eguaglianza nel costituzionalismo contemporaneo*, Bari 2009; S. Tonolo, *Il principio di uguaglianza nei conflitti di leggi e di giurisdizioni*, Milan 2011; C. Giorgi, *Il progetto costituzionale dell'uguaglianza*, Rome 2014; G. Manzo, *Le basi teoriche del principio di eguaglianza*, Treviso 2015; F. Vari, *L'affermazione del principio dell'eguaglianza nei rapporti tra privati. Profili costituzionali*, Turin 2017; P. Zuddas, *Intelligenza artificiale e discriminazioni*, in *Consulta online*, 16 march 2020, available online.

¹⁸ On the point, you see S. Carrer, *Se l'amicus curiae è un algoritmo: il chiacchierato caso Loomis alla Corte Suprema del Wisconsin*, in *Giurisprudenza Penale Web*, n. 4/2019, available online. Also see the interesting analysis carried out by F. Basile, *Diritto penale e intelligenza artificiale*, in *Giurisprudenza italiana – supplemento 2019*, 67-74, in which the author investigates the phenomenon of the “deresponsibilization of man and the accountability of the machine”, translating the latin word “societas delinquere non potest” into the technological field. The author, in fact, wonders about whether machina delinquere potest and what is the boundary between machine and person. Furthermore, and this turns out to be the very important starting point, one wonders if the AI system can be considered a tool for committing the crime, as the perpetrator of the crime and even as a victim of the crime itself. Yet, C. Parodi, V. Sellaroli, *Sistema penale e intelligenza artificiale: molte speranze e qualche equivoco*, in *Diritto penale contemporaneo*, n. 6/2019, available online.

whether the judging machine has knowledge of the “ontological legal value” of equal treatment¹⁹ (*rectius* principle of formal and substantial equality), provided not only by art. 3 of the Italian Constitution²⁰, as well as – being part of a system of “legal monism²¹” – among the best known sources, from arts. 20 and 21 of the Charter of Fundamental Rights of the European Union²² and by art. 14 of the European Convention on Human Rights (ECHR)²³.

Another relevant case, of which jurists investigate its scope and perspectives, is represented by the possibility of admitting an electronic witness²⁴ into the trial (see the case of Alexa, the smart device, Amazon’s voice assistant), as happened in a trial for femicide in Florida. The investigation, on this point, should focus on the trial capacity of the witness, analyzing their admissibility, possible limits, but above all reliability, strictly anchored to truthfulness. It is well known that the procedural rules on the subject of testimony are designed to ascertain the truth of the trial – which will never be true or real truth²⁵ –, therefore, based on the figure of the witness

¹⁹ See, lastly, the Communiqué of the Council of Europe (Ref. DC 059 (2020) of 8 April 2020 to the 47 member states. In a Recommendation on the impact of algorithmic systems on human rights, the Committee of Ministers of the Council of Europe has formulated a set of guidelines urging governments to ensure non-violation of human rights through the use, development or acquisition of algorithmic systems. Furthermore, as legislators, they must establish legislative, regulatory and supervisory frameworks effective and predictable, capable of preventing, detecting and prohibiting violations of human rights and remedying them, whether attributable to public or private actors. The recommendation recognizes the great potential of algorithmic processes in promoting innovation and economic development in many areas, including communication, transportation, governance and health systems. In the current COVID-19 pandemic, algorithmic systems are used to for the prediction, diagnostics and research of vaccines and treatments. An increasing number of Member States are considering advanced digital monitoring devices, also based on algorithms and automation. At the same time, the recommendation warns of the important human rights challenges associated with the use of algorithmic systems, especially as regards the right to a fair trial; the right to respect for privacy and data protection; the right to freedom of thought, conscience and religion; the right to freedom of expression and assembly; the right to equal treatment; and economic and social rights.

²⁰ Art. 3 of the Italian Constitution states: “All citizens have equal social dignity and are equal before the law, without distinction of sex, race, language, religion, political opinion, personal and social conditions (so-called “formal equality”). It is the duty of the Republic to remove the obstacles of an economic and social nature which, by limiting the freedom and equality of citizens, prevent the full development of the human person and the effective participation of all workers in the political, economic and social status of the country (so-called “substantial equality”). It must be said, however, that the principle of “reasonableness”, which has “non-discrimination” as its corollary, also and above all derives from this constitutional provision, which is certainly mandatory. See, recently, M. Galdi, *La Costituzione e le sfide del futuro*, Cava de’ Tirreni 2019, 13-15.

²¹ On this point, reference is made to P. Perlingieri, *Il diritto civile nella legalità costituzionale*, cit., 265 ss.

²² Compared to the Italian Constitutional Charter, the Charter of Fundamental Rights of the European Union distinguishes the two principles, which are found respectively in Articles 20 (“All people are equal before the law”) and 21 (“Any form of discrimination based, in particular, on sex, race, skin color or ethnic or social origin, genetic characteristics, language, religion or personal beliefs, political opinions or of any other nature, belonging to a national minority, heritage, birth, handicap, age or sexual orientation”); “In the context of application of the Treaty establishing the European Community and the Treaty on European Union, any discrimination based on citizenship is prohibited, without prejudice to the special provisions contained in the Treaties themselves”).

²³ The ECHR Convention, on the other hand, seems to “implicitly” incorporate the principle of formal equality, stipulating, in art. 14 that “The enjoyment of the rights and freedoms recognized in this Convention must be ensured without any discrimination, in particular those based on sex, race, color, language, religion, political or other opinions, national or social origin, belonging to a national minority, wealth, birth or any other condition”.

²⁴ For a more in-depth analysis, please refer to S. Aterno, *Alexa testimone in tribunale: i vantaggi per gli investigatori e le garanzie per la difesa*, in *Agendadigitale*, 20 march 2020, available online.

²⁵ Very interesting in this regard are the contributions of L. Santa Maria, *La verità*, in *Diritto penale contemporaneo*, 2017, available online; P. Borgna, *Verità storica e verità processuale*, in *Questione giustizia*, 9 october 2019, available online.

as a man, not as a machine²⁶. The machine may well be intelligent, but who can ever guarantee the neutrality²⁷ and truthfulness of what is alleged in court? Ultimately, should a new category of “electronic testimony” be constructed – in terms of legal ontology, to which the rules of “human testimony” should be applied? It would not be possible to think of applying – especially analogically (articles 12 and 14 preliminary dispositions of Italian civil code) – the procedural rules in this circumstance. Should an electronic process code be created²⁸? They are certainly “superfetant” hypotheses, which could find entry into other systems of order, but certainly not ours, based on the centrality of the “human person” and not of the “robotic person²⁹”.

4.- Introductory profiles on the responsibility of algorithms

The speech becomes even more stimulating when it comes to “legal responsibility of the algorithm” (*rectius* robot, automaton), where – especially for civilians – there is the doctrinal shadow that reveals the dogmatic construction of a “legal personality electronics³⁰” which the machines would be equipped with and, for this reason, the legal system should recognize it. From the point of view of responsibility³¹ (and here it would also be necessary to investigate what legal

²⁶ The same thesis seems to emerge in D. Dalfino, *Stupidità (non solo) artificiale, predittività e processo*, in *Questione giustizia*, 3 July 2019, available online, who underlined, in an absolutely acceptable way, that “... Behind the algorithms, however, man always acts, that the algorithms elaborates and fills”.

²⁷ You see, among all, M. Airoidi, D. Gambetta, *Sul mito della neutralità degli algoritmi*, in *The Lab's quarterly*, XX, n. 4/2018, 26-42.

²⁸ The clarification is mine. On this subject, please refer, for a broader discussion, to J. Nieva-Fenoll, *Intelligenza artificiale e processo* (translation edited by Paolo Comoglio), Turin 2019; C. Castelli, D. Piana, *Giusto processo e intelligenza artificiale*, Legale civile, 2019. Recently, the contribution of F. Donati, *Intelligenza artificiale e giustizia*, in *Rivista AIC*, n. 1/2020, 415-436.

²⁹ Please refer only to the essential content of articles 2, 3, 101 of the Constitution.

³⁰ On this point, see the literature, which is vast. A. Valeriani, *Diritto e intelligenza artificiale dei robot: verso una rivoluzione giuridica?*, in *Ius in itinere*, 13 September 2018, available online; A. Alpini, *Sull'approccio umano-centrico all'intelligenza artificiale. Riflessioni a margine del "Progetto europeo di orientamenti etici per una IA affidabile"*, in *Comparazione e diritto civile*, available online. Vedi, inoltre, G. Limone, *La macchina delle regole, la verità della vita. Appunti sul fondamentalismo macchinico nell'era contemporanea*, in G. Limone (edited by), *La macchina delle regole, la verità della vita. L'era di Antigone. Quaderni del Dipartimento di Giurisprudenza della Seconda Università degli Studi di Napoli*, n. 8/2015, 9-61; E. Pellecchia, *Profilazione e decisioni automatizzate al tempo della black box society: qualità dei dati e leggibilità dell'algoritmo nella cornice della responsible research and innovation*, in *Le Nuove leggi civili commentate*, n. 5/2018, 1210 ss.; G. Taddei Elmi, *I diritti dell'intelligenza artificiale tra soggettività e valore: fantadiritto o jus condendum*, in L. Lombardi Vallauri (edited by), *Il meritevole di tutela*, Milan, 1990, 685-711; G. Taddei Elmi, *Logos e intelligenza artificiale*, in L. Lombardi Vallauri (edited by), *Logos dell'essere. Logos della norma*, Bari, 1999, 603-652; L. Lombardi Vallauri, *Neuroni, mente, anima, algoritmo: quattro ontologie*, in L. Lombardi Vallauri (edited by), *Logos dell'essere. Logos della norma*, cit., 571-601. On the possibility of creating a new legal entity, owner of active and passive subjective legal situations, the arguments relating to the attribution of legal subjectivity and legal personality to collective entities could be referred to. You see P. Perlingieri, *La personalità umana nell'ordinamento giuridico*, Naples 1972; F. Galgano, *Le associazioni, le fondazioni, i comitati*, Padua, 1987; P. Rescigno, *Persone e gruppi sociali*, Naples, 2006; V. Scalisi, *Categorie e istituti del diritto civile nella transizione al postmoderno*, Milan, 2005.

³¹ L. Coppini, *Robotica e intelligenza artificiale: questioni di responsabilità civile*, in *Politica del diritto*, n. 4/2018, 722, in which the problem of imputation of responsibility between traditional disciplines and new solutions is highlighted. See, in this sense, too M. Bassini, L. Liguori, O. Pollicino, *Sistemi di intelligenza artificiale, responsabilità e accountability. Verso un nuovo paradigma?*, in F. Pizzetti (edited by), *Intelligenza artificiale, protezione dei dati personali e regolazione*, Turin, 2018, 334; A. Santosuosso, C. Boscarato, F. Corleo, *Robot e diritto: una prima ricognizione*, in *La Nuova giurisprudenza civile commentata*, 2012, 494 ss.; F. Di Giovanni, *Intelligenza artificiale e rapporti contrattuali*, in U. Ruffolo (edited by), *Intelligenza artificiale e responsabilità*, Milan, 2017, 127 ss.; C. Perlingieri, *L'incidenza dell'utilizzazione della tecnologia robotica nei rapporti civilistici*, in *Rassegna di diritto civile*, 2015, 1244 ss.; E. Palmerini, *Robotica e diritto: suggestioni, intersezioni, sviluppi a margine di una ricerca europea*, in *Responsabilità civile e previdenza*, n. 6/2016, 1826 ss.

nature it is: contractual, extra-contractual, pre-contractual, from social contact), it would be simpler, as it happens for the natural human person, who acquires legal capacity from birth (art. 1 Italian civil code) and the ability to act upon reaching the age of majority (art. 2 Italian civil code), attributing legal responsibility to an automaton with an electronic personality. Does the attribution of electronic personality also lead, in the abstract, to the attribution of “electronic dignity³²”? Can the automaton ever have *dignitas*³³?

³² Intellectually stimulating the reflection of P. Benanti, *La dignità della persona nell'epoca della Machina sapiens*, in *Istituto Italiano di Tecnologia*, 25 January 2019, available online.

³³ On the subject, also in a multidisciplinary vision, see Commissione degli Episcopati dell'Unione Europea, *La robotizzazione della vita*, in *Il Regno – Documenti*, n. 21/2019, 671-675, where we dwell (especially p. 672) on the “primacy of the dignity of the person and his recognition”. In this contribution, doubts are raised about the overwhelming of the machine over man. A man who becomes, for this purpose, more and more limited. This would be a great “paradox”. This is the reason why the writer is inclined to defend the principle of “creaturality”. In bioethical terms, you see S. Cucchetti, *Homo creativus. Nuove sfide per la bioetica*, in *Il Regno – Attualità*, n. 16/2019, 475-478, where the author focuses on the definition, with the hope of an in-depth study, of the so-called “Scientific humanism”. See, again, United Nations, Educational, Scientific and Cultural Organization, World Commission on the ethics of scientific knowledge and technology, *Report of comest on robotics ethics*, 14 September 2017, 1-64; European Group on ethics in science and new technologies, *Statement on Artificial Intelligence, Robotics and 'Autonomous' Systems*, 2018, 5-16; Comitato Nazionale per la Bioetica, Comitato Nazionale per la Biosicurezza, le biotecnologie e le scienze per la vita, *Developments in robotics and roboethics*, 17 July 2017, 4-34; D. Andresciani, R. Cingolani, *Robots and intelligent/autonomous systems: technology, social impact and open issues*; H. Ishiguro, *Studies on Interactive Robots*; A. Bilard, *Robots – ready to work with and for humans?*; E. Agius, *New Challenges and Opportunities for Catholic Theological Reflection*; P. J. Opio, *Robotics and the transformation of economic dynamics*; M. Carballo, *Robotics and socio-political issues*; K. Kiyimba, *The Human Underbelly of the Robotics Industry*; C. Gastmans, *The ethics of care robots in aged care: An overview of ethical argumentations and concepts*; B. Bass, *Computational surgery: new perspectives and implications*; K. Honda, *Use of Robots in Healthcare: the Japanese Experience and the Relevance of Culture*. These reports were profuse during the 2019 General Assembly of the Pontifical Academy for Life and references can be found at the link <http://www.academyforlife.va/content/pav/it/events/assemblea-generale-2019.html>. Again, allow yourself to be deferred to L. Floridi, *Artificial Intelligence as a Divorce between Agency and Intelligence and its Ethical Consequences*; P. Benanti, *Questioni Teologiche e Antropologiche dell'Intelligenza Artificiale*; A. Filipovic, *Ethical and Social Consequences of Artificial Intelligence Insights from Christian Social Ethics*; R. R. Wang, *Flowing of Life and Static of Machine: A Daoist Perspective on AI*; S. K. Alexander, *Educatio Vitae: Person-centered ethics education in the age of AI*; W. Ricciardi, *AI and Healthcare*; A. G. Floares, *Artificial Intelligence in Oncology*; F. H. Rigoli, *The “Good” Algorithm? Artificial Intelligence, Ethics, Law, Health. AI and Human Health*; S. Yamanaka, *AI in Medicine. Recent Progress in iPS Cell Research and Application*; F. Profumo, *A new Renaissance for the future of Education*. These latest reports were made in the Rome Call for AI Ethics entitled “*The good algorithm? Artificial Intelligence, Ethics, Law, Health*”, held at the Pontifical Academy for Life on 27 February 2020 and whose materials are available at the link <http://www.academyforlife.va/content/pav/it/events/workshop-intelligenza-artificiale.html>. See, ultimately, Pope Francis, *Discorso del Santo Padre ai partecipanti alla Plenaria della Pontificia Accademia per la Vita letto da S.E. Mons. Vincenzo Paglia*, in *Bollettino della Sala Stampa della Santa Sede n. 0134 del 28 febbraio 2020*, where the Pontifex underlines how the “algorithm-ethics” can be a bridge to ensure that the principles are concretely inscribed in digital technologies, through an effective transdisciplinary dialogue. Furthermore, in the encounter between different world views, human rights constitute an important point of convergence for the search for common ground. At the present time, however, an updated reflection on rights and duties in this area seems necessary. In fact, the depth and acceleration of the transformations of the digital age raise unexpected problems, which impose new conditions on the individual and collective ethos. It is interesting, especially in reference to the “choral” reflections on the subject, the new volume of C. Barone (edited by), *L'algoritmo pensante. Dalla libertà dell'uomo all'autonomia delle Intelligenze Artificiali*, Trapani 2020, where the emphasis is placed on “artificial intelligences”, which already constitute a factual reality in which we find ourselves immersed in our daily life. In the near future, they promise to become a “practical horizon” in which we will move with ever greater familiarity. They are not just mere scientific progress, nor one technology among others. They contain a vision, a philosophy, a narrative about man and the world that oscillates between the promise of fulfillment and the disturbing scenario of “programmed hegemony”. In imitating man's intelligence, wise machines challenge his skills, surpass his performances, occupy his place in the most disparate areas of social life, questioning the assumptions on which our idea of the individual is based: freedom, autonomy, responsibility. The various AA. of the volume, therefore, they question the “whether” the digitization in progress is a purely collaborative process

5.- Bias and “bias of bias”

The case brought to the attention of the Italian Council of State is also of great importance, regarding a computer system (*rectius* software) used for the assignment of teaching in Italy³⁴. The high administrative jurisdiction has been able to clarify that the algorithmic processing and the automated procedure followed by a software can only be used if the principles of neutrality and transparency³⁵ are respected. Can you ever think that the machine knows what is meant by “transparency”? Man, who “tames” it from the outside, should know how to insert the “variable” transparency within it, but from a universally understood perspective and not from a personalistic vision of the introducer³⁶. In addition to the biases (*rectius* prejudices) of which an automaton is physiologically endowed, there would be the risk of creating further biases of “induced human nature”, the so-called “bias of bias³⁷”. In the latter case, therefore, will the responsibility for an incorrect procedure lie with the machine or the inducing man? Could it also be from the manufacturer of the machine itself if there are intrinsic defects³⁸? Certainly hot topics to

between man and machines or is a trans-figurative development. And, again, what will happen to man to the extent that the artificial Intelligences will be able to self-program, to free themselves from its protection, earning a space of their own autonomy.

³⁴ See M. Sabatino, *Consiglio di Stato: l'algoritmo è un atto amministrativo informatico*, su *La Pagina Giuridica*, 7 august 2019, available online; Aa. Vv., *Atti e procedimenti amministrativi informatici: promossa la P.A. Robot, se l'algoritmo è conoscibile*, in *Giuridanella.it (Rivista di diritto amministrativo)*, 29 april 2019; available online; C. Morelli, *Consiglio di Stato apre alla PA robot*, in *altalex.it*, 20 january 2010, available online; M. De Angelis, *Algoritmi nei concorsi pubblici: il caso dei docenti che fa “scuola”*, in *Ius in itinere*, 5 october 2019, available online. See, furthermore, G. Pesce, *Il giudice amministrativo e la decisione robotizzata. Quando l'algoritmo è opaco*, in *Judicium*, 15 june 2020, available online, for which, if on the one hand the Council of State reaffirms the serving nature of the algorithm for the p.a. (according to the canon “the machine for humans, not vice versa”), on the other hand, it lays the foundations for an explicit overcoming of the limits of use of the algorithm and Artificial Intelligence itself in the various areas of administrative activity. See also F. Calisai, *Dati, informazioni e conoscenze: inquadramento giuridico e regolazione. Appunti su un potenziale paradigma appropriativo*, in *Tecnologie e Diritto*, n. 1/2020, 13-45; A. Di Martino, *Intelligenza artificiale e decisione amministrativa automatizzata*, in *Tecnologie e Diritto*, n. 1/2020, 83-112; V. Conte, *Decisioni pubbliche algoritmiche e garanzie costituzionali nella giurisprudenza del Conseil constitutionnel francese*, in *Tecnologie e Diritto*, n. 1/2020, 347-362. Vedi, ancora, M. Di Nicolò, *Algoritmi e procedimento decisionale: alcuni recenti arresti della giustizia amministrativa*, in *Federalismi*, n. 10/2020, 344-368, available online.

³⁵ See notes 12 and 27. See, for more information, D. Dalfino, *Decisione amministrativa robotica ed effetto performativo. Un beffardo algoritmo per una “buona scuola”*, in *Questione giustizia*, 13 january 2020, available online.

³⁶ This is the reason why the final responsibility would lie with the introducer (man) and not with the machine, except for the biases contained in it, of which it is structurally (in its oxymoronic “artificial nature”) constituted.

³⁷ See D. Giribaldi, *Intelligenza artificiale, tutti i pregiudizi (bias) che la rendono pericolosa*, in *agendadigitale*, 26 february 2019, available online, in which the author is expressed in these terms: “The future of artificial intelligence will depend on the ability to solve the question of bias. Algorithmic biases that cause social discrimination. The increase in available data and computing capabilities risk making it a fundamental problem for the future”. S. Cosimi, *Algoritmi e pregiudizi, uno strumento di IBM per correggere l'AI*, in *wired.it.*, 9 october 2018, available online, in which the author, in a very interesting way, states that the IT giant has launched a platform capable of analyzing the distortions acquired by artificial intelligence systems from data or programming, provide an evaluation and suggest the “ingredients” to correct them.

³⁸ Among the various contributions, see C. Castronovo, *Problema e sistema del danno da prodotti*, Milan, 1979; R. Pardolesi, *La responsabilità per danno da prodotti difettosi*, in *Le Nuove leggi civili commentate*, 1989, 487 ss.; A. Gorassini, *Contributo per un sistema della responsabilità del produttore*, Milan, 1990; G. Alpa, *Responsabilità civile e danno*, Bologna, 1991; G. Ponzanelli, *Responsabilità del produttore*, in *Rivista di diritto civile*, 1995, II, 215; G. Alpa, *Il diritto dei consumatori*, Rome-Bari, 1995; F. Cafaggi, *La nozione di difetto ed il ruolo dell'informazione. Per l'adozione di un modello dinamico-relazionale di difetto in una prospettiva di riforma*, in *Rivista critica di diritto privato*, 1995, II, 447; U. Carnevali, *La responsabilità del produttore*, Milan, 1974; C. Castronovo, *La nuova responsabilità civile*, Milan, 1997; A. Stoppa, *Responsabilità del produttore*, voce del *Digesto discipline privatistiche (sez. civ.)*, XVII, Turin, 1998, 119 ss.; P. G. Monateri, *La responsabilità civile*, in

investigate. Just think of smart contracts, telematic methods of transmission of money (bitcoin, blockchain³⁹), driverless cars⁴⁰.

6.- Robot judge and “electronic due process”

Returning to the robotic decision, what will be the procedure followed by the machine to reach the final result? Who will teach the deciding machine, the decision maker, what are the human procedural values to be respected in order to reach a decision in accordance with the “constructive principles⁴¹” of our legal system? Only *homo informaticus*? Surely the latter will not be able to do so because he will need external expertise. Can we ever talk about “electronic due process⁴²”? It will never be possible to change the regulatory and consequently hermeneutic coordinates circumscribed in the bed of what is established by the “table of procedural values⁴³” provided for by articles 111 of the Constitution, 6 ECHR and 14 International Covenant on Civil and Political Rights⁴⁴?

Trattato di diritto civile diretto da R. Sacco, Turin, 1998; U. Carnevali, *Responsabilità del produttore*, voce dell'Enciclopedia del diritto, Agg., II, Milano, 1998, 936 ss.; G. Alpa, M. Bessone, *La responsabilità del produttore*, Milan, 1999; A. De Berardinis, *La responsabilità del produttore*, in G. Alpa (edited by), *I precedenti. La formazione giurisprudenziale del diritto civile*, II, Turin, 2000, 1193 ss.; L. Mezzasoma, *L'importatore all'interno della C.E. di prodotti difettosi fabbricati in altro Stato comunitario*, in *Rassegna giurisprudenza umbra*, 2001, I, 207; G. Ponzanelli, *Responsabilità del produttore*, in *Rivista di diritto civile*, 2000, II, 913; S. Della Bella, *Cedimento di scala estensibile e responsabilità del produttore-progettista: la nozione di danneggiato nella disciplina sulla responsabilità del produttore*, in *Responsabilità civile e previdenza*, 2003, I, 1153; G. Ponzanelli, *Responsabilità oggettiva del produttore e difetto di informazione*, in *Danno e responsabilità*, 2003, I, 1005; G. Nicolini, *Danni da prodotti agroalimentari difettosi: responsabilità del produttore*, Giuffrè, Milan, 2006; P. Mariotti, *Prodotti difettosi e obsolescenza programmata*, Maggioli, 2013; E. Grazioso, *La responsabilità per danno da prodotto difettoso*, Milan 2015. See, already dating back in time, A. Cappelli, E. Giovannetti, *L'interazione Uomo-Robot*, available online.

³⁹ For an overview of blockchains and so-called “Smart contracts”, see, without claiming to be exhaustive, G. Chiap, J. Ranalli, R. Bianchi, *Blockchain. Tecnologia e applicazioni per il business*, in *Business & technology*, 2019; R. Battaglini, M. Giordano, *Blockchain e smart contract. Funzionamento, profili giuridici e internazionali, applicazioni pratiche*, Milan 2019; S. Comellini, M. Vasapollo, *Blockchain, criptovalute, I.C.O., smart contracts*, in *Collana Legale*, 2019; F. Sarzana, S. Ippolito, M. Nicotra, *Diritto della Blockchain, Intelligenza Artificiale e IoT*, Padua 2018. An interesting contribution, in terms of contractual autonomy and artificial intelligence, applied to the essential requirement of the object, comes from M. D'Ambrosio, *Arbitraggio e determinazione algoritmica dell'oggetto*, Naples 2020.

⁴⁰ With regard to the so-called driverless car, see L. Burns, *Autonomy: The Quest to Build the Driverless Car – And How It Will Reshape Our World*, London 2019; A. Vedaschi, G. M. Noberasco, *Gli autoveicoli a guida autonoma alla prova del diritto*, in *Diritto pubblico comparato ed europeo*, may 2019, 769-797; S. Scagliarini, «Smart roads» e «driverless cars»: tra diritto, tecnologie, etica pubblica, in *Diritto e vulnerabilità. Studi e ricerche del CRID*, 2019; M. Ferrazzano, *Dai veicoli a guida umana alle autonomous car. Aspetti tecnici e giuridici, questioni etiche e prospettive per l'informatica forense*, Turin 2019.

⁴¹ C. Castelli, D. Piana, *Giusto processo e intelligenza artificiale*, cit.

⁴² C. Castelli, D. Piana, *Giusto processo e intelligenza artificiale*, cit.

⁴³ The expression is mine, but it is borrowed from the work of L. Ferrajoli, *Diritto e ragione. Teoria del garantismo penale*, Bari 2009, where the author compares the Constitutional Charter to the “table of values” and in which it imposes the binomial “force-validity”, placing the burden on the operators of law to identify the aporias of the system.

⁴⁴ These rules represent the bulwark in terms of “fair trial”.

How will the impartiality of the judge be guaranteed⁴⁵? Is the machine impartial? Does the one who enters the variables into the system know exactly what is meant by impartiality and independence of judgment⁴⁶?

Basically, a robot judge will never find constitutional legitimacy in our legal system, where art. 101 of the Italian Constitution establishes that “judges are subject only to the law”? Obviously our Constitution makes express reference to the natural person judge. Again, can a decision issued by an automaton, in terms of procedural prejudice, be used by a human judge for the purposes of his decision⁴⁷?

Refer – also to anchor ourselves to the historical context we are going through⁴⁸ – to the so-called application “Immune⁴⁹”, functional to social distancing, in which data – even sensitive ones – of citizens must be collected for the ultimate purpose of “two-way and multi-purpose” protection of public health. Or the robots “dogs⁵⁰” used – not in our country – among people in order to enforce the distancing. Or, again, think of the drones⁵¹ – admitted in this significant epidemiological crisis by the National Civil Aviation Authority also in Italy – used to “find” citizens who are not compliant with the rules issued for the containment of the virus. It is no longer the man who controls man, as someone said. Will we get to the point – as already happens

⁴⁵ Just a few months ago, the European Union Parliament intervened with a Resolution to ask for greater impartiality in the use of automata. See, in this sense, F. Me, *Intelligenza artificiale, il Parlamento Ue: “Garantire imparzialità degli algoritmi”*, in *agendadigitale*, 23 January 2020, available online, where it is stated that “in the interaction with machines, man must remain master”.

⁴⁶ Of all, see M. Fabiani, *Garanzia di terzietà e imparzialità del giudice ed efficienza del processo*, in *Judicium*, available online.

⁴⁷ Will it be possible, therefore, to arrive, in our legal system, at a principle of electronic stare decisis or of binding electronic prejudice?

⁴⁸ Please refer to R. Trezza, “*Non di soli diritti vive il cittadino, ma di ogni dovere che la solidarietà costituzionale impone*”: il bilanciamento dei diritti fondamentali ai tempi del Coronavirus, in *Democrazia e Sicurezza*, n. 1/2020, 101-150. Si veda, inoltre, U. Allegretti, *Il trattamento dell’epidemia di “coronavirus” come problema costituzionale e amministrativo*, in *Quaderni costituzionali*, 25 March 2020, available online; R. Balduzzi, *Coronavirus. La solidarietà cardine costituzionale per l’emergenza*, in *Avvenire*, 14 March 2020, available online; L. Buscema, *Emergenza sanitaria ed ordinamento democratico: questioni di metodo e di valore*, in *BioDiritto*, n. 2/2020, 1-10; B. Caravita, *L’Italia ai tempi del coronavirus: rileggendo la Costituzione italiana*, in *Federalismi*, 18 March 2020, available online; A. D’Aloia, *Costituzione ed emergenza. L’esperienza del Coronavirus*, in *BioDiritto*, n. 2/2020, 1-8; A. D’Aloia, *L’emergenza e... i suoi ‘infortuni’*, in *Diritti fondamentali.it*, 2020, available online; S. Prisco, F. Abbondante, *I diritti al tempo del coronavirus. Un dialogo*, in *Federalismi*, 2020, 1-20, available online; R. Ravi Pinto, *Brevi considerazioni su stato d’emergenza e stato costituzionale*, in *BioDiritto*, n. 2/2020, 1-8; A. Ruggeri, *Il coronavirus contagia anche le categorie costituzionali e ne mette a dura prova la capacità di tenuta*, in *Diritto regionale*, 21 March 2020, 4-5; F. Torre, *La Costituzione sotto stress ai tempi del Coronavirus*, in *BioDiritto*, n. 2/2020, 1-9; A. Venanzoni, *L’innominabile attuale. L’emergenza Covid-19 tra diritti fondamentali e stato di eccezione*, in *Quaderni costituzionali*, 26 March 2020, available online.

⁴⁹ See the legal profiles, relating to the right to privacy, detailed in relation to the “IMMUNI” app – created thanks to special software –, through which you can track down those who are positive for the coronavirus and those, instead, who are compared to them immune. In this regard, it is good to clarify that data relating to health are, as qualified by the legislation on privacy, and most recently by the new GDPR, sensitive data. So, can the protection of public health prevail over the right to the confidentiality of sensitive data? See, again, A. Confalonieri, *Come convivere con l’algoritmo ai tempi del Covid-19*, in *Key4biz*, 11 April 2020, available online. Also, see Aa. Vv., *Audit e accountability per prevenire i pregiudizi degli algoritmi*, in *privacyitalia.it*, 3 December 2018, available online; P. Anastasio, *Audit e accountability per eliminare i pregiudizi dagli algoritmi*, in *Key4biz*, 30 November 2018, available online.

⁵⁰ See M. D’Angelo, *Coronavirus: cani robot e droni controllano il distanziamento sociale*, in *money.it*, 9 May 2020, available online, where the same author states that it is a “dystopian scenario”.

⁵¹ See, on the point, F. P. Ballirano, *GDPR: Nuova privacy anche per i droni. Cosa fare per essere in regola*, in *DroneZine, La prima rivista italiana sui droni*, 11 June 2018, available online. See also R. Trezza, “*Non di soli diritti vive il cittadino, ma di ogni dovere che la solidarietà costituzionale impone*”, cit., 136-141.

in some ways – where the machine will control the man? The man will always have to check the machine. We cannot think that the automaton can do it alone. It must be “supervised⁵²”. At this point, like the *quis custodiet ipsos custodes*⁵³, who will control the human controller of the machine⁵⁴? If there is the achievement of the fundamental juridical value of the psycho-physical well-being of the human person⁵⁵ and of his self-determination⁵⁶, then technological inventions are welcome. Take care, for example, of robots in the field of medicine, whose issue also involves bioethical issues, the applications used in the health sector⁵⁷ and in public administrations to

⁵² In agreement is F. Suman, *L'etica delle macchine e la necessità del controllo umano*, in *Micromega*, 10 april 2020, available online.

⁵³ *Quis custodiet ipsos custodes?* is a Latin phrase taken from the 6th Satire of Juvenal, which literally means: “Who will watch over the overseers themselves”?

⁵⁴ Are there the conditions for discussing a “chain of responsibility”?

⁵⁵ On this concept, please refer to R. Trezza, *Fecondazione post mortem: sopravvivenza del consenso del coniuge espresso in vita, rettificazione dell'atto dello stato civile e attribuzione del cognome paterno* (Cass. civ., sez. I, 15 maggio 2019, n. 13000), in *Giustizia insieme*, 1-29; R. Trezza, *Diritto all'anonimato e diritto a conoscere le proprie origini biologiche: un approccio “sbilanciatorio-avaloriale” o “bilanciatorio assiologico”?*, in *Giustizia insieme*, 1-25.

⁵⁶ On the principle of self-determination of the human person, let us refer to R. Trezza, *Responsabilità medica e autodeterminazione della persona. Gli orientamenti di legittimità dalla Legge Gelli-Bianco ad oggi*, in *Giustizia insieme*, 1-24; P. Cendon, *Il prezzo della follia. Lesione della salute mentale e responsabilità civile* (italian edition edited by R. Trezza, C. A. Agurto Gonzales, S. L. Quequejana Mamani, B. Choque Cuenca), collana Biblioteca di diritto civile, Ediciones Olejnik, Argentina, 2020, 17-198; R. Trezza, *Atti di disposizione del proprio corpo e tutela della salute della “persona-atleta”*: l'influenza delle nuove tecnologie e i nuovi modelli di responsabilità del medico sportivo, in *Ius in itinere*, n. 1/2020, 3-32; R. Trezza, *Diritto alla vita, diritto alla salute e responsabilità medica. Riflessioni prospettiche sull'autodeterminazione della persona umana*, Salerno 2020, 3-197; R. Trezza, *Le declinazioni giurisprudenziali della responsabilità medica nel prisma dell'autodeterminazione della persona umana*, in *Diritto alla vita, diritto alla salute e responsabilità medica. Riflessioni prospettiche sull'autodeterminazione della persona umana* (edited by R. Trezza), Salerno 2020, 165-192; R. Trezza, *Maternità surrogata: ordine pubblico o best interest of the child?*, in *Federalismi*, n. 22/2020, 288, 290, 298.

⁵⁷ On the relationship between medicine and Artificial Intelligence, see E. Capoluongo, *Intelligenza artificiale per la medicina di precisione: a che punto siamo*, in *agendadigitale*, 12 november 2019, available online; V. Savesky, *Come l'intelligenza artificiale rivoluzionerà il sistema sanitario*, in *wired.it.*, 28 february 2019, available online; G. Pasqualin Traversa, *L'intelligenza artificiale può rivoluzionare la medicina, ma solo se guidata da un'algor-etica*, in *SIR (Agenzia d'informazione)*, 11 december 2019, available online; Aa. Vv., *Intelligenza artificiale in medicina: limiti di big data e algoritmi*, in *quotidianosanità.it*, 20 april 2019, available online; Z. Obermeyer, E. J. Emanuel, *Predicting the future – big data, machine learning, and clinical medicine*, in *New Engl J Med*, 2016, 1216-1219; R. Rasoini, *Intelligenza artificiale in medicina: tra hype, incertezza e scatole nere*, in *Toscana Medica*, 2017, 18-20; Cabitza, *Potenenziali conseguenze inattese dell'uso di sistemi di intelligenza artificiale oracolari in medicina*, in *Recenti Prognosi Mediche*, 2017, 397-401; F. M. Battisti, M. Esposito, *Medici e nuove tecnologie. La medicina generale di fronte al cambiamento tecnico e organizzativo della sanità*, Milan 2006; F. Lega, *Management della sanità. Comprendere e gestire le sfide del settore e delle aziende sanitarie*, Rome 2016; G. Maglio, *Robot in Sanità, quali norme per l'innovazione*, in *agendadigitale*, 24 july 2017; R. Corcella, «Così le nuove tecnologie digitali ci danno una mano nella prevenzione», in *Il Corriere della sera*, 15 september 2019, available online, that health for all is challenged by rising costs of health systems so that innovative solutions can help overcome obstacles; E. Bellio, L. Buccoliero, *Sanità, così la tecnologia mette il paziente al centro: cosa fare*, in *agendadigitale*, 15 october 2018, available online; S. Ficocelli, *Il futuro della salute è in mano alla tecnologia. Gli esperti: “Curarsi diventerà sempre più facile”*, in *La Repubblica*, 12 march 2019, available online. See L. Di Sofia, *Medicina e sanità: quale ruolo giocano oggi i robot collaborativi*, in *www.alumotion.it.*, 18 february 2019, available online; 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, available online.

ensure the speed of carrying out medical examinations⁵⁸ and diagnoses and the efficiency-effectiveness combination of administrative action⁵⁹.

7.- Conclusions: humanization of the machine or dehumanization of man?

The decision-making process must be human, otherwise it would lose its essence. It may perhaps become automated in some of its phases, but not as a whole. Who or what can ever replace the intellectual and argumentative work of the judge? Basically, in the “dignity of man⁶⁰”, which is the highest value of being, the “dignity of decision” which, on the other hand, is the highest value of the intellect, is fully included. Technology “serves” man and man can never become a “servant” of the machine. The “dehumanization of man through the machine” cannot be allowed; it would rather be desirable, always in terms of “functional and serving” technology to man, a “humanization of the machine through man⁶¹”.

⁵⁸ See A. R. Cillis, *Il robot entra in corsia e aiuta a fare la diagnosi*, in *La Repubblica*, 23 January 2019, available online.

⁵⁹ Among all, it is permitted to refer to G. Dalia, *L'esperienza penale nella lotta alla corruzione: prevenzione, sanzionale penale, contrasto processuale e performance*, in *Iura and legal systems*, VI, n. 4/2019, 1-31.

⁶⁰ Among all, read G. P. Della Mirandola, *Oratio de hominis dignitate. Discorso sulla dignità dell'uomo*, DigitalSoul. Please refer to note no. 33.

⁶¹ See, in this sense, R. Trezza, Review on “*Decisione robotica*” (edited by A. Carleo), cit.