

THE ALGORITHMIZATION OF JUSTICE AND THE JUDICIAL USE OF ROBOTS: A MOVE FORWARD OR BACKWARDS FOR THE ACHIEVEMENT OF THE SUSTAINABLE DEVELOPMENT GOALS?

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I. THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT AND ITS APPLICATION TO GLOBAL JUSTICE. II. TECHNOLOGY HAS TRANSFORMED THE SKIN OF THE PLANET. IS THE WORLD MOVING TOWARDS SUSTAINABLE DEVELOPMENT, ALSO IN THE FIELD OF JUSTICE?. III. DIGITALIZATION AND ALGORITHMIZATION. 1. First level: instrumental digitalization. The case of Spain. 2. Algorithmic Justice is already here: Towards the “Smart Justice”. 2.1. *Terra digitalis* v State. More “supranationality” and less “State-nationality”. 2.2. Algorithms are not neutral. IV. FUNCTIONAL MANIFESTATIONS OF THE ALGORITHMIZATION OF JUSTICE. TOWARDS JUDICIAL ROBOTIZATION. 1. Assisting and predicting role of the procedural and judicial response. 2. Decision-making function and the Judge-Craft. Towards judicial robotization.

I. THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT AND ITS APPLICATION TO GLOBAL JUSTICE

The approval of the Sustainable Development Goals (SDG) by the United Nations in 2015 (for 15 years), aims to the transformation of States on the basis of economic, social and environmental sustainability. A new roadmap for international development was put into place, very different to the one that gave place -in its day- to the Millennium Development Goals (MDG)¹, much more ambitious in quantity and quality, and certainly more inclusive in the quest for a dialogue between the Northern Hemisphere and the Southern Hemisphere.

Nevertheless, despite these basic differences, the International community appears now more mature and prepared to undertake a common effort in ensuring a sustainable development. Seventeen generic objectives on sustainable development have been identified -in contrast with only 8 MDGs- with a triple vision: economic, social and environmental, prioritizing the fight against poverty and hunger and their intrinsic interlocking with Human Rights, gender equality and the empowerment of women, plus the search for the reduction of the inequalities between countries and within countries, as well as the elimination of non-sustainable consumption models. The ultimate goal of the

¹ There was a feeling of frustration as regards the implementation of the MDGs which favor the adoption of the SDGs in 2015. This does not mean that the MDGs lacked relevance. A significant amount of work was undertaken in order to fight poverty in the world, with results that have actually allowed the drafting of the 2030 Agenda for sustainable development.

SDG is a quest for an economic development model that is respectful both to Humanity and the planet.

The 2030 Agenda assumes that sustainable development cannot be achieved without peace and security. They aim to the construction of societies that are more pacific, just and inclusive in many different areas. They try to make sure that, in order to provide an equal access to justice, it is necessary to achieve societies based on the respect to Human Rights under the rule of law and good governance, as well as on transparent, effective and accountable institutions.

Justice is fundamental for the fulfillment, control and support of SDGs. It could be thought -beforehand- that among the several SDG the most affected by the idea of Justice is Objective no. 16: *Peace, Justice and solid institutions*. Certainly, it is so -at least nominally- in so far this goal is directly linked to the unavoidable quest for pacific and inclusive societies, standing on the access to justice for all and on the construction of responsible and effective institutions. Nevertheless, these SDG are not isolated compartments and there is, thus, a need to adopt ambitious and urgent measures to allow that those changes are effectively achieved in the field of Justice. This will necessarily impact on Objective 1 (ending world-poverty in all its forms), Objective 3 (Health and Wellbeing), Objective 4 (Quality education), Objective 5 (achieving Gender equality and the empowerment of all women and girls), Objective 10 (reduction of inequalities), Objective 13 (Climate action), among others. All of them impact on the protection of persons from the perspective of reaching a greater social cohesion and the reduction of inequalities through an inclusive justice.

The goals are clear and -in principle- do not raise doubts. In the area of Justice, the issue, as usual, is to know whether the 2030 Agenda is going to remain a mere programmatic declaration, or if it is possible to think of a 2030's Justice that effectively ensures the sustainable development objectives. The answer depends on the Governments of the States, but also on the people and the society. To achieve these goals, the implication of private and public entities linked to the Justice system is needed by, *inter alia*, reducing the multiple and sophisticated existing forms of violence, mistreatment, child-trafficking and exploitation; by guaranteeing equality of access to justice, the rejection of financing of illicit weaponry, the recuperation and restitution of all that has been stolen by the diverse organizational forms of crime; and also by directly targeting corruption, creating effective and transparent institutions that can be held accountable, by propelling participation -both of citizens and of developing countries- in all debates and decisions that are brought forward to improve the Justice system, by guaranteeing also the legal identity of all persons and the public access to information and protection of fundamental freedoms as well as the reinforcement of national institutions. This is not easy to reach, and cooperation among States and private undertakers is necessary all around the world.

The objectives can be reached through the implementation of numerous measures of different kind to promote a sustainable Justice system, inside and outside Courts:

a) On the one hand, by reducing the excessive formality, complexity and rigidity of certain existing procedural models, fostering procedural abbreviations and the inclusion of ADR-ODR mechanisms that favor agreements and settlements, not only as an

alternative way to the Courts, but also accepting that they are devices fully integrated in the Justice system of the State.

b) Secondly, by promoting the existence of aid and assistance services for disadvantaged groups (minors, disabled, migrants), etc., favoring the implementation of ways to access the adequate justice for their type of vulnerability situation.

c) Thirdly, the cross-sectional application of technology is necessary. It can allow for the access to a closer Justice system, eliminating formal restrictions and excessive technicalities, reducing time and offering, thus, an agile, less expensive and more equal Justice system. Technology can be instrumental, even in designing automative buildings to host the Courts, or also functional. The functions that can be offered within the technological habitat of Justice are increasing in number and sophistication, gradually leading to the implementation of a sort of “Smart Justice”.

II. TECHNOLOGY HAS TRANSFORMED THE SKIN OF THE PLANET. IS THE WORLD MOVING TOWARDS SUSTAINABLE DEVELOPMENT, ALSO IN THE FIELD OF JUSTICE?

Technology has brought forward a mutation –a true metamorphosis- of the skin of the planet. The blossoming of internet as a global asset has changed the landscape of the world. The 21st Century has astonished watched -and accompanying the expansive process of globalization- a new and disruptive, innovative, technological and digital society in which everything -principles, values, lead characters, concepts and foremost the *modus operandi*- is changing very quick; the sustainability of our planet and the values of our society is not always taking into account in this process. The question is whether this planetary mutation is in accordance with the SDG, towards a sustainable economic development; whether it is compatible with environmental and social sustainability and which are the steps to be taken.

Of course, it is first necessary to assess what sustainable development means, also in the field of Justice. To this respect, there is an interesting document named the “Brundtland Report” published in 1987 by the United Nations. The report was drawn up by a Commission conformed by different countries and chaired by the Norwegian Prime Minister, Gro Harlem Brundtland. The Commission considered that sustainable development means “development that meets the needs of the present without compromising the ability of future generations to meet their own needs”². This report has become a landmark as it sets forth the three perspectives of any future change in this area: economic, environmental and social.

In the quest for this -tridimensional- sustainable development, some steps of different kind have been taken in the “legal world”. Some have been slow, others have been more agile but, in any case, the irruption of technology has been a determining factor, both the instrumental technology -hand in hand with the 3.0 revolution with internet as its axis-,

² <https://undocs.org/es/A/42/427>, last access 26.6.2022

and also with the disruption provoked by the 4.0 revolution, with the latter bolstering the metamorphosis of life, persons and the Justice system.

Technology has steadily expanded in societies with asymmetrical rhythms and speeds. It has experienced a volcanic momentum with the pandemic, as institutions, services, economies, and government, etc. went under lockdown. An unimaginable global shutdown, a dystopic reality that not even science-fiction authors could have dreamt of. In a moment in which the Justice, as well as many other areas of social life was blocked, technology became a sort of savior. The evolution has been enormous for the last two – three years and the acceptance of its daily presence and potentiality too. Today, its unstoppable evolution leads towards a future post-human Justice; as a result of Humanity+ -“augmented humanity”³- in which the consolidation of quantic computing and the design of artificial intelligences predicts a future replacement of the jurist and the judge by the machine, in the quest for the *legal Cyborg*⁴.

Certainly, technology already existed long before the pandemic. The current technological reality does not happen as a result of the pandemic, it stems from an already lengthy stage that has been pacing human existence and its interconnection. Globalization is a direct consequence of the technological revolution. It has allowed the opening of frontiers, the elimination of obstacles to human, goods and economic circulation mobility, thus favoring a mass society⁵, that has been promoted even more through technology: commending uniformity and bringing us closer to Aldous Huxley’s brave new world. Technology becomes an essential part of this liquid society⁶, in constant evolving mode⁷, that holds an acritical -and hence much more controllable⁸- way of thinking.

Technology is growingly shown as the “ultimate happiness potion”: the life in the *digital swarm*⁹ or, in the words of MOROZOV, the technological solutionism¹⁰. Our growingly digital and innovative world is displayed as *exquisitely flexible, fluid, overflowed with opportunities and resistant to any fixation*”, albeit – as BAUMAN points out – it is also shown as *malleable, vulnerable and defenseless, easy prey for ingenuity and technological know-how, a fertile ground for insatiable appetites*¹¹. Summing up, it is offered as a different way of “order” in contrast to the “dis-order” that preceded¹².

This mutation of the skin of the planet affects also the legal system and the Justice¹³. It can lead to a more sustainable Justice –from the already mentioned triple economic,

³ SADIN, E., *La humanidad aumentada. La administración digital del mundo*, Buenos Aires, Ed. Caja Negra, 2017.

⁴ BENDEL, O., “Cyborg”, *Gabler Wirtschaftslexikon. Das Wissen der Experten*, Springer Gabler, <https://wirtschaftslexikon.gabler.de/definition/cyborg-54197>, last access 1.6.2022

⁵ LE BON, G., *Psicología de las masas*, Madrid, Ed. Morata, 1895, p. 20.

⁶ BAUMAN, Z., *Vida líquida*, Barcelona, Ed. Paidós, 2013, p. 109.

⁷ BARONA VILAR, S., “Una justicia “digital” y “algorítmica” para una sociedad en estado de mudanza”, in BARONA VILAR, S., *Justicia algorítmica y neuroderecho. Una mirada multidisciplinar*, Valencia, Tirant lo Blanch, 2021, pp. 21 - 64.

⁸ GABRIEL, M., *El sentido del pensamiento*, Barcelona, Pasado & Presente, 2 ed., 2020.

⁹ HAN, B-CH., *En el enjambre*, Barcelona, Ed. Herder, 2020, p. 26.

¹⁰ MOROZOV, E., *La locura del solucionismo tecnológico*, Madrid, Katx Editores, 2015.

¹¹ BAUMAN, Z., *Posmoderne Ethik*, Hamburgo, Hamburger edition, 1995, p. 290.

¹² BAUMAN, Z., *op.cit.*, p. 291.

¹³ *Ad extensum*, BARONA VILAR, S., *Algoritmización del Derecho y de la Justicia. De la Inteligencia Artificial a la Smart Justice*, Valencia, Tirant lo Blanch, 2021; BARONA VILAR, S., “Una justicia “digital” y

environmental and social perspective-. But it can also imply its de-humanization. Achieving equilibrium among these contradictory moves and possibilities is a task for the jurists to be done¹⁴. If it is evident that this new digital reality “creates” new worlds and paradigms, but also “destroys” some of the ideas and principles on which the legal paradigm has stand so far. The Law has a relevant role to play in the conformation of the new legal world of the future: it has to step up, not only to regulate the novelties, but also to prevent that the “old” rights are severed or, even, superseded by this digital scenario, something difficult so far. Reality shows that the digital mass culture is hammering fundamental rights, in most cases with the consent of us humans.

III. DIGITALIZATION AND *ALGORITHMIZATION*

The irruption of digitalization, from an instrumental and, recently, a more functional level, has been expanding towards the legal arena, affecting the notion of Justice, and consolidating a new *modus operandi* in the legal field.

1. First level: instrumental digitalization. The case of Spain

The first step came hand in hand with the so-called 3.0 Revolution that incorporated the communication technologies as a mean of organization and management of societies and propelled internet, also in the Courts. Nowadays, the Justice Administration is allowed to archive, treat and transmit large quantities of increasingly selective data within the complex judicial administration, reducing costs and time. This allows for a “more for less” approach, that is, to increase the levels of efficiency and quality within the operation of Justice and of the Courts.

One of the axis of this evolution is the implementation of the “digital court file” which is efficient, economic, sustainable and transparent. In fact, it is alleged that the move from the paper-based-Justice to the *eJustice* improves the service provided to citizens in this area. As well as it also allows for transparency and accountability and better accessibility. It favors the correct organization of the Justice system, its structural, strategic and managing efficiency, as well as the optimization of personal work, its distribution, training and improvement. The other side of the page is the potential imbalance between the countries in this area, since it has been shown that the incorporation of these technologies to the Justice system has not been symmetrical, arriving at different speeds. And this run contrary to the SDGs.

In Spain, the digitalization of court files (EJE in Spanish) has been implemented for the last years. In addition to the system of management of communications and notifications LEXNET, the country has been working with computer systems for procedural management through the MINERVA software, as well as with the software for Public Administrative Registries in support of the judicial activity, also known as SIRAJ. As a consequence/complement of these developments, some Acts have been enacted in the last

“algorítmica” para una sociedad en estado de mudanza”, en la obra colectiva BARONA VILAR, S., *Justicia algorítmica y neuroderecho. Una mirada multidisciplinar, op.cit.*

¹⁴ HARARI, Y.N., *Homo Sapiens. A Brief History of Humankind*, Londres, Penguin, 2014, p. 464.

years. For instance, the Act 18/2011 of 5 July, on the use of information technologies and communication within the Justice Administration introduces the electronic court file and the electronic judicial courthouse with a General Access Point for the Justice Administration. In 2105, two new Acts regulating the electronic processing of the public administrations and the acceptance of the electronic communication within the Justice Administration through LEXNET were enacted. Three years later, in 2018, the Organic Law 4/2018 was passed, allowing for telematic proceedings and actions: hearings, judgements and remedies. These Acts do not alter the principles of the process, provided that the viability (interconnected working systems of electronic communication that are agile and accessible) and the safeguards of due process are guaranteed; but above all, the right of defense.

The pandemic has now accelerated this cadence of Acts enacted. In 2020, the Act 3/2020 of 18 September, on procedural and administrative measures to address COVID-19 in the Justice System was passed: and hearings and procedural acts may now fully take place by way of telematics means. The Ministry of Justice and the Autonomous Communities have been working towards this objective by consolidating technology within the relationship between the citizens and the Justice Administration. Recently, three draft legislations have been brought forward. The proposed bills heads –either directly or indirectly– in the same direction: Draft Legislation of Organizational Efficiency of the Public Service of Justice, Draft Legislation of Procedural Efficiency of the Public Service of Justice and the Draft Legislation on Digital Efficiency, all within the framework of the 2030 Agenda.

Furthermore, digitalization also extends to ADR or Adequate Means of Dispute Resolution (MASC for the Spanish acronym). It favors the ODRs, but above all, it wants to boost the negotiating capacity of the parties, seeking to avoid that all conflicts end up before the courts. Additionally, it is introduced as a measure that is favorable to sustainability.

2. Algorithmic Justice is already here: Towards the “Smart Justice”

This new digital context requires innovative ways of acting in the world of Justice. And We speak of Justice, but it is also a reality that links the legal field with business. The way towards the "hybridization" of Justice and the consolidation of the new "Smart Justice", finds exponential support in digital instruments, software, hardware, control systems, management, planning... As well as on those that offer arguments, defense strategies, predictability of risks or possible judicial decisions to the parties, lawyers or judges. We live, more and more, surrounded by algorithmic tools that are undermining the spaces of, and for, human jurists; offering answers that stand on the Big data for jurists. Computational analytical systems, data mining, machine learning, deep learning, cyborgs, cyberspace, etc., become now concepts that are increasingly part of the current landscape of justice.

In addition to becoming a useful tool for jurists to act in the legal world, they are also channels for them to intervene in the design of these devices. This intervention is necessary to preserve some of the basic traits of the legal world. Because, the appearance of this new “digital ecosystem” requires a joint response by Engineers and, also, Jurists.

Only from the spherical vision of Artificial Intelligence and the law is it possible to analyze the extensive application to the field of Justice.

2.1. *Terra digitalis* v State. More “supranationality” and less “State-nationality”

Technologies emerged as a consequence of globalization and, at the same time, they were, and are, an essential element of it. They found a perfect scenario for their expansion due to the fact that borders disappear in the digital scenario. An intelligent cyber-industry is now established, effectively reducing the “public” space and limiting the role of the State in the global societies, as well as favoring an exaltation of everything that is “economic”. The incorporation of parallel worlds -real and virtual- has favored that reduction. The new digital territory lacks the geographic and legal limits that are specific to the Nation-state. The digital world minimizes the concept of State, unable to respond in a fast and adequate form to those legal demands brought forward by this new reality.

This new cyber-habitat –an anarchist structure¹⁵– has given rise to a long list of new legal concepts that have a direct impact on the Law, on the Courts and the understanding of Justice. Thus creating the necessity of configuring a specific regulation for cyber-security, bringing forward new concepts and new stakeholders, such as cyber-crime, electronic agents, Smart contracts, Block chain, cyber-lawyer¹⁶, cyber-legislation, etc. And creating a correlative need for conceiving adequate safeguards for the possible threats, cyberattacks or cyber-risks that beset the cyberspace.

This is not an irrelevant question in the light of the fact that, by its own nature, in many cases it transcends the local sphere, affecting global security and giving way to global cooperation. The Digital Agenda for Europe – one of the objectives of the 2020 European Strategy- stands along these lines. The European legal instruments focus, on the one hand, in sectoral regulations¹⁷, and on the other hand, in the ethics and legal regulation of algorithms, data and Artificial Intelligence. This effort, although very relevant, is not sufficient, and requires joint efforts through international cooperation.

The European Union has allocated its efforts to “control” the unlimited access to data, in terms of its exploitation and conservation. It has also tried to establish -not without enormous difficulties– some unsurmountable red lines in this area. The newest instrument to this respect is the Data Governance Act of 2022. The road ahead is complex, especially when it can facilitate a massive control of global citizenship (as it happens with the generalization of the use of facial recognition) or the manipulation of human capacity and personality (with the bioethical demand that certain conditions must be fulfilled in order to implant chips that alter or module human capacity), the manipulation of democratic

¹⁵ LEHLE, TH., *Der Erfolgsbegriff und die deutsche Strafzuständigkeit im Internet*, Konstanz, 1999, p. 11.

¹⁶ MURRAY, A.D., *The Regulation of Cyberspace Control in the Online Environment*, 2006, pp. 3-12.

¹⁷ It is possible to mention, among others, Directive 95/46/EC of the European Parliament and the Council, of 24-10-1995, on the protection of individuals with regard to the processing of personal data and on the free movement of such data (right to be forgotten); Regulation (EU) 2015/751 of the European Parliament and the Council of 29-4-2015, on interchange fees for card-based payment transactions, or Regulation 910/2014 of the European Parliament and the Council, of 23-7-2014, on electronic identification and trust services for electronic transactions in the internal market and repealing Directive 1999/93/EC

governments or the infringements of the Principle of Equality (race, gender, nationality, social status, etc.) due to the proven biases that some of the tools can hold in their application within the effective judicial protection.

2.2. Algorithms are not neutral

The irruption of algorithms in people's life, both in their real and virtual world has fostered the need to review the existing rules and incorporate new regulations or formulations of international legal cooperation that warrant legal certainty to the citizens, the governments, the economy and to society in general. At the same time, they have entered into the Justice system, favoring its real algorithmization.

Algorithms are created through a programming language and work through a software program that acts as if it was, in colloquial terms, a "kitchen recipe". It contains ingredients (data, inputs), and a specific set of instructions in order to reach a particular outcome. That result has certain undeniable consequences in terms of Justice. Hence, the challenge is to work jointly with designers, programmers, jurists, ethical experts so as to stride in the same direction towards a more just society.

In this sense, those who are most sceptic about the algorithmization of Justice argue that algorithms are by no means neutral, in so far, the persons behind them are not neutral either. Different biases have allowed to perpetrate abuses, generate inequality and differences of treatment on the basis of criteria such as race, gender, sexual orientation, political ideology, religion, skin color, place of birth, social class, etc. As a consequence, there should neither be denied nor cause fascination beforehand. Algorithms make a contribution to Justice and should be approached favorable but, at the same time, it is necessary to establish some conditions and requisites for them not to boost injustice in a habitat as the Justice system, which is public.

IV. FUNCTIONAL MANIFESTATIONS OF THE ALGORITHMIZATION OF JUSTICE. TOWARDS JUDICIAL ROBOTIZATION

The initial mistrust towards the incorporation of algorithmic systems in the existing model of Justice seems to have progressively lose strength. The agility, swiftness – even instantaneousness -, ease of use, efficiency, etc. that provide have furthered their integration into the different legal operations.

There are already many algorithmic tools that allow speeding up the world of Justice. Some of these tools allow to: 1) Analyze and extract the relevant information; 2) Predict the course of decisions; 3) Generate arguments; 4) Compose legal opinions, due-dilligence and auditing reports (Kira System, Bounsel, Luminance or iManage RAVN); 5) Draft contracts; 6) Carry out negotiation proposals; 7) Make market strategy and financial proposals and, even, predict risks that may be incurred by the undertaking; 8) Application of algorithms for criminal prediction; 9) Tools that offer guidelines for judgements (ASSYS, LIST); 10) Algorithms that favor or allow to settle automated technical lawsuits, effectively substituting the judge by a machine; 11) In addition, the risk-predicting algorithms that are used in criminal matters, which condition the

judgement that is rendered, and the severity of the convictions, among others. All of this changes the perception of the function that the jurist fulfills in the digital era. An example of this is the global movement of lawyers towards “Legaltech”, the fusion between Law and Business.

The market floods us with software that favors that the *modus operandi* of lawyers, judges, public prosecutors, police and so on has been transformed, and the methods and decision-making processes stand, more and more, on these digital instruments. The implementation of these algorithmic tools is what allows for the differentiation of its several –and different- functions: 1) As an aid (as a complement or a facilitator); 2) For prevention (through, but not limited to, predictive Justice); 3) In criminal investigation; 4) In judicial decision-making (as a complement or a substitution of a human judge by an automated judge); or 5) In enforcement of judgements (in civil matters, the algorithms may connect public and private institutions in order to facilitate the tracing and auctioning of assets). In conclusion, it is possible to implement technology in functional and instrumental ways.

1. Assisting and predicting role of the procedural and judicial response

The *Legal Expert Systems* first appeared in the eighties of the XXth century. They are tools designed to offer responses to the many –and different- legal issues raised. These tools were gradually improved¹⁸ and gave place to the birth of the *Legal Advisory Systems* and to the consolidation of ALI (*Artificial Legal Intelligence*¹⁹). Also, other initial computer models were designed such as IBM Watson or IBM’s *Debater Program*; systems capable of providing responses to the questions that were raised, but without giving any legal reasoning²⁰. They were programs able to offer information, based on existing data, but that cannot develop any logical legal argumentation and, therefore, could not be considered as real tools of legal argumentation. They were based on models of classic computer logic, that cannot be extrapolated to the logical argumentative legal model, in regards to the reasoning activity of legal experts²¹.

A further step in the process of technological development was the designation of computational programs called “Jurimetry”, *Legal Decision Support Systems* (LDSS). In fact, it has been consistently argued that the *Artificial legal Intelligence* with the Jurimetry appeared in the second half of the last century due to the so-called American School of Decision Support Systems and of the father of cybernetics, Norbert Wiener, who already in 1950 stressed the importance of the machine -he referred to the transition from the *Mensch* to the *Menschmaschine*²²- and of the potential application of cybernetics to the

¹⁸ GREENLEAF, G.; MOWBRAY, A.; CHUNG, PH., “Building Sustainable Free Legal Advisory Systems: Experiences from The History of AI&Law”, *Computer Law&Security Review*, 2018, 24 (1), *University of New South Wales Law Research Series (UNSW)*, p. 3.

¹⁹ GRAY, P.N., *Artificial Legal Intelligence*, Brookfield, Dartmouth Publishing Company, 1997, p. 3, la define: *the computer simulation of any of the theoretical practical forms of legal reasoning, or the computer simulation of legal services involving the communication of the legal intelligence.*

²⁰ ASHLEY, K.D., *Artificial Intelligence and Legal Analytics*, Cambridge, 2017, Cambridge University Press, pp. 17-18 & 40-41.

²¹ KALINOWSKI, G., *Introducción a la lógica jurídica*, Buenos Aires, Ed. Eudeba, 1973, p. 67.

²² WIENER, N., *Mensch und Menschmaschine*, Frankfurt, Alfred Metzner Verlag, 1952, 4° ed., pp. 150-194.

legal world²³. World War II broke out when he was working on a machine aimed to replicate the human brain; albeit he always expressed great concern about the irreversibility of automation, and as regards the ethical and moral problems that could rise, insisting on the need of working with legal experts²⁴.

The evolution of such a kind of systems has been enormous. One of the possible functions performed by them is that of the predictability of the success or failure of a specific legal strategy²⁵. An interesting example to this respect is the publication -in October 2016- of a research implemented by the University of London on a software that creates patterns to predict the results of the decisions of the European Court of Human Rights on issues related to sections 3, 6 and 8 of the European Convention of Human Rights. Surprisingly, it was capable of predicting the outcome in 79% of the cases. A similar result had the algorithm used to predict the decisions of the American Supreme Court, that reached an 83% of predictability²⁶.

A variety of computer models provide now the *expertise* of the legal advisor: Programs allowing a “legal diagnosis”²⁷ of the case, in so far they are programmed to act as intelligent assistants for the solution of legal problems. In certain cases, they can audit and control the quality of the laws, or write legal texts (contracts, opinions, documents, among others), outline potential arguments for a negotiation, and even, act as self-composite tools for conflict resolution: such as QUESTMAP, a program for negotiations and mediations.

The algorithms have also had a relevant impact on the world of criminal investigation, most notably in the field of prediction. The so-called “predictive justice” (PredPol) has now numerous algorithmic tools and it has favored a change in forensic sciences. The methods used are built upon algorithms, software, that have designed techniques suitable to locate, analyze and present evidence and proof in criminal procedures. Systems that permit the identification of potential “hotspots” and allow the concentration of efforts and means for the prevention of crime, or estimating the area in which a determinate suspect of a crime can be located²⁸. These tools and all the changes that they have given place to have turned Criminal Law into a sort of Security Criminal Law, encouraging predictive vigilance *ex ante* in contrast to the traditional criminal response *ex post*.

The evolution of tools specifically designed to support criminal investigation has given place to realities unimaginable only a few years ago: for instance, the technology for facial recognition or “appearance search” that allows the identification of persons in a photograph or through a security camera. Although they are shown, in many places, as a

²³ WIENER, N., *The Human Use of Human Beings*, Torino, 1953.

²⁴ WIENER, N., “Some Moral and Technical Consequences of Automation”, *Science* 1341 (3410), 1960, pp. 1355-1358.

²⁵ SIMESTER, D.I.; BRODIE, R.J., “Forecasting criminal sentencing decisions”, *International Journal of Forecasting* 9, 1, Abril, 1993, pp. 49-60.

²⁶ WAKEFIELD, J., “AI predicts outcome of human right cases”, <https://www.bbc.com/news/technology-37727387>, last access 23-5-2022.

²⁷ CHALTON, S., “Legal Diagnostics”, *Computers and Law*, N. 25-8-1980, pp. 13-15.

²⁸ MIRÓ LLINARES, F., “Inteligencia Artificial y Justicia Penal...”, *cit.*, p. 100; BRAGA, A.A., WEISBUNRD, D., *Policing problema places: Crime hot spots and effective prevention*, Oxford University Press, 2010.

promise for more security, the generalization of its application could have undeniable legal consequences and give place to a reality closer to the Orwellian scenario of a society with massive control: the disappearance of privacy, movement, actions and relationships control. It could even allow for the classification of citizens on the basis of their behavior with a plural impact on their life in so far the classification could be taken into account to grant a mortgage or life insurance, to access a job, etc.

In fact, the European Union has shown its concern as regards the issue of facial recognition. The European Parliament has shown its rejection to its use for hypervigilance through biometric and AI parameters. As of October 2021, the Parliament issued the Report of the Committee on Civil Liberties, Justice and Home Affairs (LIBE) of the Parliament, asking the Committee to implement, through legislative and non-legislative means and infraction procedures, the prohibition of any processing of biometric data - including facial imaging- with law enforcement purposes that can lead to an indiscriminate massive vigilance in public spaces. It is considered that the attempt to utilize these systems in order to obtain a “license” or “classification” –as it has been known to take place in certain countries- has a negative impact on the fundamental rights and liberties of citizens.

Despite these criticisms and dangers, some positive effects may exist for criminal investigation: algorithmic systems may have a relevant impact on it. Systems such as ADVOCATE, that predicts the suitability and reliability of witnesses; HEARSAY RULE ADVISOR (HRA), in Canada, that analyzes the worth of “rumors”; STEVIE, which allows for the recreation of stories, or DATA MINING, that puts forward possible crime scenes taking into account previous crime scenes, in order to foresee the collection of evidence. In Spain, VIOGÉN is used to predict the possible recurrence of those investigated for gender violence, among others. These are all systems that complement the task of those in charge of making decisions; they serve as orientation for them. They are a “mechanistic collaborator”.

2. Decision-making function and the Judge-Craft. Towards judicial robotization

The collaborative or assisting algorithmic tools for the Judge aim to facilitate his/her judicial work (extraction and analysis of documentation, risk prediction, witness assessment, reconstruction of events, etc). None of them act as a substitute for the Judge: they only support him/her in order to speed up his/her decision-making. The variety and heterogeneity of these tools, as well as their functionality, is enormous, and have an impact on the Judge-Craft. This is the direction in which the emergence of the “robot-judge” takes place²⁹.

On the one hand, there is the need to pose the question of whether the machines can learn to think as legal experts, or not. The answer is that –at least so far- machines do not think. They are not intelligent but statistical³⁰, working with mass-data that provides them with

²⁹ BARONA VILAR, S., “Una justicia “digital” y “algorítmica” para una sociedad en estado de mudanza”, *cit.*, p. 46.

³⁰ CARDON, D., *Con qué sueñan los algoritmos*, Madrid, Ed. Dado, 2018, p. 78. The author states with clarity, as regards translating machines, how instead of conceiving an abstract reasoning machine they opted for making it work word by word, so that the machine does not translate, but it *calculates the*

information to fulfill their function. They lack perceptive memory, time sensation, recollections, sensations towards those recollections, creativity, etc. Thinking is not to read words, nor it is to feed up with information and translate it, integrate it, or to extract the essentialities out of a case. All these activities can be an integral part of the intellectual process that leads to the decision-making. Nowadays, the machine can develop functions reserved only to humans until now, and to do so at an unprecedented rate, most efficiently, filling the void of the human function. But machines have not been able –still– of *provoking an interior discourse in which the continuity of consciousness as memory is embodied*³¹. Beyond the knowledge of the rules and case law, the Judge-Craft implies the capacity of interpreting them with emotions, perceptions or intuitions; in other words, the subjective sensibilities. The human judge contextualizes. The robot judge does not.

On the other hand, reference to the neutrality of the algorithms –we have already referred to it before– is under question. Practice reaffirms the existence of numerous examples of algorithmic biases that neither always nor necessarily have been inoculated by their designers and, rather, are assimilated by the algorithmic tools as conducts and social parameter.

It is groundless to deny the presence of algorithmic models in the development of the Judge-Craft. It exists already. There are on-line dispute resolution platforms³²: the Directive ADR 2013/11/EU of the Parliament and the Council, and the Regulation (EU) N. 524/2013, of the Parliament and the Council, of 21 may 2013, that consolidated Online Dispute Resolution in matters of consumers, modifying Regulation (EC) N. 2006/2004 and Directive 2009/22/EC is a good example of that³³. The specific peculiarities of consumer conflicts can favor the robotization of the solution of the prospective conflict and the standardization of the solutions provided. Among the European authorities, there is a quest for a sort of “one-stop” scheme, with a standard form and the possibility of attaching electronically the documentation that grounds the consumer claim, in any official language of the European Union³⁴.

Other examples of systems of automated judicial-robot are the Estonian robot which resolves contractual disputes cases that do not exceed 7.000 euros. The decision can be appealed before a “human judge”. Or the DO NOT PAY software of the UK, that permits the annulment of traffic fines, the Australian SPLIT-UP that solves divorces and separations; or the Canadian negotiating robot iCAN-SYSTEMS, as well as some others that have emerged worldwide in order to propose how to divide de assets of goods in a divorce, or in case of an inheritance with several heirs. In China the “internet courts” were

statistical estimation of the best translation for those two (three, four, etc.) words by comparing them to other translations it has in its memory.

³¹ LLEDÓ, E., *El silencio de la escritura*, Barcelona, Espasa, 2011, p. 151.

³² For example, MODRIA, initially in California as a previous channel to solve small legal disputes; the iCan SYSTEMS negotiator in Canada, o the SMARTSETTLE, that was able to solve in just one hour a conflict (civil) that had been dragging on for more than three months.

³³ It is incorporated in Spain through Act 7/2017 of 2.11, working over an electronic platform for the electronic data interchange between consumers and conflict-solving entities, to which the undertakings could be voluntarily, or legally, adhered in accordance to the legislation of the State in which their activity is found.

³⁴ CATALÁN CHAMORRO, M.J., *El acceso a la Justicia de consumidores: los nuevos instrumentos del ADR y ODR de consumo*, Valencia, Tirant lo Blanch, 2019.

created in 2017³⁵, and they hear contractual disputes, consumer disputes, copyright conflicts, domain names, etc. In the Arab Emirates, REEM is a judicial-robot created to solve questions derived from traffic accidents, fines, etc.

The world of Justice is changing quickly, steadily and a lot. The final outcome is far from clear but today at least three overlapping intervention models may be forecast:

- 1.- Firstly, those in which only human judges intervene.
- 2.- Secondly, those in which human judges rely on technological systems (instrumental) and algorithmic systems (functional) for his/her decision-making (always with the possibility of deviating from the proposals and algorithmic results). These are hybrid models or model of improved integration (human judges +).
- 3.- Thirdly, those that fully substitute the human being for the machine, both in the managing as in the *Judicial Decision* process: a sort of “judicial robotization”, an automated justice³⁶, that offer justice-computer-programs, with the capacity to imitate the human being³⁷, opening a great interconnective collaboration between humans and machines.

The future is to come, more quickly than slowly, and with an outcome not yet fully ascertainable. And the great dilemma remains. Unbalance is to be avoided in the new technological world as well as inequalities, the digital gap, the reduction of guarantees, the conversion of Justice to the mathematical-statistic fact, that perverts the human Justice system; a model with shortfalls, but that stands on the recognition of rights and guarantees for citizens. Should the algorithmization of Justice arrives in the future, it will have to improve the system –making it more efficient- but also be positive for citizens –fully guaranteeing their rights-. There is the opportunity of improving the world, rather than damaging it. A world in which technology serves Humanity and not the other way round. That is where the jurist must be: in the constant fight for maintaining the achievements made.

³⁵ SUNG, H-CH, “Can Online Courts Promote Access to Justice? A Case Study of the Internet Courts in China”, *Computer Law&Security Review*, vol. 39, nov. 2020.

³⁶ CATALÁN CHAMORRO, M.J., “El proceso judicial electrónico y su encaje en el ordenamiento jurídico español: estudio comparado con el proceso electrónico británico”, *Revista de Internet, Derecho y Política*, marzo 2020.

³⁷ TURING, A.M., “Computing Machinery and Intelligence”, *Mind*, 1950, 49, p. 433.