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Digital justice as a tool of socio-juridical control: the cases of the United States of America and the People's Republic of China(*)

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Summary: **1.** Introduction **2.** The case of the United States of America **3.** The case of the People's Republic of China **4.** Final Remarks

1. Introduction

The jurist of the 21st century is increasingly faced with unprecedented scenarios, hand in hand with the development and use of information and communication technologies (ICT), algorithms and artificial intelligence (AI), which make it necessary to assess their possible impact in the various legal systems. This gives rise to new issues that tend to upset consolidated paradigms on which modern legal thought has been based[1].

Among the many aspects implied by this ever growing trend, that of the so-called 'digital justice' seems to become central to the debate on the application of artificial intelligence to law, and specifically to both civil and criminal justice[2].

The meaning of the aforementioned expression should be clarified, distinguishing between the different and often confused expressions in everyday use that are commonly employed to describe various phenomena in which artificial intelligence relates to justice such as, for example, predictive justice, e-justice, internet justice, intelligent justice, robot justice, telematic justice, and, among others, digital justice; keeping in mind that each expression could have its own meaning and specific scope.

The boundaries between these categories are sometimes blurred: what changes, according to a model based on functional autonomy/control and support/delegation factors, is the focus on the centrality of digitisation and the use of algorithms characterizing each category respectively[3].

In this paper, the distinction between predictive justice and robot justice will be kept in mind in order to understand the different paradigm underlying the two different meanings, which, while frequently juxtaposed, have specific distinguishing features[4].

(*) The contents of this essay have been presented at the 30th Biennial World Congress of the International Association for the Philosophy of Law and Social Philosophy which took place in Bucharest, Romania, from 3 to 8 July 2022. This work, while a product of shared reflections, is attributed for paragraph 2 to Chiara Comberiati, for paragraph 3 to Davide Clementi, and for the initial and final paragraphs to both of them.

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1 E. Calzolaio (cur.), *La decisione nel prisma dell'intelligenza artificiale*, Padova, 2020, p. 1 ss.

2 For a global enquiry on the term, we refer to A. Garapon, J. Lassègue, *Justice digital,* Parigi, 2018

3 M. Palmirani, S. Sapienza (cur,.), *La trasformazione digitale della giustizia nel dialogo tra tra discipline*, Milano, 2022, p.9.

4 Predictive justice is thus to be understood as the ability to predict the outcome of a judgement on a given case by means of mathematical calculations and with the help of algorithms; in essence, it is an anticipation of the potential outcome of a given case, which enables the verifiability of a given decision

The goal of predictive justice is to implement predictions concerning the outcome of judgments, formulated such as the characteristics of the case under consideration, the relevant precedents and the previous decisions of the same judge. However, it should be kept in mind that predictive justice aims to predict the outcome of individual cases that are decided

Given that in both meanings artificial intelligence applied to justice constitutes the main feature, it should be highlighted that what distinguishes the two models is, in the first case, that the algorithm is seen as supporting the judicial power, while in the second machines or new technologies underlying them eventually supplant human judging, placing algorithms within decision-making processes, fulfilling decision-making asks conducted by human decisors.

This distinction proves to be useful to understand, in a deeper way, the different, distinct but related issues that we are going to discuss in the course of this paper, that is, on the one hand, the application in the United States of America of predictive sentencing and policing tools limited to the criminal sphere, and on the other hand, the Chinese model of robot justice that, exploiting the digitization of courts and tribunals (Smart Courts and Internet Courts), by means of electronic filing systems, computerized data processing, and the use of the Internet for the conduct of remote proceedings, comes to use algorithms (such as AI) for the resolution of civil and administrative disputes, and eventually, a final issue concerning the impact of these distinct applications of electronic and telematic tools for the purposes of socio-juridical control in the two compared countries.

It is therefore necessary to emphasize a further perspective in which AI would lead to a reshaping of the legal consensus from the consolidation of governments' ability to monitor, predict and control citizens and their legally relevant behaviors. In this way, AI would offer both authoritarian and liberal-democratic countries new tools to consolidate their power, offering the possibility for countries to make their citizens and firms richer, while maintaining strong control over their authonomy spheres.

It is particularly the cases of the United States of America (USA) and the People's Republic of China, where both countries have been moving in the direction of fostering policies of digital control based on new technologies exploiting AI in surveillance and predicitions of people's behavior, while also aiming at limiting the discretionary power in the hands of the judiciary[5].

2. The case of the United States of America

To date, predictive algorithms are widely used in the US justice system in both civil and especially criminal cases. In fact, it is through the court cases that have occurred in recent years that the use of predictive tools within the US justice system has increasingly emerged[6].

In fact, predictive systems, which originated as simple working and support tools for the legal profession, are increasingly turning into true artificial intelligence agents, capable of replacing the judge in deciding cases, both in the pre-trial and pre-decision phases[7].

It is worth remembering that the American AI development policy began at the end of Barack Obama's presidency in 2016, marking the first of three distinct phases of AI policy in the United States of America, corresponding to the three different and most recent administrations. Donald Trump (in office from 2017 to 2021) and Joe Biden (in office from January 2021 to the present), have defined new approaches to AI policy, which are different from those previously outlined in former President Obama's policies.

These different approaches resulting from the policies of various US presidents have different, though in some respects consistent, themes at their core, which converge, for example, in the

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from time to time and does not aim to predict the overall outcome of the trial itself. See: L. Viola, *Interpretazione della legge con modelli matematici, Processo, a.d.r., giustizia predittiva*, Milano, 2018.

[5] Cf. A. von der Lieth Gardner, *An artificial intelligence approach to legal reasoning*, Cambridge (MA), 1987. Similar approach in stating vices and virtues of applying Artificial Intelligence to decision-making processes is held by S. Zhou, X. Wu, *The Possibility and Limitation of Judicial Decision-making by Artificial Intelligence* (人工智能司法决策的可能与限度), in *ECUPL Journal*, 2021.

[6] See the COMPAS algorithms, RAVEL LAW and the ROSS chatbot.

[7] R. Susskind, *Tomorrow's Lawyers. An introduction to your future*, Oxford, 2017, p. 63.

minimization of government intervention and in the emphasis on the role of free market capitalism and the high regard for American innovation.

On the other hand, the issues on which the different policy phases diverge are, for example, the degree of emphasis found on diversity in the development of AI and the identification of the beneficiaries of the use of AI[8].

In this context, constituted mainly by the free market, as a point in common with the various political phases better illustrated above, the use of digital technologies is increasing, which inevitably has an impact on the relationship between law and the democratic system, particularly with regard to the possibility of free and informed decisions. This brings us to the great theme of predictive justice in the United States of America, where we cannot fail to refer to one of the best-known jurisprudential cases on the use of predictive tools, namely the Supreme Court v. Eric L. Loomis (2016)[9], whose protagonist was sentenced on the basis of the results of predictive algorithms embedded in COMPAS software[10].

From a technical point of view, the COMPAS software was used to calculate the risk of general and violent recidivism and the risk of default. the central theme that then characterized the discussion on COMPAS, i.e. the possible racial disparity, was the subject of an analysis which concluded that any biases present would be of a modest entity, however not managing to avoid the criticisms on a conceivable risk of discrimination against the African American population.

A great deal of attention has been paid to this case since it constitutes the pivot of many of the scientific discussions on predictive justice, which concern both the explainability of algorithms and algorithmic fairness.

In recent decades, in fact, there has been an increasing diffusion of predictive algorithms used in the US judicial administration, with the development of programmes capable of reproducing legal logic in an automated or semi-automated manner, resulting in considerable changes within the entire American judicial apparatus.

Over time, in fact, numerous software has been developed which has contributed to delimiting the state of the art of US semi-automated justice, some examples are, in addition to the COMPAS software, the PATTERN (Prisoner Assessment Tool Targeting Estimated Risk and Needs), SAVRY (Structured Assessment of Violence and Risk in Youth) and FACES (Face Analysis Comparison Examination System) software. Specifically, the PATTERN software, analysed by Italian doctrine[11], has been used to reduce recidivism by better targeting social reintegration programmes and other services to persons in custody in federal prisons. Another example of software used by the US justice system is SAVRY, which was used to identify risk factors for juveniles subject to criminal proceedings[12]. Another type of software that has been used is FACES[13], which has become the subject of controversy *Lynch v. Florida,* in which it was pointed out that the probabilistic nature of the algorithm's results can only offer a percentage probability of the correctness of the face-individual match.

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[8] E. Hine, L. Floridi, *Artificial Intelligence with American Values and Chinese Characteristics: A Comparative Analysis of American and Chinese Governmental AI Policies*, in *AI & Soc*, 2022.

[9] Wisconsin S.C., State v. Loomis, 881, Wis. 2016. In its 2016 judgment, the Wisconsin Supreme Court (State or Wisconsin v. Eric L. Loomis, 13 July 2016) ruled on the appeal of Eric L. Loomis, whose six-year prison sentence had been imposed by the District Court of La Crosse. In determining the sentence, the judges had taken into account the results of the COMPAS (Correctional Offender Management Profiling for Alternative Sanctions) programme owned by Northpointe (now Equivant), according to which Loomis had to be identified as a high-risk offender.

[10] M. Scialdone, *Il caso Loomis e la calcolabilità giuridica*, in L. Viola (cur.), *Giustizia predittiva e interpretazione della legge con modelli matematici*, Milano, 2019, p. 39.

[11] A. Santosuosso, G. Sartor, *La giustizia predittiva: una visione realistica*, in *Giurisprudenza Italiana*, 7/2022, p.1759 ss.

[12] R. Borum, P. Bartel, A. Forth, *Manual for the structured assessment for violence risk in youth (SAVRY): Version 1.1.,* 2003

[13] In 2019, the non-profit organisation State Watch, active in the field of publico-monitoring, reported that the FACES system contains about 33 million mugshots and is consulted about 8,000 times a month. (https://www.statewatch.org/media/documents/news/2016/oct/usa-perpetual-lineup-face-recongition-database-report-10-16.pdf.)

In the light of the examples described above, which have led to visible practical results, helping to make crime control and surveillance mechanisms more efficient, we are witnessing the creation of a judicial control based on both predictive justice and predictive policing[14], which progressively reduces the margin of discretion reserved for the judge, and which is in danger of increasingly turning into a social control implemented with the aid of predictive algorithms aimed at crime prevention, which covertly may even come to justify racist attitudes[15].

In fact, in October 2021, the White House Office of Science and Technology Policy called for an AI 'Bill of Rights'[16] to protect certain rights of US citizens from the negative impact of AI.

The AI Bill of Rights is a blueprint for achieving these goals, providing practical guidance to government agencies and a 'call to action' for technology companies, researchers and civil society to build a viable system of rights protection 'together'. As we have known for years, Artificial Intelligence is a powerful technology that has a formidable impact on the lives of all of us. An impact that can, moreover, cause serious harm that often disproportionately affects minorities (primarily ethnic and gender).

Recently, on 4 October 2022, US President Biden unveiled his 'Blueprint for an AI Bill of Rights', an ambitious overseas project outlining certain protections Americans should have in the age of Artificial Intelligence.

This is because the United States, home to some of the world's largest AI and technology companies, has so far been one of the few Western nations to have not yet formulated clear and precise guidance on how to protect its citizens from the harms of Artificial Intelligence.

The announcement includes a public request for information, which states that technology can only work for everyone if everyone is included, as non-inclusiveness can lead to generalised and unconscious government control over US citizens.

The approach taken by the United States on the role and application of AI has undergone a more practical turn with the advent of Biden's presidency, although in some respects it still remains oriented towards the free market, which emphasizes the value of leadership and American innovation and close collaboration with allies.

The progressive spread of artificial intelligence algorithmic systems in the justice administration sector has meant that the technology, apparently seen in a neutral and objective way, has been used both by US police departments[17], through the use of predictive software policing[18], both by the courts, through the use of predictive justice software[19], as a tool to assist judges in their decision-making process, assisting them and, sometimes, replacing them both in the preliminary and procedural phases of the various civil and above all criminal trials[20].

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[14] For a definition of *predictive policing* see W.L. Perry, B. McInnis, CR C. Pric-S C. Smith, J.S. Hollywood, *Predictive Policing. The role of crime in law enforcement operations,* Santa Monica, 2013, according to which "predictive policing is the application of analytical techniques -particularly quantitative techniques – to identify likely targets for police intervention and prevent crime or solve past crimes by making statistical predictions". As pointed out by the doctrine, the activities referable to predictive policing extend far beyond investigations aimed at establishing liability for a specific criminal act. The objective, in fact, is not to repress illegitimate behaviour but to prevent the commission of the offence itself, anticipating the potential perpetrator through the predictive capacity available to the machines: A. Asworth, L.Zedner, *Preventive Justice*, Oxford, 2015, p. 30.

[15] National Institute of Justice, *"2021 Review and revalidation of the First Step Act Risk Assessment Tool",* p. 43.

[16] The White House Office of Science and Technology Policy announced a 'Bill of Rights' in 2021 that would identify guarantees and freedoms that must be respected in the use of new technologies. On 4 October 2022, President Biden unveiled his "Blueprint for an AI Bill of Rights Making Automated Systems work for the American People" (https://www. Whitehouse.gov/wp-content/uploads/2022/10/Blueprint-for-an-AI-Bill-of-Rights.pdf.).

[17] https://www.rand.org/content/dam/rand/pubs/research_reports/RR200/RR233/RAND_RR233.pdf

[18] L. Algeri, *Intelligenza artificiale e polizia predittiva,* in Diritto Penale e processo, vol.27, 6/2021, p.724 ss.

[19] https://www.govinfo.gov/content/pkg/FR-2021-10-08/pdf/2021-21975.pdf

[20] B. Perego, *"Predictive policing: trasparenza degli algoritmi, impatto sulla privacy e risvolti discriminatori",* in *BioLaw Journal - Rivista di BioDiritto*, 2/2020, p. 447 (file:///C:/Users/chiar/Downloads/admin-unitn,+25+ PEREGO_rev%20(1).pdf).

If it is true that AI-related techniques generate a number of problems when used by law enforcement agencies, the situation is even more delicate when they are made available to the judiciary[21]. Among these new AI techniques that are being used, we can include both tools that group together similar cases and bring them to the judge's attention in order to favour a certain homogeneity in decisions, making a prediction, and automatic legal reasoning tools aimed at verifying the arguments adopted by the judge in his reasoning, with the risk therefore of moving from support to outright replacement.

In the North American system, the adoption of predictive algorithms found its genesis in the aftermath of the 1984 reform of sentencing guidelines[22], which adopted the retributive just-desert principle[23], which requires that the penalty be proportionate to the unjust advantage that the offender has derived from the violation of the law[24]. That is, in the case of the repeat offender, with respect to the first offender, this unfair advantage may be seen as acquiring more than one's fair share of the unfair advantage[25].

In recent decades, systems based on predictive algorithms have been increasingly used by the US judiciary, especially in the criminal justice system, when it comes to calculating a 'risk', for instance resulting from the possibility of recidivism of the same individual, or when it comes to applying a security measure, precautionary measure or preventive measure, or even to granting a suspended sentence or probation to social service.

These instruments currently guide a number of correctional decisions and are increasingly used both in decisions on pre-trial detention and in the assessment of the size of the criminal sentence at sentencing. The underlying logic is that if criminal behavior can be accurately predicted, it is possible to allocate resources accordingly with regard to both re-education and prison sentences.

The so-called evidence-based assessment of criminal dangerousness therefore presupposes the identification of a number of factors that are directly involved in criminal behavior and that may concern age, gender, ethnic origin, level of schooling, family and work situation, level of income, criminal record, previous prison experiences, places and people frequented, the presence of offenders in the family circle or in the network of acquaintances, place of residence, a history of previous violence, a history of hospitalization, certain contextual variables in the family and/or social environment, drug or alcohol consumption[26].

All these factors, static and dynamic, individual and social, once collected and statistically weighted, can be combined according to an actuarial approach to obtain 'scales' that attribute a dangerousness score to the subject under investigation.

However, nowadays, these actuarial evaluations, and before that the collection and processing of data that allow the preparation of risk scales, are entrusted to artificial intelligence systems, i.e. to

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[21] A. Santosuosso, *Intelligenza Artificiale e diritto. Perchè le tecnologie di IA sono una grande opportunità per il diritto*, Milano, 2020, p. 21.

[22] In 1984, the United States saw the enactment of the Sentencing Reform Act (SRA) and the establishment of the United States Sentencing Commission (USSC). The Sentencing Reform Act of 1984 reformed the federal sentencing system by abandoning rehabilitation as one of the goals of punishment; creating the US Sentencing Commission and charging it with establishing sentencing guidelines; making all federal sentences determinate; and authorising appellate review of sentences. With regard to the sentencing phase, the considerable discrepancy between the quantum of penalties imposed by different judicial offices, in relation to similar facts, had raised serious concerns about the ability to ensure a fair and proportionate system of justice for the entire federal territory: for more details see R.A. Posner, *Reflections on Judging*, 2013, p.60.

[23] J.J.Sloan, J.Langly Miller, *Just Deserts, The Severity Of Punishment And Judicial Sentencing Decisions,* in *Criminal Justice Policy Review*, 4(1)/1990, p. 19 ss.

[24] D.A. Starkweather, *The Retributive Theory of "Just Deserts" and Victim Partecipation in Plea Bargaining,* in *Indiana Law Journal*, 67/1992, p. 853.

[25] R. Werth, *Risk and punishment: The recent history and uncertain future of actuarial, algorithmic, and "evidence-based" penal techniques*, in *Sociology Compass* (Wiley Online Library), 10 January 2019.

[26] *Ibid.*

predictive algorithms[27], provided by self-learning procedures based on machine learning[28] and endowed with an extraordinary capacity and rapidity in bringing out relationships, coincidences, correlations, behavior patterns that allow an automatic, but highly debated, assessment of criminal dangerousness[29].

Since these models are generated on the basis of statistical correlations, not causal links, transforming correlative intuitions into causal scoring mechanisms can run the risk of generating errors. Moreover, since most risk assessment algorithms are the property of the companies that developed them and therefore covered by industrial secrecy, it is impossible to analyze how a certain risk score was calculated. The problem is that a machine, unlike a human being, does not explain the reasons for its decisions, and therefore it is impossible to understand on the basis of which factors a certain judgement is made.

The ultimate result is therefore that predictive algorithms run the risk of sterilizing and legitimizing oppressive judicial and ultimately political systems[30] aimed at assessing social dangerousness, leading increasingly to judicial control that tends to translate into social control.

The judgement of social dangerousness, especially in its prognostic part, can inherently provide pseudo-scientific bases for various forms of discrimination and being calculated by means of predictive algorithms, it is still a judgement of probability that inevitably clashes with the bulwark of legal certainty.

Evidence-based decisions regarding social dangerousness presuppose the prior identification of a number of risk factors involved in criminal behavior. The risks associated with the use of predictive algorithms are to be found in the fact that the algorithm itself is conceived and interpreted by a human and can therefore reproduce unjustified social preconceptions, reinforcing implicit stereotypes. The algorithm thus exacerbates the problems and limitations of the risk assessment mechanisms themselves and, in particular, of ascertaining social dangerousness[31].

In fact, the emergence and proliferation of tools that are based on risk calculation[32] is structurally reshaping the US justice system, especially in the criminal justice field[33], ushering in the era of so-called actuarial justice, based on the application of AI to justice[34].

The assessment methods used in criminal justice are gradually moving away from the traditional clinical approach, based on a psychological analysis of the dangerousness of the subject, towards statistical methodologies, which assess the riskiness of the actuarial category to which the defendant or offender belongs, or so it is assumed on the basis of the available data. This shift not only de-individualizes the assessment process, but also shifts the emphasis from the goal of re-educating offenders to the management/administration of individuals classified in various risk groups[35].

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[27] Consider, by way of example only, VPRAI (Virginia Pretrial Risk Assessment Instrument), PSA (Public Safety Assessment), ORAS (Ohio Risk Assessment System), CAIS (Correctional Assessment and Intervention System, LS/CMI (Level of Service/Case Management Inventory).

[28] U. Ruffolo, *Intelligenza artificiale, machine learning e responsabilità da algoritmo,* in *Giurisprudenza Italiana,* 7/2019.

[29] For more information, see: R.Jorgensen, *Algorithmic and the Individual in Criminal Law*, in *Canadian Journal of Philosophy*, 52/2022, p. 62; A.M.Maugeri, *L'uso di algoritmi predittivi per acccertare la pericolosità sociale: una sfida tra evidence based practices e tutela dei diritti fondamentali*, in *Arch. Pen*., 1/2021, p.2; K. Freeman, *Algorithimic Injustice: How the Wisconsin Supreme Court Failed to Protect Due Process Rights in State v. Loomis*, in *N.C.J.L. & Tech*, 2016, p. 78; T. Kyckelhahn. T.C. Cohen, *Felony Defenandants in Large Urban Counties. State Court Processing* Statistics 2001, in *Bureau of Justice Statistics*, April 2008; P.A.Langan, D.J.Levin, *Recidivism of Prisoners Released in 1994*, *ibid*., June 2002.

[30] J.M.Hofman, A. Sharma, D.J. Watts, *Prediction and explanation in social systems*, in *Science*, 2017, p. 468 ss.

[31] A. M. Maugeri, *L'uso di algoritmi predittivi* , cit.

[32] W. L. Perry, B. McInnis, CR. C. Pric.- S.C.Smith, J. S. Hollywood, *Predictive Policing,* cit.

[33] G. Contissa, G. Lasagni, G. Sartor, *Quando a decidere in materia penale sono (anche) algoritmi e IA: alla ricerca di un rimedio effettivo*, in *Dir. di Internet*, 4/2019, p. 621 ss.

[34] F. Basile, *Intelligenza artificiale e diritto penale: quattro possibili percorsi di indagine,* in *Diritto penale e uomo*, Milano, 2019, p.27.

[35] D. Garland, *The culture of control: crime and social order in contemporary society*, Oxford 2001, p. 313 ss.

The legal system is abandoning the goal of normalizing individuals in favor of identifying and managing populations[36], leading to social control implemented by means of judicial control based on algorithmic decisions.

In jurisdictions that adopt risk assessment algorithms, where the jurisdiction has decided to adopt them, the judge is required to use them and thus the AI assists the judge in both pre-trial and sentencing decisions[37]. The elements necessary for the software to calculate the risk score are provided by the prosecution, together with all material considered relevant for this type of decision. The decision-making algorithms may be free or paid for, open or covered by trade secret[38]. The two most studied and popular decision-making algorithms in the United States in the criminal field are the PSA and COMPAS.

The PSA (*Public Safety Assessment*) is a preventive justice software was developed by the company Arnold Ventures[39] based on the largest and most diverse set of pre-trial records ever collected. It is therefore a free software designed to assist criminal judges in pre-trial decisions, which have enormous consequences both for the individual accused of a crime and for the community at large.

Since the US Supreme Court has ruled that pre-trial liberty is the norm and incarceration should be the carefully limited exception, the company Arnold Ventures that created the software felt that the key factor to consider when making these pre-trial decisions is the likelihood that the person will not flee the jurisdiction and/or pose a danger to others and, far from secondary, that a person's inability to post bail should not determine whether they remain in jail or are released.

Since its development in 2013, the PSA has been implemented in dozens of jurisdictions across the United States of America including the states of Arizona, Kentucky and New Jersey, and in some of the largest cities such as Phoenix, Chicago and Houston.

On the other side, COMPAS (*Correctional Offender Management Profiling for Alternative Sanctions*) is by far the most famous and widely used predictive algorithm in the United States[40], the protagonist of the famous Supreme Court case of Wisconsin v. Eric Loomis[41] and now a school case for both common law and civil law systems. It is a software program developed and marketed by a private company, whose operating mechanism is not publicly known and therefore its scientific truth cannot be ascertained.

The software generates risk scales for general recidivism, violent recidivism and pretrial misconduct.

Specifically, the Pretrial Release Risk Scale measures the likelihood that a defendant will not appear in court for hearings and/or commit new offences during release: the most significant indicators influencing risk scores are current charges, pending charges, previous arrests, past pre-trial misconduct, residential stability, employment status, community ties and substance abuse[42].

The General Recidivism Scale is designed to predict new offences upon release and after the COMPAS assessment: it uses the criminal history of the individual and the people he or she associates with, involvement in drug addiction and indicators of juvenile delinquency.

COMPAS takes into account, in its basic configuration, the answer to 137 questions, concerning e.g. criminal history, misdemeanors and offences committed, but also economic problems,

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[36] M. Gialuz, *Quando la giustizia penale incontra l'Intelligenza artificiale: luci e ombre dei risk assessment tools fra Stati Unii ed Europa*, in *ArchivioDPC*, 2019, p. 2.
[37] M. Luciani, *La decisione giudiziaria robotica*, in *Rivista AIC*, 3/2018.
[38] A. A. Martino, *Chi teme i giudici robot,* in *Rivista italiana di informatica e diritto*, 2/2020.
[39] Arnold Ventures is a charity dedicated to addressing some of the most pressing issues in the United States. was founded by Laura and John Arnold in 2010 and their primary mission is to improve the lives of American citizens by investing in evidence-based solutions that maximize opportunity and minimize injustice (https://www.arnoldventures.org/).
[40] G. Scorza, *Processi al futuro. Quando la tecnologia ha incrociato il diritto*, Milano, 2020, p. 21.
[41] *State v. Loomis*, 881 N.W.2d 759 (Wis. 2016).
[42] M. Scialdone, *Il caso Loomis e la calcolabilità giuridica*, cit., p. 39.

difficulties encountered at school, socialization deficits, social isolation, which are either provided directly by the individual to be assessed or are searched in various police files and registers.

In 2014, U.S. Attorney General Eric Holder warned that algorithms such as the PSA and COMPAS could incorporate bias, just like individuals, and asked the U.S. Sentencing Commission to study their use, stating that predictive algorithms themselves can generate unjustified and unfair disparities within the criminal justice system and U.S. society.

The U.S. Sentencing Commission did not take action, but a journalistic investigation by ProPublica[43] launched a study on the fairness of COMPAS scales. The software proved to be remarkably unreliable in predicting violent crimes, and ProPublica discovered significant racial disparities, in that in predicting who would be responsible for new crimes, the algorithm made errors by discriminating against white and black defendants. This means, in essence, that in all American courts where COMPAS was used, blacks were invariably subjected to more repressive treatment than whites, even when they would not commit new crimes[44].

To challenge the results obtained by ProPublica, Northpointe, the company that owns the algorithm, argued that persons whom the police classified as African-American had been re-arrested more often in the software's training dataset, and that consequently the system was justified in predicting that other persons classified as African-American by the police, even in a different city, state and time period, were more likely to be re-arrested, because the software incorporates a bias that is hidden in one set of statistics but clearly visible in another[45].

Consequently, given that an algorithm used in the sentencing process could potentially do better than an overtly bigoted human judge[46], this application of AI to justice could also obscure the history and context of bias and hinder, or even preclude, progress, leading to an increasingly tight and stifling control of society operated through algorithmic decisions.

Yet, the myth of legal certainty, which contributes greatly to the development of the idea of law based on the calculability/algorithmic measurability of its applications[47], ensures that the digital justice machine does not grind to a halt; on the contrary, it leads to the development of robotic decisions aimed at judicial control and likewise to the development of computational thinking, which often turn out to be devoid of ethical foundations[48].

It is therefore evident that, although the data produced by the algorithm is only one of the elements that the judge has in his hands to make his assessment, its weight becomes decisive with respect to the others, given the pressure present within a judicial system that is pushing in favour of the use of predictive algorithms, to the extent that the machine replacing the judge cancels his typical function of *ius dicere*, moving more and more towards the widespread approval of new technologies at the level of dominant thought.

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[43] ProPublica is an American non-profit organization, based in Manhattan, which aims to produce investigative journalism in the public interest. It was the first online newspaper to win a Pulitzer Prize in 2010 for an article written by one of its journalists and published not only on its official website, but also in the New York Times Magazine. ProPublica states that its investigations are conducted by its staff of full-time investigative journalists and that the full-time investigative journalists and that the resulting reports are distributed to journalists for publication or broadcast. In some cases, journalists from ProPublica and its partners have worked together on a story. ProPublica has collaborated with more than 90 different news organizations and has won four Pulitzer Prizes. Pro Publica produced a substantial report in which it supported the statistically incorrect and discriminatory nature of the risk assessments produced by COMPAS in V.J.Larson, S. Mattu, L,Kirchner, J.Angwin, *How We Analyzed the COMPAS Recidivism Algorithm",* (https://www.propublica.org/article/how-we-analyzed-the-compas-recidivism-algorithm).

[44] V. Chao, *Predicting Proportionality: The Case for Algorithimc Sentencing*, in Criminal Justice Ethicsp, 2018, p.239.

[45] A.W. Flores, C.T. Lowenkamp, K. Bechtel, *False Positives, False Negatives, and False Analyses: A Rejoinder to "Machine Bias: There's Software Used Across the Country to Predict Future Criminals. And it's Biased Against Blacks,* 2016 (https://www.crj.org/assets/2017/07/9_Machine_bias_rejoinder.pdf).

[46] S. Quattrocolo, *Quesiti nuovi e soluzioni antiche? Consolidati paradigm normative vs. rischie paure della giustizia digitale predittiva*, in *Cass. Penale,* 59(4)/ 2019, p. 1748 ss.

[47] N. Irti, *Un diritto incalcolabile*, Torino, 2016, p. 12 ss.

[48] S. Rodotà, *Elaboratori elettronici e controllo sociale*, ristampa anastatica, Napoli, 2018.

The legislative framework should be applied more strictly in the technological context in order to provide more protection for citizens. Artificial intelligence systems that analyze behavioral data, online and offline, are said to make citizens transparent, to reveal their unconscious habits and desires[49]. Well, one should go in the opposite direction, that of making data processing systems transparent to humans: machine decisions must not and cannot be made in a black box of circuits and bits, inaccessible to human control.

The decision-making process must be comprehensible and explainable, otherwise it would be like entrusting our fate to an impenetrable oracle[50].

On the basis of the observations just made, in an effort to conduct a factual investigation, an attempt was made to analyse, in part, the current situation of predictive justice in the United States, focusing on predictive instruments of judicial review, which are increasingly able to mediate between the suppression of crime and the prevention of crime within US society[51].

More generally, the preceding observations lead us to reflect on the use of AI tools within the US justice system, and on the many problems, questioning whether they could become a sort of instrument of socio-juridical control, going so far as to consider individuals only as potential risks to be monitored and assessed, and progressively reducing the discretion of judges, who would find themselves validating the results of predictive algorithms, with the risk of increasing a model of justice that implements, through algorithmic decisions, real measures of social control.

3. The case of the People's Republic of China

The pressure of litigations in China is on a rise: in a white paper issued in 2016 by the Supreme People's Court (SPC), the China's highest judiciary body noted a double-digit increase year-on-year, registering more than 16 million cases filled in courts[52]. To confront this trend, ICTs and informatization of the judiciary[53] have been key targets of the Chinese government – and Communist Party (CPC) – strategy to reform and change the ways in which justice is administered and delivered to the public and to deepen the 'reforms and opening up' (*gaige kaifang*改革开放), with the purpose of building a 'judicial mechanism that is open, dynamic, transparent, and convenient and improve public understanding, trust, and supervision of the judicature'[54].

In July 2015, the informatization 3.0 (*xinxihua* 信息化3.0) of People's tribunals took the shape of 'Smart Courts' (*zhihui fayuan* 智慧法院)[55], inserted in a comprehensive network of Internet-related

[49] C. Giannaccari, *Il processo civile nell'era digitale. Spunti di diritto comparato*, Roma, 2020, p. 623 ss.
[50] R. Susskind, *Online courts and the future of Justice*, cit., p. 60.
[51] E. Quarta, *Giustizia e predizione: l'algoritmo che legge il futuro*, in *Giustizia Insieme*, 2019 (https://www.giustizia insieme.it/en/cultura-e-societa/600-giustizia-e-predizione-l-algoritmo-che-legge-il-futuro)
[52] Supreme People's Court, *White Paper on Judicial Reform of Chinese Courts,* Feb. 2016.
[53] Electronic justice (e-justice) has been developing in China since 1986, when the first computers were introduced into the courts, achieving the goal of having at least one computer per courts in 2005. See L., Lu, *Court Informatization in China: Data, Technology, and Management* (中国的法院信息化:数据、技术与管理), in *Law and Social Sciences* (法律和社会科学), 2/2016; X. Jiang, *Earnestly Implementing the scientific outlook on development to promote the comprehensive and coordinated development of the work of courts*, in *People's Justice*, 1/2006, pp. 4-8; C. Jin, *All for the trial - the Supreme People's Court Using Information to Support the Trial*, in *Computer Weekly*, 15/2015, pp. 22-23.
[54] Opinions of the Supreme People's Court no. 3/2015 (法发 [2015] 3号) on "Deepening Reform of the People's Courts Comprehensively: Outline of the Fourth Five-year Reform of the People's Courts" (2014-2018) (最高人民法院关于全面深化人民法院改革的意见-人民法院第四个五年改革纲要(2014—2018), translated in English by Chinese Law Translate at https://www.china lawtranslate.com/en/court-reform-plan/.
[55] Supreme People's Court, *Informatization construction: full-service online intelligent services* (信息化建设：全业务网上办理 全方位智能服务) March 2018. This juridical relevant act was preceded by discourse of the President of the Supreme People's Court, reported in L. Shuzen, *Adhere to the demand and problem-oriented cracking problems to fill the shortcomings to promote the transformation and upgrading of the People's Courts' digital construction*, in "Zhongguo Fayuan Wang" (中国法院网), 2016.

strategies – from *Internet+* (*Hulianwang+* 互联网+)[56] to the so called 'Great Firewall of China'[57] – that aim to improve the digitalization, securization, and standardization of Chinese governmental and judicial practices, along with society.

In fact, informatization construction was defined in the Opinions no. 3/2015 of the SPC as a "systematic project", according to which People's Courts should "rely on modern artificial intelligence [...] focus on justice for the people, adhere to the integration of judicial law, system reforms and technological changes, and support judicial trials, litigation services and judicial management in a highly informatized manner"[58]. In particular, Smart Courts were defined as "a form of organization, construction and operation in which People's Courts make full use of advanced informatization system to support online handling of all businesses, lawful openness of whole process and all-around intelligent services and to realize impartial justice and justice for the people"[59].

These Opinions were followed by the seminal "New Generation Artificial Intelligence Development Plan" issued by both the Central People's Government and the CPC Central Committee, where the two highest bodies of the Party and the State elucidate that Smart Courts are 'a set of trial, personnel, data applications, judicial disclosure, and dynamic monitoring into an integrated court data platform [that] promote[s] AI applications, including in evidence collection, case analysis, and legal document reading and analysis'[60]. As it was assessed by well-awared scholars, these artificial intelligence-assisted auxiliary systems has been providing 'powerful support for judges' thinking' without 'replacing judges'[61]. At the contrary, in general jurisdiction, the Chinese judiciary can use two combining tools: the 'traditional human wisdom' (*chuantong de renlei zhihui* 传统的人类智慧) and new intelligent technologies'[62] (*xinxing de zhineng jishu*新型的智能技术).

Courts throughout China started to experiment also robots empowered with AI to help people in physical courts, as in the case of *Xiaoyu* (namely "Drizzle", 小雨), the first litigation guide-robot developed by the People's Court of Yushan District, Ma'anshan City, Anhui Province[63].

In addition to robotic helpers, what is most worth noting here is the unique experience of the "Internet Courts" (*hulianwang fayuan*互联网法院). These Courts represent the most avant-garde courts in China's Smart Courts system, set up to resolve online disputes in a time and cost-effective way. Given that these courts are positioned in strategic commercial and financial hubs, their potential is enormous. In fact, it is not by chance that the first Internet court established in China on August 18, 2017 is located in Hangzhou, capital of Zhejiang Province, e-commerce hub district, and home of Jack Ma's tech giant Alibaba[64].

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[56] Cf. G. Negro, *Internet plus: un progetto strategico per lo sviluppo tecnologico*, in *TWai*, 2016.

[57] For an analysis of the policy, see R. Clayton, S.J. Murdoch, R.N.M. Watson, *Ignoring the Great Firewall of China*, in G. Danezis, P. Golle (eds.), *Privacy Enhancing Technologies* , 6th International Workshop, PET 2006, Cambridge 2006, p. 20 ss.

[58] Supreme People's Court, *Informatization construction: full-service online intelligent services*, March 2018.

[59] Opinions of the Supreme People's Court no. 12/2017 (法发 [2017] 12) on "Accelerating the Construction of Smart Courts" (最高人民法院关于加快建设智慧法院的意见).

[60] Notice of the State Council of the People's Republic of China no. 35/2017 (国发 [2017] 35号) on the Next Generation Artificial Intelligence Development Plan (国务院关于印发新一代人工智能发展规划的通知). The implementation in civil and administrative procedues is described in Y. Cui, *Artificial Intelligence and Judicial Modernization* (人工智能与司法现代化), in Shangai People's Publishing House (上海人民出版社), 2019, pp. 238 ff, where the A. found that in these areas, after modular handling, information about case facts, litigation grounds, defense claims and other related fields are extracted by the system, and the evidence required for the facts to be proved is compared intelligently, thus indicating the absence of evidence and making pre-judgment of evidence compliance. For a comparision between the PRC's Plan and the European Union's "Ethics Guidelines for Trustworthy AI", see M. Timoteo, B. Verri, W. Yukai, *Ethics Guidelines for Artificial Intelligence: Comparing the European and Chinese Approaches*, in "China and WTO Review", 7(2)/2021, 305-330.

[61] Y. Shuai, *The Pratical Possibility and Essential Limitation of Artificial Intelligence Assisted Judicial Adjudication* (人工智能辅助司法裁判的现实可能与必要限度), in Journal of Shandong University (Philosophy and Social Sciences Edition), issue 4, 2020, p. 109.

[62] *Ibid.*, p. 110.

[63] CCTV Today's Talk, (from "Today's Statement"), *Sa Bening talks with the country's first guiding robot "Xiaoyu" and her "dad"*, March 2017.

[64] Supreme People's Court, *Notice on the Proposal of the Establishment of Hangzhou Internet Court*, August 2017.

The Hangzhou Internet Court was followed by the establishment of the Beijing Internet Court and the Guangzhou Internet Court, on September, 2018. In its first year of operation, the Hangzhou Internet Court handled more than 11,000 cases and concluded more than 9,600, with an average trial duration of 38 days, about 50 percent shorter than conventional courts[65].

The three Internet Courts have 'centralized jurisdiction' over Internet-related civil and administrative cases 'originally under the jurisdiction of Basic People's Courts''[66], with their respective Intermediate People's Courts as appellate bodies for first-instance judgements[67]. As for their subject-matter jurisdiction, the Internet Courts have the power to hear eleven different kinds of claims spanning from disputes on contracts performed to e-commerce platforms to IPRs infringements; from the infringements of personal rights to disputes arising from administrative actions[68].

Throughout the proceedings before the Internet Courts[69], extensive use is made of the most advanced technologies, such as AI, viewed as a 'tool for judicial productivity'[70] but also as 'an integral part of the country's strategic response to slowing economic growth [...] motivated by a pervasive belief in nationalist vindication through technological innovation'[71]: since the first stage of the proceedings, parties – and in particular the biggest one, such as e-commerce platform operators or network service providers, as well as State agencies – are required to provide any kind of data in a platform, protected by blockchain technology and managed by the Internet Courts[72], in compliance with the Cybersecurity Law of the People's Republic of China and other laws and regulations, such as the newly adopted Personal Information Protection Law[73].

Evidence, even analogical one, is gathered and uploaded into the litigation platform for proof[74]. Every party is capable of asking Internet court for reviewing and determining the authenticity in the process of generation, collection, storage and transmission of electronic data based on cross-examination. Most notably, authenticity can be proved 'though electronic signatures, trusted timestamps, hash value verification, blockchain technology and other evidence collection, or through electronic forensics and storage platform authentication'[75].

Online court hearings are scheduled. To ensure that parties are aware of the scheduled time of the trial, judges and AI can also select the "remind" button to remind it and the system will automatically

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[65] Xinhua, *China first internet court handles over 10,000 cases*, Aug. 2018.

[66] Hangzhou Internet Court, *Guidelines Regarding the Litigation and Jurisdiction of Internet-involved Cases*, Article 1.

[67] Provisions of the Supreme People's Court no. 16/2018 (法释〔2018〕16号) on "Several Issues Concerning the Trial of Cases by the Internet Courts" (最高人民法院关于互联网法院审理案件若干问题的规定), Article 4. Given the normative nature of these "Legal Interpretations", according to the usual translation of the Chinese terminology (**法**释), in this case we prefer to adopt the term 'Provisions' as the most suitable translation.

[68] Article 2, SPC Provisions no. 16/2018.

[69] Including the "online mediation" stage, which is expressly provided in Article 7, Procedures for Trial of Litigation Platform of Hangzhou Internet Court (杭州互联网法院诉讼平台审理规程), released on September 7, 2018 (hereinafter "HZ Rules (2018)").

[70] Z. Xu, Y. Zhao, Z. Deng, *The possibilities and limits of AI in Chinese judicial judgment*, in *AI & Society*, 2021, p. 10, where at the end the authors estimate the need for a 'reasonable regulation of algorithms is to reduce the opacity of algorithms to the greatest extent and interfere with technological progress to the minimum'.

[71] R. Stern, B.L. Liebman, M.E. Robert, A.Z. Wang, *Automating Fairness? Artificial Intelligence in the Chinese Courts*, in *Columbia Journal of Transnational Law*, 59/2021, p. 530.

[72] Article 5, SPC Provisions n. 16/2018. Blockchain technology has helped plaintiffs to save and collect evidence with drastic reduction in costs and time. Similar systems were launched also by the Hangzhou Internet Court and Guangzhou Internet Court. Zhejiang Province also launched in mid-2020 China's first mobile tool that uses blockchain technology to obtain evidence on mobile applications, called "City Regulation Chain" (*Shi Jian Lian* 市监链). This blockchain application is reported to have provided more than 167,000 market regulation and enforcement officers with over 33,000 pieces of fixed evidence on the webpages, see Cf. Y. Chen, 2021, *Zhejiang Launches First Blockchain APP for Evidence Collection*.

[73] For the bibliography on the topic, please refer to the contents in D. Clementi, *La legge cinese sulla protezione delle informazioni personali: un GDPR con caratteristiche cinesi?*, in Rivista di diritti comparati, vol. 1/2022, p. 189 ss.

[74] Article 9, SPC Provisions n. 16/2018.

[75] Article 11, SPC Provisions n. 16/2018.

schedule the time and send it to the parties' mobile phones[76]. The entire online trial is recorded by audio-visual means[77]. Intelligent voice recognition system is put into service for trial transcriptions[78].

Court sessions are held in the form of online video and, only in special circumstances, the Internet Court may decide to hold sessions offline[79]. Simple civil cases in which facts are clear are summarily decided for trial[80]. AI technologies are used to make online judgement documents, which are automatically generated by the litigation platform itself[81]. AI has enabled the Internet Courts to operate 24 hours a day, seven days a week[82].

For understanding the implications of implementation of AI in the Internet Courts, a brief review of the 'White Paper on Trial of Beijing Internet Court' (*Běijīng hùliánwǎng fǎyuàn shěnpàn báipíshū* 北京互联网法院审判白皮书) is necessary.

During its first year of operation, the BJIC had accepted more than 34,000 cases and closed approximately 74 percent of them[83]. More than three quarters of cases accepted are about copyright ownership and infringement disputes, with online shopping contract disputes accounting for 12.3%, online infringement liability disputes, accounting for 7.0%, 387 online service contract disputes, accounting for 1.1%, 173 online shopping product liability disputes, accounting for 0.5%, 155 online financial contract disputes, accounting for 0.4%, 261 administrative cases, accounting for 0.8%, and 46 other cases, accounting for 0.2%.

The performance of the BJIC in handling case timely and effectively is astonishing: the court hearing lasted 37 minutes averagely and the handling of each case lasted 40 days averagely. 98 percent of the rulings were performed automatically, and the first-instance procedure was applied in 95.2 percent of the cases[84].

The BJIC paved the way of 'robot justice', developing and introducing the first AI virtual judge and put it into use. Human-shaped AI judge identifies the key words of the questions raised by the parties involved in various cases and gives corresponding replies. As of August 31, 2019, it had given a total of 662 replies to the parties[85]. Further, with the help of AI and big data, BJIC provides automatic generation of indictments, mediation applications and other documents, accounting for 49 percent of all documents[86]. In the *White Paper*, the Court also stressed the importance of digitalization for the energy conservation and environment protection, reducing carbon emissions and usage of paper thanks to the delivery of judgments and documents via e-mail, SMS, and WeChat[87].

The BIJC formulated guidelines and standards for electronic evidence, establishing a blockchain platform called "Balance Chain" (*Tianping lian*天平链), under the guidance of the Beijing Internet Court and in cooperation with the National Information Security Development Research Center, Baidu, Trustdo Technology and other leading blockchain institutions in China[88].

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[76] Article 27, HZ Rules (2018).
[77] Article 33, HZ Rules (2018).
[78] Article 34, HZ Rules (2018).
[79] Article 12, SPC Provisions n. 16/2018.
[80] Article 18, SPC Provisions n. 16/2018.
[81] Article 36, Procedures for Trial of Litigation Platform.
[82] T. Vasdani, *Robot justice: China's use of Internet courts*, in "LexisNexis", 2020.
[83] Beijing Internet Court, 2019, *White Paper on Trial of Beijing Internet Court* (北京互联网法院审判白皮书), p. 4. Natural persons account for a little less than four fifths of cases. Not surprisingly, 77.7% of cases involve one or more parties that are not located in Beijing. Barely 36 cases involved persons resident in other parts of China (Hong Kong, Macao, Taiwan) or foreigners. Parties involved tend to be young: persons between the age of 18 to 40 account for 79.8% of cases. The oldest party involved was over 80 years old: pp. 6-7.
[84] *Ibid.*, p. 10.
[85] *Ibid.*, p. 16.
[86] *Ibid.*, p. 17.
[87] *Ibid.*
[88] Balance Chain is available at: http://tpl.bjinternetcourt.gov.cn/tpl/. On the homepage, it is stated that "Balance Chain was launched on September 9, 2018. By using the technical characteristics of blockchain itself and formulating application access technology and management specifications, it realizes the credible storage and efficient verification of electronic evidence, reduces the cost of the parties' rights, and improves the efficiency of judges' admissibility of electronic evidence.

In total, more than 160,000 legal documents were served online, including little less than 20,000 judgement papers. The number of payments made online values 10.58 million yuan (or 1,610 million USD)[89].The BJIC has refined the rules for evidence in combination with characteristics of new types of evidence collection means, such as electronic notarization, blockchain, credible timestamp, and cloud evidence[90].

As stated above, IPR infringement disputes represent the vast majority of claims heard by the Beijing Internet Court. Almost the whole Internet-related IPR cases (99,9%) involves copyright ownership, infringement disputes of creative works and violations on online shopping platforms and APPs. In terms of the amount of award per work, the category of movies and movie-like works had the highest number, being 580,000 yuan per work. And the highest award for a single case falls into the category of movie-like works, too, being 1.5 million yuan[91].

In copyright cases concerning popular social media APPs, through AI the Court recognized the status of creative works to DouYin[92], WeChat red packets' talk bubble, emojis, and time-lapse photography. It also conveyed the value of promoting and encouraging the production and communication of such innovative works, and reflecting the quick response of open attitude of the judiciary toward the transformation of technologies and business models in the Internet era[93].

4. Final remarks

The reconnaissance perspective and overview of the state of art in the field of digital justice in the United States of America and the People's Republic of China, while keeping well in mind the relevant differences between these two jurisdictions at both the procedural and substantive levels, undoubtedly reveals a significant convergence on the algorithmic turn of certain tasks in judicial decision-making.

From the analysis conducted so far, it emerges how the relationship between different legal and social contexts and the application of AI to the world of justice inevitably give rise to reflections that suggest a new starting point, in a new social and legal landscape.

In fact, the cases examined in the course of our work, although rooted in different countries and with different peculiarities, are united by the need to reflect on the realisation of a new socio-legal context, increasingly dominated by computational thinking and which is going to undermine the legal paradigms on which the legal systems of both western and eastern countries have been based for years.

This landscape is questioned first and foremost on how the policies of the states in question will respond to the legal concerns posed by AI. In recent years, the United States has demonstrated a wide use of information-gathering technologies and consequent repeated violations of privacy and individual rights. Demands arising from the protection of national security have assumed greater importance than the protection of the individual's right to exclude third parties from their private sphere, through government programmes such as PRISM, ECHELON, which have entered the center of public debate due to their possible implications in mass surveillance. From this point of view, it

Up to now, it has attracted the access of 23 application units from 9 categories, such as technical services, application services, intellectual property rights and financial transactions. The construction and operation of Balance Chain has realized the new model of 'Balance Chain 2.0', which is the unification of "business chain, management chain and ecological chain" by means of social participation and social governance and has created a judicial alliance zone with high social influence, high industrial participation and high security. It has created a judicial alliance blockchain with high social influence, high industrial participation and high security and trustworthiness."

[89] Beijing Internet Court, 2019, *White Paper on Trial of Beijing Internet Court*, p. 14.

[90] *Ibid.*, p. 22.

[91] *Ibid.*, pp. 24-25.

[92] DouYin (抖音) is the Chinese counterpart and official version of popular social network TikTok, launched in China in September 2016.

[93] Beijing Internet Court, 2019, *White Paper on Trial of Beijing Internet Court*, p. 26.

does not seem that the aims pursued by the US are very different from those of the Chinese in the technological application to national security, which has been extended by the Chinese government also to cyberspace[94] and endorsed by its top leadership in the wake of building a 'socialist rule of law' (*shehui zhuyi fazhi* 社会主义法制) which adheres to the 'integration between deepining judicial reform and the application of modern technology so as to continuously perfect and develop a socialist legal system with Chinese characteristics'[95].

Even confronting CPC's sound support, Chinese jurists are conscious of the need of limiting 'the scope and extent of judicial intelligence application', given the fact that such a technology and its actual impact 'may be beyond the imagination and control of the judicial personnel'[96]: for example, also Chinese scholars are mindful of risks within bias-based decision-making processes, as occurred in *Loomis*[97].

However, the difference is evident if one looks at the presence of citizens' associations and activists - active in the US but restricted in China[98] - who campaign against mass surveillance, algorithmic discriminations and thus against the social control established through the application of predictive justice in the two states.

Here, the discriminator between an authoritarian state using AI for control and a state using it to gather information, in order to prevent events that harm national security, lies precisely in the presence of these checks and balances. The West can and should use these technologies for national security, but it must take care that there is adequate account of the voices of citizens, especially those from historically, socially and legally discriminated categories, in order to make those necessary 'counterbalances' to the drive for social control by States.

Nevertheless, in the West there are not only the threats to individual freedom posed by governments, but in the age of the digital economy we find above all the technology giants, such as Google, Amazon, Apple, etc., which have a specific weight that can concentrate power on themselves to influence government policies and condition people's lives and opinions. Moreover, the direct collection of their users' personal data translates into a potential control over people and a strong influence on individual behavior and choices, with a two-pronged attack on citizens: on the one hand from the government and, on the other hand, from the technology giants.

On the contrary, due to China's economic-political structure, Baidu, Alibaba, Tencent (the so-called BATs) are encouraged – if not forced – to be subservient to the will and plans of the Party-State, even to pursue, directly or indirectly, the rights and interests of citizens, such as through the judicial innovations aforementioned or through the recently adopted "three laws of cyberspace", i.e.

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[94] The concept of 'cyber-sovereignty' (*wangluo zhuquan*网络主权) appears in the People's Daily, official newspaper of the Communist Party of China, where it is indicated as an "inevitable question for the very affirmation of national sovereignty in the age of the Internet": Y. Wang – Q. Xin, *Internet sovereignty, an unavoidable issue*, in "People's Daily" (人民日报), 23rd ed., 23/06/2014]. Even before that time, Chinese scholars were aware of the risks posed by the cyberspace to the typical conformation of national sovereignty, due to its characteristics of 'decentralization, openness, internationality, virtuality, and borderlessness' (see: Y. Guo, *Research on International Legal Issues in the Network Society*, Wuhan, 2010, p. 35). Some of them also argued that traditional State's sovereignty – in the sense of 'internal supremacy' (*due nei zuigao* 对内最高) and 'external independence' (*duiwai duli* 对外独立)– had come to an end due to the rapid expansion of multinational corporations, disintegration of national cultural identities, and the loss of the State's territorial jurisdiction and supremacy in its internal space (see: Q. He, *Research on the Private International Law of Electronic Commerce*, Beijing, 2004, p. 188).

[95] N. Chenjing, Z. Mingyu, *Xi Jinping: Firmly Advance the Reform of the Judicial System, Firmly Take the Path of Socialism with Chinese Characteristics*, in Xinhua Net (新华网), 2017.

[96] Y. Shuai, *op.cit.*, p. 108.

[97] See. T. Zhu, *Uncertainty Risks of Artificial Intelligence-Assisted Criminal Adjudication and Its Prevention. Enlightenment from the U.S. Wisconsin v Loomis Case* (**人工智能**辅助刑事裁判的不确定性风险及其防范 — **美国** -**威斯康星州**诉卢米斯案的启示), in Zhejiang Social Sciences (**浙江社会科学**), no. 6, 2018., where the A. refers to COMPAS as a system that shows that 'black offenders are more likely to receive higher risk ratings and receive higher sentences in courts'.

[98] After growing pressure from citizens, the Chinese city of Hangzhou in Zhejiang province was the first Chinese city to prohibit the mandatory use of biometric technologies (including facial recognition) for access to residential communities, see Q. Wang, J. Qin, M. Walsh, *East China Internet Hub Mulls Ban on Facial Recognition in Residential Areas*, in "Caixin Global", October 2020.

the Cybersecurity Law, the Personal Information Protection Law and the Data Security Law[99], creating what has been defined as 'the world's most comprehensive regulatory and administrative system for governing cyberspace'[100].

From all this emerges a basic reflection founded on the application of technology to the legal, economic, and social worlds. Technique in general and the technologies derived from it, seen as neutral tools resulting from human ingenuity, end up losing, despite their application in distant and antithetical social contexts and legal systems, their neutrality, leading to similar applications and results, affecting fundamental rights and freedoms of citizens, especially if they belong to historically discriminated categories – as in the case of the United States of America – or to further limitations for economic operators, as described for the People's Republic of China.

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Abstract

Nell'attuale panorama geopolitico, gli Stati Uniti d'America (USA) e la Repubblica Popolare Cinese (RPC) stanno emergendo come i principali leader del mercato globale nel campo dell'Intelligenza Artificiale (IA), diventata uno degli obiettivi dei governi mondiali con rilevanti applicazioni anche in ambito giuridico. Attraverso una prospettiva comparatistica, si è cercato di offrire una panoramica sullo stato della giustizia digitale, dapprima affrontando le problematiche di natura definitoria attorno al tema dell'impiego delle nuove tecnologie in ambito giurisdizionale, per poi analizzare la giustizia predittiva negli Stati Uniti d'America e la giustizia robotica nella Repubblica Popolare Cinese. Il presente lavoro cerca di analizzare gli effetti dell'utilizzo di una tecnologia apparentemente neutra in due contesti tra loro diversi come quello americano e quello cinese, al fine di riflettere non solo su come la tecnologia, nello specifico la giustizia digitale, influenzi i diversi contesti socio-giuridici, ma anche su come i contesti stessi influiscano sui risultati prodotti dall'IA, notando, da ultimo, profili di convergenza dei due Paesi in esame sulla svolta algoritmica o robotica nei processi decisionali giudiziali, portando alle medesime forme di controllo sociale, nonostante le rilevanti differenze esistenti tra le due giurisdizioni.

Parole chiave: Intelligenza Artificiale, giustizia digitale, forme di controllo sociale, Stati Uniti d'America, Repubblica Popolare Cinese

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In the current geopolitical landscape, the United States of America (U.S.A.) and the People's Republic of China (PRC) are emerging as the main global market leaders in the field of Artificial Intelligence (AI), which has become one of the targets of world governments with relevant applications in the legal field as well. Through a comparative perspective, this paper provides an overview of the state of digital justice, first addressing definitional issues around the topic of the use of new technologies in the judicial field, and then analyzing predictive justice in the United States of America and robotic justice in the PRC. The present paper seeks to analyze the effects of the use of a seemingly neutral technology in two contexts as different from each other as the American and the Chinese, in order to reflect not only on how technology, specifically digital justice, influences different socio-legal contexts, but also on how the contexts themselves affect the outcomes produced by AI, noting, ultimately, profiles of convergence of the two countries under consideration on the algorithmic or robotic turn in judicial decision-making, leading to the same forms of social control, despite the relevant differences between the two jurisdictions.

Key words: Artificial Intelligence, digital justice, forms of social control, United States of America, People's Republic of China

[99] Cf. J. Si, R. Cai, C. Cao, Overview of Chinese Cybersecurity, Data, and Privacy Laws, in Zhong Lun, 2022; G. Pyo, *An Alternate Vision: China's Cybersecurity Law and Its Implementation in the Chinese Courts*, in *Columbia Journal of Transnational Law*, vol. 60(1)/2021, p. 228 ss.

[100] J. Lee, *Cyberspace Governance in China. Evolution, Features and Future Trends*, Paris, 2022, p. 3.