Artificial Intelligence and the Crises of Judicial Power: (Not) Cutting the Gordian Knot?

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Abstract

Courts across the world are experiencing efficiency and contestation crises. In this context, the question emerges as to the role of automated decision-making and artificial intelligence in addressing and potentially solving these very crises of judicial power. The relationship between digital technologies and judicial power is multi-layered and dynamic. Courts can be both *users* and *regulators* of technologies. As users, courts can rely on automated decision-making and artificial intelligence to perform their activities. When algorithmic automation is incorporated in courts' systems, the guardians of the law are exposed to the ordering power of technology, which, in turn, shapes judicial power. But courts also find themselves increasingly involved in solving legal questions on the use of digital technologies. In so doing, judges regulate algorithms by way judicial interpretation. The chapter illustrates that automated decision-making and artificial intelligence do not offer complete solutions to the crises of judicial power. While these technologies certainly have the potential to solve these crises, they fail to do so because of the complexity of judicial power, requiring high standards of meaningful participatory governance and contestability, and the societal forces that underpin judicial authority and legitimacy.

1. Introduction: the cris(e)s of judicial power

Not so many years have passed since the infamous newspaper headline depicting the judges of the UK High court who ruled in the *Miller* case[1] as the 'Enemies of the people'. In October 2023, an Italian newspaper criticised judges at the Tribunal of Florence who found that some asylum seekers from Tunisia could not be deported to their country of origin, labelling them as 'anti-Italian'.[2] These are just some the manifold examples illustrating the critiques judges and, more broadly, justice systems around the world are experiencing. Two main criticisms have emerged.

First, numerous problems affecting the functioning of judicial systems have led to criticisms regarding courts' efficiency. Several reports indicate the decline in prompt justice delivery, as well as the parallel increase in litigation.[3] Further drawbacks are the increasing duration of

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[1] [2016] EWHC 2768 (Admin).

[2] La Verità, 'Altri 3 Giudici Anti Italiani: "No al rimpatrio in Tunisia' 5 October 2023 https://www.politicanews.it/quotidiani/la-verita-altri-3-giudici-anti-italiani-no-al-rimpatrio-in-tunisia-116673.

[3] European Commission, 'The 2023 EU Justice Scoreboard' https://commission.europa.eu/system/files/2023-06/Justice%20Scoreboard%202023_0.pdf; National Audit Office, 'Efficiency in the Criminal Justice System' March 2016 https://www.nao.org.uk/wp-content/uploads/2016/03/Efficiency-in-the-criminal-justice-system.pdf.

proceedings,[4] a growing backlog of cases,[5] and the stark increase in courts' fees.[6] While these issues affect courts in the world in different ways, they nonetheless reflect a global trend.[7] A response to the challenges was the establishment of alternative dispute resolution (ADR) mechanisms.[8] In turn, the advancement of ADR has led to further marginalising, if not undermining, court's judicial power.[9]

Alternatively, courts have been attacked for their liberal interpretation of the law, coupled with the expansive role of human rights.[10] Such narratives appear to be a reaction to the expansion of rights and the contemporary role of judges in steering the interpretation of the law beyond its strict wording.[11] Notably, authors have, to different extent, claimed that this development, taking place especially in Western democracies under the aegis liberal constitutionalism, runs against the pillars of representative democracies.[12] Another line of criticisms lies in the fact that an excessively broad interpretation of the law by courts would contravene the 'rule of law' by transforming into the 'rule by judges'.[13] In parallel to these scholarly criticisms, courts have also been criticised by populist leaders.[14] As a result, several governments have introduced judicial reforms that have altered the separation of powers and

[4] Court of Justice of the EU 'Statistics concerning the judicial activity of the Court of Justice' https://curia.europa.eu/jcms/jcms/Jo2_7032/en/#:~:text=While%20the%20average%20time%20taken,and%2017.3%20months%20in%202022.

[5] The Law Society 'Record Crown Court backlog as long wait for justice continues' 12 October 2023 https://www.lawsociety.org.uk/contact-or-visit-us/press-office/press-releases/record-crown-court-backlog-as-long-wait-for-justice-continues.

[6] The Court Fees (Miscellaneous Amendments) Order 2021 2021 No. 985 (L. 14).

[7] World Justice Project 'Global Insights on Access to Justice' 2019 https://worldjusticeproject.org/our-work/research-and-data/global-insights-access-justice-2019.

[8] See Harry T Edwards, 'Alternative Dispute Resolution: Panacea or Anathema?' (1986) 99(3) Harvard Law Review 668; Joshua D Rosenberg and H Jay Folberg 'Alternative Dispute Resolution: An Empirical Analysis' (1994) 46 Stanford Law Review 1487.

[9] See Orna Rabinovich-Einy 'The Legitimacy Crisis and the Future of Courts' (2015) Cardozo Journal of Conflict Resolution 23; Carrie Menkel-Mcadow 'Regulation of Dispute Resolution in the United States of America: from the Formal to the Informal to the Semi-formal' in Felix Steffek and Hannes Unberath (eds) *Regulating Dispute Resolution: ADR and Access to Justice at the Crossroads* (Hart, 2017) 419; Lorna McGregor, 'Alternative Dispute Resolution and Human Rights: Developing a Rights-Based Approach through the ECHR' (2015) 26(3) European Journal of International Law 607.

[10] On the role of human rights as a catalyst for expanded judicial power, see Kate Malleson, *The New Judiciary: The Effects of Expansion and Activism* (Ashgate, 1999) 185.

[11] Martin Loughlin *Against Constutionalism* (Harvard University Press, 2022); William E. Scheuerman, 'Carl Schmitt's Critique of Liberal Constitutionalism' (1996) 58(2) The Review of Politics 299; Neil M. Gorsuch, 'Of lions and bears, judges and legislators, and the legacy of Justice Scalia' (2015) 66 Case W. Res. L. Rev. 905; Jeremy Waldron, 'The Core of the Case against Judicial Review' (2006) 115(6) The Yale Law Journal 1346.

[12] Loughlin (n 11); to a certain extent, Oreste Pollicino 'Judicial Protection of Fundamental Rights on the Internet: A Road Towards Digital Constitutionalism?' (Hart, 2021) 188.

[13] Jeremy Waldron, 'The rule of law and the role of courts. Global Constitutionalism' (2021) 10(1) Global Constitutionalism 91; Waldron (n 11).

[14] It should be mentioned that in specific jurisdiction the contestation against judicial power has acquired specific nuances, and stemmed from the protection of rights and liberal readings of the constitutional texts. For instance, in the US, following some *révirements* of decisions granting constitutional rights by the US Supreme Courts, scholars and media have raised several criticisms. See Dobbs v Jackson's Women Health Organisation 597 U.S. 215 142 S. Ct. 2228, 213 L. Ed. 2d 545, 2022 WL 2276808; 2022 U.S. LEXIS 3057. On critical views, see D Brody Chanove, 'A Tough Roe to Hoe: How the Reversal of Roe v. Wade Threatens to Destabilize the LGBTQ+ Legal Landscape Today' (2023) 13 UC Irvine L. Rev. 1041.

strengthened the oversight of other state branches over the judiciary.[15] Those reforms led to various degrees of rule of law backsliding.[16] While the desirability of less liberal, right-protective courts is questionable, it is nonetheless clear that judicial power is under the spotlight and facing existential threats and crises. Building on the work of Staton and Moore,[17] and Tate and Vallinder,[18] judicial power is here considered as both as the constitutional role of courts in a legal order, being the ultimate interpreters of the law to circumscribe public and private powers, as well as the extent to which courts judicialise open political questions.

Against this background of 'crises' for judicial power, we should consider the rise of artificial justice. The impact of digital technologies, and especially automated decision making (ADM)[19] and artificial intelligence (AI),[20] on judicial power is an area thus far underexplored. Indeed, while scholars have started reflecting on the use of technologies and especially algorithms in justice systems,[21] this analysis has been piecemeal and fragmented without focusing on the broader transformation of judicial power and its current crises. Yet disentangling the interplay between digital technologies and the crises currently affecting judicial power is of the essence in assessing the promises of digital technologies and AI in justice systems.

This chapter seeks to fill this gap by exploring the preliminary emerging effects of ADM and AI on judicial power, as well as the aptitude of these technologies to solve the current crises

[15] See the judicial reforms adopted in Poland since 2015, see Allyson Duncan and John Macy 'The Collapse of Judicial Independence in Poland: A Cautionary Tale' (2020) 104 Judicature 41; in Israel, see Yaniv Roznai et al 'Judicial Reform or Abusive Constitutionalism in Israel' (2023) 56 Israel Law Review 292; and to an extent the UK with the discussion around the Rwanda Bill, see Home Office, 'Safety of Rwanda (Asylum and Immigration) Bill: factsheet' 26 January 2024 https://www.gov.uk/government/publications/the-safety-of-rwanda-asylum-and-immigration-bill-factsheets/safety-of-rwanda-asylum-and-immigration-bill-factsheet-accessible#:~:text=This%20bill%20means%20that%20courts,the%20general%20safety%20of%20Rwanda.

[16] On the rule of law backsliding in Poland, see Oskar Polanski 'Poland: another episode of 'rule of law backsliding' - Judgment P 7/20 and a threat to the integrity of the EU legal order' (2022) Public law 153.

[17] Jeffrey K Staton and Will H. Moore 'Judicial Power in Domestic and International Politics' (2011) 65(3) International Organization 553.

[18] C Neal Tate and Torbjorn Vallinder, *The Global Expansion of Judicial Power* (NYP 1995).

[19] ADM is a sub-set of AI and concerns algorithms that can reach a more limited number of outputs than AI, which has broader applications and replicates human tasks.

[20] AI refers here to all forms of automated decision making that are similar to human tasks and rely on data; hence, it includes machine learning, neural networks and other types of algorithms. See OECD definition of AI systems available here: https://oecd.ai/en/ai-principles accessed 27 March 2024.

[21] Richard Susskind, *Online Courts and the Future of Justice* (OUP 2021); Richard M Re and Alicia Solow-Niederman, 'Developing Artificially Intelligent Justice' (2019) 22 Stanford Technology Law Review 242; A.D. (Dory) Rieling 'Courts and Artificial Intelligence' https://www.ccbe.eu/fileadmin/speciality_distribution/public/documents/Events/20201027_Online_Roundtable/Dory-Reiling-Court-and-AI.pdf; Adrian Zuckerman, 'Artificial Intelligence in the Administration of Justice', in Andrew Higgins (ed.), The Civil Procedure Rules at 20 (Oxford University Press, 2020) 291 accessed 27 March 2024; Giulia Gentile 'Trial by artificial intelligence? How technology is reshaping our legal system' 8 September 2023, https://blogs.lse.ac.uk/politicsandpolicy/trial-by-artificial-intelligence-how-technology-is-reshaping-our-legal-system/; Tania Sourdin, *Judges, Technology and Artificial Intelligence: The Artificial Judge* (Edward Elgar, 2021); Tania Sourdin, 'Judge v Robot?: Artificial intelligence and judicial decision-making' 2018 41(4) The University of New South Wales Law Journal 1114; Jennifer Cobbe, 'Administrative law and the machines of government: judicial review of automated public-sector decision-making' (2019) 39(4) Legal Studies 636; Felicity Bell et al., 'AI Decision-Making and the Courts: A Guide for Judges, Tribunal Members and Court Administrators' (2023) Australasian Institute of Judicial Administration https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4162985; Jumpei Komoda, 'Designing AI for Courts' (2023) 29 RICH. J.L. & TECH. 145.

experienced by judicial power. This analysis is crucial in capturing the evolution of the 'digital state' which currently constitutes a virtuous paradigm and an objective pursued by several governments across the world.[22] In so doing, the chapter connects scholarly discussions from the law and tech and constitutional literatures, while critically discussing the gains and the perils of the digitisation of judicial power and judges' role in governing the advancement of automation and AI. It also engages with the growing literature on the liberal dimension of digital constitutionalism, which sheds light on how digitisation is impacting rights, freedoms and the exercise of powers.[23]

The chapter illustrates that courts can both be *users* and *regulators* of AI. The way in which judicial systems embed ADM and AI is liable to transform judicial power: algorithmic power inserts itself in traditionally human courts, thus altering the functioning and the role of courts in society. By contrast, the manner in which judges interpret the role of automation in human activities and decision-making influences algorithmic governance. The chapter argues that the promises of ADM and AI in improving justice fail to address the efficiency and the contestation challenges currently experienced by judicial power. This is because of the complexity of judicial power, requiring high standards of meaningful participatory governance and contestability, and the societal forces that underpin judicial authority and legitimacy.

The paper is divided in two parts, addressing, respectively, the role of courts as *users* and as *regulators* of digital technologies. In each part, the chapter critically reflects on the promises (and the limits) of ADM and AI in addressing the crises of judicial power. It does so by shedding light on the complexity of judicial power and of the socio-constitutional context in which it operates – both in sharp (if not unsolvable) conflict with the computational nature of ADM and AI.

2. Courts as AI users

As observed by Toohey and others, a fourth wave of justice driven by technology is currently settling in.[24] The digitisation of justice systems across the world is exponentially increasing. Examples of the applications of AI, machine learning and other automated tools in the justice sector are present in China, the UK, the US, Colombia and Brazil. Since 2019, China has introduced smart courts to resolve small civil claims. The reform of the Chinese judiciary was initiated following media coverage reporting mistakes and lack of transparency in judicial

[22] See for instance the European Commission's Communication on Digitalisation of justice in the EU available here https://commission.europa.eu/strategy-and-policy/policies/justice-and-fundamental-rights/digitalisation-justice/communication-digitalisation-justice-european-union-and-proposal-e-codex-regulation_en#:~:text=The%20Communication%20on%20Digitalisation%20of,the%20efficiency%20of%20justice%20systems or the HMCTS Reform Programme available here https://www.gov.uk/guidance/the-hmcts-reform-programme.

[23] Francisco de Abreu Duarte et al, 'Perspectives on Digital Constitutionalism' in O. Kanevskaia, P. Palka, B. Brozek, Handbook on Law and Technology (Edward Elgar, forthcoming) https://ssrn.com/abstract=4508600.

[24] Lisa Toohey et al, 'Meeting the Access to Civil Justice Challenge: Digital Inclusion, Algorithmic Justice, and Human-Centred Design' (2019) 19 Macquarie LJ 133.

decision-making,[25] and a sharp increase in the backlog of cases.[26] It has been reported that Chinese 'smart courts' relying on algorithmic decision-making have improved dispute resolution management and dealt with the backlog of pending cases.[27]

In the US and in the UK, algorithms are not deployed in the courtroom, but to support the judicial process. In particular, UK courts use e-discovery tools to expedite the submission of evidence.[28] Moreover, the UK Ministry of Justice employs natural language processing to classify reports from the police concerning prisons' conditions and incidents across the country.[29] A UK judge has recently used ChatGPT to produce legal summaries later used for a judgment; he defined the tool as 'jolly useful'.[30] In the US, courts rely on algorithms to support decision-making processes. Notwithstanding severe criticisms, the infamous COMPAS system is still employed to predict recidivism.[31] Judges can consider the outcome of this system to make decisions on the sentencing of individuals who have previously committed crimes.[32] In Colombia, in January 2023 a judge issued a ruling on the fundamental right to health of a child, and included his interactions with ChatGPT in his verdict. In Brazil, significant reform efforts were put in place to digitise courts.[33] The list of examples could continue.

It is evident that currently digital technologies, and, more specifically, algorithms, discharge several functions *in* and *for* courts around the world. By doing so, digital technologies impact the exercise of judicial decision-making powers. While there are still several cautious views on the use of AI in the legal profession and the judiciary, this technology is deemed as a potential solution for the inefficiency and contestation crises of judicial power.[34] But is this the case?

2.1. AI-powered courts: more efficient but costly and untrustworthy?

[25] Rachel E. Stern et al, 'Automating Fairness? Artificial Intelligence in Chinese Court' (2021) 59 Columbia Journal of Transnational law 515, at 521.
[26] Changqing Shi et al, 'The Smart Court – A New Pathway to Justice in China?' (2021) 21(1) International Journal for Court Administration, at 4.
[27] Ibid.
[28] Erica Albertson and Craig Hendley, 'Recent Developments in the U.K. Courts Underscore the Perils of DIY E-Discovery' available at https://www.ftitechnology.com/resources/blog/recent-developments-in-the-uk-courts-underscore-the-perils-of-diy-e-discovery.
[29] Government Digital Service, 'How the Ministry of Justice used AI to compare prison reports' 26 June 2019 https://www.gov.uk/government/case-studies/how-the-ministry-of-justice-used-ai-to-compare-prison-reports--2.
[30] Laaibah Bhatti, 'British Judge used ChatGPT for case ruling' 18 September 2023 https://www.astonbond.co.uk/british-judge-used-chat-gpd-for-case-ruling/#:~:text=In%20a%20surprising%20revelation%2C%20Lord,copied%20and%20pasted%20the%20response
[31] See infra.
[32] Julia Dressel and Hany Farid, 'The accuracy, fairness, and limits of predicting recidivism' (2018) 4(1) Science advances 1.
[33] Katie Brehm et al 'The Future of AI in the Brazilian Judicial System: AI Mapping, Integration and Governance' https://itsrio.org/wp-content/uploads/2020/06/SIPA-Capstone-The-Future-of-AI-in-the-Brazilian-Judicial-System-1.pdf; Eduardo Villa Coimbra Campos 'Artificial Intelligence, The Brazilian Judiciary and some Conundrums' Science Po Blog https://www.sciencespo.fr/public/chaire-numerique/en/2023/03/03/article-artificial-intelligence-the-brazilian-judiciary-and-some-conundrums/.
[34] Susskind (n 21); Sourdin (2018) (n 21).

Justice around the world is experiencing turbulent times. Financial cuts in the public sector[35] and the increase in cases,[36] coupled with the proliferation of regulation and demands for justice,[37] are putting courts under strain. These factors contribute towards lengthier judicial proceedings, and ultimately increase the judicial backlog. In turn, the delays of justice pave the way for critiquing the efficiency of courts as adjudicators. As the legal maxim goes, 'Justice delayed is justice denied.' While these phenomena are not affecting all jurisdictions in the same way, they reflect a global trend.[38] A first policy reaction to address court's efficiency crisis has been the expansion of alternative methods of dispute resolution.[39] These procedures have been initially introduced in specific fields, such as consumer protection, and have now proliferated in other areas.[40] Yet they have not solved the increasing backlogs of justice. More recently, the emergence of digital technologies such as ADM and AI have prompted a new wage of policy initiatives affecting the judiciary[41] seeking to capitalise on the efficiency promises of digital tools. Because of the automation offered by these technologies, governments are increasingly digitising the public sector, including national judiciaries, with the promise of increased efficiency.[42]

These views find support among several scholars, who have described algorithms as a possible solution to the inefficiency issues experienced by human courts.[43] Authors such as Susskind have envisaged online courts as the future of justice,[44] while scholars such as Kaun[45] and Sourdin[46] have reflected on the potential of ADM to supplement or even substitute human judges. Yet this stance is not unanimous, and researchers have provided varying outlooks on the potential advantages of artificial justice. The research in the area points to different findings, and opinions among scholars are divided.[47] Some authors identify

[35] Kiran Stacey, 'UK public services will buckle under planned spending cuts, economists warn' 26 February 2024 https://www.theguardian.com/politics/2024/feb/26/uk-public-services-will-buckle-under-planned-spending-cuts-economists-warn.
[36] Court of Justice of the European Union, 'Annual Report 2022 : Statistics concerning the judicial activity of the Court of Justice' (2023) https://curia.europa.eu/jcms/upload/docs/application/pdf/2023-03/stats_cour_2022_en.pdf.
[37] Stefano Battini, 'The Proliferation of Global Regulatory Regimes' in Sabino Cassese (eds) Research Handbook on Global Administrative Law (Edward Elgar, 2016) 45; J.B. Ruhl and Daniel Martin Katz, 'Measuring, Monitoring, and Managing Legal Complexity' (2015) 101 Iowa L Rev 191; J. B. Ruhl, 'Law's Complexity: A Primer' (2008) 24 Ga St U L Rev 885.
[38] World Justice Project (n 7).
[39] See Rabinovich-Einy (n 9); Menkel-Mcadow (n 9), McGregor (n 9).
[40] McGregor (n 9).
[41] See eg HM Courts & Tribunals Service Reform: Digital Services Evaluation (2022) https://www.gov.uk/government/publications/hm-courts-tribunals-service-reform-digital-services-evaluation; Italian Government, 'Digitalizzazione della PA' (2023) https://innovazione.gov.it/italia-digitale-2026/il-piano/digitalizzazione-della-pa/.
[42] Ibid.
[43] Susskind (n 21), Sourdin (2018) (n 21).
[44] Susskind (n 21).
[45] Anne Kaun, 'Suing the algorithm: the mundanization of automared decision-making in public services through litigation' (2022) 25(14) Information, Communication and Society 2046.
[46] Sourdin (2018) (n 21).
[47] Sourdin (2021) (n 21), Gentile (n 21), Giulia Gentile, 'AI in the Courtroom and Judicial Independence: An EU Perspective' 22 August 2022, EUIdeas https://euideas.eui.eu/2022/08/22/ai-in-the-courtroom-and-judicial-independence-an-eu-perspective/; Komoda (n 21), Natalie Byrom 'AI risks deepening unequal access to legal information' https://www.ft.com/content/2aba82c0-a24b-4b5f-82d9-eed72d2b1011.

significant, transformative advantages,[48] while others see minimal gains for access to justice. A possible explanation could be the different degrees of technophilia or technophobia, as will be illustrated in the following paragraphs.

For instance, it has been argued that algorithms can improve the *administrative functions of courts*, such as the organisation of the evidence, or the management of the case files.[49] This use of AI in justice systems would likely be considered less controversial than the substitution of human judges as decision-makers.[50] As observed by Ji,[51] judging is a human art. By contrast, '[i]f we […] let AI exceed the scope of auxiliary means and apply it comprehensively to trial cases, and even largely replace judges' judgments, it is very likely that the judicial power will go astray because, in cases where the facts are difficult, interpersonal relationships are complex, and human and emotional factors are involved, judging according to legal principles, common sense, and insights, and properly handling them are subtle arts. Even if AI is embedded into probabilistic procedures and has deep-learning ability, it is difficult to make a fair and reasonable, stable, and convincing case judgment.'[52]

Hence, limiting the use of AI to administrative functions could enhance the efficiency in the courtroom while not encountering the same socio-constitutional questions that affect substitution of judges by AI.[53] However, on closer observation, it is complex to distinguish administrative functions from decision-making. For instance, the use of virtual reality for hearings could be classified as an administrative function; yet it could be said that the use of this technology does impact the judicial decision-making process. In studies comparing remote and in-person learning and conferencing experiences, clear experiential differences have been identified.[54] Accordingly, it can be reasonably inferred that the delivery of the arguments of the parties in the presence of the judge would equally lead to a different in-court experience, and, potentially, a different outcome.[55] It follows that a function that prima facie may be classified as administrative has nonetheless an impact on the decision-making powers of the court. Therefore, a strict separation between administrative and decisional deployments of algorithms in the courtroom is close to impossible. Additionally, it may be

[48] See eg Hannes Westermann, 'Using Artificial Intelligence to Increase Access to Justice' (2023) Ph.D. Thesis at University of Montreal; Coleen V. Chien et al, 'How Generative AI Can Help Address the Access to Justice Gap Through the Courts' Loyola of Los Angeles Law Review, forthcoming, https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4683309.

[49] Susskind (n 21), Sourdin (2018) (n 21), Cary Coglianese and Lavi M Ben Dor, 'AI in Adjudication and Administration' (2021) 86 Brooklyn Law Review 791.

[50] Rieling (n 21).

[51] Weidong JI 'The Change of Judicial Power in China in the Era of Artificial Intelligence' (2021) 7(3) Asian Journal of Law and Society 515.

[52] JI (n 51) at 525.

[53] Coglianese and Ben Dor (n 49); Ji (n 51).

[54] Martin J. Tomasik et al 'Educational gains of in-person vs. distance learning in primary and secondary schools: A natural experiment during the COVID-19 pandemic school closures in Switzerland' (2020) 56(4) International Journal of Psychology 566; Andrew A Bennett, 'Videoconference Fatigue? Exploring Changes in Fatigue after Videoconference Meetings during COVID-19, (2021) 106(3) Journal of Applied Psychology 330. Shem Unge and William Meiran, 'Student attitudes towards online education during the COVID-19 viral outbreak of 2020: Distance learning in a time of social distance' (2020) 4(4) International Journal of Technology in Education and Science 256.

[55] For a discussion on justice and access to courts as an experience, see Linda Mulcahy, *Legal Architecture: Justice, Due Process and the Place of Law* (Routledge, 2011).

reasonably argued that the controversy surrounding the replacement of human judges with AI would also ultimately extend to automated administrative functions.

Embracing a more technophile stance, automation by way of algorithms could be seen as a solution to the inefficiency challenge. This would be even more so when AI is employed to improve the efficiency of and access to *dispute resolution*. For instance, researchers have argued that algorithms could improve justice by facilitating access to courts.[56] Easier access could materialise in the form of reduced travelling time to the courtroom and lower costs for individuals. Similarly, algorithms and AI offer virtual realities for the courtroom and therefore favour individuals who may not be able to physically reach the court.[57] Some authors even suggest that algorithms may reduce the cost of litigation by allowing users to access court systems on their tablets and obtain a first decision from an algorithm.[58] Additionally, judicial systems could be made more effective through the speed of automated decision-making.[59] Judges may benefit from algorithms predicting or drafting decisions, inasmuch as they could shorten their deliberations and thus speed up their decisional process. Finally, some authors submit that algorithms could act as a counterbalance to the corruption that affects certain jurisdictions.[60] At the same time, many of these academic accounts appear strongly influenced by techno-solutionism,[61] and may not take into sufficient consideration several limitations of the use of algorithms. Looking more closely at the question of efficiency, two perspectives should be assessed: that of the litigants and that of judges.

Concerning litigants, a speedier, cheaper resolution of a dispute could certainly be deemed as a remarkable advantage. But any advantages for the parties of a litigation should be assessed against the broader picture. Indeed, an aspect that has gone relatively unchecked[62] in literature is the extent to which the digitisation of courts is benefitting the public at large. From the perspective of access, it is questionable whether the introduction of digital tools and algorithms could be an effective enhancer of access to justice, mostly because the persistent digital divide.[63] Additionally, as mentioned, a potential benefit of digital courts for the litigants may be that transportation time and costs could be cut. Yet the reality is more

[56] Susskind (n 21); Sourdin (2018) (n 21); Alexandre Biard et al, 'Introduction: The Future of Access to Justice – Beyond Science Fiction' in Xandra Kramer et al (eds) New Pathways to Civil Justice in Europe (Springer, 2021) 1.
[57] See similar argument by the Government Digital Service (n 29); Isabel Woodford, ' Colombia court moves to metaverse to host hearing' 24 February 2023 Reuters https://www.reuters.com/world/americas/colombia-court-moves-metaverse-host-hearing-2023-02-24/.
[58] Susskind (n 21), Sourdin (2018) (n 21).
[59] Susskin (n 21), Coglianese and Ben Dor (n 49), Sourdin (2018), (2021) (n 21).
[60] Nils Köbis et al, 'Artificial Intelligence as an Anti-Corruption Tool (AI-ACT)--Potentials and Pitfalls for Top-down and Bottom-up Approaches' (2021) Computers and Society chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://arxiv.org/pdf/2102.11567.pdf.
[61] Sourdin (2018) (n 21).
[62] Ellie Williams-Brown 'Government running out of time to ember data strategy at heart of £1bn digital court reforms' 13 October 2020 https://www.thejusticegap.com/government-running-out-of-time-to-embed-data-strategy-at-heart-of-1bn-digital-court-reforms/; Komoda (n 22), Natalie Byrom 'Digital Justice: HMCTS data strategy and delivering access to justice: Report and recommendations' October 2019 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/835778/DigitalJusticeFINAL.PDF.
[63] See for instance Julian Thomas et al 'Measuring Australia's Digital Divide: The Australian Digital Inclusion Index 2018' 29 August 2018 https://apo.org.au/node/184091.

complex. In assessing the benefits, the returns on public investments for individuals should feature in the evaluation.

To begin with, the public investments to develop digital courts in several countries have been significant[64] and governed by public procurement rules.[65] In countries such as the UK, courts' digitisation has occurred against a background of cuts for legal aid.[66] Hence, the access to legal aid – and therefore access to courts for individuals with no resources – has been reduced to finance the digital transformation of the justice sector. Regrettably, but unsurprisingly, the process of justice digitisation is taking longer than expected in the UK[67] and beyond.[68] Consequently, the 'return' for the public investment in the digitisation of justice – provided by easier and more efficient access to and speedier justice – has yet to be delivered. The result of situations like the one in the UK – a combination of significant public investments and delays in the delivery of the digitisation programme – is that the public is sponsoring the digitisation of courts while not being able to benefit from such investments, at least in the short term. Enhanced access to justice through digital courts – if it were ever to happen – would be achieved in the long term. This finding further questions the ability to achieve better access to and speedier justice via digitisation of courts.

From the perspective of the judiciary, while automated tools used for decision making purposes have undoubtedly the potential to enhance efficiency and speedy resolution of disputes, it should also be noticed that two concurrent losses materialise: first, AI and ADM affect the ability to issue individualised judgments, and second, they risk de-humanising the court experience. On the one hand, justice would be standardised under the aegis of computational law,[69] but the risk that insufficient if no consideration would be given to the peculiarities of individual cases would concomitantly arise. Put it differently, the standardisation of justice would favour consistency but would sacrifice the nuances of the law and legal reasoning.[70] On the other hand, artificial justice could reduce the trust that the public may have in the judiciary. While some studies remained unclear about the general perception of AI,[71] others have reported individual feelings of loss of control and anxiety due to the advancement of AI.[72] Empirical research demonstrates that the lack of trust,

[64] Giulia Gentile and Giovanni De Gregorio 'The digitisation of justice risks blurring the lines between public and private actors' EUROPP 23 June 2023 https://blogs.lse.ac.uk/europpblog/2023/06/23/the-digitisation-of-justice-risks-blurring-the-lines-between-public-and-private-actors/.
[65] See Albert Sanchez-Graells, *Digital Technologies and Public Procurement* (OUP, 2023).
[66] Ibid; Gentile and De Gregorio (n 64).
[67] National Audit Office, 'Progress on the courts and tribunals reform programme' 23 February 2023 https://www.nao.org.uk/wp-content/uploads/2023/02/progress-on-courts-and-tribunals-reform-programme-1.pdf.
[68] See for instance the situation in Italy, Marilena Pirrelli, 'Corte dei Conti: la digitalizzazione della cultura ancora in ritardo' 25 October 2022, Sole24Ore https://www.ilsole24ore.com/art/corte-conti-digitalizzazione-cultura-ancora-ritardo-AEfgcUBC; or in France Florian Dèbes 'Comment la France a comblé une grande partie de son retard en matière d'e-administration' 13 January 2022, Les Echos https://www.lesechos.fr/tech-medias/hightech/la-numerisation-de-letat-entre-dans-son-sprint-final-du-quinquennat-1379026.
[69] Simon Deakin and Christopher Marcou *Is Law Computable*? (Hart, 2020).
[70] Re and Solow-Niederman (n 21).
[71] Shuqing Gao et al, 'Public Perception of Artificial Intelligence in Medical Care: Content Analysis of Social Media' (2020) 22(7) J Med Internet Res https://www.jmir.org/2020/7/e16649/.
[72] Ethan Fast and Eric Horvitz 'Long-Term Trends in the Public Perception of Artificial Intelligence' (2017) 31(1) Thirty-First AAAI Conference on Artificial Intelligence 963.

transparency and legitimacy of AI diminish the willingness to engage with and propensity of individuals towards these systems;[73] the same would apply to digital courts. In turn, the authority and the legitimacy of courts embedding AI would be undermined, and the constitutional role of judges accordingly hindered.[74]

AI-driven courts may gain in efficiency, but may also create losses for the public as a whole from the angle of trustworthiness and effective access to court. AI does not appear as a magic wand able to solve the inefficiency challenge. The same applies to the contestation challenge, as discussed in the following section.

2.2. AI-driven courts and contestation: no magic solution

Back in 1999, Malleson wrote about the expansion of judicial powers in the UK, after several decades in which effective review of executive action was left unattended.[75] She submitted that this dynamic was traceable in several other jurisdictions, chiefly thanks to the increase in judicial review cases and the advancement of legal arguments based on fundamental rights, but it nonetheless revealed an intrinsic fragility of judicial power. The involvement of courts in settling open, political questions unveils the political role of courts while also exposing the complexities of the interplay between judicial and legislative powers. In turn, the political implications of courts' decisions lend themselves to be subject to public scrutiny and debate, as well as contestation. Many would argue that this is the description of a healthy democracy, freedom of expression (even in the form of contestation) being core democratic value. Yet contestation against judicial power has often taken destructive turns.

Contestation against courts tends to be posited on two main issues. First, the 'unpredictable' interpretation of legal texts by judges.[76] Criticising the liberal interpretation of legal texts provided by courts, in the last decade or so, politicians have attacked courts as political actors in conjunction with the rise of extremist parties,[77] by depicting courts as enemies of the majority. Second, contestation against courts emerges as a spill-over effect of the inefficiency crisis.[78] Because of the structural inefficiencies, courts are not able to keep the promise of

[73] Benjamin Toff and Felix M Simon 'Or they could just not use it?": The Paradox of AI Disclosure for Audience Trust in News' (2023) https://osf.io/preprints/socarxiv/mdvak.

[74] For a comparative outlook on automated administrative decision making, Eden Sarid and Omri Ben-Zvi. 'Machine Learning and the Re-Enchantment of the Administrative State' (2023) 87(2) The Modern Law Review 371.

[75] Malleson (n 10).

[76] See for instance Nathan J. Brown and Julian G. Waller, Constitutional courts and political uncertainty: Constitutional ruptures and the rule of judges, (2016) 14(4) International Journal of Constitutional Law 817; Frank Goodman, 'Mark Tushnet on Liberal Constitutionalism Theory: Mission Impossible' (1989) Faculty Scholarship at Penn Carey Law 1406.

[77] Giuseppe Martinico, *Filtering Populist Claims to Fight Populism: The Italian Case in a Comparative Perspective* (CUP, 2021), Samuel Issacharoff 'Fragile Democracies: Contested Power in the Era of Constitutional Courts' (CUP, 2015); Mark Elliot, 'The Supreme Court's Judgment in Miller: In Search of Constitutional Principle' 2017 76(2) Cambridge Law Journal 257; Yaniv Roznai and Michai Cohen 'Populist constitutionalism and the judicial overhaul in Israel' (forthcoming) Isreael Law Review https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4575006.

[78] Massimo Finocchiaro Castro and Calogero Guccio, 'Bottlenecks or Inefficiency? An Assessment of First Instance Italian Courts' Performance' (2015) 11(2) Review of Law & Economics 317.

justice and may be perceived as disconnected from the public and its needs.[79] In turn, judicial decisions issued by courts could be seen with disapproval and subject to a negative bias.[80]

Contestation against courts inserts itself in a new state paradigm. The New Management Model, recently coined by Yeung as the New Public Analytics as an Emerging Paradigm in Public Sector Administration,[81] encapsulates the managerial tendencies of states in latest years, also (if not especially) under the aegis of digitisation. Such a new model includes efficiency and effectiveness as guiding values. As states transform, also courts and judicial power do. The administration of justice is increasingly becoming as a service subject to market forces, and thus losing its unique role as a manifestation of public power and authority. In this context, the question arises as to whether the contestation towards courts that has emerged in recent years as one of the creeping crises affecting judicial power could be potentially addressed through the digitisation of courts. In other words, could the use of algorithms in the judiciary lower contestation against judicial power?

This is a matter that goes at the heart of judicial power and decision-making, and raises questions of authority and legitimacy of judicial systems. Firstly, we should assess the ability of algorithms to make more stable, predictable decisions. Algorithms may enhance the predictability of judicial decision making. As a matter of fact, the ordering power of algorithms and especially machine learning would allow to better structure the law, too. As remarked by Ji, '[c]omputer sentencing can largely exclude subjective arbitrariness in exercising discretion'. However, as acknowledged by the same author, automated sentencing 'excludes speculations including natural law, the protection of rights, natural and human nature, and some critical factors such as teaching less and focusing more on prevention; it also tends to exclude policy-adjustment mechanisms such as interest considerations.'[82] What is more, the standardization embodied in automated sentencing is bound to ignore local knowledge, context, specific situations, and the 'webs of significance'[83] as key elements for legal judgment. The result is a more predictable style of judicial decision-making, but also one that disregards the peculiarities of each individual case, general trends in legal traditions and equality considerations.

Another consequence of more predictable judicial decision making should be further mentioned. Artificial justice could in principle enhance standardisation, but also flatten the protection of rights and interpretations of the law that could fill gaps in regulatory frameworks. Courts that are more predictable may also prove uncapable of adapting the law to novel cases and circumstances with the view to limit public and private powers. As a consequence, control over the judiciary by other branches would be facilitated and the separation of constitutional powers affected. The 'flattened' protection of rights that derives from the use of AI in the courtroom could well assuage the critics of judicial power. Such a

[79] See for instance Hector Fix-Fierro, 'Courts, Justice and Efficiency: A Socio-legal Study of Economic Rationality in Adjudication' (Hart, 2023).
[80] See Bruce M Selya, 'The Confidence Game: Public Perceptions of the Judiciary' (1996) 30 New England Law Review 909; Kathy Mack et al, 'The Judiciary and the Public: Judicial Perceptions' (2018) 39 Adelaide Law Review 1.
[81] Karen Yeung, 'The New Public Analytics as an Emerging Paradigm in Public Sector Administration' (2022) 27(2) Tilburg Law Review 1.
[82] JI (n 51).
[83] JI (n 51).

stance would also give in to conceptions of the rule of law that mostly procedural and not substantive, with the risks connected to such a model from a democratic perspective.[84] All in all, ADM and AI could excessively diminish the power of courts to provide reasoned interpretations of the law, and, ultimately, judicial independence.[85]

Secondly, another element to consider when reflecting on the potential of AI to address contestation against judicial power is the ability to provide easily accessible avenues for redress and more efficient justice. While the efficiency gains could be strategically used to give an impression of a more reliable judicial system, a darker side of algorithmic efficiency should be considered. AI-powered courts may encounter *lower* contestation, in principle, due to their efficiency; yet a certain level of contestation will be inevitable. When such contestation arises, the addressees of automated decisions may demand avenues for judicial scrutiny and challenges.[86] But a feature of AI and ADM systems is clear and uncontroversial: they are opaque, lack transparency[87] and are not easily explainable.[88] Were judicial decision making heavily to rely on automation, the way in which automated systems reached a certain outcome may remain obscure and inaccessible. The lack of a proper justification for automated judicial decision-making could only exacerbate, and not lessen, critiques on contestation and contestability of judicial power.[89] In such scenarios, the opacity of AI-powered courts – at least in light of the current technology – would not only make challenges against decisions adopted by those courts more difficult; the hurdles in interpreting the algorithm's decisional rationale could also enhance distrust towards courts. In turn, the distrust caused by the employment of algorithmic elements in the courtroom would reflect on courts and the public perception of justice systems. In other words, the very use of ADM and AI – conceived as a possible panacea for public contestation – may itself spark further contestation because of its opacity.

Finally, we should consider the loss of humanness in the court room from the perspective of lowering contestation against judicial power. Can a robot be deemed as less contestable, if not more legitimate, than a human adjudicator? This is a controversial question that tests the boundaries of human authority and constitutional imagination. Different *Weltanschauungen* influenced by higher or lower degrees of faith in the human species would provide different answers. In any event, it cannot be assumed that the presence of algorithms would be a

[84] Ashley Topel, 'China Informs A 21st Century Definition of the Rule of law' (2023) 13 Notre Dame Journal of International and Comparative Law 130.
[85] Gentile (2022) (n 47).
[86] Under the fundamental right to effective remedies, which receives extensive protection under national (eg natural justice principles in the UK) and international legal instruments (eg Articles 6 and 13 ECHR), individuals are entitled to challenge any measure that affects them and that involves automated decision-making. However, the opacity of AI hinders this fundamental right as it is hardly possible to have access to algorithms and their explanations. As a result, the increased efficiency corresponds to a lower degree of transparency and potential trust in the system.
[87] See Nyu Wang and Michael Yuan Tian '"Intelligent Justice": human-centered considerations in China's legal AI transformation' (2023) 3(2) AI Ethics349; Sarid and Ben-Zvi (n 74).
[88] Uwe Peters, 'Explainable AI lacks regulative reasons: why AI and human decision-making are not equally opaque' (2022) 3(3) AI and Ethics 963.
[89] As mentioned by Morison and Harkens, the social contestation present in any legal order cannot be easily managed and accounted for by algorithmic decision making. John Morison and Adam Harkens, 'Re-engineering justice? Robot judges, computerised courts and (semi) automated legal decision-making' (2019) 39(4) Legal Studies 618.

panacea for the crises of judicial power. The empirical evidence on the lived experiences of individuals engaging with digital technologies do not consistently offer a positive, reassuring view.[90] What is more, as argued by Mulcahy, 'if trials are to be seen as legitimate public events they have to continue to have meaning as human encounters.'[91] The importance of human interactions and in-person encounters in the courtroom has a longstanding tradition and underpins centuries of judicial systems' architectures. One cannot imagine a seamless shift towards more digitised, artificial courts without seriously upsetting some of the core values underlying the delivery of justice and the experience of those participating in judicial systems.

In conclusion, the spreading of ADM and AI in justice systems does not appear as a solution to contestation against judicial power. The predictability of judicial-making would enhance control over courts – with questions raising with reference to the separation of powers -- but would not necessarily create more solid, less contested judicial-making. Even if algorithms can make judicial decision making more predictable, judicial power and courts' decisions will not necessarily be less controversial or more widely accepted by the public.[92] Similarly, ADM and AI would not be able to capture the individual circumstances of the cases, or the legal traditions embedded in a specific jurisdiction. What is more, the opacity and the inaccuracy of AI-driven systems currently existing[93] hinder the ability to effectively challenge judicial decision – thus silencing contestation.

To have a complete picture on how AI is impacting judicial power and its crises, we should now analyse how courts are acting as *regulators* of AI. How does their role as ex post-regulators of this technology influence the inefficiency and contestation crises?

3. Courts as regulators

As discussed, embedding AI in justice systems does not equate to automatically solving the crises affecting judicial power; rather, courts' digitisation raises novel questions on its influence on society and constitutional structures, and the future of justice. But there is another dimension of the impact of digital technologies the crises of judicial power which

[90] Michael Leyer and Sabrina Schneider 'Me, You Or AI? How Do We Feel About Delegation' (2019) In Proceedings of the 27th European Conference on Information Systems (ECIS) available here: https://aisel.aisnet.org/ecis2019_rp/36; Stefano Puntoni et al, 'Consumers and Artificial Intelligence: An Experiential Perspective' (2021) 85(1), Journal of Marketing, 131-151. A parallel can be drawn with Video Assistive Refereeing (VAR) in the field of sport. The technology was designed to remove errors and arguments over decisions. However, empirical evidence demonstrates that arguments still emerge but concern VAR errors. See Ryan Chen and Nicholas P Davidson, 'English Premier League Manager Perceptions of Video Assistant Referee (VAR) Decisions during the 2019–2020 Season' (2022) 23 Soccer & Society 44; Christine Scanlon et al, ''It's not Football Anymore': Perceptions of the Video Assistant Referee by English Premier League Football Fans' (2022) Soccer & Society online early https://doi.org/10.1080/14660970.2022.2033731; Maiquel Schmidt de Oliveira et al, 'A systematic review of the literature on video assistant referees in soccer: Challenges and opportunities in sports analytics' (2023) Decision Analytics Journal 100232.

[91] Linda Mulcahy, *Legal Architecture: Justice, Due Process and the Place of Law* (Routledge, 2011) 174.

[92] Cfr with the work on VAR conducted by Puntoni et al (n 90).

[93] Bangul Khan et al 'Drawbacks of Artificial Intelligence and Their Potential Solutions in the Healthcare Sector' (2023) Biomed Mater Devices; Matt Hollingsworth 'Unveiling the Limitations of Generative AI in Healthcare Applications' 21 July 2023 Forbes https://www.forbes.com/sites/forbestechcouncil/2023/07/21/unveiling-the-limitations-of-generative-ai-in-healthcare-applications/; Dressel and Farid (n 32).

requires examination, being the way in which courts are addressing legal questions involving ADM and AI. In so doing, judges contribute towards regulating those technologies. In parallel, the courts' approach to the resolution of controversies concerning ADM and AI could lessen (or worsen) the crises of judicial power. For instance, are courts' decisions on algorithmic decision-making a possible source of contestation by political actors and the public? Have courts contributed towards efficiency in regulation of digital technologies, and have they been themselves efficient regulators? These questions become particularly crucial considering the limited yet expanding regulation on ADM and AI, leaving courts with the complex role of solving novel legal issues involving digital technologies.

China has led the regulatory race with its regulations on AI;[94] but China is not alone. In April 2022, the EU published a proposal for an AI regulation, which, at the time of writing, has been recently agreed upon by EU institutions.[95] In late 2023, the President of the United States of America adopted an executive order that supplements the Blueprint for an AI Bill of Rights.[96] Some sector specific measures to tame the implications of AI have also emerged. For instance, the California Bar[97] and the European Bar Association have adopted guidelines on the use of AI by law professionals,[98] while the UK Tribunals and Courts Service has issued guidance on the employment of AI in the judiciary.[99] The implications of these policies remain to be seen.

Prior to the entry into force of these frameworks, other pre-existing rules provided guidance on the regulation of algorithms, especially when used for decision-making purposes. The General Data Protection Regulation[100] (GDPR) is a key instrument in this field. The combined reading of Articles 13(2)(f), 14(2)(g) and 15(1)(h) of the GDPR create a right for the individual to know the logic of ADM. Additionally, Article 22 GDPR lays down a right for an individual to opt out from ADM if the ADM procedure is not regulated in national or European law so as to make it compulsory for the individual. In addition to the GDPR, national legislation may regulate ADM.[101] To name but one example, in Sweden, the 2017 Administration Act contains a very open provision in Section 28(1), according to which an administrative decision may be

[94] Matt Sheehan 'China's AI Regulations and How They Get Made' 10 July 2023 Carnegie Endowment For International Peace https://carnegieendowment.org/2023/07/10/china-s-ai-regulations-and-how-they-get-made-pub-90117.
[95] European Commission, 'AI Act' https://digital-strategy.ec.europa.eu/en/policies/regulatory-framework-ai.
[96] The White House, 'President Biden Issues Executive Order on Safe, Secure and trustworthy Artificial Intelligence, 20 October 2023, https://www.whitehouse.gov/briefing-room/statements-releases/2023/10/30/fact-sheet-president-biden-issues-executive-order-on-safe-secure-and-trustworthy-artificial-intelligence/.
[97] The State Bar of California, 'Practical Guidance for the Use of Generative Artificial Intelligence In the Practice of Law' 2023 https://www.calbar.ca.gov/Portals/0/documents/ethics/Generative-AI-Practical-Guidance.pdf
[98] European Bars, 'Guide on the use of Artificial Intelligence-based tools by lawyers and lawfirms in the EU' (2022) https://www.ccbe.eu/fileadmin/speciality_distribution/public/documents/IT_LAW/ITL_Reports_studies/EN_ITL_20220331_Guide-AI4L.pdf.
[99] Courts and Tribunals Judiciary, 'Artificial Intelligence (AI) Judicial Guidance' 21 December 2023 https://www.judiciary.uk/guidance-and-resources/artificial-intelligence-ai-judicial-guidance/.
[100] EU General Data Protection Regulation (GDPR): Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC.
[101] Gianclaudio Malgieri, 'Automated decision-making in the EU Member States: The right to explanation and other "suitable safeguards" in the national legislations' (2019) 35(5) Computer Law & Security Review.

made by an individual civil servant alone, or jointly by several civil servants, or by way of automated procedure.[102]

The relative scarcity of legal rules on AI and ADM has not limited the emergence of legal disputes. On the contrary, the uncertainty surrounding the ADM and AI governance, coupled with the disruptive effects of the technology, has led to novel cases before a number of courts involving the use of algorithms and AI both in the private and the public sectors.[103] Such rapid developments require judges to stretch their knowledge and adapt legal principles, conceived for the physical world, to the digital context. In so doing, courts act as ex-post regulators, bridging the gap between technological developments and the law. Frameworks such as the Digital Services Act[104] and the EU AI Act,[105] both containing provisions[106] on remedies against the risks of ADM and AI will further shape the area of AI and ADM in the years to come.

A stream of the jurisprudence on automated system has involved the application of constitutional texts and guarantees, which may be seen as a particular expression of the broader phenomenon coined 'digital constitutionalism'. As guardians of legal orders, courts have traditionally driven the expansion of constitutional texts and principles to constrain abuses of powers and protect individual rights, embracing an approach to the interpretation of the law that authors have called as 'constitutionalism'.[107] The same goes under 'digital constitutionalism': as discussed by Pollicino and De Gregorio,[108] courts, especially in Europe, were pivotal actors in rethinking the scope of application of constitutional guarantees and fundamental rights – conceived in and for the physical world – and expanding it to the world of bits.

A peculiarity of digital constitutionalism, especially in its liberal dimension,[109] is the horizontal application of constitutional guarantees in situations involving private digital actors, rather than public ones. As a result, private entities have been subjected to compliance with positive obligations to protect fundamental rights or specific public values in the digital environment. Cases such as *Google Spain*[110] revealed the willingness of courts to expand protective duties

[102] Markku Suksi, 'Administrative due process when using automated decision-making in public administration: some notes from a Finnish perspective' (2021) 29 Artificial Intelligence Law 87; see also Cecilia Magnusson Sjöberg 'The Swedish Administrative Procedure Act and Digitalisation' (2018) 65 Scandinavian Studies in Law 309.

[103] See infra.

[104] Regulation (EU) 2022/2065 of the European Parliament and of the Council of 19 October 2022 on a Single Market For Digital Services and amending Directive 2000/31/EC (Digital Services Act) (Text with EEA relevance) PE/30/2022/REV/1 OJ L 277 p. 1–102.

[105] See final draft published in February 2024 chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://data.consilium.europa.eu/doc/document/ST-5662-2024-INIT/en/pdf.

[106] See eg Article 68a of the EU AI Act.

[107] See 'Constitutionalism', Stanford Encyclopedia of Philosophy https://plato.stanford.edu/entries/constitutionalism/.

[108] Giovanni De Gregorio, 'The rise of digital constitutionalism in the European Union' (2021) 19(1) International Journal of Constitutional Law, 41; Oreste Pollicino 'The quadrangular shape of the geometry of digital power(s) and the move towards a procedural digital constitutionalism' (2023) 29(1-2). Eur Law J. 10; see also Edoardo Celeste, 'Digital constitutionalism: a new systematic theorisation, International Review of Law' (2019) 33(1) Computers & Technology 76.

[109] de Abreu Duarte et al (n 23).

[110] C-131/12 *Google Spain and Google* EU:C:2014:317.

to private companies towards individuals, with the view to protect fundamental rights in the digital space. From this perspective, digital constitutionalism has partially transformed the nature of constitutionalism as a vertical phenomenon into a 'diagonal' one: public law guarantees have been extended to private digital entities due to the position of power in which they find themselves in the digital environment. A similar development has occurred in jurisdictions where courts have imposed duties stemming from compliance with constitutional rights in the case of content removal.[111]

While digital constitutionalism as applied to private actors has been explored in literature, less has been said on the way in which digital constitutionalism concerns public actors. As a matter of fact, digitisation is also increasingly involving the state entities and the exercise of public powers. Instances are offered both in the Member States and in the EU. To name but one example, the EU has recently adopted the European Travel Information and Authorisation System, set to fully enter into force by August 2023, which will transform the EU travel authorisation system in into an automated IT system.[112] Accordingly, courts in the EU and the Member States will be exposed to novel legal issues stemming from the intersection between digitisation and public power. How courts will tackle these questions will not only shape the direction of digital constitutionalism, but, more importantly, the boundaries of the digital state's powers.

The questions thus far brought before courts in the areas of ADM and AI are of different nature, ranging from the implications of generative AI in the intellectual property field,[113] to the use of AI for automating administrative or judicial decision making,[114] or the deployment of machine learning for the purposes of discovery (the so called 'e-discovery').[115] The impression that emerges from these cases is that algorithmic systems have engendered significant uncertainty as well as instances of 'irrationality' in decision making and legal activities. Faced with such uncertainty and irrationality,[116] judges have responded in different ways. Two categories of decisions can be identified. While some judicial decisions have minimised AI risks and influence on human decision making, others have more clearly articulated and managed through legal guarantees the risks posed by algorithmic systems to human activities and, especially, decision-making. Each approach has its own benefits.

By minimising the impact of AI on human activities, under the former approach courts have focused their attention on human decision-making; accordingly, they have applied traditional rules and principles to AI but not necessarily a higher scrutiny in light of the risks of ADM and

[111] See for instance the German jurisprudence on content moderation and freedom of expression, eg Court of Appeal, 18 U 1491/19 Pre, Administrator of Bayern Souverän v. Facebook Ireland Ltd. For a discussion, see Erik Tuchtfeld 'Case law on content moderation and freedom of expression' (Columbia Global Freedom of Expression, 2023) https://globalfreedomofexpression.columbia.edu/wp-content/uploads/2023/06/GFoE_Content-Moderation.pdf.

[112] European Union, 'Welcome to the Official ETIAS Website' https://travel-europe.europa.eu/etias_en.

[113] Gill Dennis and James Talbot 'NYT sues OpenAI and Microsoft in latest AI copyright spat' 3 January 2024 https://www.pinsentmasons.com/out-law/news/nyt-sues-openai-and-microsoft-in-latest-ai-copyright-spat; [2023] UKSC 49.

[114] See infra.

[115] [2022] EWHC 2024 (Pat).

[116]Marco Almada, 'Automated Uncertainty: A Research Agenda for Artificial Intelligence in Administrative Decisions' (2023) 3(1) Review of European Administrative Law Automated Uncertainty 137.

AI. Under this perspective, the automated systems appear as a mere tool supporting human decision-makers and actors, but not the fulcrum of authority and decisional making powers. However, through this approach, courts may not capture the challenges of automated decision making, which, in turn, would translate into excessive evidentiary requirements for individuals wronged by AI and seeking to prove the damages.[117] Such an approach strengthens the techno-bias that governs the interplay between human and machines.[118]

Under the second approach – which seems becoming dominant in the global jurisprudence of AI, as the following paragraphs illustrate – whereby judges have more clearly embedded and regulated the risks posed by algorithmic systems, pre-existing rules have helped to better clarify and articulate the governance of algorithmic decision making. Different legal arguments have been used to tame algorithmic uncertainty, ranging from fundamental rights' protection to various legal public law-oriented frameworks. At the same time, the advantages of judicial interpretations are limited due to the nature of judicial decision making. In other words, judgments can certainly solve the individual cases, but they do not always provide comprehensive solutions to broader issues of regulation. The protection against algorithmic harms can be more effectively achieved and broadened through legislative measures having *erga omnes* effects.[119] Notwithstanding the limitations in terms of scope, this approach is more desirable: through judicial interpretation, courts have been able to mitigate the risks stemming from algorithmic decision making and thus offer individuals enhanced legal protection.

The following sections illustrate selected judgments falling into these two categories: these are the *Loomis* case for the first category,[120] and decisions no 2018-765 DC of the French Council of State,[121] no 2270/2019 of the Italian Council of State,[122] and *Ligue des droits* of the Court of Justice of the EU[123] for the second category. The case law analysis will offer insights on the role of courts as ex-post regulators of ADM and AI, and how this jurisprudence impacts the current judicial power's crises.

3.1. Understating the risks of AI: *Loomis v Wisconsin*

An emblematic decision in which the risks of ADM were, to a certain extent, understated is *Loomis v Wisconsin*, issued by the Wisconsin Supreme Court in 2016.[124] It is one of the first cases in which a court was called to review an assessment produced by an automated risk assessment tool. Automated Risk Assessment (ARA) 'refers to a process of identifying potential risks by using computer systems, algorithms, or data analysis techniques to evaluate

[117] These questions are addressed under the EU proposal for the AI Liability Directive, Proposal for a Directive of The European Parliament And Of The Council on adapting non-contractual civil liability rules to artificial intelligence (AI Liability Directive) COM/2022/496 final.
[118] See Setafnia Milan 'Technosolutionism and the standard human in the making of the COVID-19 pandemic' (2020) 7(2) Big Data & Society.
[119] Pollicino, (n 12)
[120] *Loomis v. Wisconsin*, 881 N.W.2d 749 (Wis. 2016), cert. denied, 137 S. Ct. 2290 (2017).
[121] French Constitutional Council (FCC), Decision No 2018-765 DC of 12 June 2018, NOR : CSCL1816349S, Official Journal n°0141 of 21 June 2018.
[122] Italian Council of State (ICC), decision n. 2270/2019.
[123] Case C-817/19 *Ligue des droits humains* EU:C:2022:65.
[124] *Loomis* (n 120).

risks in a given context.'[125] The ARA relies on big data, extensive datasets and machine learning techniques.

Mr Loomis was found driving a car that had been used in a shooting. He was arrested and pleaded guilty to eluding an officer. In determining his sentence, the judge of first instance looked at his criminal records as well as his risk score assigned by a tool called COMPAS. A privately developed tool, COMPAS classifies the re-offending risk of individuals based on the answers to a questionnaire. Mr Loomis challenged the use of COMPAS as contrary to his due process rights, and his action ended before the Wisconsin Supreme Court. He argued that the choice of gender and other factors to evaluate the risk of recidivism through COMPAS was contrary to due process. This is because, for instance, COMPAS scored men higher than women in recidivism levels, and there was no transparency on how the system allocated the risk scores. The developers of COMPAS had not disclosed the algorithm or the training data leading to this bias.

The answer from the Wisconsin Court is remarkable. First, the judgment acknowledges that COMPAS has limitations that impact its accuracy, such as the fact that black defendants were 'far more likely than white defendants to be incorrectly judged to be at a higher risk of recidivism'.[126] To address these risks, the Court considered that any Presentence Investigation Report (PSI) including COMPAS assessment should be subject to specific disclosure requirements to enable courts to better assess the accuracy of the assessment and the appropriate weight to be given to the risk score. Among these requirements, the PSI should disclose whether cross-validation studies have been completed, and whether the proprietary nature of COMPAS has been invoked to prevent disclosure of information relating to how factors are weighed or how risk scores are to be determined.

Moving on to the evaluation of the compliance of Mr Loomis' due process rights, the Court noticed that COMPAS tends to score high on the risk scale individuals who have not committed any offence but belong to specific groups that are considered as high risk. Hence, while COMPAS could provide useful information to evaluate and weigh several express statutory sentencing considerations such as criminal history, and the likelihood of affirmative response to probation or short term imprisonment, due process implications require careful consideration of the COMPAS risk assessment for individual defendants.[127] Yet, the Court did not apply a strict scrutiny in light of these very risks. The Court considered that there was no breach of due process rights notwithstanding the bias intrinsic to COMPAS. In the Court's view, COMPAS' reliance on gender as a factor to assess the risk was unproblematic. The weighing of gender as one of the elements to decide on recidivism could only aid judges in adopting their decision.

[125] Simona Demkova, 'The EU's Artificial Intelligence Laboratory and Fundamental Rights' in Melanie Fink (ed), *Redressing Fundamental Rights Violations by the EU: The Promise of the 'Complete System of Remedies'* (Cambridge University Press, forthcoming), Available at SSRN: https://ssrn.com/abstract=4566098.
[126] *Loomis* (n 120) para 63.
[127] Ibid, para 74.

The Court then assessed whether the use of COMPAS for sentencing purposes was in itself incompatible with due process because of the limitations of the system. This argument was rejected. The Court argued that several cautions were put into place to mitigate the risks of COMPAS; additionally, it stated that the same decision would have been reached even without using COMPAS.

Loomis is a seminal case insofar as it initiated a debate on the interplay between human and ADM systems. As the same time, in reaching its outcome, the Supreme Court of Wisconsin understated the potential of COMPAS in shaping the sentencing decision, and did not delve into the question of how technological and statistical flaws of ARA system could hinder due process rights. *Loomis* clearly showcases that, by understating the risks of AI, fundamental rights may be potentially undermined. The lack of transparency of algorithmic systems has been long identified as an issue affecting due process rights and the ability to effectively challenge automated decision making,[128] and it is regrettable that the Wisconsin Court did not provide safeguards in this respect.

Loomis further illustrates the crucial role of courts as ex-post regulators of ADM and AI. Through judicial interpretation, they can shape the way in which digital technologies can affect individual entitlements and freedoms. In this case, it is remarkable that the Wisconsin court did not activate its role of protector of rights and find against COMPAS. Were courts to systematically adopt technophile stances, then individual rights' protection could be significantly undermined in the absence of regulatory frameworks that seek to protect individuals against the opacity and irrationality of digital technologies. In turn, this line of cases could potentially lead to worsening the contestation crisis affecting judicial power.

However, several judgments have struck a different balance, and have better regulated ADM's risks through law. Accordingly, existing public law guarantees have acted as a safeguard against the perils of automation. In so doing, these decisions contribute towards a more herculean articulation of digital constitutionalism in relation to the challenges posed by digital technologies.

3.2. Mitigating the risks of AI as a crucial element to decision making

A first case to consider is the decision no 2018-765 DC of the French Constitutional Council.[129] In that decision, the Council was asked to review the compatibility with the French Constitution of the law transposing the General Data Protection Regulation (GDPR) in France. One of the arguments submitted by the applicants was that the law transposing the GDPR was incompatible with several national laws and the Constitution in so far as it introduced instances in which decisions that produce legal effects may be taken solely on the basis of ADM.[130] The assumption of the claimants was therefore that ADM intrinsically bears risks and

[128] Melanie Fink and Giulia Gentile, 'Article 41: the right to good administration' in Alexandra Giannopoulou *Digital rights are charter rights* (2023) 34-37; Roman V. Yampolskiy, *AI: Unexplainable, Unpredictable, Uncontrollable* (CRC Press, 2024); David Gunning et al., 'XAI—Explainable artificial intelligence' (2019) 18(4).Sci. Robot. eaay7120(2019).DOI:10.1126/scirobotics.aay7120.
[129] FCC (n 121).
[130] See Article 22 GDPR.

should be limited in its scope of application. Notably, ADM used by administration was alleged to impact individual freedoms against an opaque use of data by the algorithm.[131]

The Constitutional Council observed that several guarantees were in place to deal with the risks of ADM,[132] and, therefore, the introduction of this new category of decisions was compatible with the French Constitution. In particular, the Council noted that, first, the criteria used for personal data processing for ADM purposes had to be agreed in advance; second, the use of ADM by the administration was to be disclosed in the administrative decision, which could be subject to judicial review; third, the administrator processing personal data for the purposes of ADM was required to manage the algorithmic processing and its changes in order to be able to explain, in detail and in an intelligible format, to the person in question how the data processing was conducted.

In adopting this decision, Constitutional Council appeared conscious of ADM's risks, and legal safeguards were therefore a crucial condition to ensure the lawfulness of solely ADM. While both the Wisconsin and French judges did not find any violation of fundamental rights, the latter judges clearly stated that only the presence of a set of guarantees enshrined in law – as opposed to the factors to be taken into account identified by a court – could 'save' decision-making exclusively on automation. Hence, a pivotal difference between these courts is the perception of the risks entailed by ADM, and their respective use of the law to manage those very risks.

Another notable case illustrating the role of courts in managing the risks of ADM through judicial interpretation is the Italian Council of State's decision no 2270/2019.[133] The dispute arose following a public concours for teachers. The winners of the concours were allocated to schools through an algorithm. The applicants in the case lamented that the algorithm used for this purpose was irrational, insofar as it assigned teachers having a lower score to schools in cities that were in proximity to their place of residence, while those having obtained higher scores were allocated in distant areas from their residence.

In its judgment, the Council firstly stated that a digital administration has in principle many advantages,[134] such as enhanced efficiency and speedier decision-making. It then outlined the safeguards that should be in place to ensure that algorithms issue lawful administrative decisions. On the one hand, the algorithms used by the administration should be 'comprehensible' and transparent.[135] On the other hand, algorithms should be subject to the full scrutiny of judges, in order to verify that the algorithmic decision was taken in compliance with the principles and rules of administrative law.[136] Both guarantees were deemed as necessary to ensure the lawfulness of algorithmic decision making. In the case at stake, the Council found that the lack of transparency on the way in which the algorithm had allocated the winners to various cities, as well as the 'illogical' outcome of the algorithm, revealed the unlawfulness of the automated administrative decision.

[131] FCC (n 121) para 66.
[132] Ibid, paras 71 and 72.
[133] ICC (n 122).
[134] Ibid, para 7.
[135] Ibid, para 8.2.
[136] Ibid, para 8.3.

Similarly to the French Constitutional Council, the Italian Council of State used the law as a guardrail against the uncertainty and the illogicity of algorithmic decision making. What is more, the Council of State applied an in-depth scrutiny and assessed whether the outcome of the algorithm could be justified. Differently from the Wisconsin Supreme Court, the Italian Council of State did not assume the correctness of ADM or that the administration would have reached the same conclusion without the algorithm, but looked how fairness was achieved in practice. As a result, it declared that the algorithm in question breached several principles of Italian administrative law.

Finally, a decision worth of mention is the *Ligue de droits* judgment delivered by the European Court of Justice. The case stemmed following a preliminary ruling request from a Belgian court concerning the compatibility of the national measure implementing the so-called PNR Directive, regulating the use of personal data from flight passengers,[137] with EU law. The decision discusses at length the compatibility of the PNR Directive and the Belgian implementing measures with the GDPR and the fundamental right to data protection. But for our purposes, it is of relevance that the Court of Justice indicated that the opacity of automated decision making may intrinsically be contrary to Article 47 of the EU Charter, protecting the right to an effective remedy.[138]

These judgments reveal a more cautious approach from the European judiciaries to ADM and AI and their risks, especially when used for the exercise of public powers. A common feature of the two categories of jurisprudence considered is the application of pre-existing rules to questions of automation, opacity and irrationality by algorithms. Court do not have developed new principles, but adopted existing ones to the questions raised by AI. However, in this second category of cases, courts have more effectively protected individual interests against the irrationality of algorithmic decisions. In so doing, courts will certainly encounter the approval of the supports of liberal constitutionalism and fundamental rights; backlashes are likely to stem from those adopting a pro-technology stance.

How does this emerging jurisprudence ultimately impact the crises of judicial power?

3.3. Courts as regulators of AI and the crises of judicial power: cutting the Gordian knot?

The considered judgments demonstrate how courts can act as ex-post regulators of the uncertainty originating from AI by using existing legal guarantees. The law was used, although to varying extent, to manage the risks of AI. In this context, we should reflect on what the considered cases reveal on the potential of courts as ex-post AI regulators from the angle of the crises of judicial powers. Could the jurisprudence on AI and ADM solve, or at least mitigate, the contestation and the inefficiency critiques raised against judicial power? The truth is, how the emerging jurisprudence on AI impact the contestation towards courts and their legitimacy remains to be seen. The case law is still settling, and several judgments are yet to be decided. However, the following observations can be submitted.

[137] *Ligue de droits* (n 123).
[138] Ibid, para 195.

First, and unsurprisingly, criticisms on how courts deal with the application of the law with reference to AI are likely to emerge. AI regulation is still under development and courts are therefore operating in a highly volatile legal environment. The way in which courts apply the law to AI legal issues could strengthen liberal interpretations of the law. In turn, this jurisprudence could fuel criticisms towards the 'unpredictable' judges, but it may be welcome by the supporters of rights and individual protections. In other words, the role of this case law in dealing with contestation towards judicial power may not differ from any other jurisprudence having liberal elements – the 'liberal interpretations' of the law with reference to AI mostly arising due to the scarcity of rules. This case law would certainly feed into a form of liberal digital constitutionalism. An aspect that will deserve attention is the equivalence of protections and rules between the physical and the digital constitutional worlds.[139]

Second, while some criticisms have already remarked the 'pro-active' role of courts in regulating the digital environment,[140] the fact remains that courts are offering safeguards against the disruptive power of digital technologies and their adverse impact on individual entitlements and society at large. Judges are de facto contributing towards the *efficiency* of the regulatory landscape by partially compensating the inaction of the legislative power with reference to AI. In the absence of more detailed AI regulations, litigation cannot provide complete answers, but can at least offer some useful guidance on the legal questions that AI raises. In so doing, courts act as strongholds, upholding a society based on the rule of law (and not the rule of AI).

All in all, the reactions to the jurisprudence on AI and the extent to which it is likely to influence judicial power are still in development. The road is still long until AI will be both effective and safe, and thus trustworthy. In the meantime, a risk-based approach by the judiciary grants effective guarantees against the uncertainties of AI, and should guide the development of regulatory frameworks across the world in this area.

4. Conclusion

Courts are centres of attention in the digital society: they are the addressees of several reforms involving the use of AI, while also being called to decide novel questions on this technology. These transformations to judicial systems are taking place in a context of several crises for judicial power. In recent years, judicial power has experienced crises of efficiency, legitimacy and authority because of the wave of contestation that courts across the world have encountered.

It is in light this background that the role of AI in reshaping judicial power should be considered, since it is often described by scholars and regulators as a solution to improve justice systems. The paper discussed the role of courts as users and regulators of AI. Under a

[139] Chris Reed and Andrew D Murray, *Rethinking the Jurisprudence of the Cyberspace* (Edward Elgar, 2018), especially Chapter 8; Gentile, Giulia, Between Online and Offline Due Process: The Digital Services Act (August 24, 2023). in Annegret Engel and Xavier Groussot (eds.), New Directions in Digitalisation: Perspectives from EU Competition Law and the Charter of Fundamental Rights (Springer, Forthcoming), Available at SSRN: https://ssrn.com/abstract=4550655. For a discussion on the non-coherence theory, Mart Susi, *The Non-Coherence Theory of Digital Human Rights* (CUP, 2024).
[140] Pollicino (n 12).

user perspective, several limitations of the current ADM and AI systems affect the ability to improve the efficiency of courts. This is because the efficiency gains would be lost against, among others, the lack of trust that the public has vis-à-vis AI systems, and lengthy processes of digitisation of the judiciary. The picture is not brighter with reference to the impact of AI on contestation: when they embed algorithms, courts may in principle encounter less contestation due to potential higher levels of efficiency. Yet, a certain degree of contestation will survive, and the opacity of algorithmic courts can only exacerbate the inability to challenge automated decisions and, ultimately, contestation against judicial power.

Looking at courts as ex-post ADM and AI regulators, they have risk-managed to diverging degrees the uncertainty stemming from AI. Two categories of judgments can be identified: those in which courts have, to a certain extent understated, the risks of AI, and those that have instead more clearly articulated and managed them through the law. Among these two categories, the latter is preferable, as it offers better guidance and protection against algorithmic irrationality still permeating ADM systems. The emerging jurisprudence of ADM and AI is still settling, and it remains to be seen how it will impact judicial power more broadly from the angle of the efficiency and the contestation critiques.

All in all, digital technologies such as ADM and AI do not appear as a solution to the crises of judicial power. The complexity of judicial power itself, coupled with the multi-layered socio-constitutional landscape in which courts operate, are in sharp contrast with the predictable, computable nature of algorithms. In such a fast-paced and evolving legal environment, courts have been both ex-post regulators and targets of AI reforms. They may also reveal to be the constitutional actors that will better respond and manage the advancement of AI, because of their impartiality and independence from other political powers, and their role as protectors of rights.