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Lawyers and the Machine. Contemplating the Future of Litigation in the Age of AI

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Abstract. The possible impacts of artificial intelligence (AI) on the modern world constitute a complex field of study. In our analysis, we attempt to explore some possible consequences of the utilization of AI in the judicial field both as regarding adjudication, formerly exclusively reserved for human judges, and in the rendering of legal services by attorneys-at-law. We list the main factors influencing technology adoption and analyse the possible paths the automated management and solution of disputes may take. We conclude that the optimal outcome would be a cooperation of human and artificially intelligent factors. We also outline the conditions in which, following the abandonment of the principle of procedural fairness, AI may be directly utilized in judicial procedure. We conclude that big data solutions, such as social rating systems, are particularly concerning as they constitute a conceivable modality of deploying AI to solve litigious disputes without regard to fundamental human rights as understood today.

Keywords: artificial intelligence, automatic decision making, attorney-at-law, judges, social rating system

1. Introductory Thoughts

The possible impacts of artificial intelligence (AI) on the modern world constitute an ever more complex field of study. Speculations abound regarding the effects, both benign and malign, which developments in this field may have in the world of work, business, education, the public and the private sphere. There are already tangible implementations of AI but far fewer than the proposed uses. As AI is likely to touch all fields and domains of human activity, even if the stark warnings of some detractors are unlikely to materialize, we must proactively contemplate

its effects. In our study, we attempt to explore some possible consequences of the utilization of AI in the judicial field, both as regarding adjudication, formerly exclusively reserved for human judges and other similar personnel, and in the rendering of legal services, by attorneys-at-law. Lawyers – in the wider sense of the term (referring to all experts of law, regardless of their profession) – will inevitably be affected by the emerging uses of AI. Some authors[1] have explored this question with a varying degree of optimism, pessimism, and sense of certainty about the changes which may occur, prophesizing both upheaval and gradual adaptation. Such predictions should, however, be carefully scrutinized.

2. AI and the Adoption of New Ideas

All change, be it economic, technological, or – alas – even legal, may only take place if a problem, a more optimal solution than those previously available,[2] the political will for implementing such a solution, and a popular desire to have the solution implemented are available, all at the same time. History abounds with examples of solvable problems which remained unsolved even though the concepts, means (such as inventions), and methods (such as legal norms) meant to resolve them were already available. We need not look further than one of the oldest, gravest problems which 'plagued' mankind: disease. Microscopes were available as early as the 17th century, and with them also the knowledge of microorganisms. The possibility that these so-called 'animalcules' may cause disease was raised simultaneously with the advent of microscopy.[3] Yet it was only in the late 19th century that germ theory became accepted as scientific fact, leading to the employment of pre-existing means for treating a pre-existing problem. Now defunct theories of transmissible disease, rooted in irrational notions inherited from antiquity, such as the miasma theory,[4] lingered on long into modernity, a supposedly more rational age, without any scientific evidence to support them. For lack of popular acceptance of a scientific solution, countless lives were lost.

We mean not to digress here but to provide a useful analogy to which we may refer to in the following analysis of the proposed effects of AI on the legal professions. The fact that germ theory failed to 'catch on' for several centuries, even in the light of mounting evidence, should caution us whenever we contemplate the usefulness of discovery, or scientific and technological innovation for solving problems, even when in theory such innovation would be game-changing. This is all the truer in the legal field, strongly permeated by a rich mesh of intertwined

1 See Susskind–Susskind 2015.
2 See Kuhn 1970.
3 Williamson 1955. 46.
4 Williamson 1955. 45.

interests, tradition, institutions, and politics. After all, the personal computing revolution has been ongoing for decades, yet the usefulness of computers as veritable replacements for the human factor in the justice system is only now being seriously contemplated.

The complexities of litigation (familiar to attorneys) and the intricacies of adjudication, which sometimes challenge the best and brightest human judges, are all too well known and should not be reiterated here. When thinking about the implementation of AI to automate these processes, we should not forget that the much simpler activities routinely undertaken by other legal professionals, such as public notaries, have not yet been automated. While secure authentication of persons is possible (inter alia, by use of various forms of biometric information), rendering contracts concluded in electronic form all but irrefutable (in the same way banking operations conducted over the Internet are considered to be), the cooperation of a notary public is still required by law for the validity of certain deeds in many countries, even when these are no more complex than filling out forms with predetermined contents and then signing them. A computer system is as able as any human being to ascertain the identity of the signatory, the fact that the document has been filled out correctly as well as the date at which it was concluded. Such systems have been able to do so for nearly two decades, yet notaries public did not and do not seem to be threatened by the kind of 'transformation' akin to extinction Susskind and others envision for attorneys-at-law in their current form. So, the question arises: will AI ever even be implemented in the judicial field?

In order for us to even attempt an answer to this question, we must, even if superficially, delve into the dizzying array of technology adoption models which have been developed over the years.[5] Various models offer various answers to the factors which most influence technology adoption, but some common traits can be discerned from these. In more recent research, the so-called Unified Theory of Acceptance and Use of Technology (UTAUT) model has been developed in order to predict the adoption of new technologies.[6] This model emphasizes the importance of *behavioural intention*, that is, the intention of a person or organization in adopting new technology. While the UTAUT model is vastly more complex than may be presented here, the volitional element of behavioural intention should be emphasized for the purposes of this study.

This intention is augmented by the belief that utilization of the system will increase performance or productivity (*performance expectancy*). If the potential users believe the new technology to be easy to use, this will also count towards its adoption. The opposite is true if the technology is expected to be difficult to use (*effort expectancy*). Lastly, if it is believed that the institutional framework

5 See Patel–Connolly 2007.

6 Viswanath–Morris–Davis–Davis 2003. 446–467.

which offers support in the use of new technology (such as easy-to-access advice, training, etc.) is present, this will also contribute to its adoption, while the absence of such framework will discourage the adoption of new technology (*facilitating conditions*). The demographic profile of the users (age, gender), their experience (i.e. technological experience), and the degree to which some have already voluntarily adopted the new technology may also count for, or against, its wider spread.

Taking these factors into account separately, and in various particular situations, will be the key to predicting whether AI will ultimately 'catch on'.

3. The World of Tomorrow in the Judicial Process

The conclusions of the Woolf report regarding civil justice (and perhaps justice in general) are all too familiar to us, even decades after they were first put to paper: 'The key problems facing civil justice today are cost, delay and complexity.'[7] Here then lies the problem to be solved.

The means to solve it, information technology, has been with us for nearly three decades. Yet the solution seems not to have been applied to the problem. Even in developed jurisdictions, not to speak of Eastern Europe, solutions based on information technology cannot be considered abundant, with the best intentions (as is evident from other writings in the present issue of this journal).

A patchwork of experimental schemes and pilot projects cannot reasonably be deemed a revolution, yet the predictions of Susskind and others are unwavering: a new era is upon us, when technology will – eventually – transform the legal profession. We mean not to say that technology has not brought any change at all: the activity of attorneys-at-law and that of judges was to a certain degree transformed by the use of computers, e-mail, real-time image and voice transmission, the ready availability of searchable legal texts and of jurisprudence. All these may be deemed a progress in themselves. However, the predicted revolution failed as of yet to materialize. Computer technology was never extended into the courtroom and into the mind of the adjudicator itself in an all-encompassing manner. The attorney or the judge may have access to electronic resources, to the case file in scanned form, even with searchable content, to the applicable law, and to the relevant jurisprudence in electronic databases. Yet weighing the facts, applying the law, upholding procedural guarantees, and rendering the decision have not yet been automated. As with other emerging technologies, such as the blockchain,[8] and the age of cryptocurrencies and the smart contracts it heralds, AI seems to have delivered a lot less then promised.

7 Wolf 1997. 709.

8 For a few such predictions, see: Flood–Robb 2019.

This apparent failure is due to the ways in which the implementation of emerging technology tends to unfold but also to the quite limited capabilities of the technological solutions themselves. It is not just necessary for a technology to be possible or even available. A myriad of factors influences its percolation. Performance expectancy, effort expectancy, and facilitating conditions, intrinsically linked to the institutional framework in which the new technology is to be deployed, all have their roles to play.

4. What Can AI Do for Lawyers

Whenever we think of AI, the concept of artificial intellect, or artificial general intelligence (AGI) comes to mind.[9] An intelligent and perhaps omniscient entity, capable of perceiving the material world, understanding spoken and written human language, cognition and emotion, of rendering complex judgements with utmost speed and objectivity is still the technology of tomorrow, and it is possible it will always be. Too many predictions of the future are still based on this utopian concept. The methods for attaining an ever more generalized form of artificial intelligence are numerous and diverse. For non-initiates, Boden lists these simply as 'heuristics, planning, mathematical simplification, and knowledge representation'[10] methods.[11] We shall not attempt to present these methods here, limiting ourselves to stating that the field of AI is a populous zoo filled with all manners of creatures, having sometimes wildly differing characteristics. Therefore, AI is an insufficiently precise concept when dealing with its applications, both current and future, in the judicial field.

The form of AI most often referred to in discussions nowadays is called machine learning[12] (although this concept is only marginally less fuzzy than artificial intelligence itself). This is limited to discerning or recognizing pre-existing patterns in large amounts of data and offering a certain output based on the patterns recognized. The methods used for pattern recognition may vary, making them a universe onto itself, the functional intricacies of which are better left to studies of a more technical nature. What should be emphasized here are the effects of such machine learning algorithms, specifically their uncanny ability for pattern recognition in apparently unrelated data and for prediction of apparently inscrutable future outcomes. It is our view that these effects should be the main focus of study when the impact of artificial intelligence on legal professions is examined.

9 See Boden 2018. 18–19.

10 See Boden 2018. 20–49.

11 For a discussion on AI methods as applicable to the activities of a judge, see also: Schubbach 2019.

12 See: Boden 2018. 69–89, Johnson 2019. 1232–1239.

Of course, machine learning is quite apt at data systematization and retrieval too, which may also benefit the judicial process by eliminating the human factor so relevant in obtaining, processing, and presenting evidence and in working out and refining the legal argumentation in the case. These aspects of AI, however (while impacting lower and even higher-added-value legal work, as correctly recognized by Susskind), offer little in the way of revolutionary change, simply constituting a more evolved form of what expert systems were meant to do. These were developed beginning all the way back in the 1980s and were intended to achieve a limited goal: an automated way of assisting human experts, complementing their abilities, by removing non-creative repetitive tasks from their workload.

Since developments in the field of information gathering, systematization, and retrieval now permit a wider deployment of such systems, their use has mushroomed. Thanks to machine learning, they are now being used to identify relevant judicial precedents, sort the 'wheat from the chaff', during litigation by filtering documentary evidence to discern the admissible from the inadmissible,[13] and so on. They make the work of attorneys and judges easier but tend not to replace these professions, only to augment their abilities. In this view, lawyers and the machine may coexist in a feedback loop in which big data systems permit human operators to better document cases in fact and law, leading to better decisions which in turn result in a more constant jurisprudence, which feeds back into databases for such jurisprudence, parsed by AI and presented to human operators in order to further refine legal argumentation, and so on. In such implementations, human beings are – by definition – in the loop.

In this model of thought, the implementation of AI by lawyers, and in the judiciary as a whole, should be imminent and inevitable as all the requirements for the adoption of new technology, as presented above, would be conducive to such a result. In this feedback loop, the intrinsic understanding of the technology employed is almost unnecessary so long as it yields satisfactory results to human attorneys, which are found acceptable by human judges. Thereby, a high performance expectancy and a low effort expectancy would be associated to these solutions. They would also be facilitated by the need for an efficient, low-cost judicial system.

Since the machine does not take over decision making from the human factor, the world would be considered unchanged when the societal and political dimensions of rendering judicial decisions, a phenomenon masterfully described by Damaška,[14] are concerned. The judge would be free to consider the legal reasoning when solving the dispute, while leaving room in the decision for the implementation of whatever policies the character of judicial (civil or criminal) procedure is meant to convey (as all procedural systems in Damaška's view do to

13 See Keeling–Huber-Fliflet–Jianping–Chhatwal 2019.

14 See Damaška 1986. 147–180.

some extent). This would be the 'better mousetrap' view of artificial intelligence when applied to lawyers: a mechanism (however complex) for attaining improved outcomes in an institutional system which remains unaltered when it comes to the fundamentals of its workings.

This future of AI should not concern us any further since it would not alter the framework in which the activity of legal professions takes place. By not delegating decision making to an algorithm, merely using it to automate the information gathering phase of the procedure (the collection, sorting and indexing of evidence, the identification of applicable law and judicial practice, or precedent when necessary in the given legal system), we can assure respect for procedural guarantees and prevent bias. Such a model for AI implementation would also alleviate the issues of opacity[15] and the lack of human-readable reasoning, which necessarily arise if we adopt the model of a robot judge, or automated litigation, as we shall see in the following. We deem this modality of AI adoption to be preferable to all others when the future of the legal professions is concerned.

5. ADM – The Robot Judge

As opposed to an AI-assisted future of judicial procedure, in which computers are relegated to providing the ingredients to a well-founded decision, there lies the model of *automated adjudication* (automated claims processing). In this model, AI would not (only) be engaged in gathering the necessary information for assisting human beings in rendering a judicial decision but would also either propose or, indeed, impose the contents of such decisions.

There have been attempts with varying degrees of success in implementing systems for automated claims processing. For these, various orders for payment or small claims procedures in different countries may be provided as examples. However, in these cases, automation does not apply to any judgements on the merits of the claim but simply to the automated management of the creation, storage, postage, and, if applicable, enforcement of documents, which can scarcely be called judicial decisions. They are, in reality, documents attesting to a debt which may be enforced if the debtor was not diligent enough or lacked the ability to contest their contents in the time period provided. They are, in essence, no different to invoices issued automatically by electronic billing systems. No adjudication activity takes place prior to them being issued, and no procedural guarantees, such as a right to defence, are provided. Any such guarantees are reserved for the judicial procedure, which might take place if the decisions rendered are contested. Such systems present significance from the standpoint of AI because they show a desire by legislators to replace the human judge or,

15 See Chesterman 2020.

better said, adjudication as an activity, whenever this is perceived as feasible. The tendencies for the implementation of such systems also show the possible places in which we should look for the first true AI judges. Summary procedures or small claims procedures tend to be predictors of the direction in which procedural norms are likely to develop in the future, and this may be the case also when AI implementations are concerned. Voluntary procedures specific to the sphere of alternative dispute resolution (ADR) should also be watched as they are more likely than not to become testbeds for AI technology in adjudication due to their confidential nature and the much laxer procedural guarantees applicable to them.

An interesting attempt at implementing a true AI judge is underway in Estonia[16] for claims not exceeding 7,000 euros; however, its results are not yet widely visible. This mode of litigation is not similar to automatically issuing small claims decisions as the AI agent would in fact act as a true judge, analysing submitted documentary evidence on its merits and rendering a solution, which would only be subject to appeal to a human judge. The meaning of this 'appeal' is not yet known. But as anyone versed in judicial procedure knows, the notion of appeal may hide varying degrees of judicial review: it may refer to full review (of the facts, the substantive law, and applied procedural norms, or, as the case may be, of judicial precedent) but also to partial review (where only judicial errors of a certain type or gravity are analysed). Appeals may also be subjected to formal requirements, such as legal representation, and may presuppose the advance payment of a fee or tax prior to being considered. All these factors added to a likely submission by judges to the decisions considered issued by a superior entity may in turn erode procedural protection. This type of AI implementation in judicial procedure is called automatic decision making (ADM).[17]

We should not make the mistake of thinking that, once deployed, AI judges will remain exiled to the realms of small claims or even of civil procedure. Already, AI is used to predict the risk of recidivism in criminal procedure, where it shows a concerning degree of bias, due to the data utilized for feeding, or teaching the algorithms.[18] The algorithms which such applications are based on are already deployed in the private sector in medical implementations, in the labour market, in the financial sector, and mostly anywhere where their powerful predictive abilities can be harnessed.[19] AI's ability to predict judicial decisions, for example, in cases when human rights are at stake,[20] is particularly concerning. The risk of bias in implementations of AI is a topic readily discussed in the scientific literature.[21]

16 Niiler 2017.
17 Johnson 2019. 1219.
18 For a discussion of AI use in the COMPAS (Correctional Offender Management Profiling for Alternative) system for predicting recidivism see: Chesterman 2020. 3–6.
19 Johnson 2019. 1215–1217.
20 Lu 2019.
21 See Johnson 2019. 1239–1245. For a detailed albeit technical description of bias in data-driven systems, see: Ntoutsi et al. 2020, Howard–Borenstein 2018.

We must underscore here the types of implementation that an AI judge is currently considered to be applicable to: rendering decisions based on predictions, predictions which in turn result from massive amounts of data that were processed in order to discover correlations (importantly, not causation) which cannot be easily perceived by the human intellect.[22] The AI judge, as things stand, is able to solve cases by predicting behaviours,[23] which are set to take place in the future, or to retrospectively determine which would have been the most likely course of action taken in the past. The quality of such predictions improves as time goes by; however, they remain *predictions*, based on abstract assumptions, not at all time grounded in the realities of the particular cases they are being applied to but founded on the aggregation of big data[24] knowledge.

6. Why One Should Dread the Robot Judge

This predictive, mostly deductive nature of ADM technologies raises the spectre of decision-making mechanisms quite unlike those we are currently used to, which will be applied in the judicial procedure. The crux of the problem here is that the inherently opaque nature of AI, as discussed by Chesterman,[25] is quite incompatible with the desired qualities of a fair trial. In fact, if the notion and prerequisites of a fair trial – as outlined by the European Court of Human Rights, for instance – would remain unchanged, ADM should be considered completely contrary to such a notion, and inadmissible. This would limit the application of ADM mechanisms in judicial procedures to alternative dispute resolution, where, in the measure permitted by law, the free will of the parties prevails over procedural fairness.

The methods by which ADM would be conducted are often inscrutable to human beings.[26] Even if we assume the best intentions of the constructor of such methods, believing that this opacity is not meant to conceal malicious intent or inadvertent bias, the fact remains that ADM mechanisms are unable to give reasons for their decisions in a human-readable, intelligible form. In order to comply with the requirements of a fair trial, a court must be able to determine and then describe in a human-intelligible way the factors on which its decisions are based.[27] Only in this manner may the fairness of some elements of procedure, such as impartiality

22 For a detailed recent analysis of this issue, see: Chesterman 2020.
23 Johnson 2019. 1232 et seq.
24 Ntoutsi et al. 2020. 4.
25 See Chesterman 2020.
26 Chesterman 2020. 4–8, Schubbach 2019.
27 For a description of the jurisprudence of the European Court of Human Rights which imposes this requirement, see: Guide on Article 6 of the European Convention on Human Rights – Right to a Fair Trial (civil limb), 71–72.

and independence (lack of bias) of the court (or the AI judge for that matter), be fully assessed.[28] Also, the right to appeal, if provided by the given procedural system, cannot be exercised should the reasons for the decision being appealed be inscrutable to the appealing party. During any appeal, the requirement for a fair trial must also be, in principle, observed.[29] It is questionable if an AI entity may even be considered a tribunal[30] in the meaning of Article 6, paragraph 1 of the European Convention on Human Rights as the text was drafted in an age when the rendering of judgements by an algorithm was unfathomable.

If we accept that ADM will become part of the procedural landscape of the future, we must unshackle ourselves from basic notions of procedural fairness, taken for granted today. In fact, if the fairness of ADM procedures is to be evaluated, such evaluations are likely to be performed by non-lawyers turning a field already thought to be technical to one quite unintelligible to non-initiates. We consider that the facilitating conditions for such AI solutions as the 'robot judge' are not yet present in Western democracies which remain beholden to the notions of fundamental human rights and, among them, to procedural fairness or the due process of law.

Since the era of the Woolf Report,[31] the tendency in civil procedure has been to make litigation more accessible to the public while simplifying the process. This tendency for accessibility and simplification has seen the role of attorneys-at-law diminish, and an outright hostility against compulsory legal representation form, as a manifestation of efforts directed towards the democratization[32] of justice. For the past decades, the tendency has been to make the application of law less technical, and especially to reduce the role of attorneys[33] (the legal 'profession' to which Susskind most often refers to) in the judicial process. If we accept this tendency as a righteous one, aimed at improving access to justice for the poor, the disadvantaged, and those being discriminated against, then, surely, the solution to their plight cannot be constituted of making a system which still remains labyrinthine even less intelligible to non-professionals. We should add to this the intrinsic incompatibilities of ADM with basic principles of a fair trial, themselves constituting elements of a fundamental human right, while the opposition to ADM is likely to be significant as well. Therefore, we deem it unlikely that ADM would gain prevalence based on popular demand, so long as current trends hold. Lack

28 See: Guide on Article 6 of the European Convention on Human Rights – Right to a Fair Trial (civil limb), 44–53.

29 See: Guide on Article 6 of the European Convention on Human Rights – Right to a Fair Trial (civil limb), 16–18.

30 See: Guide on Article 6 of the European Convention on Human Rights – Right to a Fair Trial (civil limb), 33–34.

31 See Woolf 1995.

32 Assy 2015. 15–21.

33 Backer 2018. 128.

of popular demand, or acceptance for a new technology, may hinder its adoption – as we have seen – even if the technology itself is available and the problem it is meant to solve is widely known.

7. Conclusions. ADM and Current Dangerous Trends

Of course, as Cohen notes,[34] it is possible that judicial procedure in itself will continue to fragment along already existing fracture lines and consolidate widely differing regimes for differing types of litigation, removing certain types of claims from the court process altogether, thereby exposing them to alternative dispute resolution schemes. Such schemes may be more prone to the implementation of ADM. Also, this possible future might result in the 'balkanization' of judicial procedure, yielding various procedural regimes, some based on ADM, others on a human judge.

Popular demand may not be the only driver for the adoption of new technologies. ADM may not just be proposed to ease access to the judicial system, by making procedures faster and cheaper, but it may also be imposed, over the heads of stakeholders, by a state or other entity interested in cost efficiency, reducing the risk of corruption or extending state authority into the judicial process by transforming it into a vehicle of policy implementation as is known to happen[35] in authoritarian regimes. This would, as a necessity, presuppose the transformation of the meaning of a fair trial and that of the notion of judge, and even the notion of justice itself. If we are ready to abandon such requirements and accept the rendering of judicial decisions as a result of statistical probabilities determined by mechanisms inscrutable to most of us, then ADM and the AI judge may become a reality.

In judicial systems, where policy implementation is highly emphasized during the resolution of disputes, transition to ADM is all the more likely. If the structures designed for ensuring the rule of law, manifested in a respect for human rights, are subverted, systems for inducing social compliance, such as the social credit system set to be deployed in the People's Republic of China,[36] may emerge with significant effects in the field of adjudication.

> The Social Credit Initiative is a product of China's 'top-level design' (…) approach; coordinated by the Central Leading Small Group for Comprehensively Deepening Reforms. Its central objective is the development of a national reputation system: assigning a social credit number that reflects a qualitative

34 Cohen 2019. 154 et seq.
35 Damaška 1986. 8.
36 Backer 2018. 127.

> judgment of relevant data gathered about the subject. It will focus on four areas: 'sincerity in government affairs' (…), 'commercial sincerity' (…), 'societal sincerity' (…), and 'judicial credibility' (…). The term 'social credit' actually veils the overall character of the project. Sincerity in this sense means integrity and trustworthiness. The core object, of course, is built around the idea of compliance—that the way one complies with law and social obligation will be as important as the fact that one complies at all. That is a profound step forward from the more ancient forms of law and regulation. The former systems could be satisfied with the merest obeisance to its command; social credit systems judge compliance based on its effects given the spirit of the obligation or responsibility.[37]

If the judiciary is meant to primarily evaluate a tendency for compliance with existing norms, then it may be retooled in order to reward the likely more compliant party, while punishing the likely non-compliant party in any legal dispute. Effort expectancy for those implementing such a system may be low so long as they are not concerned with solving a legal dispute, only with disadvantaging one of the parties based on a perceived or predicted tendency to behave in a certain way, a tendency which may be evaluated, taking into consideration political views or other (such as social, cultural, or racial) factors. This behaviour has already emerged in AI, without any intention whatsoever. It should suffice to think of the COMPAS system and its biased actions against people predicted to be less compliant in the future. Social rating mechanisms have the added advantage of being palatable to the population, which sees in them the institutional manifestation of law and order expectations; thereby, it benefits from a high performance expectancy. Who would not want to live in a society where everyone respects the rules and refrains from antisocial behaviours?

In our view, the compliance enforcement model, in which big data is used to create an honesty rating, which is then utilized by an ADM agent (an AI judge), is much more likely to be adopted than any ADM solution which must meld the current requirements of a fair trial and the rule of law with the abilities of new technology. Efforts made in jurisdictions with legal systems which value compliance and collective action over individual rights may constitute a major facilitating factor for the adoption of such technologies. A social compliance rating system may even be 'sold' to the public as being 'democratic', given the ready acceptance of such rating systems already in use in social networking applications. The number of 'likes' one receives for one's posts on Facebook already incentivizes, or, for that matter, discourages behaviours of a certain type.[38] As correctly noted by

37 Backer 2018. 131.
38 Cohen 2019. 81.

Backer,[39] methods for social control employed by governments sometimes mimic those developed in the private sector (such as credit ratings), leading us from an age of collective rights to one of collective management.

No legal system should consider itself immune from this trend in which entire populations might be 'managed'[40] by a complex administrative framework – reliant on big data and artificial intelligence – of which the judiciary is only one component.

References

ASSY, R. 2015. *Injustice in Person: The Right to Self-Representation*. Oxford.

BACKER, L. C. 2018. Next Generation Law: Data-Driven Governance and Accountability-Based Regulatory Systems in the West, and Social Credit Regimes in China. *Southern California Interdisciplinary Law Journal* 1: 123–172.

BODEN, M. 2018. *Artificial Intelligence. A Very Short Introduction*.

CHESTERMAN, S. 2020. Through a Glass, Darkly: Artificial Intelligence and the Problem of Opacity. Forthcoming, A*merican Journal of Comparative Law; NUS Law Working Paper No. 2020/011*. https://ssrn.com/abstract=3575534 (accessed: 01.04.2020).

COHEN, J. E. 2019. *Between Truth and Power. The Legal Constructions of Informational Capitalism*. Oxford.

DAMAŠKA, M. 1986. *The Faces of Justice and State Authority: A Comparative Approach to the Legal Process*. New Haven (USA).

FLOOD, J.–ROBB, L. 2019. Professions and Expertise: How Machine Learning and Blockchain Are Redesigning the Landscape of Professional Knowledge and Organization. *University of Miami Law Review* 2: 443–482.

GUIDE on Article 6 of the European Convention on Human Rights – Right to a Fair Trial (civil limb). Updated to 31 August 2019 https://www.echr.coe.int/Documents/Guide_Art_6_ENG.pdf (accessed on: 2019.11.30).

HOWARD, A.–BORENSTEIN, J. 2018. The Ugly Truth about Ourselves and Our Robot Creations: The Problem of Bias and Social Inequity. *Science & Engineering Ethics* 5: 1521–1536.

JOHNSON, K. N. 2019. Automating the Risk of Bias. *George Washington Law Review Arguendo* 5: 1214–1271.

KEELING, R.–HUBER-FLIFLET, N.–JIANPING, Z.–CHHATWAL, R. P. 2019. Separating the Privileged Wheat from the Chaff – Using Text Analytics and Machine Learning to Protect Attorney–Client Privilege. *Richmond Journal of Law & Technology*. 3: 1–45.

39 Backer 2018. 140–149.

40 Backer 2018. 160–170.

KUHN, T. S. 1970. *The Structure of Scientific Revolutions*. 2nd edition. Chicago.
LU, D. 2019. AI Judges Make Good Calls on Human Rights Violations but Could Be Gamed. *New Scientist* 243 (17 August 2019): 8.
NIILER, E. 2017. Can AI Be a Fair Judge in Court? Estonia Thinks So. *Wired*. https://www.wired.com/story/can-ai-be-fair-judge-court-estonia-thinks-so/ (accessed: 2019.08.07).
NTOUTSI, E. et al. 2020. Bias in Data-Driven Artificial Intelligence Systems—An Introductory Survey. *WIREs: Data Mining & Knowledge Discovery* 3: 1–14.
PATEL, H.–CONNOLLY, R. 2007. Factors Influencing Technology Adoption: A Review. *Information Management in the Networked Economy: Issues & Solutions*: 416–431.
SCHUBBACH, A. 2019. Judging Machines: Philosophical Aspects of Deep Learning. *Synthese*. https://doi.org/10.1007/s11229-019-02167-z (accessed: 2019.11.20).
SUSSKIND, R.–SUSSKIND, D. 2015. *The Future of the Professions: How Technology Will Transform the Work of Human Experts*. Oxford.
VENKATESH, V.–MORRIS, M. G.–DAVIS, G. B.–DAVIS, F. D. 2003. User Acceptance of Information Technology: Toward a Unified View. *MIS Quarterly* 3: 425–478.
WILLIAMSON, R. 1955. The Germ Theory of Disease. Neglected Precursors of Louis Pasteur. *Annals of Science* 1: 44–57.
WOOLF, H. 1995. The Woolf Report. *International Journal of Law and Information Technology* 2 (summer): 144–155.
1997. Civil Justice in the United Kingdom. *The American Journal of Comparative Law* 4 Symposium: Civil Procedure Reform in Comparative Context: 709–736.