

“How will the rule of law be affected by advances in legal technology?”

Lucy V Mellor

The origins of the rule of law extend as far back as the 4th century BC.¹ In his ‘Treatise on Government’, Aristotle understood it to be a practice of political power, declaring that “...it is as much a man's duty to submit to command as to assume it ... and it is more proper that law should govern than any one of the citizens”.²

The rule of law rose to historical notability again on 15 June 1215,³ when King John signed the Magna Carta and submitted the Crown to the established laws of Middle Age England. It was then subject to the musings of, amongst others, A.V. Dicey⁴ and Joseph Raz⁵ in 1885 and 1977 respectively.

Dicey believed that the most important application of the rule of law was the principle that governmental authority is legitimately exercised in accordance with written and publicly disclosed laws. He added that these laws must be adopted and enforced in accordance with established procedural steps known as ‘due process’, and that the rule of law principally means that nobody is above the law.⁶

Raz favoured a slightly different approach. He was of the opinion that the rule of law involves guiding behaviour and minimising the danger that results from the exercise of arbitrary power. He believed that the law should apply prospectively.⁷

In 2010, Lord Bingham provided us with the most ‘user-friendly’ and accessible definition to date,⁸ identifying a series of ‘sub-rules’ beyond the broader definitions espoused by Dicey and Raz. In summary, he believed that laws must be accessible, intelligible, clear, and predictable.⁹ Laws should apply equally and protect fundamental human rights.¹⁰ Additionally, adjudicative procedures should be fair.¹¹

In light of the above, one may query whether such an established concept, entrenched in the UK’s unwritten constitution, is at odds with the contemporary concept of ‘legal technology’. Legal technology refers to the use of technology-enabled processes and software to provide legal services at a time where the demand for shorter timeframes and lower costs is increasing.¹² Examples include algorithms, block chain technology, chatbots, and artificial intelligence (‘AI’).

This essay will consider the likely implications of legal technology for the rule of law, with a particular focus on algorithms and AI as the most utilised tools in the legal industry with the greatest scope for application and development.

¹ W Ellis, *Politics: A Treatise on Government Translated from the Greek of Aristotle* (London: J M Dent & Sons, 1912)

² *ibid* 104

³ The British Library, ‘Magna Carta, 1215’ <<http://www.bl.uk/learning/timeline/item95692.html>> accessed 11 November 2018

⁴ A V Dicey, *Introduction to the Study of the Law of the Constitution* (London: Macmillan, 1915)

⁵ J Raz, ‘The Rule of Law and its Virtue’ (1977) 93(2) LQR 195

⁶ Dicey (n4)

⁷ Raz (n5)

⁸ T Bingham, *Rule of Law* (London: Allen Lane, 2010)

⁹ *ibid*

¹⁰ *ibid*

¹¹ *ibid*

¹² Norton Rose Fulbright, ‘Jargon Buster: Legal Technology’, (Norton Rose Fulbright, October 2017)

<<http://www.nortonrosefulbright.com/knowledge/publications/157161/jargon-buster-legal-technology>> accessed 10 November 2018

I. ALGORITHMS

Algorithms are lists of steps that computers must follow in order to solve certain problems.¹³ They “optimise our time by giving us the information we want quickly and accurately”.¹⁴ They have been used to calculate the risk of recidivism in the US,¹⁵ and Durham Constabulary has trialed a similar tool using the details of 104,000 custody events and 34 predictors¹⁶ to determine whether or not a suspect should be bailed.¹⁷

Algorithms are, however, fundamentally reliant upon the input of pre-existing data by a human source, and therein lies the problem. Data is not purely objective. There are biases and discriminatory patterns inherent in what is effectively a complex social history.¹⁸ For example, data sets such as residential addresses “could be a proxy for protected attributes”¹⁹ such as race. There is unlikely to ever be universal agreement about the accuracy of a data set compiled within a social setting.²⁰ Data which reflects societal prejudices reproduces, reinforces, and amplifies those biases.²¹ This directly undermines equal subjugation before the law. Whilst prejudices also exist amongst humans, we should not allow the foundations of potentially life changing algorithmic processes to be tainted in the same way.

Furthermore, historical data cannot always be accurately generalised to new data.²² One must, therefore, question how equality can be embodied within the spirit of the rule of law when a computer has, for example, pre-determined who should have their liberty impinged based on historically skewed statistics. False positives are particularly concerning from a human rights perspective.²³ Should we, therefore, consider implementing ‘red lines’, beyond which algorithmic decision-making ought not to form part of a decision?²⁴ The ‘red line’ approach has already been implemented in respect of arbitration decisions.²⁵

One must consider whether discussions become artificial when they discount a holistic approach and start to revolve around error rates and set outcomes. Once you start to remove typically human considerations, transparency (and by association predictability) arguably diminish in direct contradiction of the rule of law.

It is accepted that using an algorithm is not always the ‘be all and end all’. An algorithm may conclude that an event is probable but not conclusive. At this point the ‘final say’ would be passed to a human, but how does one ensure that the human follows this up effectively and applies

¹³ The Economist, ‘What Are Algorithms?’ (*The Economist*, 30 August 2017) <<https://www.economist.com/the-economist-explains/2017/08/29/what-are-algorithms>> accessed 10 November 2018

¹⁴ C Blacklaws, ‘The use of algorithms in the justice system in England and Wales’, (*The Law Society*, 14 June 2018) <<https://www.lawsociety.org.uk/news/speeches/use-of-algorithms-in-justice-system-england-wales/>> accessed 6 November 2018

¹⁵ F Pasquale, ‘Secret Algorithms Threaten the Rule of Law’ (*MIT Technology review*, 1 June 2017) <<https://www.technologyreview.com/s/608011/secret-algorithms-threaten-the-rule-of-law/>> accessed 7 November 2018

¹⁶ L Moxham and A Bossow, ‘Event Report: Artificial Intelligence, Big Data and the Rule of Law’ (Bingham Centre for the Rule of Law, 9 October 2017)

¹⁷ M Burgess, ‘UK police are using AI to inform custodial decisions – but it could be discriminating against the poor’ (*Wired*, 1 March 2018) <<https://www.wired.co.uk/article/police-ai-uk-durham-hart-checkpoint-algorithm-edit>> accessed 1 November 2018

¹⁸ Moxham and Bossow (n16)

¹⁹ *ibid*

²⁰ Dr R Binns, ‘Technology and the Law Policy Commission - Algorithms in the Justice System’ (Evidence Session at The Law Society, 11 September 2018) <<https://www.lawsociety.org.uk/policy-campaigns/articles/public-policy-technology-and-law-commission/>> accessed 6 November 2018

²¹ Dunja Mijatović, ‘Safeguarding human rights in the era of artificial intelligence’ (Council of Europe Commissioner for Human Rights, 3 July 2018) <<https://www.coe.int/en/web/commissioner/-/safeguarding-human-rights-in-the-era-of-artificial-intelligence?inheritRedirect=true>> accessed 8 November 2018

²² J Kroll et al, ‘Accountable Algorithms’ (2017) 165 UPLR 633, 680

²³ Moxham and Bossow (n16)

²⁴ *ibid*

²⁵ M Walters, ‘Lawyers safe from brave new AI world... for now’ (*The Law Society Gazette*, 30 October 2018) <<https://www.lawgazette.co.uk/law/lawyers-safe-from-brave-new-ai-world--for-now/5068126.article>> accessed 30 October 2018

appropriate judgment when the task is viewed as already being 50% complete?²⁶ Whilst poor judgment is a pre-existing issue, we should not seek to exacerbate it and compound it with an invitation to laziness and a ‘computer says no’ mentality. It is paramount that discretion is legitimately and appropriately exercised.

Algorithms are not only increasing in use but in complexity and sophistication too. We are moving beyond algorithms that are easily understood.²⁷ We can ask how an algorithm is adjusting the weight to be given to different data points and why,²⁸ but may not always receive a comprehensible answer. These are known as ‘black box algorithms’,²⁹ and there has historically been “little oversight or accountability regarding their design”.³⁰

Insofar as the rule of law is concerned, the issue poses large problems for accessibility and equal application. It is common knowledge that algorithms are being used within the contexts of employment, counter-terrorism, and bail. We must, therefore, question whether their use will also extend to criminal sentencing as in the US,³¹ or whether the aforementioned ‘red line’ would be implemented. A damning score given by an incomprehensible algorithm is “analogous to evidence offered by an anonymous expert, whom one cannot cross-examine”.³² The implications for the right to a fair trial³³ are obvious.³⁴ One complaint of juries is that the reasons for their decisions are secret. We should be careful that this does not contribute to justifying the use of opaque algorithmic processes in direct contradiction of the rule of law.

II. ARTIFICIAL INTELLIGENCE

AI involves the active learning and application of rules, as opposed to the mere interpretation of them.³⁵ Within the legal industry, AI has been used to assist with document analysis,³⁶ contract preparation,³⁷ and prediction of case outcomes.³⁸

In 2016, an AI “judge” reviewed 584 decisions of the European Court of Human Rights.³⁹ It “learned” from these cases based on patterns within the text and was able to predict the outcome of other cases with 79% accuracy.⁴⁰ In 2018, AI was pitted against 20 human lawyers in a task involving the review of five Non-Disclosure Agreements.⁴¹ Whilst the human lawyers completed it in 92 minutes with 85% accuracy, AI took a mere 26 seconds with 94% accuracy.⁴² With this in mind, AI could serve as a “decision support tool”⁴³ which could include assisting with the

²⁶ Moxham and Bossow (n16)

²⁷ *ibid*

²⁸ Pasquale (n15)

²⁹ S Carey, ‘How IBM is leading the fight against black box algorithms’ (*Computer World UK*, 21 September 2018) <<https://www.computerworlduk.com/data/how-ibm-is-taking-lead-in-fight-against-black-box-algorithms-3684042/>> accessed 30 October 2018

³⁰ *ibid*

³¹ *State (of Wisconsin) v Loomis* 882 US 749 (2016)

³² Pasquale (n15)

³³ Human Rights Act 1998, Article 6

³⁴ European Court of Human Rights, ‘Guide on Article 6 of the European Convention of Human Rights’ (31 August 2018) <https://www.echr.coe.int/Documents/Guide_Art_6_ENG.pdf> accessed 20 November 2018, [42]

³⁵ S Miller, ‘Artificial intelligence and its impact on legal technology: to boldly go where no legal department has gone before’ (Thomson Reuters, 2017) <<https://legal.thomsonreuters.com/en/insights/articles/AI-and-its-impact-on-legal-technology>> accessed 5 November 2018

³⁶ The Law Society ‘Horizon Scanning: Artificial Intelligence and the Legal Profession’ (The Law Society, 2018), 6

³⁷ Miller (n35)

³⁸ The Law Society (n36) 6

³⁹ C Johnston, ‘Artificial intelligence ‘judge’ developed by UCL computer scientists’ (*The Guardian*, 24 October 2016) <<https://www.theguardian.com/technology/2016/oct/24/artificial-intelligence-judge-university-college-london-computer-scientists>> accessed 1 November 2018

⁴⁰ The Law Society (n36) 6

⁴¹ *ibid*

⁴² LawGeex, ‘AI vs Lawyers’ (LawGeex, 2018) <<https://www.lawgeex.com/AIvsLawyer/>> accessed 23 October 2018

⁴³ M Fouzder, ‘Artificial intelligence mimics judicial reasoning’ (*The Law Society Gazette*, 22 June 2016) <<https://www.lawgazette.co.uk/law/artificial-intelligence-mimics-judicial-reasoning/5056017.article>> accessed 30 October 2018

identification of human rights violations.⁴⁴ Reasoning would be made “faster, more efficient and consistent”,⁴⁵ arguably strengthening the rule of law by increasing access to justice in terms of both the speed of adjudicative procedure and cost.

However, who should be held accountable when things go wrong and why? It has been argued by Mady Delvaux MEP that machines should be afforded ‘electronic personhood’, putting them on par with corporations⁴⁶ and thereby enabling them to be insured and held liable for damage.⁴⁷ Professor Noel Sharkey, however, is of the opinion that “by seeking legal personhood for robots, manufacturers are merely trying to absolve themselves of responsibility”.⁴⁸ A possible alternative exists in the form of vicarious liability, which could be applied to the manufacturers of the underlying programme.⁴⁹ This would seemingly be in keeping with current legislation⁵⁰ but far from conclusive.⁵¹ ‘Negligence’ is a further alternative, although causation could prove problematic when one considers the aforementioned complexity and sophistication of AI algorithms,⁵² notwithstanding the hacking risks inherent in technology.⁵³

Amongst the confusion, it has been argued that “whilst artificial intelligence generates a lot of challenges for the rule of law, the law will not be found wanting. It is simply a matter of applying familiar conceptions either directly or through regulation in this new environment”.⁵⁴ Regardless of what the eventual long-term solution is, at present there is a great deal of uncertainty. It has been mooted at the Select Committee on Artificial Intelligence that “if insurance and legal liability are not sorted out this will be a great hindrance to the technology being adopted”.⁵⁵ As it stands the issue of legal accountability is far from being “intelligible, clear and predictable”⁵⁶ as mandated by the rule of law. It should be asked whether we *can* and *should* sensibly proceed with further legal/AI developments whilst such a divisive issue is outstanding. Do we legislate and regulate, or let common law plug the gap? The latter option would mean that someone would have to have already suffered damage, which arguably offends both Raz and Dicey’s interpretations in respect of the requirements for written laws and minimising the danger that results from the exercise of arbitrary power.

One should also consider that whilst technology facilitates cross-border connectivity, should information need to be obtained from an algorithmic designer based abroad, this “will make litigation horribly expensive, slow, and very difficult”.⁵⁷ There is the potential for this issue to become exacerbated when one considers the likelihood of differing international standards.

There is also rising tension between AI and human rights,⁵⁸ which becomes “most evident in the field of privacy”.⁵⁹ Under the UN Guiding Principles on Business and Human Rights, businesses have a responsibility to respect human rights.⁶⁰ AI is reliant upon data, which it collects by itself

⁴⁴ Johnston (n39)

⁴⁵ Fouzder (n43)

⁴⁶ J Delcker, ‘Europe divided over robot ‘personhood’ (*Politico*, 11 April 2018) <<https://www.politico.eu/article/europe-divided-over-robot-ai-artificial-intelligence-personhood/>> accessed 23 October 2018

⁴⁷ C Taylor, ‘MEP uses Dublin speech to call for EU to lead on robotics and AI’ (*The Irish Times*, 31 May 2018) <<https://www.irishtimes.com/business/technology/mep-uses-dublin-speech-to-call-for-eu-to-lead-on-robotics-and-ai-1.3513660>> accessed 2 November 2018

⁴⁸ Delcker (n46)

⁴⁹ M Cross, ‘Call for legislation to govern AI’ (*The Law Society Gazette*, 15 June 2017)

<<https://www.lawgazette.co.uk/law/call-for-legislation-to-govern-ai/5061524.article>> accessed 24 October 2018

⁵⁰ Copyright Designs and Patents Act 1988

⁵¹ The British Computer Society, ‘Artificial Intelligence and the Law’ (The British Computer Society, April 2017)

<<https://www.bcs.org/content/conWebDoc/57641>> accessed 23 October 2018

⁵² Moxham and Bossow (n16)

⁵³ The British Computer Society (n51)

⁵⁴ Moxham and Bossow (n16) 8

⁵⁵ Select Committee on Artificial Intelligence, *AI in the UK: ready, willing and able?* (HL 2017-19) [308]

⁵⁶ Bingham (n8)

⁵⁷ Select Committee on Artificial Intelligence (n55) [309]

⁵⁸ Human Rights Act 1998, Article 8

⁵⁹ Mijatović (n21)

⁶⁰ Human Rights, Big Data & Technology Project, ‘Submission to the House of Lords Select Committee on Artificial Intelligence’ (6 September 2017)

as part of the proactive process of “machine learning”.⁶¹ This ‘real time’ data is increasingly seen as crucial to the right to privacy⁶². Should privacy be eroded,⁶³ this could lay the foundations for the “next big battleground for civil liberties”.⁶⁴

Worries about the right to liberty also exist within the context of AI, particularly with regards to “big data” and policing. Concerns have been raised regarding “the increasing availability of big data and its use in forming suspicion”.⁶⁵ Citizens are arguably losing a measure of their liberty as the threshold of ‘reasonable suspicion’ is subverted.⁶⁶ Whilst the threshold is traditionally met by observing a person’s behaviour, it is argued that “in the modern context reasonable suspicion [is derived] from an individual’s obtainable data”⁶⁷ which represents a “radical departure from the original premise”.⁶⁸ When considered within the context of problematic areas of policing, such as ‘stop and search’, basing suspicion on data points could “lead to arbitrary and speculative stops that target innocent people”.⁶⁹ This arbitrary exercise of power is in direct contradiction of the rule of law.

III. CONCLUSION

At present, the negative implications for the rule of law outweigh the positives. Whilst AI has the potential to enhance the speed and consistency of reasoning as a ‘decision support tool’, and thereby promote fair adjudicative procedure and the protection of fundamental rights, one cannot overstate the issues inherent in the algorithmic processes which underpin other AI variants.

How can equal subjugation be embodied within the spirit of the rule of law when we are using algorithms which are reliant upon prejudiced and historically skewed data to determine whether the right to *liberty* is to be impinged? How can one ensure due process when the reasons for the decision are indecipherable? People who design algorithms tend to have their own rules and regulations. The rule of law is not at the forefront of their mind.

It is, however, accepted that the aforementioned issues are not as easily rectifiable as one might hope. Coupled with an absence of universal professional standards regarding bias, we ultimately need to consider whether these tools are necessary, proportionate and in accordance with the law, both as to their means and their ends. Just because something *can* be used does not mean that it *should* be used.

We should not let the rule of code usurp the rule of law.

(1998 words excluding subheadings and footnotes)

<<http://data.parliament.uk/writtenevidence/committeeevidence.svc/evidencedocument/artificial-intelligence-committee/artificial-intelligence/written/69717.html>> accessed 23 October 2018

⁶¹ Miller (n35)

⁶² Human Rights Act 1998, Article 8

⁶³ Moxham and Bossow (n16)

⁶⁴ V Dodd, ‘UK police use of facial recognition technology a failure, says report’ (*The Guardian*, 15 May 2018)

<<https://www.theguardian.com/uk-news/2018/may/15/uk-police-use-of-facial-recognition-technology-failure>> accessed 11 November 2018

⁶⁵ Moxham and Bossow (n16) 4

⁶⁶ *ibid*

⁶⁷ *ibid*

⁶⁸ *ibid*

⁶⁹ *ibid*