A brief meditation on artificial intelligence, adjudication and the judiciary

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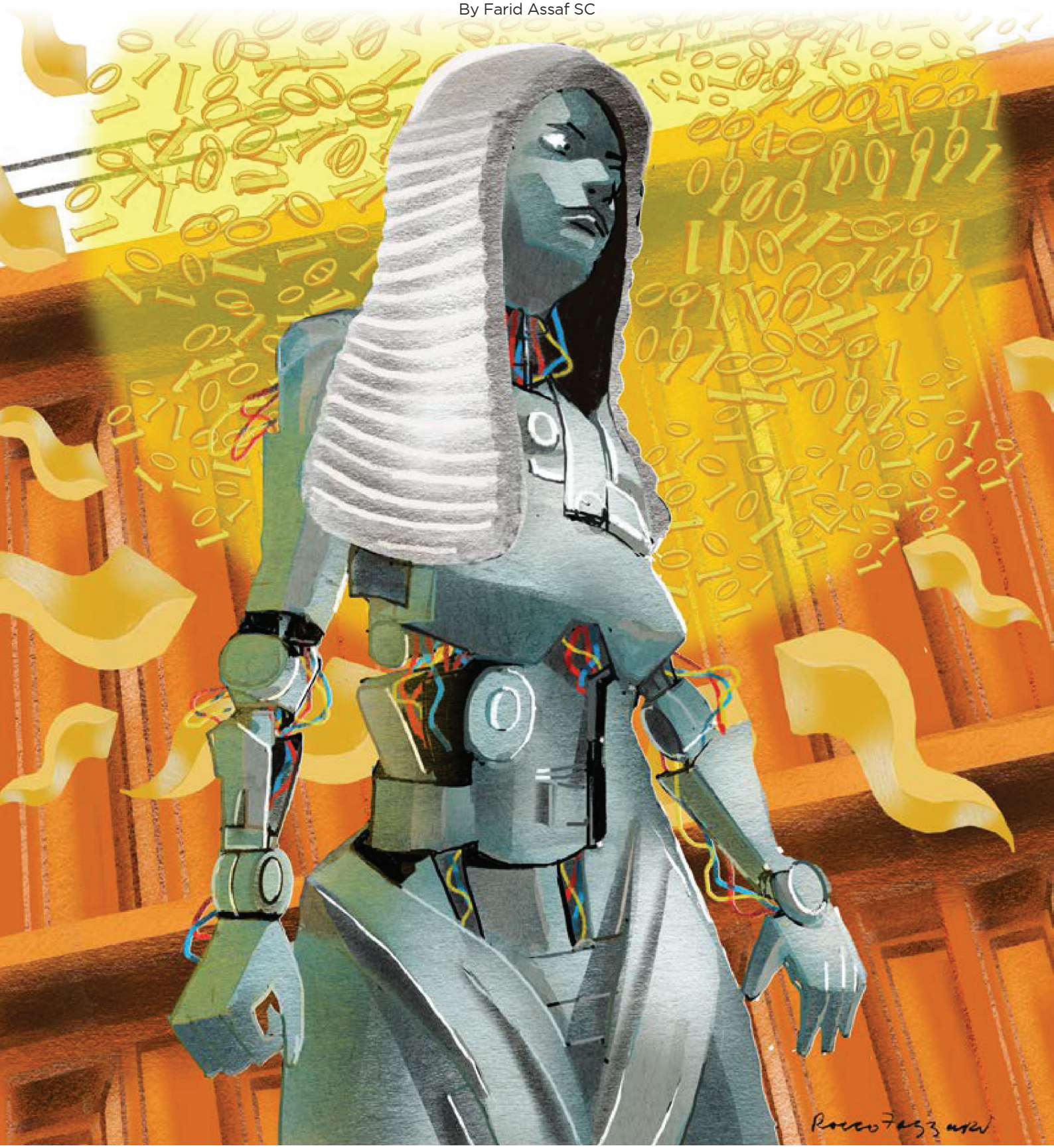

I. Introduction

In the previous summer (2018/19) edition of *Bar News* I provided a brief overview of AI and its increasing use in the legal profession.[1] In this article I seek, somewhat ambitiously, to examine some potential implications of AI upon adjudication and the judiciary itself. In so doing, I have had to make a number of (perhaps unrealistic) assumptions. Firstly, at some stage in the future, humanity will have achieved what has been dubbed 'General Artificial Intelligence', that is, AI possessing intelligence equivalent to human intelligence. Second is that there are no Constitutional impediments to an AI assuming the role of a superior Court justice. Readers may understandably scoff at the prospect of a non-biological entity assuming the role of a human judge and dismiss such a notion as the realm of science fiction. Such an attitude may require reconsideration. Since my last article appeared in *Bar News* in December 2018, the Beijing Internet Court has launched an online litigation service featuring an artificially intelligent female judge[2] and the Estonian Ministry of Justice is designing a 'robot judge' to process and decide a backlog of small claims disputes.[3] These are just a few examples.[4]

The extant level of technology presently limits the use of AI in adjudication however those technological constraints will soon disappear such that at some stage in the not too distant future technology may be capable of supplanting human judicial decision-making. What that means for adjudication and the judiciary requires consideration of some quite profound philosophical, anthropological and jurisprudential questions. In the limited space available it is not possible to traverse all of those questions. Instead, this meditation is limited to a cursory examination of a number of possible concerns which are likely to require consideration in any debate regarding the implementation of AI in the judicial process.

II. The Judicial Reasoning Process

As mentioned above, I have assumed in writing this article that at some stage AI technology will have reached a level where it rivals that of human intelligence. Even so, one question that arises is whether there is anything especially idiosyncratic about the judicial reasoning process such that humanity will or should continue to maintain its monopoly on the adjudication of legal disputes? To answer this question an exploration of the nature of the judicial reasoning process is first required.

While numerous competing theories have been advanced as to the nature of judicial reasoning there nonetheless exist common elements and characteristics. The first is that the basic pattern of legal reasoning in the common law world is what legal academics refer to a 'exemplarity', namely, reasoning by example or from 'case to case.'[5] While there is a logic to legal reasoning, that logic differs from the

formal logic or syllogistic reasoning familiar to mathematicians. In his celebrated work on legal reasoning, Edward Levi observed that it cannot be said that the legal process is simply the application of known rules to diverse facts.[6] It is nonetheless, a system of rules – the rules are discovered (and changed) in the process of determining similarity or difference between cases. The problem for the judicial officer is determining when will it be just to treat different cases as though they were the same. The second characteristic of judicial reasoning in the common law world is the use of narrative and narrative reasoning. For present purposes narrative reasoning may be described as 'norm-based arguments that motivate a judge to want to rule in a party's favour.'[7] Rule-based, that is case-law based arguments, can be thought of as 'justifying arguments' whereas norm-based arguments can be seen as 'motivating arguments.'[8] As will be explained in the next section, 'the law' is essentially a branch of anthropology[9] where legal decision-making does not proceed *in vacuo* but rather against a background of a relatively well established set of rules, principles, standards and values.[10] The third characteristic is what Hart has described as the 'relative indeterminacy' of legal rules and precedents.[11] This characteristic necessarily stems from the first two characteristics but can be seen as an independent characteristic in its own right. The indeterminacy stems from the fact that it is impossible in framing general rules to anticipate and provide for every possible combination of circumstances which future cases may bring.[12]

III. The Humanity of the Law

The above excursus lays the foundation for appreciating one of the key likely concerns that may arise in consideration of the use of AI in judicial adjudication, and that is the concept of what Allsop CJ has described as the 'humanity of the law.' In a paper presented at the Annual Quayside Oration in Perth in November 2018 entitled 'The Rule of Law is not a law of rules'[13] his Honour discussed the concept of the rule of law focussing on what Dicey described as the 'pervading legal spirit of freedom' in the common law. In doing so, his Honour focussed in particular on the anthropological notion alluded to above that the rule of law is a 'state of affairs and an attitude of mind, as much as, if not more than, it is an abstracted principle or body of rules.' For his Honour, law is conceived and derived from values which inform and underpin a fair and reasonable expectation of how power should be organised, exercised and controlled at the private and public level.[14] Critically:

> … the law is human in its character, and in its object. Law, being society's relational rules and principles that govern and control all exercises of power, must have a character and form that is adapted to, and suited for, application to law's *human task*. An appreciation of this humanity of the law is central to its proper expression and to preserving its strength [emphasis in original]. [15]

That observation is well founded by a substantial corpus of academic and legal commentary including Sir Maurice Byers, Holmes and Cardozo. The human 'values' in that regard comprise honesty; a rejection of unfairness; an insistence on essential equality; respect for the integrity and dignity of the individual; and mercy. His Honour goes on to conclude that this humanity of the law transcends a logical reductionist approach to law:

> That the law is drawn in part from an indefinable human source – a source of feeling, of emotion, of a sense of wholeness – gives it a protective strength in the service of human society. That source of feeling and emotion includes a sense of, or need for, order or stability, but order in its human place informed by the dignity of the individual, and not overwhelmed by abstraction and taxonomy. That partly indefinable sense of wholeness of the law provides the systemic antidote to logical reductionism that, on its own, would see the law as the sharp instrument of those who control power … Law is not value-free. Law is not built and defined solely by rule making, by formulae or by inexorable command, but rather it is organised around, and derived from, inhering values (*human* values) and serves as an expression or manifestation of natural (and experientially founded) human and societal bonds of conduct. [16]

Central to the above observation is the assumption that 'life and experience' shape the law (echoing Holmes' famous aphorism[17]). The 'experience' to which Holmes was referring in that regard was the judge's subconscious intuition[18] while the logic refers to an attempt to impose consistency on intuitively developed law. [19]

IV. Some possible concerns

Having regard to the above, at least three main concerns can be identified with the implementation of AI in the judicial adjudication process whether that be ways of supplementing or supplanting the judicial process: (i) de-humanisation of the law; (ii) procedural fairness considerations; and (iii) possible erosion of the law's legitimacy and authority.

(i) De-humanisation of the law

I have already described the humanity of the law and its current significance for the rule of law. One possible concern with the use of AI in adjudication is its impact upon the above described human aspects of the law. How for example would an artificially intelligent judge ascertain relevant human values or human and societal bonds of conduct? To what extent would those values once determined be used in the adjudication process? What impact would this have on judgment generally? A proponent of AI may respond by arguing that the ascertainment of human values or human and societal bonds of conduct by human judges is equally as problematic as that of an artificially intelligent judge. The ascertainment of values by a human judge is necessarily limited by that judge's own limited experience and perceptions. By contrast, an artificially intelligent judge may be able to inform itself of human values by, for example, analysing mass media reports, social media posts and internet forum posts. Proponents of AI may also assert that human 'judgment' is merely a euphemism for arbitrariness, discretion or bias[20] which may be able to be reduced or eliminated through the use of AI. In that regard, in the field of sentencing, two Australian academics have recently argued that computerised sentencing has the potential to achieve superior outcomes to sentences imposed by human judges and that it can lead to greater transparency, predictability and consistency in decision-making, and eliminate the subconscious bias that 'currently afflicts' the decisions of some sentencing judges.[21]

(ii) Procedural fairness considerations

Academic commentators have noted that one of the most widely identified risks of AI decision-making is that it could function in ways that are difficult or impossible for humans to comprehend.[22] At present, machine learning which underpins most current AI technology, relies upon mass correlations within data to infer sophisticated statistical patterns.[23] These 'deep learning' techniques lack the explicit logical or inferential reasoning that characterise conventional human explanation.[24] Even if an explanation were to be comprehended, that may not be accessible. For example, in *State of Wisconsin v Loomis*[25] the Supreme Court of Wisconsin upheld a trial Court's sentence of seven years imprisonment imposed on Mr Loomis where the trial Court relied on results of a risk assessment provided by proprietary risk assessment software known as the 'Correctional Offender Management Profiling for Alternative Sanctions', or 'COMPAS'. The risk assessment provided a prediction about the risk that Mr Loomis would reoffend based on a comparison of information about Mr Loomis to a similar data group. The software developer however considered the algorithms used to be confidential and did not disclose how the risk scores were determined and how certain factors were weighed. Neither Mr Loomis nor the sentencing judge had access to the algorithm. Mr Loomis filed a petition for a writ of certiorari in the Supreme Court of the United States but that petition was denied.

Another aspect of procedural fairness which would need to be considered is the possible impact AI adjudication may have on advocacy and the role of the advocate. Even assuming that AI technology was capable of exhibiting human level intelligence, one wonders how an advocate would go about persuading such a technology or whether an advocate was required at all.

(iii) Possible erosion of the law's legitimacy and authority

One can easily foresee a Kafkaesque dystopia where 'codified justice' establishes an adjudicatory paradigm that privileges standardisation above discretion[26] and logical reductionism to the wholeness of the law identified by Allsop CJ above. The implications for law's legitimacy and authority could face significant challenges by providing possible fertile ground for disillusionment and alienation among stakeholders.[27] Such disillusionment may also alter the judiciary's internal composition, culture and attitudes.[28] For example, it is not difficult to imagine AI replacing relatively mundane judicial functions with the result that only a relatively small population of elite judges are responsible for deciding more complicated cases. Even then, the appeal of becoming a judge may decline in a world where human decision-making is criticised and perhaps seen as inferior to AI adjudicators.[29]

V. Conclusion

In this article I have sought to canvass some possible concerns that may arise in the implementation of AI in the judicial sphere. It is hoped it can be seen that in considering whether to implement such technology, stakeholders and those responsible will need to take into account and assess a number of considerations and possible repercussions for judicial decision-making and the rule of law generally. For what it is worth the writer considers that the possible perceived advantages of AI adjudication (costs savings, efficiency, consistency) are outweighed by the potentially profound disadvantages alluded to above and further research and analysis is required. It is hoped that this brief article at least gives readers pause for thought about what is likely to become a significant issue for the legal community and in particular for the Bar. BN

ENDNOTES

1 F Assaf, 'From Countess Lovelace to Ross' [2018] (Summer) *Bar News* 21.
2 M Pillai, 'China now has AI-Empowered judges', *RADII*, 16 August 2019, https://radiichina.com/china-now-has-ai-powered-robot-judges/
3 N Sachdev, 'Would you accept being judged by AI in a Court of law?, *The Sociable*, 11 September 2019, https://sociable.co/technology/would-you-accept-being-judged-by-ai-in-a-Court-of-law/
4 See for example, the examples given by Justice Gordon in her Honour's speech 'Courts and the Future of the Rule of Law', Centre for Comparative Constitutional Studies Constitutional Law Conference Dinner – 21 July 2017.
5 Edward H Levi, 'An Introduction to Legal Reasoning' (1948) 15(3) *The University of Chicago Law Review* 501.
6 Edward H Levi, 'An Introduction to Legal Reasoning' (1948) 15(3) *The University of Chicago Law Review* 501.
7 Kenneth D Chestek, 'Competing Stories: A Case Study of the Role of Narrative Reasoning in Judicial Decisions Legal Communication & Rhetoric' JALWD, Vol. 9, 2012.
8 Richard K Neumann, Jr., *Legal Reasoning and Legal Writing: Structure, Strategy, and Style* 309–11 (6th ed., Aspen Publishers 2009).
9 O W Holmes, Book Notices, 14 AM. L. REV. 233 (1880) at 234 as set out in Brian Hawkins, 'The Life of the Law: What Holmes Meant', (2012) 33 *Whittier Law Review* 323 at 358.
10 DN MacCormick, 'Formal Justice and the Form of Legal Arguments' (1976) as reproduced in M Freeman, *Lloyd's Introduction to Jurisprudence* (Sweet & Maxwell, 9th ed, 2014) at 1598.
11 HLA Hart, 'Problems of the Philosophy of Law' (1967) as reproduced in M Freeman, *Lloyd's Introduction to Jurisprudence* (Sweet & Maxwell, 9th ed, 2014) at 1585.
12 HLA Hart, 'Problems of the Philosophy of Law' (1967) as reproduced in M Freeman, *Lloyd's Introduction to Jurisprudence* (Sweet & Maxwell, 9th ed, 2014) at 1585.
13 Chief Justice James Allsop, 'The Rule of Law is Not a Law of Rules' (Speech, Annual Quayside Oration, 1 November 2018).
14 Chief Justice James Allsop, 'The Rule of Law is Not a Law of Rules' (Speech, Annual Quayside Oration, 1 November 2018).
15 Chief Justice James Allsop, 'The Rule of Law is Not a Law of Rules' (Speech, Annual Quayside Oration, 1 November 2018).
16 Chief Justice James Allsop, 'The Rule of Law is Not a Law of Rules' (Speech, Annual Quayside Oration, 1 November 2018).
17 'The life of the law has not been logic: it has been experience.'
18 Brian Hawkins, 'The Life of the Law: What Holmes Meant', (2012) 33 *Whittier Law Review* 323.
19 Brian Hawkins, 'The Life of the Law: What Holmes Meant', (2012) 33 *Whittier Law Review* 323.
20 Anthony D'Amato, 'Can/Should Computers Replace Judges?' (1977) 11 *Georgia Law Review* 1277, 1281.
21 Bagaric and Wolf, 'Sentencing by Computer: Enhancing Sentencing Transprency and Predictability, and (Possibly) Bridging the Gap Between Sentencing Knowledge and Practice', 25(4) *George Mason Law Review*.
22 Richard Re and Alicia Solow-Niederman, 'Developing Artificially Intelligent Justice' (2019) 22(2) *Stanford Technology Law Review* 242.
23 Richard Re and Alicia Solow-Niederman, 'Developing Artificially Intelligent Justice' (2019) 22(2) *Stanford Technology Law Review* 242.
24 Richard Re and Alicia Solow-Niederman, 'Developing Artificially Intelligent Justice' (2019) 22(2) *Stanford Technology Law Review* 242.
25 881 NW 2d 749 (Wis 2016).
26 Richard Re and Alicia Solow-Niederman, 'Developing Artificially Intelligent Justice' (2019) 22(2) *Stanford Technology Law Review* 242.
27 Richard Re and Alicia Solow-Niederman, 'Developing Artificially Intelligent Justice' (2019) 22(2) *Stanford Technology Law Review* 242.
28 Richard Re and Alicia Solow-Niederman, 'Developing Artificially Intelligent Justice' (2019) 22(2) *Stanford Technology Law Review* 242.
29 Richard Re and Alicia Solow-Niederman, 'Developing Artificially Intelligent Justice' (2019) 22(2) *Stanford Technology Law Review* 242.