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Technology - the last frontier - friend or foe for Bar and Bench?

Ron Paschke[1]

Context

These are Ron's speaking notes for a session during the 2018 World Bar Conference which was shared with Clive Elliot QC. The session was structured as debate and discussion and was divided into two themes.

In the first theme, the rule of law and access to justice, Clive commenced with a techno-optimist perspective, discussing how technology is an advantage and will aid the rule of law and access to justice. Ron then presented a techno-pessimist view, highlighting how technology might threaten the rule of law.

The second theme was the impact of technology on practice. Switching perspectives, Clive presented a techno-pessimist view, which Ron followed with a techno-optimist perspective on how technology can help advocates and barristers.

Given the setup of the session, these speaking notes represent only one side of the debate.

The speakers also used PowerPoint slides during the session. ● indicates a change of slide.

[1] Cape Bar, South Africa. ron@law.co.za.

THEME A: RULE OF LAW AND ACCESS TO JUSTICE – A TECHNO-PESSIMISTIC PERSPECTIVE

Clive alluded to some of the factors driving increased use of technology in the administration of justice. Our traditional systems are generally slow and expensive, and those handicaps impede access to justice. Unlike the rest of society, courts and legal practitioners have been relatively slow (some might say resistant) in leveraging technology to improve efficiencies.

Big tech firms are racing to develop artificial intelligence, and to find new applications. With our inefficiencies, developers look at us as a multi-billion-dollar, soft target.

Undoubtedly, as Clive has shown, technology has potential to increase access to justice. But my job in the next few minutes is to highlight some of the ways that technology potentially threatens the rule of law.

My job is made easier by the unlikelihood that Big Tech is focussed on promoting justice and human rights. ● Witness the recent disclosures of Facebook's willingness to traffic their users' privacy for profit. Both corporations and governments have been known to use technology in ways that undermine human rights, from mass surveillance to planting fake news and manipulating elections.

Before discussing its impact, a brief introduction to artificial intelligence (AI).

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AI is a computer system which can perform tasks that normally require human intelligence, such as visual perception, speech recognition and decision-making. For

example, in 1997 a computer named DeepBlue, programmed with 100 years of grandmaster games, beat Gary Kaspirov, the best chess player in the world. Since then, no human has been able to outplay a computer at chess.

AI has developed dramatically even more recently. ● A powerful form of AI called machine learning is a dynamic computer program which can learn from its mistakes and can adjust itself without human intervention. An example, is AlphaZero which in December last year beat the best chess computer in the world. There are two remarkable things about this achievement. First, AlphaZero was only given the rules of the game and no human knowledge. It taught itself to play from scratch. Second, AlphaZero did so in only four hours. AlphaZero went from novice to world chess champion in four hours all on its own!

AI promises (or threatens) one day to be able to automate most decision making, including in the halls of justice. So it is important to be aware of how automation might directly threaten the rule of law.

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First, is the **lack of reasons** from automated decision-making. Many AIs employ such complex neural networks that even their designers cannot explain how they arrive at answers. The decisions are delivered from a black box and must essentially be taken on trust. But arriving at the right answer is only one of the purposes of the justice system. It is equally important to know why and how a legal decision was arrived at.

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A second concern with automation, flowing from the first, is diminished accountability. One cannot challenge an outcome without information about its underlying logic. Take the case of *State of Wisconsin v Loomis*. Eric Loomis was sentenced to seven years in prison, based in part on a risk assessment score which indicated that he was at high risk

of reoffending. The risk assessment was computer-generated from information in his file. Because the developer of the algorithms regards them as trade secrets, it does not disclose how the risk scores are determined or how the factors are weighed. Mr Loomis was left with no basis to challenge the accuracy and scientific validity of the risk assessment. Nor did the sentencing judge have access to the algorithm.

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Third, there is concern that some AI systems are **biased**. According to one analysis, the Wisconsin risk assessment tool is more likely to incorrectly tag black defendants as recidivist than to incorrectly tag white defendants as recidivist.

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Fourth, automated decisions **side-line the courts**. Because higher courts in our common law jurisdictions make law and do not just apply it, this could potentially stifle the development of the law.

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Fifth, automated decisions, especially if combined with ODR, **lack transparency**. Open justice is encapsulated in the maxim 'justice should not only be done, but should manifestly and undoubtedly be seen to be done'. As Chief Justice Burger pointed out in *Richmond Newspapers v Virginia*:

> 'The crucial prophylactic aspects of the administration of justice cannot function in the dark; no community catharsis can occur if justice is done in a corner [or] in any covert manner. … People in an open society do not demand infallibility from their institutions, but it is difficult for them to accept what they are prohibited from observing.'

Sixth, in a technology-intensive process, litigants who are technology-illiterate might experience an **inequality of arms**.

When AI gets to the point that superintelligent machines can outperform lawyers, they might be multiple times more powerful than human lawyers. Facing such an opponent might be like trying to play chess against AlphaZero. Such machines would probably be owned and controlled by a small number of private corporations whose services might be affordable only to governments and powerful institutions. Ordinary people, having to rely on cheaper, inferior technology – or even a mere human lawyer – might then no longer be able to effectively assert their rights in legal disputes against the powerful.

If that sounds a bit gloomy, then I have done my job.

THEME B: PRACTICE AT THE BAR – A TECHNO-OPTIMISTIC PERSPECTIVE

Will machine learning and automation take our jobs? The answer depends in part on when AI will reach and exceed human intelligence. About half of AI experts estimate that we will reach this in about 20 years. Some say it could be even sooner, while others think later.

When that happens, it will likely profoundly change society. How machine superintelligence will impact on our profession is difficult to predict.

In the more immediate future, it appears unlikely that AI will replace carbon-based advocates and barristers.

Some of our skills cannot be automated, yet. I suggest the following reasons for this.

1. Our job is not to simply do what the client asks of us. Rather we must identify and act in the interests of the client. Sometimes those interests are not obvious, especially where the client does not or cannot articulate them or has competing or conflicting interests.

2. We routinely deal with unanticipated questions and statements which are context-sensitive, disputed, contradictory, ambiguous or untruthful.

3. When a case raises a novel issue, we may need to innovate and create new arguments by importing legal concepts from one area of the law to another or construct arguments from fundamental legal principles, constitutional values, or

intangible factors such as our sense of justice, fairness, practical experience and even intuition.

4. We are required to exercise discretion and judgement. Unfortunately, even many humans lack those abilities. It is doubtful whether machines will acquire them in the foreseeable future.

5. Ultimately, our job is to persuade. Computers will need to become more persuasive than humans to replace us.

It appears unlikely that machines will soon be able to fully automate the kind of unstructured, complex and context-sensitive tasks which are inherent in the work performed by advocates and barristers.

This is not an excuse for complacency. Technology *will* likely change the way we do our jobs. I believe that there are some things that *should* change. Technology can help to make us more efficient, agile and mobile. And we have duties both to the court and to our clients to use available tools to conserve limited court time and become more efficient and effective.

The use of technology to enhance the ability of the human mind is called augmented intelligence. This is not new. Humanity has augmented its intelligence for thousands of years, for example with writing and tools such as the abacus.

A human and a computer complement each other very well. Here are some examples.

1. **Digitising paper** obviously makes pleadings and evidence more mobile and saves space. PDFs in an organised document management system and which are made smart and interactive by indexing and cross-referencing have further advantages of speedy access and searchability. Making these available to the judge can save valuable court time. (This is the opposite of the advice by Iain Morley QC.)

2. Using encrypted **cloud services** enhances security of confidential information (something probably required by the GDPR) and allows collaborative authoring, which is more efficient than traditional emails.

3. Software such as visual mind mapping tools can aid **case analysis**.

4. **Digital note taking** and synchronised audio recording means never missing anything. The software allows instant access to relevant statements. If your handwriting is faster than typing, you can take notes by hand on a tablet with a stylus and still synchronise the audio recording.

5. One day we will have more reliable computer-aided real-time **voice-to-text transcription**. This could become prevalent both in consultations and in court. We are not there yet. For example, when asked 'How big is the Serengeti?, Alexa replied 'Would you like to order spaghetti?'.

6. **Data analytics**. Modern society is now overwhelmingly digital. Evidence is much more likely to be in an email than a letter, or in a database than in a ledger. This fact creates an opportunity. Using AI, legal analytics tools will soon be able to understand concepts and analyse large data sets to establish facts and find relevant evidence and

interpret it with insights that might previously have required experts in multiple fields. Advocates will then be able to drill deeper to find what is appropriate and important for the matter.

7. **AI-assisted legal research**. Using natural language processing, AI systems will one day be able to understand a plain language instruction and search statutory and case law for results which are relevant to the issues.

Hopefully soon, AI will become a useful partner and be able to suggest arguments or approaches to a case – and perhaps insights – that we had not considered.

I would like to end by making this point. Embracing technology, and getting and staying up to speed is the best way to future-proof our profession and our jobs. We should ride the wave of innovation to avoid being drowned by it.