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THE ROLE OF ARTIFICIAL INTELLIGENCE IN THE IMPARTIALITY OF THE JUDICIARY

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ABSTRACT: Artificial intelligence (AI) is more and more applied in law; it becomes day after day more tentacular, pervasive and invasive. This paper aims to analyze the broadening role of AI applications in law, and to examine a few of its practical and theoretical challenges and impacts on the impartiality of the judiciary.

KEYWORDS: Artificial Intelligence; Algorithm; Judge; Justice; Predictive Justice; Impartiality of the Judiciary.

I. INTRODUCTION

The growing development of artificial intelligence [hereinafter "AI"] and robotics will have profound effects and impacts on the economy and society. Some experts estimate that artificial intelligence may double economic growth and increase workers productivity by 40% by 2035 by changing the nature of the work, then creating a new relationship between man and machine (Purdy & Daugherty, 2016). However, that relationship is not expected, thankfully, to become one where human beings would become, as described by Agent Smith, a creation of AI, in the movie *The Matrix*, "A virus. Human beings are a disease. A cancer of this planet. [Human beings] are a plague, and we [AI] are the cure." But far from this dystopian portrayal, the reality is that we are far from a Hamlet's dilemma about the meaning of life (Shakespeare, 1599-1601), at least when it comes to the relationship between human beings and AI. Contrary to what Agent Smith said, AI is not a cure, but it does help increasing, among other things, the speed of how things are done, i.e. it helps to work faster, more efficiently. As noted by McLachlin (2015):

The legal profession is not immune from the effects of the digital revolution. Lawyers are part of it, and there is no escape. This is good. Lawyers benefit enormously from it, processing information and producing work more efficiently than lawyers in the pre-digital era could ever have imagined.

Indeed, the computerization and automation have been exerting its profound influences on the legal field. Automating judicial activities could qualify as one of the most valuable contributions of AI to the judiciary, mostly because it helps judges to save their time and also, in turn, it helps, as a side effect, to reduce the costs triggered by the operations of the judicial system. The automation and implementation of AI applications in the judicial sector are moreover found, by some authors, to contribute to the improvement of the impartiality and fairness of judicial decisions, for example by reducing the factors that may impact on the objectivity of the judges in the decision-making process. As the Supreme Court of Canada stated in *R. v. Généreux* (1992), "To assess the impartiality of a tribunal, the appropriate frame of reference is the "state of mind" of the decision-maker. ... When [individuals] allege an apprehension of bias ... they question the *appearance of impartiality* [of the tribunal]." Therefore, if AI may not directly assist about the impartiality of the decision-makers themselves – because AI would never replace the "state of mind" of a decision-maker unless AI makes and renders decisions itself -, it could certainly help to a certain extent with the appearance of that impartiality, which matters as much as impartiality. The importance of impartiality was also raised by The Honourable Murray Gleeson, former Chief Justice of Australia in those terms, "Judges, however, are supposed to be dedicated to the proposition that the administration of justice requires both the reality and the appearance of impartiality ... It may be necessary, however, to emphasise the importance of maintaining the appearance of impartiality. This is where, for some judges, difficulties can arise." (Gleeson, 1998). Perhaps AI could help improving that appearance.

Applying AI in Law

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While "there is still no generally accepted definition" (Giuffrida, Lederer & Vermerys, 2018; Ndior, 2017), AI may be defined in various ways. In fact, IT companies such as Intel, a leading company in AI, offers six different definitions of AI (Intel. 2018); Amazon, Apple, DeepMind, Google, IBM and Microsoft also have their own definitions. From a general perspective, it is understood that AI is "the capability of a machine to *imitate* intelligent human behavior" (Merriam-Webster Dictionary). However, not every single type of human behavior may be imitated, perfectly. For example, "how could a computer-generated "emotion" expressed by a machine, such as the emotions of support and reassurance, be believed as sincere by the human beings receiving it?" (Lafrance, 2020). Most law practitioners know that the relation of confidence they build with their clients is partially based on how they are perceived by their clients; perception is an emotion; trust is also another emotion. Therefore, how could a client of a law firm potentially trust a machine, created by AI, to fully understand a set of legal issues, in spite of their complexity, where those also involve, oftentimes, a *personal* dimension even in cases where these issues seem to be mostly rational at first glance? Some things like emotions can hardly be reduced to a binary or mathematical equation (Franzoni, Milani, Nardi & Vallverdú, 2019). For example, if a lawyer receives a favorite birthday cake from his mother on his birthday *or* if the same lawyer receives the exact same cake but from the lawyer representing the other party, both these events would not bear the same *emotional* value, the same *meaning*, the same implications, etc., even if both these events are quite joyful, obviously. The *key* facts in these examples are in and of themselves, i.e. the *action* of an individual giving ($\boldsymbol{x}$) a birthday cake to another individual on his birthday ($\boldsymbol{y}$), identical ($\boldsymbol{x} \rightarrow \boldsymbol{y}$) but the rest of it, beyond these core facts, is not.

Human intelligence when simulated by a machine is reported to include "the ability to understand languages, recognize images and learn from experiences" (Cambridge Dictionary). Technically, AI as applied in law is summarily characterized by the combination of the following elements (Barthe, 2019):

- 'Big Data';
- 'Machine learning' (Internet Society, 2017);
- "[T]he so-called "artificial intelligence" in law is in fact a) new generation search engines (all) and b) decision support systems ... No legal brains and expert systems, where the expertise is formalized..."

The influence of AI in law is still a controversial issue, and researchers have different, sometimes opposite, views about it.

In one side of the spectrum, some contend that AI constitutes a fundamental challenge to the legal profession, and that machines will eventually replace lawyers and judges. These views are expressed by two prominent American authors, Richard Susskind and Daniel Susskind in *The Future of the Professions: How Technology Will Transform the Work of Human Experts*. Richard Susskind and Daniel Susskind (2015) state that most of the tasks accomplished by lawyers, among other professions, are repetitive and then do not require human-only capabilities. This recalls vaguely the concept of Taylorism (Merriam-Webster Dictionary), and it may also recall, to a more distant extent, the Charlie Chaplin's movie *Modern Times*. These authors further explain that many of these tasks are primarily based on procedures and routines without requiring much consideration, creativity or empathy. In short, robots (Lafrance, 2020) with the advancement of AI would simply be able to copy and imitate what human beings do best, and more importantly, they would do it in the most effective way.

In the other side of the spectrum, other authors have a different view about this issue of the impact of AI on the legal profession, more specifically with respect to the possibility that human beings would eventually be replaced by robots. For example, while acknowledging the significant progress achieved by AI, and more particularly the utility to the legal profession of some tools using AI, Pierre Aïdan and Florence G'Sell challenged the views expressed by Richard Susskind and Daniel Susskind. They criticized the fact that the latter authors did not acknowledge the crucial importance of *human* skills in law illustrated, for example, by human empathy (Szuster & Jarymowicz, 2020), strategic thinking or negotiation abilities. They also argued that robots would not be able to replace or even assist human beings for certain jobs because of their own nature. Further, they contend that making representations in court, communicating with clients, fact-finding or writing would largely *remain* the responsibility of lawyers (Aïdan & G'Sell, 2017). With respect to the representations in court, let's recall that, "Arguing is putting forward a reason in order to lead an audience to adopt a conclusion to which the audience did not agree at the outset. It is therefore a *complex* action which presupposes to master at least three fairly elaborate notions: reason, audience and conclusion." (Danblon, 2005). Therefore, the authors of this paper submit that it remains doubtful that AI personified by a robot would soon be capable of showing sufficient convincing advocacy skills in a courtroom, even if some robots nowadays express concerns about their own fundamental rights (Lafrance, 2020), which utterance still remains at the level of anthropomorphism.

AI and Courts Operations

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It is worth recalling that judges remain the central entity of judicial decision-making. A judgment is a human work product that may be *assisted* in part by AI. Judges remain the main and essential judicial actors who impact on the development of the law. The Honourable Michael Kirby, a famous Australian jurist and academic and also a former Judge of the High Court of Australia, wrote, "it is the responsibility of judges to drop the deception that law is *mechanical*, with all problems solved by just "applying" the law." (Kirby, 2005; Bedi & Lafrance, 2021**A**). Judges are not only tasked with its application to particular cases but also with its *interpretation*: "Any act of judgment, from a legal point of view, is a way of interpreting the law, of analyzing a situation and of assessing the thresholds to be crossed or not to be crossed" (Bidima, 2002; Bastarache, 2007). Such intellectual work seems out of reach of AI, at least at the present time.

Nevertheless, AI plays a useful role at various stages of legal proceedings. For example:

Documentary research: Information technology helps lawyers to save time when they have to research for legal precedents, doctrinal work, etc. (Abiteboul & G'Sell, 2020). As Sébastien Lafrance pointed out in a previous paper, "the technology is undeniably a synonym of progress. Legal research is an essential component of the work of lawyers and judges. The various legal search engines available today on the web, for example, greatly facilitates research Practically, that technology helps researchers to learn *faster* the foundations of the "normal science", in Thomas Kuhn's terms, in a specific field of study" (Lafrance, 2020).

The contribution of AI to legal reasoning (Rissland, 1988): AI assists lawyers in the construction of their legal reasoning (databases, etc.) (Shannon & Gholshani, 1988). It also gives them the possibility to optimize the *quantity* of work accomplished while, in turn, they are given, at the same time, the opportunity to focus more on the *quality* of some of the issues they must deal with, e.g. more complex legal issues that require special scrutiny or examination. In the meantime, AI applications or tools could perform, when feasible, repetitive and redundant tasks.

Could AI be Judges?

In March 2019, Estonia was the first country to declare AI-powered judge that was created to settle small court claims. This was deemed to be cost-saving and to allow legal professionals to spend, and focus, their time on more important cases that AI cannot handle (Pinkstone, 2019; Niiler, 2019). Judgments "decided" by AI have the same legal validity as ones decided by human beings. In addition to supporting the analysis of legal documents, this software is coded to analyze the information uploaded by the parties.

This was not the first time that a court used AI for trial purposes. Indeed, in Québec, one of the ten provinces of Canada (Bedi & Lafrance, 2021**B**), "Justice bot" software has been applied by the *Régie du Logement* to resolve disputes related to real estate. The idea behind it was to develop a conversational agent capable, after having obtained answers to several questions from a litigant, to assess a possible outcome for a dispute. However, it remains then up to the litigant to decide, based on this assessment, whether they wish to file a dispute.

In the United States, AI has been used so far in sixty different courts. The software is called COMPAS (Correctional Offender Management profiling for Alternative Sanctions) and needs to collect to operate a hundred thirty-seven variables such as "Does the defendant use personal phones?", "Does he usually delay paying bills?", etc. (Teich, 2018). This software aims to predict the likelihood of recidivism of a defendant through a scoring system that goes from one to ten.

Using AI applications in trials remains controversial in most countries. For example, Winston Maxwell, a lawyer at Hogan Lovells law firm and who is also a digital regulation expert, stated, "we trust the judge as they are independent, and they are human beings ... In England, in the seventeenth century, there were two types of courts including one rigidly applied by law and the other fair court under the king, allowing to overcome the rigidity of that kind of court." In his opinion, it is impossible to accept mechanical (judging) justice because most cases, if not all, are unique; and whether we monitor or not robots, they are not capable of making fair decisions (Beaudonnet, 2018).

Meanwhile, Daniel L. Chen advocates for the widespread use of AI in the judicial system. In a study titled "Machine Learning and the Rule of Law", he recommended the use of AI applications to reduce the number of misleading decisions and the extralegal bias of judges in some cases. He stated more specifically, "Predictive judicial analytics holds the promise of increasing the fairness of law. Much empirical work observes inconsistencies in judicial behavior. By predicting judicial decisions - with more or less accuracy depending on judicial attributes or case characteristics - machine learning offers an approach to detecting when judges most likely to allow extralegal biases to influence their decision making" (Chen, 2019**B**). AI could then assist judges in adjusting their perception and behavior.

Role of AI in the Improvement of the Impartiality of the Judiciary

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On the one hand, some may contend that it is fair to assume that "Justice" in a Platonic idealist way is not workable nor is it feasible. In the other hand, some may argue that human beings, here judges more specifically, could eventually be biased, or at least have preferences, when delivering justice. For example, they claim that political preferences, ethnic origin, gender and certain demographic characteristics have somehow an impact on judicial decisions (Miles & Sunstein, 2008; Jolls & Sunstein, 2006), and likewise for the impact of an electoral campaign (Chen, 2016), the media context (Philippe & Ouss, 2015), the result of a local football team (Eren & Mocan, 2016), defendant's birthday (Chen & Philippe, 2018), or even the egocentricity of a judge (Diallo, 2019). The argument contending the existence of possible bias that would exist on the bench could even go as far as supposing that "judicial decision-making can be explained largely by frivolous factors, perhaps for example the relationship between what judges eat and what they decide" (Kozinski, 1993) in the context where some state that it is easier to obtain a favorable judgment at the start of the day or after a meal (Danziger, Levav & Avnaim-Pesso, 2011). This is why AI may be seen, by some, to be a tool that could be used to ensure the neutrality, objectivity and impartiality of a judge as a decision-maker.

It might perhaps be useful to recall here what The Honourable Michael Kirby wrote about the place to be held by 'real judges' as he call them: "Somewhere between the spectacle of a judge, pursuing political ideas of his or her own from the judicial seat, irrespective letter of the law and the unrealistic mechanic deified by the strict formalists, lies a place in which real judges perform their duties: neither wholly mechanical nor excessively creative" (Kirby, 2005).

What seems to be one of the leading arguments in favor of the use of algorithms in courts, more specifically in the criminal law decision-making process seems to rely on the assumptions that first subjectivity exists among judges as decision-makers, and second that this subjectivity could be remedied by AI tools. For some, this subjectivity would be exemplified, for instance, by different sentences being imposed on different accused when the circumstances of each of those cases are similar or identical. AI then appears to be a solution to eventually solve possible cognitive biases, which may interfere with their reasoning. Thus, an algorithm that would the circumstances of a case and then compare it to similar or identical cases reported in the jurisprudence would allow to ensure a certain uniformity in the sentences imposed and, in turn, would also make judges save precious time that they would have spent on pondering over the sentence to be imposed in this or that case. For example, when comes the time to consider the possibility of rehabilitation of a convicted person, a judge could "consult an AI-enabled digital report and recommendation that will predict the probability of recidivism" (Giuffrida, Lederer & Vermerys, 2018). That being said, some expressed concerns that judge's biases would simply be integrated into predictive models intended to predict court decisions (Chen, 2019**A**). However, as Justice McHugh of the High Court of Australia put it in *Markarian v The Queen* (2005), what is the value of these predictive models after all?

One reason why the idea of instinctive synthesis is apparently abhorrent to lawyers who value predictability and transparency in sentencing is that they see the instinct of a sentencing judge as entirely subjective, personal, arbitrary and unconfined. In fact, although a sentencing judge does ultimately select a number, it is not from thin air that the judge selects it. The judicial air is thick with trends, statistics, appellate guidance and, often enough these days, statutory guidance.

In addition, a sentence to be imposed on an accused must also be *tailored* to a specific individual: "[s]entencing is a *highly individualized* process" (*R. v. Suter*, 2018; *R. v. Nur*, 2015; *R. v. Pham*, 2013; *R. v. Ipeelee*, 2012; *R. v. Nasogaluak*, 2010; *R. v. Wust*, 2000; *R. v. M. (C.A.)*, 1996; Berger, 2015), at least in Australia and Canada (Brown, 2017; *Markarian v The Queen*, 2005; *R v Young*, 1990), then this so-called subjectivity from the judges should be also examined under that light. However, an 'individualized process' should not mean and never be, as it goes without saying, a way to legitimize what could eventually be qualified as an 'unfair process'. Some studies conducted in the United States show that when the accused are of black descent bail (Ayres & Waldfogel, 1994; Gautam & Lafrance, 2020) amounts have been twenty-five percent bigger for them than for Caucasians. Canada also experiences issues related to racial discrimination and racism, for example, towards the Black population (*R. v. Jackson*, 2018) or illustrated, from a more judicial standpoint, by "the dilemma courts face in their efforts to remedy the historic injustice and systemic discrimination indigenous people suffered in the criminal justice system through accommodating indigenous difference" (Gevikoglu, 2013). Australia is not exempt either from experiencing legal issues related to ethnic background where the High Court of Australia recently ruled in 2020 by a majority of 4-to-3 in *Love v Commonwealth of Australia* that Indigenous Australians who do not hold Australian citizenship cannot be deported (*Love v Commonwealth of Australia*, 2020).

R. Richard Banks, Jennifer L Eberhardt and Lee Ross (2006) recalled that in the United States, "Killers of White victims are more likely to be sentenced to death than are killers of Black victims" (Banks, 2006; Rachlinski, Johnson, Wistrich & Guthrie, 2009). This cannot but make us think of the recent tragic death of George Floyd, a

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Black American, who suffocated to death under the knee of a white police officer in Minneapolis in the United States (Hiller & McWilliams, 2020).

In short, AI may help judicial decision-makers but just that, help, not replace them – when so many variables must be considered in the judicial decision-making process. Indeed, do we need to recall that the already-existing role of appellate courts is precisely, said in general terms, to fix errors, among other tasks, and that the role of the highest court is "to maintain the overall coherence of the legal system and to determine the orientation of caselaw principles and judicial policies"? (Huppé, 2000; Rothstein, 2011; Russell, 1975).

II. Limits of Algorithms

The interest triggered by the use algorithms, a mathematical formula, in the judicial system should not let us forget that some of the questions dealt with by the courts are sometimes of so complex that resorting to the use of technological applications, as they are nowadays, can be in vain, especially when a case is unique, singular. The singularity of a case may pose to serious problems for an algorithm to be created since the latter is based on models. In fact, 'machine learning' techniques are well-suited for recurring situations, such as cases that involve parking tickets: "Legal scholars have looked at governmental use of computerized decision-making and identified that software can aid the way the administrative state functions but at the same time run afoul of justice and due process requirements" (Desai & Kroll, 2017), which includes fairness. A study conducted by ProPublica in the United States showed that COMPAS software (Correctional Offender Management Profiling for Alternative Sanctions) identified the risk of reoffending for a person had an ethnic bias against black people (Angwin, Larson, Mattu & Kirchner, 2016; O'Neil, 2018; Eubanks, 2018). ProPublica also concluded that the algorithm comes down to a reliable prediction in only sixty-five percent of the cases. As if it was not already enough, that study also showed that when the algorithm makes mistakes, it often exaggerated the risk of recidivism for black individuals and underestimated it for Caucasians.

III. Conclusion

Even though the issues that relate to the benefits and challenges posed by using AI in court operations are not expected to be decided and set in stone soon, it remains interesting, especially these days, to observe that the pilot projects that are currently operated in some countries show some positive results of AI in a way that may improve and support the impartiality of the judiciary.

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