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ARTIFICIAL INTELLIGENCE AND THE LEGAL PROFESSION BETWEEN COOPERATION, COMPETITION AND CONFRONTATION

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Abstract: *Humanity has stepped into a new era, exciting, fascinating and terrifying. One could say revolutionary. Until now, man has thought about artificial intelligence, and now artificial intelligence has started to reason about man. It even tries to get into his psyche and encode his emotions. It has been recognizing people by their appearance, voice and way of speaking for a long time. It monitors them electronically, knows their intimacy, preferences, aspirations and interests. It penetrated, faster than anyone expected and deeper than could be imagined, into all spheres of public and private life, from the media, through medicine, education, finance, energy, production and insurance, to traffic, sports and ecology. Of course, it could miss the legal profession either: the legal profession, the judiciary, the state administration and the legislature. AI has begun to transform that area as well, encroaching on all the tasks immanent in this activity - research, counseling, writing documents, representation, processing, adjudication and so on. Faced with artificial intelligence, the legal profession is faced with a major challenge. The dilemma is to what extent and how to use the tools of artificial intelligence, without jeopardizing the basic rights of people and parties to the*

proceedings, how to avoid that justice and ethics do not succumb to the speed of work and savings that these tools bring, and finally, whether society in general should and may delegate the function of a judge to a creation that exists only in cyberspace (for now) and cannot be held accountable and subject to criminal law. The application of artificial intelligence tools will have both positive and negative effects on the legal profession. There will be less work for people and more for machines. The interests and needs of the participants themselves in all kinds of legal traffic will intertwine, supplement, but in some areas they will differ when it comes to the attitude towards the engagement of artificial intelligence systems. This relation will range from cooperation, through competition, to confrontation. In order to clarify some of the above-mentioned dilemmas, in this paper we investigated the following questions: (a) what are the basic difficulties in defining artificial intelligence, (b) is artificial intelligence capable of obtaining a law degree and passing the first court exam, (c) which AI tools have already found application in the legal profession; (d) can AI be a legal representative of a party (barrister), (e) what effects will the first court judgment written by the "hand" of the ChatGPT-4 system in Colombia have and other important issues of importance for the application of artificial intelligence in the legal industry and the judiciary as a whole. By studying extensive foreign literature and practice in a number of countries, we came to the belief that artificial intelligence tools will continue to play a significant role in jobs such as legal analysis, researching laws and regulations, finding documents and arguments, predicting the possible outcome of a dispute or the behavior of suspects before, during and after the court process. Such application of these tools will lead to a reduction in litigation costs, to a faster and more cost-effective resolution of disputes and to the facilitation of work in the legal profession. That is why many law offices, lawyers and numerous employees in the judiciary will be interested in obtaining the most modern and effective artificial intelligence tools. In doing so, they will have to take care that efficiency and speed do not suppress justice. As for the engagement of artificial intelligence in court proceedings, it is most likely that it will mainly be used to perform less complex tasks and resolve disputes of lesser value, disputes related to private contracts and cases resolved by tribunals (administrative and labor disputes, etc.). It is unlikely, at least in Western countries, that these tools will have any significant role in the work of the highest judicial instances, such as the Supreme Court, the High Court or the Constitutional Court. There the right to make decisions will remain with the individual judge and the judicial panel. It is not yet possible to assess with certainty whether one day artificial intelligence will acquire the status of a subject of law and in what form, as well as whether futuristic announcements about the potential symbiosis of man and artificial intelligence will one day lead to artificial intelligence wearing a judge's robe. In conclusion, the authors reinforece the thesis that despite the differences and ambiguities surrounding the legal regulation of artificial intelligence, its spread and penetration into the judiciary are unstoppable. But this whole relationship must be strictly regulated and predictable, subject to laws, imbued with ethics and intended for the benefit of humanity. The more we hesitate on that front, the more severe the consequences will be, because the judiciary is one of the foundations of any social order and a mirror of its democratic development.

Keywords: *Legal profession, Artificial intelligence, Court proceedings, AI tools, EU Code on AI, Court judgment in Colombia 2023;*

INTRODUCTION

For the first time in the history of world judiciary, on January 30, 2023, in the Latin American country of Colombia, a court verdict based on the views of artificial intelligence was passed. That ruling represents a dramatic echo of the changes brought about by the accelerated development of AI and its even faster application in the "legal industry", meaning by that industry all lawyers, legal advisers, attorneys, law offices, legal associates, defense attorneys, judges and judicial assistants and clerks, legal theorists, professors of legal disciplines, legislators and other members of the huge "*world legal family.*"

Technological penetration and IT innovation in the sphere of law, computerization and digitization of lawyers' work and the introduction of artificial intelligence systems to assist judicial bodies in their work have also led to language innovations. This is how expressions such as "*artificial legal intelligence*"[1] and "*artificial intelligence justice*" appeared. Both terms basically start from the point of view that legal decision-making has its own special logic, however, artificial intelligence systems that intend to be applied in the judiciary do not possess legal, but mathematical logic, and it is fundamentally different from legal reasoning.

Not only in the USA and the EU, but also in China, Russia, Kenya, Malaysia, Saudi Arabia and a number of other countries, systems and mechanisms for the application of artificial intelligence in the sphere of law have been elaborated to a greater or lesser extent. Towards this purpose, a number of states, organizations and professional associations brought instructions for the application of "lawtech" tools, which we will present and describe here. So far, the European Union has gone the furthest in terms of regulating this matter.

On March 11, 2023, two competent committees of the European Parliament reached an agreement on the amendment of the Draft Law on Artificial Intelligence. Then, on June 14, the EU Parliament adopted the negotiating position on the Law on Artificial Intelligence. Talks with EU countries and the Council on the final form of the law will now begin. By the way, the European Commission presented a proposal for the regulation of artificial intelligence as early as April 2021. This act would essentially be the **world's first comprehensive code in the field of artificial intelligence** (*Corpus Iuris Artificialis Intelligentia*[2]), which protects the EU's fundamental values and rights, as well as user safety. It will impose clear obligations on manufacturers of systems deemed high-risk to meet requirements regarding reliability, non-discrimination, transparency, accountability

1 *The term was first formalized in a monograph entitled "Artificial Legal Intelligence", written in 1997 by Pamela N. Gray and published by Dartmouth Publishing co, of London, UK;*

2 By u*sing the analogy with the Latin name for Justinian's Codex (a kind of legal Bible), we derived the above Latin coinword (author's note);*

and monitoring. The EU is trying to adopt these standards before the USA and China, so that they can create a roadmap for establishing uniform international standards and regulations at the global level.

The two-year long discussions in the EU have come to an end; now the last stage is coming, the agreement on the revised Draft Law. It is expected that this Code will be accepted by the end of 2023, but its implementation will not begin before 2024, and maybe even 2025. The problem, however, is how to bridge this period until the law enters into force, because artificial intelligence is spreading unstoppably in areas such as internet commerce (prediction of consumer tastes), home appliances (intelligent programming), self-driving vehicles (autonomous control without driver participation), information (independent social networks), entertainment (personalization of content) and electronic equipment (use of virtual assistants such as Siri or Alexa, among others) and so on. European union needs ..." *something to bridge that time period because the development of AI right now seems to be exponential, and a lot of good things can be said about democracy, but the speed of the work is not exponential*"..."*T(t)his is not criticising anyone, […] it just means that there are a huge number of issues to be discussed when it comes to making full use of this technology*" [Vestager 2023, May 29].

1. DIFFICULTIES IN DEFINING ARTIFICIAL INTELLIGENCE

Almost everyone is talking about artificial intelligence today and, it seems, everyone understands it. *"Some believe that it brings great benefits, some believe that it poses dangers, and some believe in both. It is unusual then that, on the other hand, there is no general agreement on what artificial intelligence is and what it does"* [Jančić 2023:7]. There are a number of reasons why at today's level of development of science and practice *"the concept of artificial intelligence cannot be precisely defined"* [Prlja et al. 2021:61].

From a theoretical point of view, the biggest difficulty is caused by the fact that, in the strict sense of the word, artificial intelligence as a phenomenon does not yet exist. There is only human intelligence and there are machines that to a certain extent imitate the way of human thinking. How, then, to define what does not exist and compare it with human intelligence, which itself has not yet been sufficiently studied? *"We know a lot about intelligence and the human brain, but that knowledge is far from complete and there is no consensus on what human intelligence actually is. Until this is achieved, it is impossible to say precisely how this intelligence can be artificially imitated* [Sheikh at al, 2023:16].

The second group of difficulties arises from the fact that the vast majority of the development of artificial intelligence is carried out by private information technology companies, which strictly guard their research, independently develop it and market it in accordance with their commercial interests, driven above all by profit. The state authority and international institutions only react to certain processes, breakthroughs and findings that come from there, with a limited ability to direct them.

The third group of difficulties arises from the insufficient normative regulation of this field, the absence of an even approach on the international level, large differences between

countries in terms of assessing the risk of secret and uncontrolled artificial intelligence research, the dominance of the group of the most powerful countries in the development of artificial intelligence compared to most countries in the world, etc.

The fourth group of difficulties is related to the technical complexity of the development of artificial intelligence, its fragmentation, insufficient understanding of all its dimensions, problems of supervision and control in this area, conflicting opinions about the dangers it poses to the existence of humanity and the survival of the human species as a whole.

Given that the development of technical innovations and artificial intelligence had its own economic and commercial interest, in 2015 an international ISO standard was established regarding the quality management of the production of these systems, which defines artificial intelligence exclusively in the technical sense. That definition was somewhat modified in 2022, but the essence remained the same: "*Artificial intelligence (AI) systems, in general, are engineered systems that generate outputs such as content, forecasts, recommendations or decisions for a given set of human-defined objectives. AI covers a wide range of technologies that reflect different approaches to dealing with these complex problems.*ML (Mashine Learning) is a branch of AI that employs computational techniques to enable systems to learn from data or experiences. In other words, ML systems are developed through the optimisation of algorithms to fit to training data, or improve their performance based through maximizing a reward. ML methods include deep learning, which is also addressed in this document" [ISO/IEC 2022].

For the purpose of writing this paper, instead of providing definitions, we will only point to specific explanations and descriptions of what artificial intelligence is currently doing. From the above explanations, a certain evolution can be observed not only in the development of these systems, but also in the understanding of the nature, capabilities and purpose of artificial intelligence.[3]

Artificial intelligence has gone through several stages of development from the middle of the last century until today. In the beginning, it was reduced to the programming of machines that can imitate human actions (*repetitive machine*), then machines that are capable of learning without special programming (*learning machine*), and now we have reached the stage of machines that are capable to a certain extent of finding new, an original solution in a way that makes them think (*thinking machine*). The further development of artificial intelligence is unstoppable, but how far it will lead is difficult to estimate. There are already a number of theories about it. The controversial American futurist Raymond Kurzweil even put forward the thesis that around 2045 artificial intelligence will surpass natural intelligence, and he called that moment the singularium [Kurzweil, 2005:122]. Looking even further into the future, he predicts that the nature of man will be forever changed, but "*the intelligence that will then be created will continue to represent human civilization*".

3 For a detailed review of the definitions of artificial intelligence and its development throughout history, see more in„*Artificial Intelligence: Definition and Background",* Chapter II, in Haroon Sheikh, Corien Prins & Erik Schrijvers (2023): „Mission AI", pp.15-41;

2. THE EVOLUTION OF THE EUROPEAN VIEW ON ARTIFICIAL INTELLIGENCE

As for the definition of artificial intelligence, the wording from the joint statement of the four most important bodies of the European Union from April 2018 was initially used within the EU. It states the following: "*Artificial intelligence (AI) refers to systems that display intelligent behaviour by analysing their environment and taking actions – with some degree of autonomy – to achieve specific goals. AI-based systems can be purely software-based, acting in the virtual world (e.g. voice assistants, image analysis software, search engines, speech and face recognition systems) or AI can be embedded in hardware devices (e.g. advanced robots, autonomous cars, drones or Internet of Things applications)*" [EU Communication 2018:1].

A little later, in December 2018, EU experts came to the conclusion that the previous definition was outdated, so they proposed a more complex definition: „*Artificial intelligence (AI) refers to systems designed by humans that, given a complex goal, act in the physical or digital world by perceiving their environment, interpreting the collected structured or unstructured data, reasoning on the knowledge derived from this data and deciding the best action(s) to take (according to pre-defined parameters) to achieve the given goal. AI systems can also be designed to learn to adapt their behaviour by analysing how the environment is affected by their previous actions.*" [EC HLEG 2018:7].

Then in April 2019, they once again updated their explanation: "*Artificial intelligence (AI) systems are software (and possibly also hardware) systems designed by humans3 that, given a complex goal, act in the physical or digital dimension by perceiving their environment through data acquisition, interpreting the collected structured or unstructured data, reasoning on the knowledge, or processing the information, derived from this data and deciding the best action(s) to take to achieve the given goal. AI systems can either use symbolic rules or learn a numeric model, and they can also adapt their behaviour by analysing how the environment is affected by their previous actions*" [EC HLEG 2019:6].

However, in the largest number of countries in the world, the explanation of artificial intelligence and its life cycle, which is given in the Recommendations of the OECD Council for artificial intelligence, is used:"*An AI system is a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations, or decisions influencing real or virtual environments.*" [OECD 2019:7].

According to the Encyclopedia Britannica, artificial intelligence (AI) is "*the ability of a digital computer or computer-controlled robot to perform tasks commonly associated with intelligent beings. The term is frequently applied to the project of developing systems endowed with the intellectual processes characteristic of humans, such as the ability to reason, discover meaning, generalize, or learn from past experience* [Britanica, 2023].

The famous British mathematician, logician and cryptographer, Alan Turing, in 1950 devised a test ("Imitation Game") [Turing, 1950:433] to assess whether a computer possesses intelligence, i.e. whether it has become an "*intelligent thinking entity*"[4]. So far,

4 The Turing Test is a specific way of determining whether a machine can demonstrate human intelligence by putting it through a complex process of questioning by a large number of experts. The basic premise

no computer has passed that test. But with the advent of ChatGPT, in late 2022, the conversation about the likelihood that the components of the Turing test have finally been met has been rekindled [Blackemore, E 2023:1].

This has encouraged many other countries, professional groups, professional organizations, scientists and researchers to pay special attention to the regulation of all important issues regarding artificial intelligence. This was discussed in May 2023 by the G-7 group of the most developed countries, but they did not reach an agreement on what and how this area should be regulated. Nevertheless, with the aim of converging positions, the G-7 Group launched an initiative for a global overview of the situation with AI, called the Hiroshima Process [G-7, 2023:9].

In a number of countries in the world and on all continents, artificial intelligence has long been widely used in almost all areas, including the judiciary, but the degree of its regulation is very uneven. From numerous researches, scientific papers and literature, it follows that China and the USA are leading in the application of artificial intelligence in many areas, especially in the judiciary.

3. CAN ARTIFICIAL INTELLIGENCE GET A LICENSE TO WORK IN THE LEGAL PROFESSION

Initially, it was thought that the legal profession would generally remain outside the influence of artificial intelligence. However, as early as 2013, scientific papers appeared proving that artificial intelligence will profoundly transform the legal profession and the judiciary as a whole.[5] Today we are witnessing the realization of that colossal transformation. Literally, in the most developed countries, not a single legal area has remained outside the influence and interference of artificial intelligence.

Several reasons have contributed to the massive influx of artificial intelligence into the legal profession. First, in this area there is a number of less complex or simple jobs that can be performed using various IT tools and automated systems. Secondly, the starting point and support for legal action are numerous laws, regulations, contracts, conventions, court decisions and principles which can be computer processed, classified, sequenced and converted into algorithms for use at all levels of judicial decision-making (in administrative, civil and criminal matters). Thirdly, the use of artificial intelligence tools in all stages of court proceedings, especially in populous countries, brings numerous benefits: it shortens the duration of proceedings, reduces court costs, facilitates access to judicial protection for the lay part of the population, increases court efficiency, enables the unification of judicial practice, strengthens the centralization of judicial authorities, strengthens its homogenization, etc.

Naturally, the basic assumption for the transition of the legal profession from classical methods and work tools to highly sophisticated methods and tools was the creation

is: if a machine can engage in conversation with a human without being detected as a machine, it has demonstrated human intelligence;

5 See more in: Richard, Susskind (2013): *Tomorrow's Lawyers: An Introduction to Your Future*" (2nd ed.). Oxford University Press, p.320;

of such artificial intelligence systems whose memory contains a huge amount of legal knowledge, information, data and materials, and which are capable to, in the matter of seconds, from that "black hole" obtain an answer to every question that is put to them or perform a legal-technical task entrusted to them.

An even higher level of artificial intelligence was reached by the systems that appeared in 2022. The results of their testing were as unexpected as they were worrisome; not only for lawyers, but for humanity as a whole. So far, the most advanced system ChatGAP-4 marked the birth of such a generation of machines that are capable of learning in real time. From the total amount of given examples that exist in the digitized memory of the world (in the so-called "internet world"), they find the rules themselves and they apply them to every new case that is "assigned" to them.

Parallel with this breakthrough, a large number of papers appeared, both globally and in our country, warning of the danger of introducing artificial intelligence into the field of justice. Apart from reducing the number of employees, it is feared that AI will replace not only lawyers, but also judges, investigators, experts and other participants in court proceedings. Each of these application segments is *"necessarily "closing down" certain hitherto exclusively legal jobs, and it is obvious that the trend of narrowing the scope of legal jobs will inevitably continue as the application of software and artificial intelligence increases in ways similar to those mentioned above"* [Stefanović, 2023, 11 January].

The USA and China have advanced the most in the application of artificial intelligence in the sphere of judiciary. Having said that, due to the different nature of judicial systems in these countries (the first rests on precedents, and the second on laws), the introduction and application of artificial intelligence proceeded differently. In the USA, they were the result of entrepreneurial initiative and commercial interest, and in China they were the result of recommendations or obligations prescribed by the competent authorities. In addition, in China, artificial intelligence, acting as a voluntarily accepted mediator, already automatically resolves a certain type of disputes, while in the US, artificial intelligence systems currently remain only an auxiliary tool in the work of lawyers and judges.

3.1. The ability of artificial intelligence to obtain a law degree

In order for someone to practice law, he must first obtain a law degree, and if he wants to advance in this profession, he must also pass the bar exam. Considering that artificial intelligence systems have shown a certain degree of learning ability, which is similar to human learning, scientists decided to test their legal "knowledge". They were inspired by a scientific paper from 2016, which was published under the title „Can robots be lawyers? Computers, lawyers, and the practice of law" [Remus & Levy 2016].

The experiment was first performed at the Faculty of Law in Minnesota (USA). A group of professors subjected the ChatGTP system to a simulated written final exam in four subjects (which included answering 95 questions and writing 12 essays). The "Robot" "passed" the exam with a grade of Ce Plus (C+), which is below average, but is enough for a passing grade [Choi J, et al. 2023:5]. The system passed these exams without human

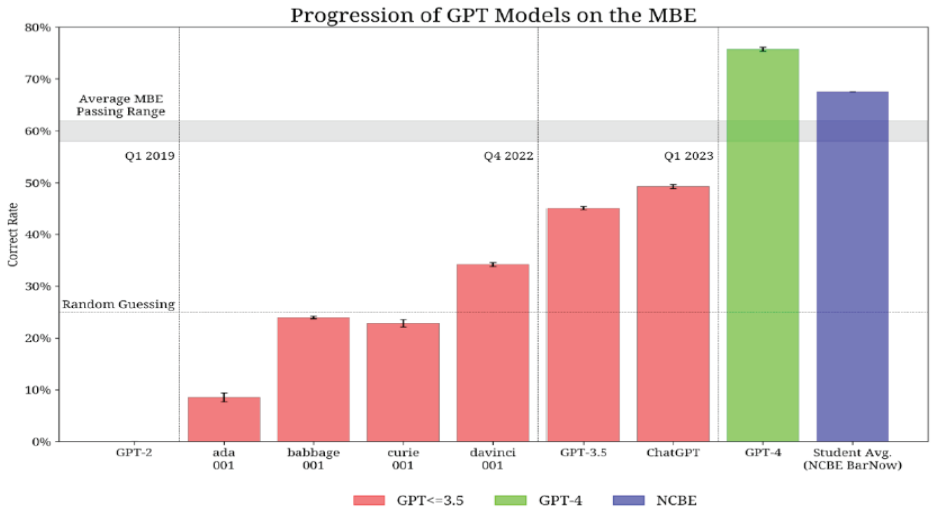
assistance. Of course, there were some omissions in the answers, but with such a result, any student could obtain a law degree.

3.2. The ability of artificial intelligence to pass the bar exam

Another group of professors (from Illinois Tech College in Chicago, Stanford Center for Legal Informatics, Bucerious Law School in Hamburg and others) went a step further. They experimentally tested whether the latest generation ChatGTP-4 (a multimodal deep learning system) would be capable of passing the bar exam. The total number of points scored in the currently most advanced GTP-4 system on the MBE exam, which allows lawyers to practice law in several federal states[6], was 297, which is 76 percent of the maximum (while, for example, in Arizona the upper threshold is 276, and in Illinois 266 points) [Koetsier 2023, march 14].

Figure 1 shows that the previous models of this System, GTP-3 in 2022 and GTP-3.5 in 2023, had a significantly lower result than GTP-4 in the first quarter of 2023 when taking the bar exam. [Katz et al. 2023:4-6]. The improved ChatGPT system in five subject areas, out of a total of seven, surpassed the results obtained by candidates with a law degree in this year's bar exam. "*This research shows that AI has the potential to supplement human judgment and make decisions based on the law*," said Daphne Linzer, executive director of 'Politico' magazine.[7]

Figure 1: Advancement of ChatGTP System's ability to pass MBE



Explanation: The bar shaded green shows the average achieved by ChatGTP-4 in the first quarter of 2023, and the bar shaded blue shows the average achieved by all students within the framework of the USA National Bar Exam Conference. Source: [Katz et al. 2023:5].

6 *Multistate Bar Examen*

7 *https://24sedam.rs/lifestyle/tehnologije/203760/vestacka-inteligencija-polozila-pravosudni -ispit/vest*

4. SPECIFICS OF CERTAIN APPLIED AI TOOLS IN LEGAL PROFESSION

4.1. Artificial intelligence systems used by lawyers

Artificial intelligence systems have been used in the legal profession in a number of Western countries for almost a decade. They have brought about significant benefits and savings. For example, a survey among law firms conducted by the agency "*Blue Hill Research*" shows that the use of a modern technological tool called ROSS, compared to the classic ones (such as "*Boolean search*" and "*Natural Language search*") by 30% shortened the time of legal research in law offices, and increased the volume of relevant data obtained by 40% [Andrew, A, & Matt, S., 2017:5].

Lawyers in the US and Canada for the purpose of online legal research most often rely on such private providers as "Westlaw", "Lexis" "Bloomberg" or on publicly available data offered by "Justia" (United States) or "CanLII" (Canada), but also on global search engines, such as Google and others. [Benjamin, et al., 2017:7]. Given that these providers can be accessed from anywhere in the world, it is no surprise that many legal file providers have over ten million subscribers in the English-speaking world alone.

Among the tools based on artificial intelligence that are now used for legal research in the judiciary and in general in the legal profession in the Anglo-Saxon area, it is possible to single out several basic groups, which we will explain herewith.[8]

4.1.1. Legal Text Analytic Tools

These are systems that are capable of extracting the meaning from court decisions or laws, thanks to a built-in algorithm. For example, they (a) search legal archives and look for arguments that can be used in new cases and (b) produce a diagram as a graphic representation of the connection of certain legal facts. Such common research systems include "Ravel" (contains scans of numerous US court decisions and allows them to be cited), "CARA" (provides texts or summaries of any additional cases that support the requested legal arguments), "Casatekt" and "Fastcase". (providing a network of linked citations to individual statutory provisions and court rulings) and "Luminance" (which suggests to paralegals how to extract key points about a particular case).

4.1.2. Legal Question and Answer (Advisory) Tools

This set of tools enables lawyers to get an answer to any legal question based on a detailed search of large collections of texts. For example, the "ROSS" system can provide

8 *A detailed review of these tools is provided in the following text: „The Impacts of Artificial Intelligence on Research in the Legal Profession", koji je objavljen u International Journal of Law and Society, Volume 5, Issue 1, March 2022, Pages: 53-65, the authors are Biresaw M.S. & Saste U.A. In addition to the above, there are a number of other tools, such as those that convert oral speech into written texts, and vice versa, then tools that simultaneously translate presentations into other languages, etc., but listing them and explaining how they work would require too much space;*

an answer, quotes, suggestions and materials for each query, can arrange them according to the degree of importance and timeliness, and even provide a draft of a legal petition. The "Lexis Answers" system is able to offer its authentic legal answer, complete with citations, from the analysis of millions of documents. The "Watson Debater" system is capable of thoroughly considering each topic and offering convincing arguments and ruling precedents related to it. The "CCLIPS" system is somewhat narrower as it provides the retrieval of all relevant cases and provisions from an integrated database related to the Civil Code of the State of Louisiana.

Recently, one of the IT companies offered the courts the software tool ALEXEI, which, based on an artificial intelligence alogrithm, can in a very short time obtain examples from court practice, precedents and the appropriate argumentation that is needed to act in a specific case. For every question asked, the software is able to not only provide information within 24 hours, but also to generate a corresponding legal act, decision, submission and the like. It can also provide a valid assessment of the outcome of the litigation [Hendry, M, 2022].

4.1.3. Legal Prediction Tools

These are systems that, based on previous court decisions, give their assessment of the outcome of the case represented by the lawyer. Among the numerous such tools in the USA, the most common ones are "Scotus" (whose prediction accuracy reached 70%) and "Lex Machine" (which, in the field of intellectual property, reached a prediction accuracy of 64%). This group also includes the "Motion Kickstarter" system, which provides an insight into all court-approved or rejected judgment proposals by type and content of cases. In Great Britain, the highest level of accuracy in predicting the outcome of court cases was achieved by the artificial intelligence system developed by Cambridge students "Case-Cruncher Alpha" (with an accuracy of 86.6%). In Canada, a platform called "Blue J Legal" was developed, which, based on a large database of judgments in tax and related matters, also shows a high degree of accuracy in predicting the success of a lawyer's engagement.

4.1.4. Contract Review and Analysis Tools

The specificity of the above artificial intelligence systems is that they possess knowledge of all legal clauses, which allows lawyers to search and get to know all the documents and contracts in which those clauses were used. Thus, the "LawGeex" application summarizes relevant contracts with 94% accuracy and forms the appropriate clauses, saving time up to 80%. The ThoughtRiver system scans contracts and presents their most important elements on an online dashboard.

The "Legal Robot" system successfully performs a preliminary test and analysis of the contract and draws attention to the perceived shortcomings from the point of view of expressing the will and intention that the lawyer wants to achieve through that contract.

The "Beagle" system is intended for entrepreneurs who are not lawyers, but must independently prepare, review and conclude contracts with business partners. The "COIN" system deals with the analysis and preparation of commercial loan contracts, while the "HIPO" system deals with all aspects of legal research, whereby its predictability of the outcome of cases corresponds to a high degree with later court decisions. Artificial intelligence analytical tools similar to the above are also the following: „Relativity", „Kira Systems", „Modus", „OpenText", „kCura" and others.

4.1.5. E-discovery (Technology Assisted Review) Tools

Generally speaking, these are software tools that provide lawyers with a type of technological assistance in obtaining and reviewing large amounts of electronically generated and stored information, as opposed to databases that contain scanned paper documents. Searches are automated, so that in the course of court cases, they enable all users to quickly find all relevant laws and regulations.

Courts in the USA, England and Ireland as early as 2012, and in the Australian state of Victoria since 2015, have accepted the "TAR" system as a reliable method for conducting reasonable research. Thanks to the automation of the search, this system allows lawyers to obtain more accurate information with less effort and very quickly, in contrast to the laborious, time-consuming and insufficiently reliable manual search of files. After all, recent research has shown that most of the 1,000 companies listed on Forbes' list of the largest, annually spend over 5 million dollars on *e-discovery* systems for automatic processing, which brings savings of 70 percent compared to manual searches of electronic materials.

4.1.6. Drafting Tools

These tools concdern automated systems that perform only one type of lawyer's work, but work that is particularly important because it needs to draft the most important documents and submissions to the court in legal language, persuasively and argumentatively. Systems such as "Clifford Chance Dr@ft", "Desktop Lawyer", "Legal Zoom", "Rocket Lawyer", "Legal Vision", "LavPath", "ClickLaw" and others have become popular in practice. All of them greatly increase the efficiency of law offices, reduce work time and costs, and contribute to the top quality of legal submissions and proposals.

4.1.7. Citation Tools

This last group of tools includes those narrower systems that provide citations relevant to legal research and practice. Among the most represented systems is "KeyCite" which informs where a certain quote was contained and whether it is still suitable for the lawyer's purpose, that is to what extent it is relevant as an argument in a specific case. The first system of this kind, which is still in use today, was "Online Shepard's Citations", which extracts all relevant requested citations from numerous sources [Biresaw, 2022:53-65].

4.2. The attempt for artificial intelligence to take on the role of defender

Since it has already been proven that artificial intelligence could "pass" the bar exam and "acquire" a lawyer's license, can it appear in court in the capacity of "defender of accused persons". In Great Britain and the USA, one such system has had success in the courts. It is an artificial intelligence system called "DoNotPay", which was invented in 2015 by British student Joshua Browder, who later moved to the USA.

The system does not enter the courtroom, but directly watches, listens and follows the course of the trial via the party's mobile phone, and gives instructions to the party on what to say or how to answer a question. It also possibly suggests certain action or which document to submit. Therefore, the system automatically, in real time, manages the defense of the party before the court. It was most often used to defend persons who were fined for traffic violations, mainly due to non-payment or expiry of the parking card. This Chatbot, based on an AI logarithm, has freed 160,000 customers from paying fines in the course of several years, both in the UK and the USA. It charges only $3 per month for its services. This is also the reason why the American Bar Association in early 2020 awarded the owner of this system a special award for helping those with insufficient income and for exceptional inventiveness in the "lawtech" sphere.

The company founded in San Francisco by Browder advertised the AI system as "The world's first robot lawyer." The system saved customers money, but reduced revenue for public and private parking services. At the same time, it had put law offices in an unenviable situation.

This was actually the reason why on March 3, 2023, one of the law offices, which believed that AI was taking away its clients, filed a lawsuit against the "robot lawyer" in the competent court. In the lawsuit, the firm stated that DoNotPay is neither a robot nor a lawyer, that it does not possess a lawyer's license, nor is its work under the supervision of any legal expert or institution. "*DoNotPay is merely a website with a repository of—unfortunately, substandard—legal documents that at best fills in a legal adlib based on information input by customers.*" [Wilkins 2023, March 8]. The prosecuting attorney referred to California law that prohibits "*unlawful, unfair or fraudulent business acts or practices.*"

As soon as he realized that this could put him in danger because the penalty for the said crime is 6 months in prison and includes the obligation to return money to the clients, the owner of the AI system, Browder, announced that his company immediately "stops all activities for which it is not authorized by law." Whether that will be enough for the court to let him off will not be known until the end of the proceedings. It is also uncertain whether in the end the "robot" will end up in prison or his owner will have that honour.

4.3. Presentation of artificial intelligence systems used by judges in certain countries

The use of artificial intelligence could not bypass the courts either. In doing so, a different practice arose. So far, the largest number of states have implemented this process of

automation in the form of digitalization of court work. Herewith we will list examples of individual countries at random, because a separate study would be necessary if we were to provide a comparative analysis of practice in the world.

4.3.1. Implementation of AI as an auxiliary tool in the judicial system of selected countries

In *Hungary*, the National Office for Justice first implemented the "*Digital Court Project*" as a tool that facilitates court operations and court administration. Furthermore, this country has enabled electronic submission of lawsuits. The next step was the "Via Video" project, which enables remote video hearing of the parties. Then, a program for converting oral statements and statements into written text was applied, and then a system for assisting judges, which searches court decisions with one click and browses through electronic files and public registers [Papp et al. 2019:274].

In *Canada,* artificial intelligence has also not yet occupied the judge's chair, but it has stepped into the judicial virtual network. In fact, in 2019, for the province of Ontario, the digital platform "Digital Hearing Workplace" was put into use, as a system for managing documents in court proceedings related to commercial disputes. Parties who pre-register are enabled to submit electronic copies of documents and information needed for the hearing through that platform. They also have immediate all-day access to documents related to the dispute. The AI system represents a great benefit for all participants, both judges and court officials, as well as prosecutors, parties and their lawyers. However, regardless of this electronic delivery, the condition for starting the proceedings before the court is that all submissions to the court must also be submitted on paper [Superior Court 2019, March 29].

The Netherlands was one of the first members of the European Union where an online private court completely digitized the conduct of court proceedings. Nevertheless, the final decision-making remained in the exclusive authority of the authorized judge. Subsequent attempts to introduce such online courts proved unsuccessful. Despite the initial expectation that IT systems will gradually be overwhelmed by the judiciary, the biggest reach of artificial intelligence in that regard was the making of electronic judgments by default in backlogged debt collection cases. It was the only classic case of judgment without the participation of the human factor [Nakad-Westrate, 2015:1103]. By the way, the Dutch judiciary, like most others in the world, uses different types of information technology. These include case management, office technology and a host of information, news and case law websites (files include more than 50,000 judgments per year). For the same purpose, various tools for court administration, intranet, e-mail, submission of electronic reports and various digital procedures are used. All this is managed by a special IT organization of the judiciary, within the Council for the Judiciary of the Netherlands [Reiling, 2020].

Research into practice in the Netherlands shows that there are two main reasons why it is unrealistic to expect a greater penetration of AI in this area. On the one hand, the

Dutch judicial system uses artificial intelligence systems to a rather limited extent when it comes to making court decisions, and on the other hand, the tools used in certain cases are not able to evaluate arguments, evaluate elements or understand the competences of e- court. Finally, "*despite the benefits of using AI in decision making, Dutch legislation does not provide for the possibility of a digital judge*" [Nakad-Westrate, 2015:1108].

Estonia is faced with a controversial situation. Although in 2019 expert texts appeared in magazines around the world that Estonia plans to launch a public procurement for the creation of a "robot judge" software program for adjudicating small claims, this has been denied. The first time in February 2022, and then in March 2023, the Estonian Ministry of Justice explained that they were only considering the process of automating the system for collecting monetary sums based on court decisions and nothing more. So far, only one court and one department has a service that, based on judgments, delivers electronic payment slips to the parties for making payments within the deadline. These are mainly civil lawsuits and it is estimated that the automation of this procedure would bring significant savings. In any case, a robot has not entered a courtroom in Estonia and it will not do so in the foreseeable future [Republica Estonia, 2022]

France has taken a very conservative standpoint regarding the application of AI tools. In 2019, it had passed a law banning the use of artificial intelligence tools to detect patterns of behavior by former judges in new cases. Furthermore, the use of public information from previous trials for "assessment, analysis, comparison and prediction" of the future behavior of individual judges is prohibited. [Livermore 2019, June 21] Violation of this ban is punishable by no less than five years in prison.[9]

In *Brazil,* the digitization process in the judiciary had started very early. According to a report by the National Council for the Judiciary "from 2008 to 2018, 180.8 million court cases were initiated digitally" [Ferreira 2020, March 10]. SOCRATES is the name of the first artificial intelligence system selected for use in the Brazilian judiciary, which enables the automatic search of all relevant legal acts and regulations. In the course of two years of operation, the system collected and analyzed more than 300,000 judgments, thus providing judges with significant assistance in their work. A system called VICTOR was also approved for use in the judiciary, which performs a preliminary analysis of cases, extracts key arguments from previous judgments and enables the translation of disputes from indigenous languages into Portuguese (via an NLP tool, i.e. NaturalLanguageProcessing system).

Similarly, the judicial system in *Singapore* already makes extensive use of speech translation tools. Singapore's NLP (Natural Language Processing) system relies on neural networks, is equipped with language models and specific terms, as well as the technical tools necessary to transcribe court hearings in real time. Thanks to this, the judges as well as the participating parties have the opportunity to instantly review oral testimonies, statements and proposals.

9 *See more in:"France Bans Judge Analytics, Five Years in Prison for Rule Breakers", Artificial Lawyer,(June 4, 2019, https://www.artificiallawyer.com/2019/06/04/france-bans-judge-analytics-5-years-in-prison-for-rule-breakers/*

Likewise, the *Austrian* judiciary uses an artificial intelligence system to manage documents, whereby court decisions are anonymized (by omitting the names of judges and parties). This system also digitizes analog files, turning them into numerical content, which is suitable for machine processing. At the time of the Covid 19 pandemic, Austria changed the regulations to allow virtual trials to take place. Namely, the judge would sit in his office and through the screen, thanks to a special platform, similar to the one used for business video conferences, talk to all participants, listen to them, ask questions and the like. But decisions were made by himself or in the council, where no artificial intelligence system was used to make decisions. The application of such and similar virtual trials was time-limited to the period until December 31, 2022.

The AI tool used by both Argentina's Public Prosecutor's Office and Colombia's Constitutional Court is called PROMETA. This analytical tool is used to assess the outcome of cases, and so far has recorded a success rate of a high 96%. The aforementioned system is also able to identify emergency cases among numerous files. It takes him less than 2 minutes, while a judicial associate would need an average of 96 days for the same job [Rivera 2021, November 5]. A few more specifics are typical of Colombia. In that country, for the first time among Latin American countries, a robot assistant, whose name is the acronym SIARELIS[10], was used. It is mostly used in litigation concerning the business of corporations due to its ability to prepare a draft of a court decision.

5. THE FIRST VERDICT IN THE WORLD PASSED BY ARTIFICIAL INTELLIGENCE

Colombian judge *Juan Manuel Padilla Garcia* is the first judge in the world who delivered his verdict based on text generated by artificial intelligence (or at least he is the first who publicly disclosed it) on January 30, 2023. The subject of the decision was the request that a minor autistic child be exempted from paying compensation to the Health Insurance Fund for the costs of engaging a therapist in his treatment.

Among the questions posed there had beeen also two questions for which the artificial intelligence system gave very convincing arguments in favor of the child, and they were: "Is a minor with autism exempt from paying co-payments for therapy?" and "Has the jurisprudence of the Constitutional Court brought favorable decisions in similar cases?"

The judge entered the answer he received from the ChatGPT AI system into the text of the sentence and wrote that the AI arguments strenghtened his own argumentation in favor of the rights of the child [Taylor 2023, Feb.23]. Padilja achieved this by referring to law no. 2213 of 2022, which allows judges to use artificial intelligence in certain circumstances [Ley 2022, art 1].

Explaining the reasons why a judge in Colombia could quite comfortably issue such a verdict, unlike a judge in the USA, Kathryn Forrest, who was a judge of the New York court for a long time and is now a lawyer, stated that it was due to differences in the

10 *Full title: „Sistema con bases de Inteligencia Artificial para la Resolución de Litigios Societarios";*

legal system. "*Colombia has a civil law system, meaning judges place greater emphasis on a legal code rather than case law. She said the U.S. follows a common law system in which more weight is placed on precedent and assessment of facts in individual cases, like witness credibility. The issue for ChatGPT is if it pulled all of the cases and it were to write a bench decision, it can never assess the credibility of the witnesses who are testifying in front of it*" [Zappo 2023. march 13]. U vezi sa nedoumicama oko toga šta je sve sistem koristio u procesu istraživanja, navela je: "*Where ChatGPT draws its information from isn't completely known, Forrest said. ChatGPT was built by the research company OpenAI and trained using 570GB of data from the internet, including from books, Wikipedia and other writings on the web, according to BBC. But biases can exist in the algorithm and more transparency about its boundaries is needed if judges were to utilize the language generator*" [Ibid].

Unlike the South American judges, who did not express many objections to the decision of the judge from Colombia[11] to trust a "robot", the North American judges in turn had a number of objections. They objected that it remains uncertain what the "black box" contained and that the "robot" did not take into account the statements of the witnesses. Furthermore, they claimed that this judgment would be overturned at the appellate court because the opposing party did not have access to the material on the basis of which the artificial intelligence wrote the judgment, which is not in accordance with the rules of the procedure.

Regardless of the above and other objections, for which we do not have enough space here, the fact remains that it will be recorded in the annals of world justice that the first judgment with the text prepared by artificial intelligence was delivered by a judge from Colombia, a country not so important, nor highly developed, and even less democratically exemplary. The circumstances of making that judgment, the facts on which it was based, the manner in which it was made and the disputed legal issues from the case all this requires that this verdict and its consequences be analyzed in a separate paper.

CONCLUSION

Our research makes it obvious that the application of highly sophisticated IT tools in the legal profession, and above all among lawyers and the judiciary, has gradually led to the development of a specific and complex relationship between artificial intelligence and the legal industry. That relationship ranges from cooperation to competition to potential conflict. It often oscillates and shows both the good and the bad side of this reciprocity. The advantages of mutual intertwining are great, but they also have disadvantages. The interests that exist within these two spheres of engagement of people, capital and state politics, in many respects coincide with each other, but they also diverge to a large extent.

For creators of artificial intelligence tools, the most important thing is to increase the demand for their goods and to make their systems as advanced, independent and successful as possible in performing legal tasks. For lawyers who work in the bar and judiciary, the

11 *The official name of this country in Spanish is: República de Colombia;*

most important thing is that these "thinking machines" do not take away their jobs and do not threaten their profession. The general social interest is that justice, understood as a sublimated expression of the highest values to which people aspire, preserves its ethical essence, human dimension and the virtue of justice, regardless of who will pronounce judgments or who will provide legal services. State, perceived as a democratically organized and legally constituted community of people, must take care not to let the judicial power out of its hands, as it is one of the three key levers of power. In addition to that and above all, it is now obvious that the development and scope of artificial intelligence must be "brought to justice", regulated by law, directed, limited and controlled, because it inherently carries a danger for the survival of humanity.

Because of the technical complexity, rapid progress and elusiveness of artificial intelligence, reaching its definition turned out to be very difficult and contradictory. How to define what is not sufficiently known and researched and which is increasingly escaping our ability to understand and explainit. In any case, we have herewith stated that a generally accepted definition does not yet exist, and we have explained the main reasons for that.

The complex nature of the problem of artificial intelligence, the unevenness of its development and the lack of regulation in this area have also influenced that the conceptual approach differs and changes, depending on the angle from which these systems are viewed - technical, philosophical, legal, expert or layman, etc. Even the European Union, as a union of 27 states, and the entity that has so far made the most progress in creating policy, strategy and norms in this and related fields, has gradually evolved in terms of defining artificial intelligence. The EU approach has been changing rapidly, and now it has reached the stage when the drafting of the world's first comprehensive act with the highest legal force to regulate all important issues of artificial intelligence, including its application in the legal profession, is nearing completion. Considering the number of issues it covers, the areas it concerns, the scope it has and the degree of obligation, we believe that for the further regulation of the sphere of artificial intelligence in the world that act will be inspiring and stimulating, just as Justinian's Code was stimulating in the past for the development of law, legal sciences and practices in a large number of countries. By using the analogy (with *Corpus Iuris Civilis*), and starting from its importance, we allowed ourselves to predetermine the name of that future European artificial intelligence code with the Latin name "*Corpus Iuris Intelligentia Artificialis*". In defense of this freedom of providing a name, we can only say that the preference of lawyers for Latin names is immanent in the legal profession.

By studying the practice and areas of implementation of artificial intelligence tools globally, we noticed a significant diversity, but also a multitude of solutions. In order to facilitate further study, we have classified the artificial intelligence tools that are used in the world at the bar and among lawyers into six groups, and described them according to their purpose and the tasks they perform. These are tools for analyzing texts, for providing answers to legal questions, for forecasting the effect of the client's legal defense before the court, for reviewing and analyzing contracts, for retrieving targeted documentation from

files, for writing drafts of legal acts, lawsuits, appeals, petitions, etc. and for extracting the appropriate citations. Our research has shown that even currently the most advanced systems, such as ChatGPT-4, cannot replace a lawyer in providing legal advice, defending a client in court and solving many complex issues that require expertise, experience and making brilliant moves in the most sensitive moments of the procedure.

Regarding artificial intelligence systems used in courts, we studied the practice in about twenty randomly selected countries, mostly in developed Western countries, because AI is the most represented there (the USA, for example), although there is also the reverse example of a less well-known country that made a big step forward (Colombia, for example). The above classification is not applicable herewith, because some countries use the same tools, others use different tools, and the purpose is also different, so we listed and described them individually.

Observing the representation of those tools and the degree of their engagement, we drew the conclusion that systems for the extraction of legal provisions, court decisions and legal practice on the one hand, and systems for drafting legal acts on the other hand, as well as systems for third-party analysis are the most widespread in the legal profession. It could be said that they are elementary or less complex systems. Among them, the systems belonging to the group of tools for legal analytics have more pronounced disadvantages compared to the others. As the matter of fact, "*they are still subject to some major limitations concerning their inability to read or to explain their answers and their dependence on manually annotated training sets*" [Ashly 2019:1135]. From a technical point of view, this restriction is temporary and will probably gradually be overcome. Improvement of the software and upgrading of the algorithms (so as to include the network diagram) will enable the leap of analytical tools to a higher level of legal reasoning „*Such analytic techniques in the future might overcome the bottleneck if the relevant computational program can be developed so as not to rely solely on manual techniques (by humans) to input what legal texts mean in ways programs can use, but rather so that knowledge can be input automatically. If this occurred, AI could, potentially, link these text-analysis tools to computational legal reasoning and legal analysis algorithms, to produce a wholly AI-derived legal solution. This has not happened yet; however, the amount of work being done in this area should not be underestimated — legal analytics is a well progressed field*" [Ibid].

A special chapter in this paper we dedicated to the Decision of a judge in Colombia, in a civil suit against the state Health Insurance Fund. We did this because it is the first decision in the world made by artificial intelligence. More precisely, the acting judge stated in his sentence that he took over the argumentation written for him by the ChatGPT system, in order to strengthen his argumentation for making a decision in favor of the autistic child, and against the request of the Fund. The verdict passed in this way caused numerous controversies, some of which we mentioned and commented on, but this one case, which represents a legal precedent among precedents, undoubtedly demands to be separately investigated and described.

Research into the relationship between artificial intelligence and the legal profession is faced with the visionary assessments of one group of scientists, as well as the fears of

others, that law will gradually evolve into a kind of codified computer system for providing legal services. Would the justice that would be created as a result of the combination of human intelligence and machine intelligence preserve its original nature and meaning? This is a huge and very complex issue that requires further research and the passage of time to be able to answer it. Those who criticize excessive fears, believe that even in these changed circumstances and the new constellation of forces between natural consciousness and artificial consciousness, the law will still remain compatible with the existing structures of society and its values.

We find it difficult to agree with this. It is because history has shown that the future always remains unknown to a certain extent, even when people know all the parameters, elements and projects of development, and the instruments for shaping it are firmly in their hands and under control. In this sense, the conclusion of our paper could be summed up in the statement that the development of artificial intelligence and its impact on the work of the judiciary, lawyers and the legal profession as a whole, as well as on the normative and legislative architecture of society, will undoubtedly change the landscape of the overall living and working environment of people but all this in a way that we cannot predict and in a direction that may be the least desirable and the most uncertain.

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