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## “Artificial Intelligence and the Law in the Indian Legal System: A step forward or a step back?”

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### ABSTRACT

Expeditious developments in Artificial Intelligence has allowed this alien technology to percolate into numerous professions and industries undermining the capability of human resource. Likewise, the law is not immune to the interference of new technology. The inclusion of AI in law debate begun in the 1970s when fictional writers disconnected from the legal world wrote how AI would one day replace judges. It was practically applied by Thorne McCarty, who is considered the father of the field began his TAXMAN project, which ran well in 1980. In the 21<sup>st</sup> century, the introduction of ‘ROSS’ an expert knowledge-based system built using IBM’s supercomputer Watson, capable of understanding legal language, postulate hypothesis, research and analyse new developments in the legal system was employed by a top tier corporate firm in the US. Technological enthusiasts believe the introduction of AI in the legal sphere will allow for greater legal transparency, more efficient results and cheaper litigation costs. This belief, however, is backed by the delusion that law is a science that remains static. It perceives law as an experiment that can be deduced through observation and deductive reasoning, and the results remain constant. This delusion is briefly addressed in this paper to understand how law can never be a static science experiment that has a single inference. With this background, several questions regarding its technical feasibility, jurisprudential application and practical limitations of such knowledge-based systems are addressed in detail in this article.

**Keywords:** *Artificial Intelligence, Law as Science.*

## 1. INTRODUCTION

*“The power of the legal system to work slowly should not be underestimated”<sup>1</sup>*

The legal world has always been sceptical about the introduction of Artificial Intelligence (AI), whereas the world of business has embraced technology, for the mainstream reasons of efficiency and cost-effectiveness. This, however, has seeped into the legal world, and clients now expect their lawyers and courts to do the same<sup>2</sup>. The year 2016, saw this very change which shocked the legal world and instilled the fears of job security in lawyers around the world when the world's first 'robot lawyer' was employed by Baker & Hostetler, a top law firm based in the US. The 'robot lawyer', named 'ROSS' is built upon IBM's supercomputer Watson which allows it to read, understand legal language, postulate hypotheses when asked questions, research and alert any new developments in the legal system<sup>3</sup> which affect the client's case positively or negatively. Although for the time being it only behaves in the capacity of an assistant, the sight of a machine taking over the position of lawyers or even judges in court does not seem like an unfathomable fantasy after all.

The world of technology (AI) regards the legal world as any other field of application such as the field of medicine or banking. It does not consider the complexity involved in analysing and the application of mind involved in solving a legal problem. The lawyer or any individual responsible for solving the legal problem must first assemble and draw the relevant facts of the case in a chronological order, which would complement his knowledge of the relevant law and act in his favour. Secondly, he must identify the pertinent legal sources, which will prove favourable to his case and further structure them into manageable smaller units. The next step is to subsume these relevant facts under the various decomposed and manageable units, thereby finally applying the legal provisions and inferring their impact on the facts.<sup>4</sup> However, it is not necessary that every problem faced by a legal expert invariably follows this order. Many a time several hurdles present itself at each stage and lawyers are required to think on the spot and need to draw evaluations from the information they have at hand. This is exactly where the Artificial Intelligence (AI) world tries to place itself, it plays the role of a decision support system. A decision support system refers to a system that provides the tools and necessary information required to arrive at a decision. This support system tries to help the user to represent and process knowledge by storing, receiving and

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<sup>1</sup>Allison Stanfield, *Cyber Courts: Using the Internet to Assist Court Processes*, 8 J.L. & Inf. Sci. 240, 263 (1997).

<sup>2</sup>*Id.*

<sup>3</sup>Matthew Griffin, *Robo Revolution, Meet Ross*, The World's first AI lawyer, (11<sup>th</sup> July 2016) <https://www.311institute.com/meet-ross-the-worlds-first-ai-lawyer/>.

<sup>4</sup>Richard E. Susskind, *An Artificial Intelligence Approach to Legal Reasoning*, 4 Y.B. L. Computers & Tech. 221, 228 (1989).

presenting knowledge pertinent to the case at hand.<sup>5</sup> When a question is put forward by a court of law to a litigator, often the answer is confined to the research or information done by the litigator at present or to the best of his knowledge. On the contrary, the contrivance extended towards introducing a creation like 'ROSS' in the field of litigation would leave no scope for ambiguity and no question unanswered. The introduction of AI, however, does not confine itself to a support system, but rather behaves in the form of a decision-making tool which thinks, deduces and decides problems without the assistance of the primary user, in other words, supplements human resource thereby making it redundant. The primary difference between a support system and a decision-making tool is that the latter leaves a minimal role to be carried out by the user.<sup>6</sup> The promising nature of introducing AI into the legal world, however, has not been able to convince professionals in the legal field and other fields. The question of feasibility and practical application of these decision-making systems (DMS) is often questioned on several grounds, which this paper shall be focussing on. The most popular of these questions is whether these DMS's in law can, in reality, be technologically perfected, whether they would be jurisprudentially sound, if it would be suitable in an organisation to introduce such systems<sup>7</sup> and finally are they capable of being secured completely from human manipulation tools such as hacking. Furthermore, the paper shall also provide reasoning and why such a model even if introduced would never fit in, in the Indian legal system, especially in the litigation sector of the legal world.

## **2. HUMAN INTELLIGENCE VERSUS ARTIFICIAL INTELLIGENCE WITH SPECIFIC REFERENCE TO LEGAL REASONING**

The true reason why technological enthusiasts believe, that the legal world requires the interference of Artificial Intelligence is the compatibility between the capabilities of such advanced technology and the nature of legal work. Since legal work requires fewer dexterity skills but requires intelligence and analytical skills.<sup>8</sup> This allowed the early entry of computers, which allowed the storing of legal materials, methods of data management, making the filing of records and preservation of age-old documents in the form of electronic records easier. The introduction of computers, although failed to computerize the essence or rather the most important aspect of lawyering, that is legal reasoning. This failed attempt involved the application of algorithms, which proved redundant. The process of legal reasoning operates at two levels, the first being the

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<sup>5</sup>John Zeleznikow, *Can Artificial Intelligence and Online Dispute Resolution Enhance Efficiency and Effectiveness in Courts*, 8 *Ijca*30, 45 (2017).

<sup>6</sup>*Id.*

<sup>7</sup>Susskind, *supra* note 4.

<sup>8</sup>*Id.*

human element which consists of common sense where the outcome is purely determined by the intelligence and strategy employed by the lawyer. The second element, which involves the justification of the first element, which needs to be reinforced by authorities such as precedents, this is more properly the domain which computer algorithms could master. Algorithms prove incapable of operating at the human element level since they are mechanistic by nature.<sup>9</sup> In relation to the subject of legal reasoning, the first question of feasibility refers to the technical and jurisprudential feasibility of AI, i.e. whether it has developed to such an extent where it is capable of replacing lawyers and jurists at their field of expertise.

In order to understand the contrast between the application of artificial intelligence and human intelligence in legal reasoning, it is important to understand the application of human intelligence in the field of law. Human intelligence is accredited with five attributes; these attributes provide as essential characteristics of human common sense. The human race is credited with the ability to react to situations in an extremely *flexible* modus operando, which is the first attribute of human intelligence.<sup>10</sup> People are inclined to respond to similar situations differently. This change in response can usually be accredited to the already inherited understanding of what is right and wrong i.e. is the philosophical concept of human morality. This inherited feature allows humans to respond to situations differently based on the different facts and circumstances involved in different situations. This attribute of human intelligence allows the evolution of law with the passage of time from one century to another. Societal norms and traditions usually hold referential value while framing legislations. These traditions are subject to change over time, human flexibility allows such change, the corollary of which is the evolution of law. The decriminalization of Section 377 of the Indian Penal Code is one of the most contemporary examples, of human flexibility, which allows for the evolution of law in consonance with the evolution of society. The Hon'ble Supreme Court of India in the case of *Navtej Singh Johar v. Union of India*<sup>11</sup> overturned the decision of the two-judge bench given in the case of *Suresh Kumar Koushal & Anr vs Naz Foundation & Ors*<sup>12</sup>, the apex court held that “*The mis-application of this provision denied them the Fundamental Right to equality guaranteed by Article 14. It infringed the Fundamental Right to non-discrimination under Article 15, and the Fundamental Right to live a life of dignity and privacy guaranteed by Article 21. The LGBT persons deserve to live a life*

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<sup>9</sup> E. C. Jr. Lashbrooke, *Legal Reasoning, and Artificial Intelligence*, 34 Loy. L. Rev. 287 (1988).

<sup>10</sup> Douglas R. Hofstadter, *Godel, Escher Bach: An Eternal Golden Braid* 26 (New York: Basic Books, 1980).

<sup>11</sup> (2018) 10 SCC 1.

<sup>12</sup> AIR2014SC563.

*unshackled from the shadow of being unapprehended felons*".<sup>13</sup>This excerpt from the judgement is a product of the application of human intelligence understanding the need for evolution in the law. The strict application of the doctrine of stare decisis, on the other hand, would be mechanistic.<sup>14</sup>The second attribute is the capacity of human intelligence to interpret contradictory, confusing and ambiguous messages<sup>15</sup>. Imperfect legislations are the direct corollary of human error, the nature, and size of legal rules, and its desperate need to leave legislation with no lacunae often makes them ambiguous or contradictory. The ability of human intelligence to make sense out of such perplexing laws can be considered the third attribute.<sup>16</sup> The ability of human intelligence to find similarities betwixt opposing situations, and to even find distinctions betwixt two similar situations are two opposite attributes of human intelligence which allows us to reason with the application of analogies.<sup>17</sup> One should infer that in essence the existence and eminence of these attributes, separate machines, and humans alike.

The immediate inadequate alternative to human intelligence is Artificial Intelligence (AI). Legal reasoning allows one to justify or provide reasoning for the decisions made by one. Hence, it is only safe to assume that as humans we know relatively little about 'how to make decisions' but are capable of providing reasonable grounds to justify the ends reached through such reasoning, this process is considered to be the process of deductive inference.<sup>18</sup>This very process of deductive reasoning as made AI systems more favourable in the legal field. With respect to AI systems, they can further be categorized into data management systems and expert systems or knowledge-based systems. A data management system contains factual, declarative knowledge, which allows users to access stored facts, who must then apply their human mind to infer and draw conclusions best suitable for their case. These systems use universal algorithms that possess a limited capability of assisting their users. However, the real debate lies in the application of AI expert systems or knowledge-based systems in the legal field. A knowledge-based system is an artificially intelligent computer program designed to surpass human expertise in the designated field or area of expertise as programmed by the creator.<sup>19</sup> Heuristics refers to the capability of one to self-learn through the process of being exposed to a similar situation or condition on numerous instances during the course of its functioning. The presence of heuristics allows one to distinguish between knowledge-

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<sup>13</sup>*Supra* note 11, ¶ 644.

<sup>14</sup>Lashbrooke, *supra* note 9.

<sup>15</sup>Hofstadter, *supra* note 10.

<sup>16</sup>*Id.*

<sup>17</sup>*Id.* at 15.

<sup>18</sup>Antonio A. Martino, Artificial Intelligence and Law, 2 INT'L J.L. & INFO. TECH. 154, 193 (1994).

<sup>19</sup> Henry C Mishkoff, Understanding artificial intelligence 3-2 (1986).

based systems and database systems; it further allows expert systems to question and reason out, within a limit, the facts already available within its operating system. Inference engines are what power these systems, which are more often constructed on four basic structures, which are semantic networks, frames, rules, and logic<sup>20</sup>. A semantic network is a linked chain of nodes, which represent tangible or intangible objects on which further information is provided by descriptors, also included in the nodes. The network employs the method of 'deductive reasoning' and 'deductive inference' in order to come to the desired conclusion. A simple instance would be the drawing of obvious logical conclusions by using the phrase 'IF' an 'THEN', where it infers that if the object is a fish, then it can swim. In the above example, the conclusion is drawn through the method of back chaining, by analysing the initial statement or understanding the nature of the object, in this case, the fish. Further, these systems are capable of dealing with uncertain facts, i.e. facts need not be absolute, rather uncertain facts are further clarified by the user and stored in the knowledge base, which is where heuristics play a massive role. The several other models have also been recognized as further sublets of semantic networks, though they are not discussed in this paper.

This provides a comprehensive understanding of human intelligence and artificial intelligence, how they distinguish from each other and their method of application to legal reasoning. The status quo now maintained by Artificial Intelligence as discussed in this section of the paper, poses a pertinent question i.e. whether the application of artificial intelligence in the legal field is a step forward for the legal world or would it stagnate and further confuse the already ambiguous world of law?

### 3. APPLICATION OF ARTIFICIAL INTELLIGENCE IN THE LEGAL SYSTEM

It is evident from the previous section, those cognitive expert systems that expected to replace human intelligence in practicality work in complete contrast to that of human intelligence. A relevant instance would be, 'ROSS', IBM Watson's cognitive computing technology as discussed at the beginning of the paper. The system uses machine learning capabilities to perform legal research, which in order to do so identifies relevant legal authorities and provides excerpts from passages of previously decided authorities to answer the question posed by the user.<sup>21</sup> A follow-up question is finally posed to the user, to identify if the results provided were accurate or not.

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<sup>20</sup>Lashbrooke, *supra* note 9.

<sup>21</sup>David Houlihan, *ROSS Intelligence and Artificial Intelligence in Legal Research*, Blue Hill Res. (Jan. 17, 2017), <http://bluehillresearch.com/ross-intelligence-and-artificialintelligence-in-legal-research/>.

Through this continuous process of positive and negative feedback, the expert system ascertains right from wrong.<sup>22</sup> There exists no lucidity in the operation of such an expert system, whether the results provided are indeed accurate or redundant. Further such a system that thrives on the feedback provided by a human is far from replacing lawyers. The development in the application of expert systems in law is evidently showing a gradual and significant growth, but for the most part, these systems are limited to the rule-based knowledge system discussed in the previous section. Palpably, one should refrain from being euphoric about the inclusion of such expert systems in the legal field. Undoubtedly, to a certain extent, the results provided by these expert systems outdo human expertise; however, severe limitations still persist when the performance of such systems is questioned.

The *technical feasibility* of the application of AI in the legal field is questioned at the most basic level i.e. whether these machines have achieved a level of technical advancement, making them faultlessly efficient in all legal spheres. The answer is evidently in the negative owing to the fact that, innumerable developments in the creation of expert systems will not be able to match the reasoning power of human intelligence. The technology involved in knowledge-based systems is severely handicapped, in general functions such as differentiating between axioms and generally accepted principles. Further, the use of analogies to reason out, arriving at numerous conclusions from similar situations are inherent features of human intelligence a machine will never be capable of. The most efficient and sophisticated expert system created and is recognized for its significant contributions is the TAXMAN project made by McCarty, which deals with the development of a functioning program, which is capable of performing a very rudimentary method of reasoning, but specialized only in the field of corporate taxation laws.<sup>23</sup> Another notable contribution is Sprowl's A.B.F. an expert system that drafts legal documents with the use of regulations as provided.<sup>24</sup> Several other notable projects like Hafner's L.I.R.S.<sup>25</sup>, Michaelsen's TAX ADVISOR program<sup>26</sup>, developed over the years all contribute to the more mundane and repetitive sector of the legal field. Taxation laws, Compliance issues and drafting of contracts and negotiable instruments evidently fall under the purview of corporate law, which involves a rather repetitive and structural format that requires to be followed by these systems. These systems are built to play by the rules and

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<sup>22</sup>Catherine Nunez, *Artificial Intelligence and Legal Ethics: Whether AI Lawyers Can Make Ethical Decisions*, 20 Tul. J. Tech. & Intell. Prop. 189, 204 (2017).

<sup>23</sup>Susskind, *supra* note 4.

<sup>24</sup>James Sprowl, *Automating the Legal Reasoning Process: A Computer That Uses Regulations and Statutes to Draft Legal Documents*, 4 L. & Social Inq. J. 1, (2006).

<sup>25</sup>Carole Hafner, *Representation of knowledge in a legal information retrieval system*, Info. Ret'vl. Res. J.139, (1981).

<sup>26</sup>Susskind, *supra* note 4.

attention to detail, with regard to formatting and structural integrity is where these systems can be aptly assumed to be experts. On the other hand, if these very systems are applied to the Indian Litigation system it is safe to assume that such systems have not reached the required level of technological advancement required to carry out functions such as interpretation of the law, advancement of arguments, limiting facts and laws only favourable to the case of its client. Technology enthusiasts, further state that these systems are capable of self-learning, however, this is carried out based on the feedback received from its users, users who are capable of committing errors. Hence, it is clear that such systems are neither robust nor mastered to a level where it can replace human experts in all legal spheres. They are best suitable as data management systems and can be employed in an assistive role to ease the burden of human experts.

The next disadvantage is a hypothetical or rather far-fetched situation where the researcher analyses the *Jurisprudential feasibility* of such expert systems if they ever achieve the level of technological advancement to replace jurists and judges themselves. This dysgenesis is explained on the pretext that people assume the law to be a subject of immutable rules, which can be applied to cases through deductive reasoning to obtain errorless results. However, the fact of the matter is that natural hierarchy puts the welfare and safeguard of men over laws. The two popular contributions of jurisprudence to legal reasoning is the need to place a judge under the category of a legal realist or a legal positivist. To briefly understand the two terms, legal positivists, all, have a common object of analysing 'law as it is' rather than 'law as it ought to be'<sup>27</sup>, it further states that the law of the land is final and people have to adhere to it regardless of their negative opinions about them. It places on the Judge a duty not to participate in judicial activism or judicial review but to accept the law as a universal rule, with no scope of questioning whether it is right or wrong. Legal realism, on the other hand, asserted that judges use their discretion and intuition even before turning towards legal rules to decide the outcome of the case. Further, these decisions are backed by policy principles thereby leading to new rule formation more popularly referred to as judicial activism. To simply understand the wider contrast in ideology between the two concepts, is the fact that legal positivists consider the law to be static, while realists consider it to be dynamic. With respect to the American legal system, students and judges are trained by utilizing the Langdell model, which treated the law as a science where the law library contains the required requisite knowledge in the form of precedents.<sup>28</sup>Next, the doctrine of stare decisis is used to analyse previously recorded judicial opinions from which rules of law are obtained to further

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<sup>27</sup> I.H.L.A. Hart, *The Concept Of Law* (Oxford University Press UK 1961).

<sup>28</sup>Lashbrooke, *supra* note 9.



decide the present case. Further, the steps involved in the pertinent model is the (1) the relevant facts are first identified, (2) the legal issue is then put forward in court, however in practice, the court recognises the pertinent legal issue (3) articulation of rule of law, and finally the application of said rule of law.<sup>29</sup> This notion of treating law as a science backfired, which then allowed American jurists to reject this mechanical application and accept the new emerging ideology of legal realism whose father is regarded as Justice Oliver Wendell Holmes, this shift allowed American jurists to participate in judicial activism.

The Indian judicial system, in contrast, is one with a written constitution, which does not follow a jury system. Judges tend to employ sociological jurisprudence to weigh the interests at stake taking into account not just law, but several other factors such as social, economic and cultural-religious standing of each party wherever it is called for.<sup>30</sup> Criticisms, on the fact that the importance attributed to external factors would corrupt the basic pattern of legal reasoning allowing prejudice, the bias of a judge to seep into the judicial process, which shall not arise during the operation of AI expert systems. This, however, is resolved by the process of appeal, which allows the Apex court<sup>31</sup> of the country to keep in check whether the decision process system employed by lower court judges falls within the Constitution of India, which again has numerous interpretations due to its dynamic characteristic. With the numerous examples and justifications provided above, it is evident that the Indian Judiciary operates as a legal realist allowing for both functions of judicial review and judicial activism.

One must understand that Artificial Intelligence falls under the broader topic of science. Science resorts to observations, experiments and analysing before concluding a set rule that remains static for a very long time. This provides the background with which an expert system would deal with cases if given the function of a judge. The knowledge-based system would be confined to decide within the rule framework provided or installed in its system, it would further not allow any external factors to be considered while deciding cases. Pure use of logic and rule-based deductive reasoning would be the way forward for such a system allowing nobody to question if a law is right or wrong. Through its application it would destroy the dynamic feature of the Constitution, making it a stagnant and backwards-looking rule of law. Functions recognised as the basic structure of the Constitution such as judicial review and judicial activism would cease to exist. Law-making through the process of reviewing and understanding the need for a judicially analysed

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<sup>29</sup> Ervin H. Pollack, *Fundamentals Of Legal Research* 14-20 (The Foundation Press Inc.1967),

<sup>30</sup>R. Dworkin, *Taking Rights Seriously*, 22 (1977).

<sup>31</sup>The Supreme Court Of India.

law required, in the current ethos would be completely wiped out. This limitation discernibly allows the creation of expert AI systems but, needs to be allowed to function in a limited scope. Its progressive developments can guarantee efficiency but most definitely at the cost of justice.

In addition to core limitations, its practical application is severely decapitated due to several limitations, which are not paid attention to. They are:

- *Knowledge Engineers:* The expert in charge of extracting the jewels from human minds, and installing it in a computer system, such experts are known as knowledge engineer.<sup>32</sup> These professionals need to have a thorough understanding of computer technology and the legal field together. Unfortunately, the number of such experts who are well versed in both disciplines is almost negligent.
- *Need for Co-operation by legal experts:* The efficiency of an expert system depends on the co-operation between a knowledge engineer and a legal expert. However, this process is a time-consuming process, which could otherwise be utilized by a legal expert for direct legal service for which he can charge. Presently, the turnout of legal experts devoting their time, experience and expertise is very few, which stagnates the developments of such systems.
- *Hackers Haven:* The existence of security breaches, makes technology more vulnerable than any operating system in today's world. A major problem of the AI community is the difficulty of providing a guarantee against such security breaches which creates a huge problem of implementation.

These limitations act as a barrier to such systems being a reasonable alternative to lawyers.

## CONCLUSION

The article examines the recent developments in the field of Artificial Intelligence and its pertinent role in a current legal position. Oliver Wendell Holmes, Jr., wrote; “For the rational study of the law, the black-letter man may be the man of the present, but the man of the future is the man of statistics and the master of economics”.<sup>33</sup> Artificial intelligence in law is most definitely a shift from the black-letter man as predicted by Holmes, this article accepts the shift but disagrees with the fact that technology has attained a new peak where it is capable of replacing legal experts in their field. The article has emphasized with great detail how the human mind of a legal expert

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<sup>32</sup> Richard E. Susskind, *Artificial Intelligence, Expert Systems and Law*, 5 Denning L.J. 105 (1990).

<sup>33</sup> Oliver W Holmes, ‘*The Path of the Law*’ 10 Harv. L Rev. 457 (1890).

works and how it is far superior to an AI powered expert system. Further, the paper, reiterates the capability of such a system to operate in the capacity of a legal assistant and its scope cannot be any further widened. A detailed research as to jurisprudential disadvantages, with specific reference to why the application of such a system will not be feasible in the Indian legal system, is also provided. In the long term, there exists no clarity as to how dramatic or how positive the application of Artificial Intelligence tools in the field of law will be. It is beyond the researchers understanding, to predict its impact in the long term, but tries to justify the fact that artificial intelligence in law is a step backwards rather than a step forward for the legal sphere.