

## PART IX

### THE DIGITAL REVOLUTION

#### CHAPTER 6

##### LEGAL TECH AND LEGAL PROFESSIONS: IMPACT ON THE JUSTICE SYSTEM

*Paolo Comoglio*

<https://www.cplj.org/publications/9-6-legal-tech-and-legal-professions-impact-on-the-justice-system>

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## 1 INTRODUCTION

- 1 Nowadays new technologies are for certain changing thoroughly man's epistemic strategies. Moreover, words that were obscure a few years ago have now become commonplace, such as algorithms and artificial intelligence (AI).<sup>1</sup> As noted, 'the word algorithm has recently undergone a shift in public presentation, going from an obscure technical term used almost exclusively among computer scientists, to one attached to a polarized discourse'.<sup>2</sup> Hence, we can for sure talk of 'algorithmic authority'<sup>3</sup>, 'algorithmic culture'<sup>4</sup>, if not even 'algorithmic paranoia'<sup>5</sup>.
- 2 New technologies are also accompanied by an exponential increase in available information; this growth of data (and the current information overload) is progressively generating a 'new way of knowing'<sup>6</sup>. 'Petabyte age' is an almost recurrent definition referring to the contemporary era as an era in which there are more data stored than ever before.<sup>7</sup> Recurrent as well is the reference to the related phenomenon of Big Data.<sup>8</sup>
- 3 This kind of problem does not represent a total novelty. Mankind had always to face and manage some sort of information overload. Indeed, some sort of erasing information has always accompanied the development of human knowledge.<sup>9</sup> As it has been said, 'knowledge has been about reducing what we need to know'.<sup>10</sup>
- 4 Such a trend has been obviously emphasized by the digital revolution. Many documents are now at all born digital, with no further intervention of the man, as for example the

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<sup>1</sup> R K Hill, 'What an Algorithm Is' (2016) *Philos. Technol.* 35; D Weinberger, *Too Big to Know. Rethinking Knowledge Now That the Facts Aren't the Facts, Experts Are Everywhere, and the Smartest Person in the Room is the Room* (New York Basic Books 2011) 9. On the etymological origin of the word algorithm, see T Striphas, 'Algorithmic culture' (2015) *European Journal of Cultural Studies* 403.

<sup>2</sup> J Burrell, 'How the machine "thinks": Understanding opacity in machine learning algorithms' (2016) *Big Data & Society* 2.

<sup>3</sup> C Lustig, K Pine, B Nardi, L Irani, MK Lee, D Nafus and C Sandvig, 'Algorithmic Authority: The Ethics, Politics, and Economics of Algorithms that Interpret, Decide, and Manage', *CHI EA 2016: #chi4good - Extended Abstracts, 34th Annual CHI Conference on Human Factors in Computing Systems*, 1057.10.1145/2851581.2886426 accessed 30 June 2024.

<sup>4</sup> Striphas (n 1) 395. See also A R Galloway, *Gaming: Essays on Algorithmic Culture* (Univ of Minnesota Pr, Minneapolis 2006).

<sup>5</sup> D McQuillan, 'Algorithmic paranoia and the convivial alternative' (2016) *Big Data & Society* 1.

<sup>6</sup> D Weinberger (n 1), xiii. See also G L Paul and J P Baron, 'Information Inflation: Can the Legal System Adapt?' (2007) 13 *Rich. J.L. & Tech.* 2.

<sup>7</sup> C Anderson, 'The End of Theory: The Data Deluge Makes the Scientific Method Obsolete' (2008) *Wired*, <https://www.wired.com/2008/06/pb-theory/> accessed 30 June 2024.

<sup>8</sup> V Mayer-Schönberger, and K Cukier, *Big Data: A Revolution That Will Transform How We Live, Work, and Think* (Houghton Mifflin Harcourt New York 2013) 11 ss; D Boyd, and K Crawford, 'Critical Questions for Big Data' (2012) *Information, Communication & Society* 665.

<sup>9</sup> C Vismann, *Files. Law and Media Technology* (Stanford UP 2008) 26, noting that 'deleting rather than writing establishes the symbolic order of the law. The cancelled signs are *significants barrés*'.

<sup>10</sup> D Weinberger (n 1) 4.

video recordings made by surveillance cameras or, in general, by automated systems.<sup>11</sup> As widely highlighted at the end of the last century, the evolution of the notion of document ‘increasingly emphasized whatever functioned as a document rather than traditional physical forms of documents. The shift to digital technology would seem to make this distinction even more important’.<sup>12</sup>

- 5 In other words, man is constantly trying to reduce uncertainty transforming reality into limited information, easier to manage. This epistemic strategy of filtering and reducing seems to characterize the legal profession and the judicial fact-finding process as well. In fact, we could define the judicial proceedings as designed to reduce the real world into a smaller world; and this is to manage uncertainty and make it easier to make decisions. Basically, the problem is always the same; but today new technologies make traditional filters ineffective.<sup>13</sup> The basic idea of this chapter is that this epistemic shift brought about by new technologies may significantly influence the next evolution of legal professions.

## 2 NEW TECHNOLOGIES AND LEGAL PROFESSIONS: THE CHALLENGE OF GENERATIVE AI

### 2.1 The Impact of Technologies on Legal Professions: An Age-old but Now Enhanced Issue

- 6 Technological developments have always had a significant impact on legal professions.<sup>14</sup> Therefore, it is not necessary to ask *if* new technologies will change the law, but *how* they

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<sup>11</sup> J Walker, G D Watson, ‘New Trends in Procedural Law: New Technologies and the Civil Litigation Process’ (2008) 31 Hastings Int’l & Comp. L. Rev. 265 ss and GL Paul, *Foundations of Digital Evidence* (American Bar Association 2008).

<sup>12</sup> M K Buckland, ‘What is a “document”?’ (1997) 48 J. Am. Soc. Inf. Sci. 808.

<sup>13</sup> G L Paul and J P Baron (n 6) 2.

<sup>14</sup> On this topic, also for further reference, see A Janssen, and T J Vennmanns, ‘The Effects of Technology on Legal Practice from Punch Card to Artificial Intelligence?’, in L A Di Matteo, A Janssen, P Ortolani, F de Elizalde, M Cannarsa, M Durovic (ed) *The Cambridge Handbook of Lawyering in the Digital Age* (Cambridge University Press 2021) 38, 46; D A Remus and F Levy, ‘Can Robots Be Lawyers: Computers, Lawyers, and the Practice of Law’ (2017) 30 Geo. J. Legal Ethics, 501, 503; D F Engstrom, and J B Gelbach, ‘Legal Tech, Civil Procedure, and the Future of Adversarialism’ (2021) 169 University of Pennsylvania Law Review 1001, 1031.

will change it.<sup>15</sup> It could even be said that every evolution concerning technologies and techniques of documentation affects directly the law; as pointed out, 'law and files mutually determine each other'.<sup>16</sup>

- 7 And it can also be said that lawyers have been rather reluctant to adapt to the changes brought about by technological developments<sup>17</sup>; in fact, traditionally the legal profession is 'backward looking'.<sup>18</sup> In addition, lawyers -but this applies to all men in general- are affected by technological myopia, that is 'the tendency to underestimate the potential of tomorrow's applications by evaluating them in terms of today's enabling technologies'.<sup>19</sup>
- 8 Such a trend has been emphasized by the digital revolution. Even more than the previous technologies and albeit there is an inherent contradiction between new technologies and law (the former promotes internationalization and globalization, the latter remains largely confined to national borders), the impact of new technologies (especially AI) on law and legal professions is definitely global and does not differ significantly between jurisdictions.<sup>20</sup>

## 2.2 New Technologies and AI: a Tricky Definition

- 9 Talking about new technologies is redundant and repetitive; the same word *new technologies* is very generic and unclear. The word technology itself, in its current

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<sup>15</sup> Among the numerous articles and books devoted to the possible transformations of the legal professions induced by artificial intelligence, we could mention: D F Engstrom (ed), *Legal Tech and the Future of Civil Justice* (Cambridge UP 2023), R Susskind, *The End of Lawyers? Rethinking the Nature of Legal Services* (Oxford UP 2008), R Susskind, *Tomorrow's lawyers: an introduction to your future* (Oxford UP 2013), R Susskind, *Online Courts and the Future of Justice* (Oxford UP 2019), R Susskind, and D Susskind, *The future of the professions: how technology will transform the work of human experts* (Oxford academic 2015), J P Davis, 'Of Robolawyers and Robojudges' (2022) 73 Hastings L.J., 1173, J Goodman, *Robots in Law: How Artificial Intelligence Is Transforming Legal Services* (Ark Group 2016), D A Remus, and F Levy (n 14) 501, T Rostain, 'Robots versus Lawyers: A User-Centered Approach' (2017) 30 Geo. J. Legal Ethics 559, J O McGinnis and R G Pearce, 'The Great Disruption: How Machine Intelligence Will Transform the Role of Lawyers in the Delivery of Legal Services' (2014) 82 Fordham L. Rev. 3041, K D Ashley, *Artificial Intelligence and Legal Analytics: New Tools for Law Practice in the Digital Age* (Cambridge UP 2017), G Sartor, *Artificial Intelligence and Law* (Springer 1993), D Reiling, *Technology for Justice: How Information Technology Can Support Judicial Reform* (Amsterdam University Press 2010).

<sup>16</sup> C Vismann (n 9) xiii.

<sup>17</sup> A Janssen and T J Vennmanns (n 14) 41; C Brooks, C Gherhes and T Vorley, 'Artificial intelligence in the legal sector: pressures and challenges of transformation' (2020) 13 Cambridge Journal of Regions, Economy and Society 135, 143; M Simon, A F Lindsay, L Sosa and P Comparato, 'Lola v. Skadden and the Automation of the Legal Profession' (2018) 20 Yale J.L. & Tech. 234, 257.

<sup>18</sup> H Barton, 'The Lawyer's Monopoly—What Goes and What Stay's' (2014) 82 Fordham L. Rev. 3068, 3074.

<sup>19</sup> R Susskind and D Susskind (n 15).

<sup>20</sup> S Greenstein, 'Preserving the rule of law in the era of artificial intelligence (AI)' (2022) 30 Artificial Intelligence and Law 291, 292.

meaning, is recent and ambiguous.<sup>21</sup> Moreover, new technologies are constantly evolving, and it is difficult to know what developments will occur in the future.<sup>22</sup>

- 10 We may say that the only common feature seems to be precisely the mere fact that these technologies are new and recent. However, new and sophisticated technologies don't have much in common with each other, such as, for example, *blockchain* and artificial intelligence; they can be combined with each other, but they are certainly functionally very different from each other.<sup>23</sup>
- 11 Moreover, the very concept of artificial intelligence is empty and misleading.<sup>24</sup> In fact, nowadays everyone talks recurrently about artificial intelligence, but no one clearly knows what AI means. After all, unless we conceive of intelligence as an abstract and objective concept, consequently not referable exclusively to humans<sup>25</sup>, to define the concept of artificial intelligence it would first be necessary to define what human intelligence is, ie, to identify the distinctive features of human thinking, a question that is still uncertain and

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<sup>21</sup> E Schatzberg, '“Technik” Comes to America: Changing Meanings of “Technology” before 1930' (2006) 47 *Technology and Culture* 486.

<sup>22</sup> B Sheppard, 'Warming up to inscrutability: How technology could challenge our concept of law' (2018) 68 *U. Toronto L.J.*, 36. See also K Benyekhlef (ed), *AI and Law: a Critical Overview* (Montreal Les Éditions Thémis 2021).

<sup>23</sup> F Gascón Inchausti, 'Eficiencia procesal y sistemas de inteligencia artificial: la necesidad de pasar a la acción normativa', in F Ordóñez Ponz, S F Rodríguez Ríos and S Pereira i Puigvert (dir), T Armenta Deu (pr), MJ Pesqueira Zamora (dir), *Modernización, eficiencia y aceleración del proceso* (Aranzadi 2022) 41; J Picó i Junoy, 'Cuestiones problemáticas del derecho probatorio' (2020) *Revista asociación profesores der. proc. univ.* 337; J Nieva Fenoll, *Inteligencia artificial y proceso judicial* (Madrid Marcial Pons 2018).

<sup>24</sup> J Kaplan, *Artificial Intelligence. What Everyone Needs to Know* (Oxford UP 2016); RK Hill (n 1) 35; D Weinberger (n 1) 7.

<sup>25</sup> J Lassègue, 'L'Intelligence artificielle, technologie de la vision numérique du monde' (2019) 64 *Cahiers de la Justice* 205, 207.

debated <sup>26</sup>, especially in the light of continuing advances in neuroscience and psychology.<sup>27</sup>

- 12 Since the beginning, the goal of artificial intelligence has been to create a machine that exactly imitates the human mind. However, it seems possible to affirm that, after the failure of the first approaches, the realization of this kind of artificial intelligence system is still very far away. As noted, the current state of AI 'does not merely underperform with respect to human intelligence; it has not joined the competition yet. Current machines have the intelligence of a toaster, and we really do not have much of a clue about how to move from there'.<sup>28</sup>
- 13 Perhaps it seems not even so useful to have a machine that replicates in all human behaviour. After all, we might agree that the reason why AI has never lived up to its promises is that, if it was successful, it would no longer seem a form of AI.<sup>29</sup> The same can also be said about the law and the judicial proceedings. A robot that would perfectly replicate the reasoning of a judge, including bias and errors, would be very useless. This is precisely why we need to be careful and not confuse technology with machine. As already observed, 'la technique a maintenant pris une autonomie à peu près complète à l'égard de la machine, et celle-ci reste très en arrière par rapport à son enfant' ('technology has now become almost completely independent of the machine, and the machine remains far behind its child').<sup>30</sup>

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<sup>26</sup> For example, the most recent studies on cognition are questioning the traditional assumption that reasoning is aimed at the correction of misguided lower-level intuitive processes; for example, according to the argumentative theory of reasoning higher cognition basically has social functions; on this topic, also for further references, see H Mercier and D Sperber, *The Enigma of Reason* (Harvard University Press 2017). According to another theory, human intelligence itself presupposes a collective and social dimension, without which it would not be as efficient; see S Sloman and P Fernbach, *The knowledge illusion: Why we never think alone* (New York Penguin 2017).

<sup>27</sup> M Taruffo, 'La decisione giudiziaria e la sua giustificazione: un problema per le neuroscienze?' (2016) Riv. trim. dir. proc. civ. 1247, 1248; M Taruffo, *Processo e neuroscienze. Cenni generali, Verso la decisione giusta* (Giappichelli 2020) 309; M Taruffo and J Nieva Fenoll (coord), *Neurociencia y proceso judicial* (Marcial Pons 2013); M Julià Pijoan, *Proceso penal y (neuro)ciencia: una interacción desorientada. Una reflexión acerca de la neuropredicción* (Marcial Pons 2020); D Patterson and M S Pardo (ed), *Philosophical foundations of Law and Neuroscience* (Oxford UP 2016); L Shapiro, *Embodied Cognition* (Routledge 2019); R Rumiati, 'Decisioni giudiziarie e neuroscienze seduttive' (2016) *Giornale italiano di psicologia* 777. From a legal perspective, in the sense of human intelligence (especially that of judges) as a black box, see B Brożek, M Furman, M Jakubiec and B Kucharzyk, 'The black box problem revisited. Real and imaginary challenges for automated legal decision making' (2023) 32 *AI & Law* 427, 429.

<sup>28</sup> See L Floridi, *The 4th revolution. How the infosphere is reshaping human reality* (Oxford UP 2014) 140. See also, with reference to legal profession, R Marcus, 'The Electronic Lawyer' (2009) 58 *DePaul L. Rev.* 273 and Marcus R, 'The Impact of Computers on the Legal Profession: Evolution or Revolution?' (2008) 102 *Nw. U. L. Rev.*, 2008, 1827.

<sup>29</sup> D Weinberger, *Everything Is Miscellaneous: The Power of the New Digital Disorder* (Henry Holt and Company New York 2007).

<sup>30</sup> J Ellul, *La technique ou l'enjeu du siècle* (Paris, A Colin 1954) 10.



### 2.3 Strong AI v Weak AI

- 14 The great development that AI has today is due to a radical change of approach. As rightly pointed out, the goals of AI are twofold. From an engineering perspective, AI is the 'science of making machines do things that would require intelligence if done by persons. By contrast, the cognitive perspective envisions AI as designing systems that work the way the human mind does'.<sup>31</sup> We speak respectively of strong AI and weak AI.<sup>32</sup> More specifically, strong AI postulates that the machines have a mind, or they will end up having it, while weak AI asserts that it is a simple simulation, and not a duplication, of human intelligence.<sup>33</sup>
- 15 And it is precisely this 'weak' approach that has yielded the greatest results and is the basis of the most widely used AI tools, also in court proceedings, as clearly demonstrated by the tools used for the review of documents in the discovery phase of the US federal proceedings.<sup>34</sup>
- 16 This is due not only to the ever-increasing computational capabilities of computers but also (or perhaps above all) to the fact that reality, more and more digitalized, has gradually conformed to computers.<sup>35</sup> After all, as has been acutely observed 'in this digital ocean, robots are the real natives: we scuba dive, they are like fish'.<sup>36</sup>
- 17 In other words, current algorithms, taking advantage of the amount of digitized data, do not replicate human reasoning, but only imitate it, that is they reach the same results through a different (high-dimensional statistical) decision-making process. After all, we could agree that 'the goal [of AI] is no longer to replicate the process of human thought [...], but rather to replicate the results'.<sup>37</sup>
- 18 Given that, nowadays, it seems possible, in a general and perhaps even somewhat generic way, to define 'intelligent' as a computer software capable of simulating all or part of the human decision-making process.<sup>38</sup> A similar definition is also provided in the EU

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<sup>31</sup> D K Keats Citron and F Pasquale, 'The Scored Society: Due Process for Automated Predictions' (2014) 89 Wash. L. Rev. 6. See also L Floridi (n 28) 140; M Taruffo, 'Judicial Decisions and Artificial Intelligence' (1998) Artificial Intelligence and Law 311.

<sup>32</sup> J Lassègue (n 25) 209.

<sup>33</sup> J Kaplan (n 24).

<sup>34</sup> Hume, 'Preparing for the near future: deep learning and the law', in J R Baron, R C Losey and M D Berman (ed), *Perspectives on predictive coding and other advanced research methods for the legal practitioner* (ABA Book Publishing Chicago 2016) 559.

<sup>35</sup> N Carr, *The Glass Cage. Automation and Us* (W W Norton & Co Inc New York 2014), and L Floridi (n 28) 143.

<sup>36</sup> L Floridi, 'Robots, Jobs, Taxes, and Responsibilities' (2017) Philos. Technol. 1.

<sup>37</sup> N Carr (n 35).

<sup>38</sup> J Nieva Fenoll (n 23) 99; I Ferrari and D Becker, 'Direito à explicação e decisões automatizadas: reflexões sobre o princípio do contraditório', in D Nunes, P H Dos Santos Lucon and E Navarro Wolkart



Regulation on artificial intelligence (AI Act)<sup>39</sup>, according to which ‘AI system’ means a machine-based system that is designed to operate with varying levels of autonomy and that may exhibit adaptiveness after deployment, and that, for explicit or implicit objectives, infers, from the input it receives, how to generate outputs such as predictions, content, recommendations, or decisions that can influence physical or virtual environments.<sup>40</sup>

- 19 Despite the great achievements to date, it is difficult today to think that we will soon have weak AI tools capable of completely replacing humans. Rather, it is possible to believe that, in the short term, the best prospect of using weak AI tools is precisely ‘augmenting human decision-making with algorithms’.<sup>41</sup> Moreover, as has been stressed, probably ‘the best chess player is neither a human nor a computer, but a human using a computer’.<sup>42</sup> For this very reason, it seems important to understand how the use of AI based tools may affect the legal professions. Before turning to this analysis, however, it is necessary to provide some more general clarifications on the characteristics of current AI algorithms.

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(coord), *Inteligência Artificial e Direito Processual: Os Impactos da Virada Tecnológica no Direito Processual* (Juspodivm Salvador 2021) 291; D K Keats Citron and F Pasquale (n 31) 6; E Nissan, ‘Digital technologies and artificial intelligence’s present and foreseeable impact on lawyering, judging, policing and law enforcement’ (2017) 32 AI & Soc. 441.

<sup>39</sup> F Gascón Inchausti (n 23) 60; U Pagallo, ‘Dismantling Four Myths in AI & EU Law Through Legal Information ‘About’ Reality’, in H S Antunes, P M Freitas, A L Oliveira, C Martins Pereira, E Vaz de Sequeira and L Barreto Xavier (ed), *Multidisciplinary Perspectives on Artificial Intelligence and the Law* (Springer 2022) 251; F Berrod, ‘Le modèle européen de régulation de l’intelligence artificielle’ (2024) 25 La revue des juristes de Sciences Po, 1; S Heiss, ‘Artificial Intelligence Meets European Union Law. The EU Proposals of April 2021 and October 2020’ (2021) 10 Journal of European Consumer and Market Law 252, 254; D Bomhard and M Merkle, ‘Regulation of Artificial Intelligence. The EU Commission’s Proposal of an AI Act’ (2021) 6 Journal of European Consumer and Market Law 257; Sartor G, *L’intelligenza artificiale e il diritto* (Giappichelli Torino 2022) 89.

<sup>40</sup> See, in this sense, the definition of artificial intelligence in the EU regulation n 1689/2024/EU (AI Act) in Article 3(1); To read the text of regulation [https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=OJ:L\\_202401689](https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=OJ:L_202401689) last accessed 30 June 2024. A very similar definition can be found in 15 USC § 9401(3), which contains the definition of IA contained in Title 15 of the US Code devoted to ‘Commerce and Trade’, according to which the term ‘artificial intelligence’ means a machine-based system that can, for a given set of human-defined objectives, make predictions, recommendations or decisions influencing real or virtual environments. Artificial intelligence systems use machine and human-based inputs to (A) perceive real and virtual environments; (B) abstract such perceptions into models through analysis in an automated manner; and (C) use model inference to formulate options for information or action. Much simpler and, moreover, limited to weak AI only, is the definition contained in the proposed regulation of AI deals only with applications before the Court: see Article 70 (Judicial Activity) of Artificial Intelligence Law of the People’s Republic of China (Draft for Suggestions from Scholars, [https://cset.georgetown.edu/wp-content/uploads/t0592\\_china\\_ai\\_law\\_draft\\_EN.pdf](https://cset.georgetown.edu/wp-content/uploads/t0592_china_ai_law_draft_EN.pdf) accessed 30 June 2024), according to which ‘Artificial intelligence means technology that utilizes computers to simulate human intelligent behavior for use in prediction, recommendation, decision-making, or content generation, etc., for specialized or general purposes’.

<sup>41</sup> B D Mittelstadt, P Allo, M Taddeo, S Wachter and L Floridi, ‘The ethics of algorithms: Mapping the debate’ (2016) Big Data & Society 11, Carr (n 35).

<sup>42</sup> Floridi (n 36) 2.

## 2.4 Complexity, Secrecy, and Opacity of AI

- 20 As we said, it is possible to define ‘intelligent’ AI tools capable of performing tasks that, if performed by humans, require the use of intelligence to solve the problems posed by those tasks. However, this definition seems overly broad, especially for the purposes of this chapter. Indeed, from a functional point of view, we could also consider a tool intelligent that is capable of automating tasks that, while requiring the use of intelligence, are based on a few easily identifiable variables at the beginning of the decision-making process. This type of software is usually included in the notion of artificial intelligence. However, for what concerns us here, it seems preferable to limit the definition of artificial intelligence, ie, to include only tools capable of performing complex tasks, ie, tasks that require a decision-making process based on many parameters (ie, in all cases where decisions must be made under conditions of uncertainty).<sup>43</sup>
- 21 Indeed, an artificial intelligence tool that automates simple decision-making processes is merely the evolution of automation that has been around for a long time. On the contrary, it is precisely when it comes to complex decisions, ie, those that must be taken in situations of uncertainty, that weak AI tools make the difference with respect to the technologies used previously.
- 22 But that is not all. The artificial intelligence tools currently in use are essentially based on algorithms that, by processing large amounts of data and deducing correlations from them, are able to make decisions that look human-like.<sup>44</sup> However, beyond this basic scheme, algorithms differ from each other, as the techniques used by programmers to process the data are very different.<sup>45</sup>
- 23 From a functional point of view, among the different data processing techniques, it seems important to distinguish AI tools based on machine learning techniques.<sup>46</sup> Indeed, some artificial intelligence tools are based on algorithms capable of learning from their own experience, ie, software which, regardless of the technique used (neural networks,

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<sup>43</sup> F Gascón Inchausti (n 23) 42; A Aidid, ‘Toward and Ethical Human-Computer Division of Labor in Law Practice’ (2024) 92 Fordham L Rev 1797, 1799, who notes the substantial futility of overly broad definitions and advocates for an essentially functional approach to AI.

<sup>44</sup> J Nieva Fenoll (n 23) 99.

<sup>45</sup> J Burrell (n 2) 2; S Mckinlay, ‘Evidence, Explanation and Predictive Data Modelling’ (2017) Philos. Technol. 463.

<sup>46</sup> On the characteristics of machine learning techniques applied to law, see T Phelps and K Ashley ‘“Alexa, Write a Memo”: The Promise and Challenges of AI and Legal Writing’ (2022) 26 Legal Writing: J. Legal Writing Inst. 329, 330; K D Ashley, ‘Automatically Extracting Meaning from Legal Texts: Opportunities and Challenges’ (2019) 35 Ga. St. U. L. Rev. 1117, 1121.

*machine learning*, deep learning, etc), can reprogram themselves (even modifying the programmer's initial instructions to take account of gradually processed data).<sup>47</sup>

- 24 Indeed, computer tools, even if they are extremely complex, do not pose problems if they can be understood by a human being or, in any case, by an expert in the field (such as a computer scientist). In this case, the problems are like those that have long existed about the use of an expert. On the contrary, in the case of machine learning tools, no one, not even those who have programmed them, can understand exactly what the software does<sup>48</sup>; it is precisely this functional characteristic that creates doubts and uncertainties (especially regarding the identification of liability in case of damage caused by AI systems)<sup>49</sup>.
- 25 Therefore, it seems possible to refer to a more specific notion of artificial intelligence, limited only to AI tools that can make complex decisions in situations of uncertainty and learn from their own experience.<sup>50</sup> The difference between tools based on machine learning techniques and tools based on other techniques is qualitative.<sup>51</sup> In fact, only these tools seem to present the three typical and truly distinctive characteristics of an artificial intelligence tool: complexity, ie, a software based on extremely complex computer instructions; secrecy, ie, a software protected by copyright<sup>52</sup>; and, above all, non-intuitiveness or opacity, since continuous reprogramming prevents a human being from understanding – at least easily – the factors that led the software to decide in a certain way.<sup>53</sup>

## 2.5 The Disruptive Challenge: Generative AI and Legal Professions

- 26 Non-intuitiveness is precisely the distinguishing feature of generative AI tools, ie, the newest and most innovative AI technique that poses the biggest challenges in the legal

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<sup>47</sup> On the fundamental (for these purposes) distinction between deterministic and probabilistic technologies, A Aidid (n 43) 1805. M Grossman and G V Cormack, 'Technology-Assisted Review in E-Discovery Can Be More Effective and More Efficient Than Exhaustive Manual Review' (2011) 17 Rich. J.L. & Tech. 82; D Nersessian and R Mancha, 'From Automation to Autonomy: Legal and Ethical Responsibility Gaps in Artificial Intelligence Innovation' (2020) 27 Michigan Tech L Rev, 55.

<sup>48</sup> J P Davis, 'Law Without Mind: AI, Ethics, and Jurisprudence' (2018) 55 Cal. West. L. Rev. 165, 182.

<sup>49</sup> See, in this sense, S Samoli, M López Cobo, E Gómez, G De Prato, F Martínez-Plumed and B Delipetrev, *AI Watch. Defining Artificial Intelligence. Towards an operational definition and taxonomy of artificial intelligence* (EUR 30117 EN, Publications Office of the European Union Luxembourg 2020).

<sup>50</sup> In this sense, see also K Benyekhlef and J Zhu, 'Intelligence artificielle et justice: justice prédictive, conflits de basse intensité et données massives' (2018) 30 Les Cahiers de propriété intellectuelle, 789, 794; T Rodriguez de las Heras Ballell, 'Legal challenges of artificial intelligence: modelling the disruptive features of emerging technologies and assessing their possible legal impact' (2019) 24 Unif. L. Rev., 302, 305.

<sup>51</sup> D A Remus and F Levy (n 14) 504.

<sup>52</sup> J P Davis (n 48) 183, D F Engstrom and J B Gelbach (n 14) 1087.

<sup>53</sup> A Aidid (n 43) 1809; Rodriguez de las Heras Ballell (n 50) 308.

field<sup>54</sup>. As is now widely known, generative AI can create content and ideas, including conversations, stories, images, videos and music.<sup>55</sup> There is no doubt that these tools are capable of influencing (if not revolutionizing) the legal professions and, especially, the role of lawyers and judges.<sup>56</sup> Already, tools based on generative AI can write opinions and court documents.<sup>57</sup>

- 27 Nowadays it seems difficult to assume that, in the short term, AI tools will be able to replace judges or lawyers and to make decisions in their place.<sup>58</sup> In any case, it is easy to imagine that, in a very short time, lawyers and judges will increasingly be assisted by generative AI. It is well known, for example, that some US lawyers were sanctioned for using ChatGPT, to date perhaps the best-known generative artificial intelligence tool, to draft legal briefs without noticing the mistakes made by the AI (especially in citing precedents).<sup>59</sup>
- 28 Therefore, the most urgent issue today is to understand how generative AI will affect legal professions.<sup>60</sup> The subject is too new and constantly evolving to hypothesize solutions. In this case, it seems appropriate to follow what we might call ‘Picasso Rule on Technology’. As well known, Pablo Picasso said that ‘computers are useless, because they only give us answers’. In fact, rather than providing answers, it seems appropriate to ask questions,

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<sup>54</sup> H Surden, ‘ChatGPT, AI Large Language Models, and Law’ (2024) 92 Fordham L Rev. 1941; W N Price and A K Rai, ‘Clearing Opacity through Machine Learning’ (2021) 106 Iowa L Rev 775; K D Ashley (n 15) 234; D Remus and F Levy (n 14) 501.

<sup>55</sup> M R Grossman, P W Grimm, D G Brown and M Xu, ‘The GPTJudge: Justice in a Generative AI World’ (2023) 23 Duke L & Tech Rev 1, 9. In this sense, see Article 2 of Chinese Interim measures for the management of generative artificial intelligence services 15 August 2024 ([https://www.cac.gov.cn/2023-07/13/c\\_1690898327029107.html](https://www.cac.gov.cn/2023-07/13/c_1690898327029107.html) accessed 30 June 2024; in Chinese), the first regulation of generative IA. See also, Standing Committee on Ethics and Professional Responsibility of the ABA, ‘Formal Ethics Opinion 512 - Generative Artificial Intelligence Tools’ ([https://www.americanbar.org/content/dam/aba/administrative/professional\\_responsibility/ethics-opinions/aba-formal-opinion-512.pdf](https://www.americanbar.org/content/dam/aba/administrative/professional_responsibility/ethics-opinions/aba-formal-opinion-512.pdf) accessed 30 July 2024) 1.

<sup>56</sup> W De Mulder, P Valcke and J Baeck, ‘A collaboration between judge and machine to reduce legal uncertainty in disputes concerning ex aequo et bono compensations’ (2023) 31 Artificial Intelligence and Law 325, 326; S S Tu, A Cyphert, and S J Perl, ‘Artificial Intelligence: Legal Reasoning, Legal Research and Legal Writing’ (2024) 25 Minn JL Sci & Tech 105, J Villasenor, ‘Generative Artificial Intelligence and the Practice of Law: Impact, Opportunities, and Risks’ (2024) 25 Minn JL Sci & Tech 25.

<sup>57</sup> T Phelps and K Ashley (n 46) 329

<sup>58</sup> See, in general, J Nieva Fenoll (n 24), B H Barton and S Bibas, *Rebooting Justice: More Technology, Fewer Lawyers, and the Future of Law* (Encounter Books 2017), and E Volokh, ‘Chief Justice Robots’ (2019) 68 Duke L.J. 1135, 1142. See also, P Comoglio, *Nuove tecnologie e disponibilità della prova* (Giappichelli Torino 2018) 328.

<sup>59</sup> *Mata v Avianca, Inc.* (District Court, US) [No 1:2022cv01461 - Document 54 S.D.N.Y. 2023]; *In Re Samuel* (New York Surrogate Court, US) [2024 N.Y. Slip Op. 24014 (2024)] and *Park v Kim* (District Court, US) [20-Cv-2636 (Pkc) EDNY (2022)]. On the use of ChatGPT by lawyers, DW Denno and E Valencia-Graham, ‘The New AI: The Legal and Ethical Implications of ChatGPT and Other Emerging Technologies’ (2024) 92 Fordham L Rev 1785, and H Surden (n 54) 1941, 1968.

<sup>60</sup> M Simon, A F Lindsay, L Sosa and P Comparato (n 17) 308; T Phelps and K Ashley (n 46) 329; D F Engstrom and J B Gelbach (n 14) 1004.

precisely to determine in which areas generative AI can transform or even revolutionize the role of lawyers or judges.<sup>61</sup>

### 3 AI AND UNAUTHORIZED PRACTICE OF LAW: TOWARDS A UBERIZATION OF LEGAL PROFESSION?

#### 3.1 The Traditional Model of Advocacy

- 29 The modern idea of advocacy is based on two pillars, namely independence and exclusivity. And it can be said that it is precisely on these prerogatives that the traditional denial of the entrepreneurial nature of the legal profession is connected.<sup>62</sup> This unitary model of advocacy is basically widespread in almost all jurisdictions<sup>63</sup> and, except for a few cases (such as China<sup>64</sup>), has also influenced jurisdictions where advocacy is still quite recent.<sup>65</sup>
- 30 In fact, although with notable differences, it is widely believed that lawyers perform a twofold function: assisting their clients, but also collaborating in the proper functioning of justice, advising their clients correctly and avoiding a distorted and abusive use of the instruments of judicial protection.<sup>66</sup> In other words, the lawyer's task is to ensure qualified, competent, and independent (both from the client and other persons) advice.<sup>67</sup>

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<sup>61</sup> For such a perspective, see J Lassègue (n 25) 206.

<sup>62</sup> G C Hazard and A Dondi, 'A Short Historical Sketch of the Legal Professions' (2001) ZJP Int. 205; B Deffains, 'L'avocat et le marché: une perspective économique' (2023) Arch. phil. droit 291.

<sup>63</sup> G C Hazard and A Dondi, *Legal Ethics, A comparative study* (Stanford University Press 2004); D A Remus, 'Out of Practice: The Twenty-First-Century Legal Profession' (2014) 63 Duke LJ 1243, 1248; A Dondi, V Ansanelli and P Comoglio, *Procesos civiles en evolución. Una perspectiva comparada* (Marcial Pons 2017) 37; P Comoglio, *Il processo come fenomeno economico di massa. Problemi di finanziamento e di remunerazione delle controversie civili* (Giappichelli Torino 2022) 99.

<sup>64</sup> T Asai, 'The Image of the Lawyer in Modern China', in S Fuma, *Research on the Social History of Chinese Litigation* (Kyoto University Press 2011) 566; X Xu, 'Lawyers in Chinese Culture' (2023) 64 Arch. phil. Droit 269; J Wang, 'Achievements of China's Lawyer Profession in the Past 40 Years and Future Prospects' (2019) 11 Justice of China 11.

<sup>65</sup> I Kitamura, 'L'avocat dans la culture japonaise' (2023) 64 Arch. phil. Droit 255; K Miyagawa, K Nasu, M Koyama and H Kubori (dir), *Henkaku no naka no bengoshi: sono rinen to jissen* (Lawyers and reform: ideas and practices, Tokyo, Yūhikaku 1992); I Miyata, *Gekihen suru bengoshi* (Lawyers and major changes, Tokyo Kyōei Shobō 2021).

<sup>66</sup> On this deep-rooted conception, see in general, GC Hazard and A Dondi (n 63), GC Hazard and A Dondi, 'Responsibilities of Judges and Advocates in Civil and Common Law: Some Linger Misconceptions Concerning Civil Lawsuits' (2006) 39 Cornell Int'l L.J. 59, 62, as well as, with specific reference to common law systems, D Luban, *Lawyers and Justice. An Ethical Study* (Princeton UP 1988), D Rhode (ed), *Ethics in Practice. Lawyers' Roles, Responsibility and Regulation* (Oxford UP 2000).

<sup>67</sup> EA Davis, 'The Meaning of Professional Independence' (2003) 103 Colum. L. Rev. 1281, 1282, D Remus and F Levy (n 14) 545.

It is also frequently stated that, in many cases, advocacy has contributed to the maintenance of the rule of law.<sup>68</sup>

- 31 This dual function is also expressly recognized by international courts, such as, for example, by the European Court of Human Rights, in the decision *Nikula c/ Finland*<sup>69</sup>, and by the Court of Justice of the European Union, in the decision *Prezes Urzędu Komunikacji Elektronicznej v Commission*<sup>70</sup>.
- 32 Precisely because of this dual function, the regulation of the legal profession is widely characterized by three prerogatives: barriers to entry, statutes governing the unauthorized practice of law<sup>71</sup>, and codes of ethical conduct<sup>72</sup>.
- 33 In fact, starting in the early 1980s, this unitary model has become segmented, especially in the United States and in jurisdictions with stronger economies.<sup>73</sup> This is certainly a well-known phenomenon (characterized mainly by the emergence of huge law firms) and, especially in the US context, referred to as Big Law<sup>74</sup>.
- 34 Although differentiated, both these two models of lawyering (traditional lawyers and big law firms) focus narrowly on established areas of legal practice, assuming that a boundary exists between legal practice and business practice.<sup>75</sup> This traditional model has

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<sup>68</sup> D A Remus, 'Reconstructing Professionalism' (2017) 51 Ga L Rev 807, 864-865 (who observes that 'A stable framework of law, in turn, requires independent lawyers, committed to the relational dynamics of trust, loyalty, judgment, empowerment, and service'); S Caserta and M Madsen, 'The Legal Profession in the Era of Digital Capitalism: Disruption or New Dawn?' (2019) 8 Laws 1, 14. In a historical perspective, see R Séve, 'Avant-Propos: l'Avocature, de l'essence aux existences' (2023) 64 Arch. phil. Droit VII.

<sup>69</sup> *Nikula v Finland*, Case 31611/96, (ECtHR), Judgment 30 November 2000 [ECLI:CE:ECHR:2002:0321JUD003161196].

<sup>70</sup> *Prezes Urzędu Komunikacji Elektronicznej v Commission*, Joined Cases C-422/11 P and C-423/11 P (CJEU), Judgment 6 September 2012 [ECLI:EU:C:2012:553].

<sup>71</sup> In general, on the origins of the unauthorized practice of law rules J J Avery, P Sanchez Abril and A del Riego, 'ChatGPT, Esq.: Recasting Unauthorized Practice of Law in the Era of Generative AI' (2023) 26 Yale Journal of Law and Technology 64, 77.

<sup>72</sup> G C Hazard and A Dondi (n 63); D A Remus (n 63) 1249; A Dondi, 'Conduite de l'avocat et loyauté procédurale – Une tentative de mise à jour', in J Y Chérot (ed), *Mélanges en l'honneur de Jean-Louis Bergel* (Bruylant 2012) 867; B Deffains (n 62) 296.

<sup>73</sup> R Abel, *English Lawyers between the Market and the State: The Politics of Professionalism* (Oxford University Press 2003); Y Dezalay, 'The Big Bang and the Law: The Internationalization and Restructuration of the Legal Field' 1990 7 Theory, Culture & Society 279; Y Dezalay, *Marchands de Droit. La Restructuration de l'Ordre Juridique International par les Multinationals du Droit* (Paris Fayard 1992); D A Remus (n 63) 1252.

<sup>74</sup> A Chayes and AH Chayes, 'Corporate Counsel and the Elite Law Firm' (1985) 37 Stan. L. Rev. 277; M Regan and LH Rohrer, *Biglaw: Money and Meaning In The Modern Law Firm* (University of Chicago Press 2021); L E Ribstein, 'The Death of Big Law' (2010) Wis. L. Rev. 749; R A Kagan and R E Rosen, 'On the Social Significance of Large Law Firm Practice' (1985) 37 Stan. L. Rev. 399, 404; W B Wendel, 'Rumors of the Death of BigLaw Are Greatly Exaggerated Reviewing Mitt Regan & Lisa H. Rohrer, *BigLaw: Money and Meaning in the Modern Law Firm*' (2023) 36 Geo J Legal Ethics 177; M Galanter and T Palay, *Tournament of Lawyers: The Transformation of the Big Law Firm* (University of Chicago Press 1991).

<sup>75</sup> D A Remus (n 63) 1256.



nevertheless remained unchanged to this day, even though the appropriateness of barriers to entry into the profession and the rules of legal ethics themselves have been seriously questioned.<sup>76</sup>

- 35 The use of generative AI may challenge these traditional prerogatives of advocacy. More specifically artificial intelligence may break the lawyers' monopoly on legal advice in a double sense, on the one hand by making law directly accessible to people not trained in law and, on the other hand, by opening the legal advice market to non-lawyers.

### 3.2 Technologies and the Simplification of the Law: towards AI Based 'Smart Legal Forms'?

- 36 To address the first problem, we must start with an obvious observation: law is always in a constant struggle between simplification and formalism, and, to a certain extent, the history of law represents a progressive attempt to make it simpler and more accessible.
- 37 Indeed, initially 'form', or rather '*formulae*' were 'the law'. As has been observed, 'dans la Rome ancienne, l'emprise de la forme est fondamentale. A ses origines, le droit est d'abord un rite qui agit dans un univers enchanté. Le geste est pesant, la parole performative et la solennité des formes garantit l'efficacité du droit' ('In ancient Rome, the influence of form was fundamental. In its origins, law was first and foremost a ritual that operated in an enchanted universe. The gesture is weighty, the word performative and the solemnity of the forms guarantees the effectiveness of the law').<sup>77</sup>
- 38 The rigidity of this system gradually led to its overcoming. However, the *formulae* have not been lost. We have witnessed, so to speak, their gradual downgrade. In fact, the *formulae* gradually became compendia and forms. In the beginning, the forms had a mixed function. Especially in the Middle Ages, forms also served to make an inventory of existing customs. It is no coincidence that the forms were then an integral part of legal treatises. However, the forms lost this function, gradually becoming mere aids to the drafting of legal acts. They became, so to speak, an autonomous literary genre, to the extent that they did not even require the indication of the names of the authors, as if the compilation of forms did not require any specific intellectual activity. In this respect, it has been observed that 'ce qui a changé, c'est l'autorité confiée à ce qui fut très longtemps et devrait toujours être qu'un outil à l'usage des praticiens et des justiciables' ('what has changed is the authority entrusted to what was for a very long time, and should always be, a tool for use by practitioners and litigants').<sup>78</sup>

<sup>76</sup> B H Barton, 'Why Do We Regulate Lawyers: An Economic Analysis of the Justifications for Entry and Conduct Regulation' (2001) 33 Ariz St LJ 429; B H Barton (n 18) 3083.

<sup>77</sup> S Guillemard, S Kerneis, S Menetrey, 'La vie formulaire - Entre procédure judiciaire et dérive administrative du droit d'hier à aujourd'hui' (2018) 8 Revue int. droit proc. 322.

<sup>78</sup> See, again, S Guillemard, S Kerneis, S Menetrey (n 77).



- 39 This downgrading of the *formulae* is probably more apparent than real, as the forms have often significantly influenced the application of the law, as a kind of ‘hidden’ or ‘minor’ source of law. In addition to the need to simplify the law, this evolution also seems to be marked by the evolution of documentation techniques, in a perspective that could therefore be called ‘documentary’.<sup>79</sup> In general, it is rightly observed that ‘les documents eux-mêmes se sont transformés. Leur nombre, leur forme, leur contenu et leur fonction ont changé en lien avec l’organisation des sociétés et aussi avec les performances quantitatives et qualitatives des technologies de représentation’ (‘documents themselves have changed. Their number, form, content and function have changed in line with the way societies are organized and also with the quantitative and qualitative performance of representation technologies’).<sup>80</sup>
- 40 Indeed, every innovation in documentation techniques has had a significant influence on the development of legal and, above all, procedural forms.<sup>81</sup> An example of this is precisely the development of forms. Before the invention of the printing press (when it was certainly difficult and expensive to draw up written documents), forms were mainly used by state bureaucracies and notaries. Since the invention of the printing press, their use has become widespread, making them real aids to professional activity.<sup>82</sup>
- 41 In any case, only lawyers were allowed to use all these technological developments, and they were really jealous of them, so as not to reveal the tricks of the trade to their clients. As has been rightly noted, until a century ago ‘lawyers functioned much like medieval priests: they held information to which the public lacked access. For the most part, individuals with legal questions had to bring those questions to lawyers, as no one else knew the answers’.<sup>83</sup>
- 42 New technologies seem to trigger a new phase in this evolution. For example, the ease with which information can now be found on the Internet is gradually leading to a progressive ‘vulgarization’ of forms. With the Internet, anyone has free access to templates or forms for legal documents in a broader ‘democratization’ of information.<sup>84</sup>

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<sup>79</sup> In general, on the influence of documentation techniques in law, see C Vismann (n 9) 61 and P Burke, *A Social History of Knowledge II. From the Encyclopedia to Wikipedia* (Polity Cambridge 2012) 197.

<sup>80</sup> J M Salaün, *Vu, lu, su. Les architectes de l’information face à l’oligopole du web* (La Découverte Paris 2012) 27. By the same author, see J M Salaün, ‘Why the document matters... and how it is being transformed’ (2014) *Monist*, 187.

<sup>81</sup> A Janssen and T J Vennmanns (n 14) 46.

<sup>82</sup> In general, on the influence of documentation techniques on law, see C Vismann (n 9) 49.

<sup>83</sup> J J Avery, P Sanchez Abril and A del Riego (n 71) 103.

<sup>84</sup> A Garapon and J Lassègue, *Justice digitale* (PUF Paris 2018) 95; J J Avery, P Sanchez Abril and A del Riego (n 71) 103. In general, also for further references, see K Ashley (n 15) 234; R Susskind and D Susskind (n 15) 231; D A Remus and F Levy (n 14) 501.

### 3.3 Generative AI and Unauthorized Practice of Law

- 43 Generative AI could take this evolution a step further. Until now, the simplification of law has been an essentially unattainable ideal (indeed, a myth). For this very reason, the role of the legal profession has always been to make the law accessible to those who lack the technical knowledge to understand it and apply its formalisms. However, generative AI tools, precisely because they can answer in common language, could also overcome this last obstacle.<sup>85</sup> The advent of generative AI could be defined as a true second wave of digital transformation.<sup>86</sup>
- 44 Certainly, this has never happened in the case of technologies progressively used by lawyers; until now, new technologies have been merely tools to assist the lawyer, and therefore it has always been the lawyer who has decided whether and how to use them; and it has always been the lawyer who has been responsible for them. This reasoning, however, no longer seems valid in the case of tools based on generative AI, precisely because they can be used by everyone, even without the assistance of a lawyer.<sup>87</sup> One can even imagine, in jurisdictions where self-defence is allowed before the courts, an AI-assisted pro-se defence.<sup>88</sup> However, although, according to international norms (eg, Art 6 of ECHR) and principles of due process (eg, the *Gideon* decision in the US<sup>89</sup>), representation by an attorney is a fundamental right, but it is not necessarily mandatory, in many jurisdictions self-defence is very limited or even prohibited and, therefore, the use of artificial intelligence in place of a lawyer should be expressly permitted by law.<sup>90</sup>
- 45 Therefore, more realistic is the possibility that, in very few years, AI will be used to offer out-of-court legal advice or for trial collateral activities.<sup>91</sup> Legal technology solutions that provide direct and automated assistance to individuals seeking legal support for their issues and the enforcement of their claims have the potential to replace or at least

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<sup>85</sup> I Trancoso, N Mamede, B Martins, HS Pinto and R Ribeiro, 'The Impact of Language Technologies in the Legal Domain', in H Sousa Antunes, PM Freitas, AL Oliveira, C Martins Pereira and E Vaz de Sequeira, L. Barreto Xavier, *Multidisciplinary Perspectives on Artificial Intelligence and Law* (Springer 2024) 25.

<sup>86</sup> T Rodríguez de las Heras Ballell (n 50) 303.

<sup>87</sup> M R Grossman, P W Grimm, D G Brown, and M Xu, (n 55) 2; J J Avery, P Sanchez Abril and A del Riego (n 71) 64; D F Engstrom and J B Gelbach (n 14) 1021.

<sup>88</sup> J R Gunder, 'Why Can't I Have a Robot Lawyer? Limits on the Right to Appear Pro Se' (2014) 98 Tul. L. Rev. 363, 403; J J Prescott, 'Improving Access to Justice in State Courts with Platform Technology' (2017) 70 Vand. L. Rev. 1993; G J Glover, 'Online Legal Service Platforms and the Path to Access to Justice' (2016) 90 Fla. B.J. 88; M R Grossman, P W Grimm, D G Brown and M Xu (n 55) 27. J Nieva Fenoll, 'Technology and Fundamental Rights in the Judicial Process' (2022) 13 Civil Procedure Review 53, 66.

<sup>89</sup> *Gideon v Wainwright* (Supreme Court, US) [372 US 335, 343 (1963)]. On this topic, see M Y K Woo, C Cox and S Rosen, 'Access to Civil Justice' (2022) 70 American Journal of Comparative Law, i89, i90.

<sup>90</sup> F Gascón Inchausti (n 23) 43.

<sup>91</sup> J P Davis (n 15) 1190; F Gascón Inchausti (n 23) 44.

compete with the traditional legal assistance. Already today there are many such tools<sup>92</sup> in the US<sup>93</sup>, Latin America<sup>94</sup>, Asia<sup>95</sup>, and Europe<sup>96</sup>.

- 46 Apparently, the problem does not seem to differ from the legal document templates currently available on the Internet. Indeed, we could think that anyone knows that a document template found on the Internet is not in itself reliable or immediately usable. However, this perception may vanish in the case of a generative AI-based tool, which, using Natural Language Processing (NLP), can be trained to provide automated legal advice.<sup>97</sup> It does not seem unreasonable to speak of ‘smart forms’, ie, forms which, to paraphrase a beautiful expression used by Antoine Garapon and Jean Lassègue, speak ‘for themselves’.<sup>98</sup>
- 47 In this case, it is easier for the user to consider the advice provided by the AI tool that has guided him step by step through the filling process as reliable. In other words, there is a serious risk that, through generative AI, Unauthorized Practice of Law (UPL) and the emergence of a market for self-help services may occur.<sup>99</sup> Already there are many companies (the so-called Alternative Legal Services Providers or Legal Tech companies) offering and providing AI-based legal services.<sup>100</sup> Therefore, it does not seem

<sup>92</sup> S Caserta and M Madsen (n 68) 8.

<sup>93</sup> D F Engstrom and N F Engstrom, ‘Legal Tech and the Litigation Playing Field’, in D F Engstrom (dir), *Legal Tech and the Future of Civil Justice* (Cambridge University Press 2023) 133; B H Barton, ‘The Future of American Legal Tech: Regulation, Culture, Markets’, in D F Engstrom (dir), *Legal Tech and the Future of Civil Justice* (Cambridge University Press 2023) 23.

<sup>94</sup> In this regard, see the various articles published in the monographic issue, dedicated to Legaltech, of the (2019) 7 *Informática y Derecho*, *Revista Iberoamericana de Derecho Informático*.

<sup>95</sup> W M Zuo, ‘Some thoughts on the application prospects of legal artificial intelligence in China’ (2018) 12 *Tsinghua Law Science* 108; Y Yao, ‘Uberizing the Legal Profession? Lawyer Autonomy and Status in the Digital Legal Market’ (2019) *British Journal of Industrial Relations* 483, 490.

<sup>96</sup> M Hartung, M Bues and G Halbleib, *Legal Tech* (Munich, C. H. Beck 2018) 7; A Janssen, and T J Vennmanns (n 14) 50; A Biard, ‘Justice en ligne ou nouveau Far West? La difficile régulation des plateformes en ligne de règlement extrajudiciaire des litiges’ (2019) *Revue internationale de droit économique* 165, 167; M Barrio Andrés (dir), *Legal Tech: la transformación digital de la abogacía* (Wolters Kluwer Madrid 2019) 37; M Massaro, ‘Le réseau des projets LegalTechs en Belgique. Entre innovations techniques et avocats-entrepreneurs du droit’ (2023) 46 *Sociologies pratiques*, 99.

<sup>97</sup> J P Davis (n 15) 1188; J Frankenreiter and J Nyarko, ‘Natural Language Processing in Legal Tech’, in D F Engstrom (dir), *Legal Tech and the Future of Civil Justice* (Cambridge University Press 2023) 70.

<sup>98</sup> A Garapon and J Lassègue (n 84) 175. On the subject, see, again recently, B H Barton (n 93) 37, envisaging ‘interactive forms’. T Phelps and K Ashley (n 46) 329.

<sup>99</sup> D Simshaw, ‘Access to A.I. Justice: Avoiding an Inequitable Two-Tiered System of Legal Services’ (2022) 24 *Yale JL & Tech* 150, 165; D Remus and F Levy (n 14) 529.

<sup>100</sup> J C Jiang, L A Di Matteo, R E Thomas, ‘Disruptive Effects of Legal Tech’, in L A Di Matteo, A Janssen, P Ortolani, F de Elizalde, M Cannarsa and M Durovic (ed), *The Cambridge Handbook of Lawyering in the Digital Age* (Cambridge University Press 2021) 9; H Hellwig and W Ewer, ‘Keine Angst vor Legal Tech’ (2020) *Neue Juristische Wochenschrift* 1783, 1784; J van Veenen and J Schmaal, ‘Legal tech en de advocatuur’ (2018) *Computerrecht* 77, 77.

unreasonable to envisage a possible ‘uberisation’ of the legal professions.<sup>101</sup> In other words, nowadays the monopoly that advocacy has had until now is at risk.<sup>102</sup>

48 It is therefore necessary to ask whether the legal services provided by Legal Tech companies can be considered an unauthorized practice of law. This issue is not simple. It is not, first, because it is difficult to understand what ‘practice of law’ means.<sup>103</sup> Generally speaking, lawyers have a monopoly for providing legal services in and out of court.<sup>104</sup> It is not always clear, however, the extent of this monopoly. In some cases, the law expressly states the activities reserved for the lawyer, as, for example, in Germany.<sup>105</sup> In other cases, however, the law generically reserves legal advice to lawyers, without defining what is meant by legal advice.<sup>106</sup>

49 Second, it appears difficult to apply the unauthorized practice of law rules to AI.<sup>107</sup> For example, determining whether a particular technology (typically an online service provider) resembles a scrivener who simply records information provided by a customer (thus not constituting UPL) or a service provider who assists in selecting and correctly completing a form (thereby constituting UPL) is complicated.<sup>108</sup>

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<sup>101</sup> N Tarnaud, C Bourgeois and L Babin, ‘Les professions règlementées à l’épreuve de l’ubérisation du droit : vers un monde sans avocat?’ (2018) 25 *Management & Sciences Sociales* 103; Y Yao (n 95) 483; D Simshaw (n 99) 165; A H Yoon, ‘The Post-Modern Lawyer: Technology and the Democratization of Legal Representation’ (2016) 66 *U Toronto LJ* 456, PR Suárez Xavier, ‘Inteligencia artificial y uberización de la abogacía: ¿quien regulará al abogado robot o al robot del abogado?’ (2022) *Revista General de Derecho Procesal* 1.

<sup>102</sup> A Garapon and J Lassègue (n 84) 97; D Remus and F Levy (n 14) 504; S Caserta and M Madsen, (n 68) 10.

<sup>103</sup> DA Remus (n 63) 1261, who observes that in 2003, an ABA committee failed in its efforts to promulgate a model uniform definition of the practice of law.

<sup>104</sup> B H Barton (n 93) 22, noting that the definition of the ‘practice of law’ and the levels of enforcement differ from state to state, but at a minimum in no state may a non-lawyer appear in court on behalf of another party or give ‘legal advice’. D L Rhode, ‘Policing the Professional Monopoly: A Constitutional and Empirical Analysis of Unauthorized Practice Prohibitions’ (1981) 34 *Stan. L. Rev.* 1.

<sup>105</sup> In Germany extrajudicial legal services are regulated by § 2 of the Legal Services Act (*Rechtsdienstleistungsgesetz*/RDG). The RDG consists of a list of legal prohibitions subject to permission, meaning that extrajudicial legal services are generally prohibited unless they are expressly permitted (§ 3 RDG). O Wiesike, ‘La profession d’avocat en Allemagne’ (2023) 64 *Arch. phil. Droit* 201, 203.

<sup>106</sup> This is for example the case in Italy, where article 2 of the Law Dec. 31, 2012, No. 247 (the Italian regulation of legal profession) provides that the professional activity of legal advice and legal assistance extrajudicial is reserved for lawyers only if it is related to judicial activity; if carried out in a continuous, systematic and organized manner, it is the responsibility of lawyers. See also in France article 4 of law n° 71-1130 of 31 December 1971 (*portant réforme de certaines professions judiciaires et juridiques*), which expressly reserves to lawyers only the defence in court; see N Tarnaud, C Bourgeois and L Babin (n 101) 108.

<sup>107</sup> D Simshaw (n 99) 215.

<sup>108</sup> D Remus and F Levy (n 14) 542.

- 50 For example, in the case of *Janson v LegalZoom.com, Inc.*<sup>109</sup>, a class action filed in the Western District Court of Missouri, the court determined that there was no substantial difference between a lawyer preparing a document for a client and the services provided by *LegalZoom*. As a result, *LegalZoom* was required to stop offering these services. This decision was made despite *LegalZoom's* comprehensive disclaimer, which was presented to all customers.<sup>110</sup>
- 51 In the opposite sense, on November 27, 2019, the German Federal Court of Justice (*Bundesgerichtshof*, BGH), adopting a broad interpretation of 'collection services', held that the services provided by the company *Lexfox*, which were registered as a legal services provider for collection services, did not violate the German Legal Services Act (*Rechtsdienstleistungsgesetz*/RDG). However, in this decision, the Court held that the question of whether a certain activity of a registered collection services provider violates the Legal Services Act must be answered on a case-by-case basis.<sup>111</sup>
- 52 In fact, if one understands the practice of law also the analysis of laws and regulations in order to verify the applicability of a given law to a specific case, as held by the French Court of Cassation (although not with specific reference to the AI case), then the services offered by Legal Tech service providers should be considered legal activity.<sup>112</sup>
- 53 Third, the use of UPL rules may not be socially accepted. In fact, UPL prosecutions frequently seem to be motivated by self-interest on the part of the legal profession, aiming to safeguard its exclusive domain. These legal actions are often perceived as attempts by the bar to maintain its monopoly over legal services, preventing competition from non-lawyers who might offer more affordable or innovative solutions. Critics argue that such prosecutions are less about protecting the public from unqualified practitioners and more about preserving the economic interests and control of the legal establishment.<sup>113</sup>

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<sup>109</sup> *Janson v Legalzoom.com, Inc.* (District Court, US) [802 F. Supp. 2d 1053]. Another US legaltech company (*DoNotPay*) was also sued in several actions for Unauthorised Practice of Law (ie, *Faridian v DoNotPay, Inc.* and *MillerKing, LLC v DoNotPay, Inc.*) later reaching a settlement ([https://www.abajournal.com/news/article/robot-lawyer-donotpay-reaches-settlement-in-suit-allowing-it-is-neither-a-robot-nor-a-lawyer?utm\\_source=maestro&utm\\_medium=email&utm\\_campaign=weekly\\_email#google\\_vignette](https://www.abajournal.com/news/article/robot-lawyer-donotpay-reaches-settlement-in-suit-allowing-it-is-neither-a-robot-nor-a-lawyer?utm_source=maestro&utm_medium=email&utm_campaign=weekly_email#google_vignette) accessed 30 June 2024).

<sup>110</sup> About this case, see, J J Avery, P Sanchez Abril and A del Riego (n 71) 91.

<sup>111</sup> *Bundesgerichtshof*, BGH 27 November 2019, in (2020) *Neue Juristische Wochenschrift* 208. About this case, see V Hoch and J Hendricks, 'Das RDG und die Legal Tech-Debatte: Und wo bleibt das Unionsrecht?' (2020) *Verbraucher und Recht* 254, 256, CM Leeb, 'Update Legal Tech: So entscheiden die Gerichte', [www.ito.de/recht/zukunft-digitales/l/update-legal-tech-rechtsprechung-urteile-ueber-sicht-2020-smartlaw-wenigermiete-inkassoerlaubnis-digitalisierung-kanzleien](http://www.ito.de/recht/zukunft-digitales/l/update-legal-tech-rechtsprechung-urteile-ueber-sicht-2020-smartlaw-wenigermiete-inkassoerlaubnis-digitalisierung-kanzleien) accessed 30 June 2024).

<sup>112</sup> T Massart, 'Les avocats confrontés à l'intelligence artificielle' (2023) *Revue Pratique de la Prospective et de L'innovation* 13, 16.

<sup>113</sup> D Remus and F Levy (n 14) 542.

54 Some even argue that the UPL rules should be repealed.<sup>114</sup> Even without reaching such an extreme solution, however, it seems clear that these rules are not adequate today to cope with the use of AI in providing legal services.

### 3.4 AI Based Legal Advice Tools and the EU ‘AI Act’: the Need of a Tailor-made Regulation

55 The difficulty of applying the UPL rules raises another question: should the law regulate these tools specifically?<sup>115</sup> And should reliability impose requirements for the use of generative AI in providing legal advice?<sup>116</sup>

56 Again, these questions are not easy to answer. For example, the EU regulation on artificial intelligence does not seem to take this situation into account, as it does not consider the use of artificial intelligence for legal advice as a high-risk activity.<sup>117</sup> In fact, according to this regulation, tools offering AI-based legal advice do not seem to fall within a high-risk sector. In particular, the regulation considers as high risk only AI systems ‘intended to be used by a judicial authority or on their behalf to assist a judicial authority’, thus implicitly excluding from the scope of application tools used outside judicial activity.<sup>118</sup>

57 This approach does not seem acceptable and can have a very negative impact on access to justice.<sup>119</sup> Consider, for example, a person who gets advice from an AI-based tool and, relying solely on the solution provided by this tool, decides not to take legal action. It

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<sup>114</sup> J J Avery, P Sanchez Abril and A del Riego (n 71) 101 and 128, who consider that maintaining the UPL status quo is no longer tenable and the indisputable evidence that justice is not equal under the law, and that lawyers’ monopoly does not promote the public good. On this topic, see also B Sen, ‘Beyond the JD: How eliminating the legal profession’s monopoly on legal services can address the access-to-justice crisis’ (2019) 22 U. Pa. J.L. & Soc. Change 121; D L Rhode and S L Cummings, ‘Access to Justice: Looking Back, Thinking Ahead’ (2017) 30 Geo. J. Legal Ethics, 490; L A Rigertas, ‘The Legal Profession’s Monopoly: Failing to Protect Consumers’ (2014) 82 Fordham L. Rev. 2683.

<sup>115</sup> On the problem of AI regulation in general, see F Bueno De Mata, ‘La necesidad de regular la inteligencia artificial y su impacto como tecnología disruptiva en el proceso: de desafío utópico a cuestión de urgente necesidad’, in F Bueno De Mata (coord), *El impacto de las tecnologías disruptivas en el Derecho procesal* (Aranzadi 2022) 15; A Mantelero, *Beyond Data Human Rights, Ethical and Social Impact Assessment in AI* (Springer Berlin 2022) 140.

<sup>116</sup> D A Remus and F Levy (n 14) 545; D Simshaw (n 99) 156; S Caserta and M Madsen (n 68) 14.

<sup>117</sup> See, in general, about the risk-based approach of the European Regulation, R Paul, ‘European artificial intelligence “trusted throughout the world”: Risk-based regulation and the fashioning of a competitive common AI market’ (2023) 18 Regulation & Governance 1; J Laux, S Wachter and B Mittelstadt, ‘Trustworthy artificial intelligence and the European Union AI act: On the conflation of trustworthiness and acceptability of risk’ (2024) 18 Regulation & Governance 3.

<sup>118</sup> See Annex III of the EU regulation n. 1689/2024 (AI Act): [https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=OJ:L\\_202401689#d1e38-127-1](https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=OJ:L_202401689#d1e38-127-1) accessed 30 June 2024. The same approach seems to be followed in China, where the proposed regulation of AI deals only with applications before the Court: see Article 70 (Judicial Activity) of Artificial Intelligence Law of the People’s Republic of China (Draft for Suggestions from Scholars), [https://cset.georgetown.edu/wp-content/uploads/t0592\\_china\\_ai\\_law\\_draft\\_EN.pdf](https://cset.georgetown.edu/wp-content/uploads/t0592_china_ai_law_draft_EN.pdf) accessed 30 June 2024.

<sup>119</sup> A Hyde, ‘Plaidoyer pour l’inclusion des outils de jurimétrie dans le futur règlement européen sur l’intelligence artificielle’ (2023) La semaine juridique - édition générale - n° 39 - 2 octobre 2023, 1276.



seems frankly difficult to imagine that such use of an AI tool, potentially discouraging access to justice, is not high-risk.<sup>120</sup>

- 58 Nor should we forget the potential conflicts of interest that could arise between the owner-operator of the legal advice tool and the users. We can assume a generative AI tool for legal advice owned by a company that also offers other services to consumers: there is obviously a risk that the legal advice offered is aimed at discouraging potential legal action against such an e-commerce or service provider; in addition, in the absence of regulation, this risk may increase as a result of information asymmetry between the parties<sup>121</sup> and of the fact that predictive algorithms would almost certainly end up in the hands of a very few large corporations<sup>122</sup>.
- 59 In that case it is much more difficult for the users to be aware of the conflict of interest; it has rightly been observed that ‘where legal services are provided impersonally, without human interaction, instances of conflicted representation are unlikely to engender the same feelings of betrayal that would arise if a human lawyer were involved’.<sup>123</sup>
- 60 These unreliable algorithms could also adversely affect judges and lawyers, who, although not authorized to do so, for mere reasons of convenience, might still be tempted to secretly use such algorithms to simplify their work. After all, predictions are very comfortable to use and then can influence behaviour.<sup>124</sup>
- 61 But there may be additional problems, always regarding access to justice. A new technological gap between the rich and the poor could occur.<sup>125</sup> In essence, there is a risk of a two-tier justice system, ‘with expensive – but superior – human lawyers and inexpensive – but inferior – AI-driven legal assistance’.<sup>126</sup> In fact, AI (which would seemingly decrease the gaps between the rich and the poor) may also exacerbate them.<sup>127</sup>

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<sup>120</sup> S Lebreton-Derrien, ‘La justice prédictive. Introduction à une justice “simplement” virtuelle’ (2018) *Archives de philosophie du droit* 3, 13, who rightly states that ‘La justice prédictive devient instrument de dissuasion et un tel évitement du procès ne peut évidemment être accepté s’il conduit à restreindre l’accès du justiciable au juge’.

<sup>121</sup> D F Engstrom and N F Engstrom (n 93) 147, noting that only repeat-players may rely on privileged access to confidential claim settlement data to train their own algorithm.

<sup>122</sup> E Filiol, ‘Les risques concernant l’utilisation des algorithmes dits prédictifs dans le domaine sensible de la justice’ (2018) 60 *Arch. phil. Droit* 147, 151, posing, more generally, the risk of a loss of sovereignty of states.

<sup>123</sup> B K Brimo, ‘How Should Legal Ethics Rules Apply When Artificial Intelligence Assists Pro Se Litigants?’ (2022) 35 *Geo J Legal Ethics* 549, 570.

<sup>124</sup> D F Engstrom and J B Gelbach (n 14) 1036. E Gabellini, ‘La “comodità nel giudicare”: la decisione robotica’ (2019) *Riv. trim. dir. proc. civ.* 1305.

<sup>125</sup> D A Remus and F Levy (n 14) 545; D F Engstrom and J B Gelbach (n 14) 1038.

<sup>126</sup> D Simshaw (n 99) 156.

<sup>127</sup> D F Engstrom and J B Gelbach (n 14) 1072; M Y K Woo, C Cox, S Rosen, ‘Access to Civil Justice’ (n 89) i114; Y Yao (n 95) 499.



- 62 But let us also imagine that this is not the case. It can be assumed that the use of generative AI tools can facilitate access to justice. It has been noted that statistical analysis of judgments could help us gain a better understanding of key trends in judicial decision-making, identify court biases, and detect outlier practices. This could reduce legal costs and ultimately enhance access to justice.<sup>128</sup> Moreover, tools based on generative AI can actually make justice more accessible by enhancing legal aid.<sup>129</sup>
- 63 Even if this were the case, other problems arise. First of all, there is an issue of transparency of the algorithms. The opacity of AI tools makes it difficult to assess their reliability.<sup>130</sup> In fact, as has been rightly noted, technology can be made opaque to protect an investment but also to prevent scrutiny; such scrutiny may reveal trade secrets, or it may reveal incompetence.<sup>131</sup>
- 64 If legal tech companies are not practising law, even if this is considered authorized and does not imply a limitation of access to justice, then it means that they are not bound by the rules of legal ethics and especially by the duty of confidentiality; it seems hard, for example, to think that the content generated by AI tools is not protected by the 'work-product doctrine'.<sup>132</sup>
- 65 Finally, an issue of responsibility arises. Who is liable if the content generated by the AI is not correct?<sup>133</sup> Generally, in the case of lawyers, the law almost always imposes an insurance obligation. Such obligations, however, cannot be automatically extended to legal tech companies and, therefore, there would need to be a specific legal rule imposing a duty to insure.<sup>134</sup>
- 66 Obviously, the issue of transparency of algorithms is too complex to be addressed here. Therefore, it seems unavoidable to provide a tailor-made regulation, imposing specific reliability and explainability requirements for generative AI tools offering legal services.

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<sup>128</sup> V Janeček, 'Judgments as bulk data' (2023) *Big Data & Society* 1, F Ferrari; D Mustari, 'The New Technologies and the Civil Justice as Commons' (2023) *Revista Ítalo-Española de Derecho Procesal* 121, 124.

<sup>129</sup> B H Barton and D L Rhode, 'Access to Justice and Routine Legal Services: New Technologies Meet Bar Regulators' (2019) 70 *Hastings L.J.* 956; S Gillers, 'A Profession, If You Can Keep It: How Information Technology and Fading Borders Are Reshaping the Law Marketplace and What We Should Do About It' (2012) 63 *Hastings L.J.* 953; K Medianik, 'Artificially Intelligent Lawyers: Updating the Model Rules of Professional Conduct in Accordance with the New Technological Era' (2018) 39 *Cardozo L. Rev.* 1498.

<sup>130</sup> E Mouriesse, 'Quelle transparence pour les algorithmes de justice prédictive?' (2018) 60 *Arch. phil. Droit* 125.

<sup>131</sup> S Chesterman, 'Through a Glass, Darkly: Artificial Intelligence and the Problem of Opacity' (2021) 69 *Am. J. Comp. Law.* 271.

<sup>132</sup> B K Brimo (n 123) 561; E Walters, 'The Model Rules of Autonomous Conduct: Ethical Responsibilities of Lawyers and Artificial Intelligence' (2019) 35 *Ga. State U. L. Rev.* 1073, 1079.

<sup>133</sup> B K Brimo (n 123) 573.

<sup>134</sup> J J Avery, P Sanchez Abril and A del Riego (n 71) 127.

However, this does not solve the problems: the second and more complicated problem is to decide what degree of transparency and explainability must be ensured.<sup>135</sup>

### 3.5 New Technologies and New Competitors: The Independence of Lawyers Jeopardized

- 67 Generative AI can break the monopoly of lawyers in another sense as well. As already mentioned, the modern conception of advocacy is inextricably linked to the idea of independence.<sup>136</sup> This idea, in turn, has two meanings, independence from the client (guaranteed by the fact of having adequate remuneration and, therefore, not being obliged to accept any assignment) and independence from other third parties potentially in conflict with the client's interests (guaranteed by the fact of not being able to carry out at the same time other activities, both professional and business, and not being able to share one's activity with non-lawyers).<sup>137</sup>
- 68 Independence has been largely guaranteed both by providing for specific methods for determining remuneration and by reserving the activity exclusively to lawyers.<sup>138</sup>
- 69 In the twentieth century there was a significant evolution in the mechanism of the remuneration of lawyers.<sup>139</sup> Despite these changes, however, the practice of law has always remained exclusive to lawyers. In the United States, for example, notwithstanding the exponential growth of the legal market since the second half of the twentieth century and its strong business-like configuration, the prohibition of lawyers sharing fees or forming partnerships with non-lawyers remains firmly in place.<sup>140</sup> This is even though this prohibition has been a disincentive for lawyers themselves to finance the development of their own practice.<sup>141</sup>

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<sup>135</sup> B Brożek, M Furman, M Jakubiec and B Kucharzyk (n 27) 427. In this sense, with reference to platforms offering ODR services, A Biard (n 96) 174.

<sup>136</sup> This is, of course, a widespread idea; see, in this respect, RW Gordon, 'The Independence of Lawyers' (1988) 68 B.U. L. Rev. 48; E A Davis, 'The Meaning of Professional Independence' (2003) 103 Columbia Law Review 1281; N Noto-Jaffeux, 'L'indépendance de l'avocat' (2023) 64 Arch. phil. Droit 431.

<sup>137</sup> In this sense, see J H Cohen, *The Law: Business or Profession?* (G.A. Jennings Rev. ed. 1924) 15.

<sup>138</sup> N Noto-Jaffeux (n 136) 434.

<sup>139</sup> On this subject, see again G C Hazard and A Dondi (n 63).

<sup>140</sup> A J Seebok, 'Selling Attorneys' Fees' (2018) 4 Ill. U. L. Rev. 1210; and this despite some advocating overcoming it; see S Gillers (n 129) 1007; ES Adams, 'Rethinking the Law Firm Organizational Form and Capitalization Structure' (2013) 78 Mo. L. Rev. 777. A similar solution is envisaged in systems closer, by tradition or geographically, to the Italian system, such as the French and German ones; on this, see C Masieri, 'Associazione tra avvocati, società tra avvocati e responsabilità professionale nel dir. italiano e comparato' (2020) Riv. trim. dir. proc. civ. 630; A Tucci, 'L'esercizio della professione forense in forma associata nell'ordinamento francese' (2005) Anal. giur. econ. 101; R Lener, 'L'esercizio in forma associata della professione di avvocato in Inghilterra' (2005) Anal. giur. econ. 89.

<sup>141</sup> G Hadfield, 'Legal Barriers to Innovation: The Growing Economic Cost of Professional Control over Corporate Legal Markets' (2008) 60 Stan. L. Rev. 1726.

- 70 To date, only Australia, England<sup>142</sup>, Italy<sup>143</sup> and a few states in the US<sup>144</sup> have allowed lawyers to share their practice with equity partners<sup>145</sup>, the so-called Alternative Business Structure (ABS) or Nonlawyer Ownership of Law Firms (NLO)<sup>146</sup>. In other jurisdictions, law firms may not have capital partners and, at most, may only have minority partners practising other professions related to the legal profession (the so-called Multi-Disciplinary Practices), as for example confirmed by the latest reforms in France<sup>147</sup>.
- 71 In fact, the prohibition of *fee-splitting* for lawyers (ie, the prohibition of dividing the income of the profession with non-lawyers) is so well established and so well known, both in *civil law* and *common law* jurisdictions, that it hardly needs an express legal prohibition.<sup>148</sup> The justification for this ban is usually twofold: the need to prevent the abusive exercise of the legal profession<sup>149</sup>, but above all the need to protect the lawyer's independence and thus also the client's interest<sup>150</sup>.
- 72 This has resulted in the continued exclusion of commercial companies from the legal industry. This is not entirely true. Especially since the second half of the twentieth century, business corporations competed with lawyers and exerted, at least indirectly, an increasing influence on the legal industry.<sup>151</sup> It has been rightly observed that already for

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<sup>142</sup> ABS are allowed by the Legal Services Act 2007, c. 29 (UK). N Jarrett-Kerr, 'Alternative Business Structures – the Long Pregnancy' (2011) 11 Legal Information Management, 82; N Robinson, 'When Lawyers Don't Get All the Profits: Non-Lawyer Ownership, Access, and Professionalism' (2016) 29 Geo. J. Legal Ethics 1, 17 (in relation to the English legal system) and 28 (in relation to the Australian legal system).

<sup>143</sup> P Comoglio (n 63), 113; O Cagnasso, 'L'oggetto sociale della società tra professionisti e della società tra avvocati' (2014) Giur. comm. II 6; G Scarselli, 'Le nuove società commerciali forensi. Una analisi e una protesta' [www.judicium.it](http://www.judicium.it) accessed 30 June 2024.

<sup>144</sup> S P Younger, 'The Pitfalls and False Promises of Nonlawyer Ownership of Law Firms' (2022) Yale L.J. Forum 259, 264; B H Barton (n 93) 23.

<sup>145</sup> On this topic, with specific reference to the ABS model, Alternative Business Structure, as a structure that can also be used in such jurisdictions by non-lawyers for the provision of legal services, see M Kilian, 'Alternative Business Structures ante portas?' (2014) Neue Juristische Wochenschrift 1766; C Brooks, C Gherhes and T Vorley (n 17) 875.

<sup>146</sup> On these definitions, see S P Younger (n 144) 262. In favour of the spread of these professional structures R Baxter, 'Dereliction of Duty: State-Bar Inaction in Response to America's Access-to-Justice Crisis' (2022) 132 Yale L.J. Forum 228.

<sup>147</sup> O Ziegler, 'Les structures d'exercice de la profession d'avocat' (2023) 64 Arch. phil. Droit 351, 362.

<sup>148</sup> Without claiming to be exhaustive, of course, see, in general, G C Hazard and A Dondi (n 63), as well as, with reference to common law systems; R D Simon Jr, 'Fee Sharing Between Lawyers and Public Interest Groups' (1989) 98 Yale L.J. 1069; A J Seebok (n 140) 1219; M Simon, AF Lindsay, L Sosa and P Comparato (n 27) 258.

<sup>149</sup> In this sense, for example, TR Andrews, 'Nonlawyers in the Business of Law: Does the One Who Has the Gold Really Make the Rules?' (1989) 40 Hastings L.J. 629.

<sup>150</sup> To the extent that a non-lawyer would be more inclined than a lawyer to pursue his own interest of maximising profits than the interest of protecting the client (in this sense, eg, L J Fox, 'Accountants, the Hawks of the Professional World: They Foul Our Nest and Their Too, Plus Other Ruminations on the Issue of MDPs' (2000) 84 Minn. L. Rev. 1106).

<sup>151</sup> Y Dezalay and B G Garth, 'The Confrontation between the Big Five and Big Law: Turf Battles and Ethical Debates as Contests for Professional Credibility' (2004) Law & Social Inquiry 615, 620 (focusing

some time corporate clients began dictating litigation strategies and participating in other activities traditionally characterized as legal practice.<sup>152</sup>

- 73 However, the advent of AI puts this last bastion of the profession at serious risk<sup>153</sup>, especially given the specific skills required to plan and train an AI tool, skills, patents and investments that are only available to a large commercial company<sup>154</sup>. Never more than today, new competitors aiming to leverage the disruptive potential of legal technology are challenging established law firms<sup>155</sup>, which are under growing pressure to adapt to market changes<sup>156</sup>. It seems inevitable, therefore, that commercial companies will soon enter the legal industry, either as competitors to lawyers themselves as Alternative Legal Service Providers (ALSPs)<sup>157</sup> or as partners or funders of law firms<sup>158</sup>.
- 74 This could represent an opportunity for new gains for law firms, especially for Big Law firms; however, this could also represent the end of the traditional model of lawyering as we know it today.<sup>159</sup> In any case, an evolution in the way the legal profession is practiced and in the same model by which the legal business is managed appears necessary, even in the case of big law firms<sup>160</sup>; in particular, it seems necessary that lawyers and law firms will have to acquire technical expertise in AI and legal text analytics and hire a new class of expert personnel<sup>161</sup>.

## 4 A QUESTION MISPLACED: CAN AI REPLACE LAWYERS?

### 4.1 Legal Tech and Legal Profession

- 75 Today there is a recurring doubt (or perhaps fear) that in a short time lawyers (and even judges) will be replaced by AI. However, the question is misplaced. In fact, the question is

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on the origin of Multi-Disciplinary Practices); D L Rhode, 'Professionalism in Perspective: Alternative Approaches to Nonlawyer Practice' (1996) 22 N.Y.U. Rev. L. & Soc. Change 701, 704; S Gillers (n 129) 985; N Noto-Jaffeux (n 136) 434.

<sup>152</sup> D A Remus (n 63) 1258.

<sup>153</sup> M Simon, A F Lindsay, L Sosa, and P Comparato (n 17) 249; Y Yao (n 95) 492.

<sup>154</sup> D Simshaw (n 99) 203; A Janssen, and T J Vennmanns (n 14) 51; J Furlong, 'The New Legal Economy: What Will Lawyers Do?' (2020) Wis. Law. 55, 56; JA Guttenberg, 'Practicing Law in the Twenty-First Century in a Twentieth (Nineteenth) Century Straightjacket: Something Has to Give' (2012) Mich. St. L. Rev 415, 480.

<sup>155</sup> S Ferey, 'Analyse économique du droit, big data et justice prédictive' (2018) 60 Arch. phil. Droit 67; N Tarnaud, C Bourgeois, and L Babin (n 101) 105.

<sup>156</sup> C Brooks, C Gherhes, T Vorley (n 17) 143; M Simon, AF Lindsay, L Sosa, and P Comparato (n 17) 263 and 286; R Susskin (n 58) 90.

<sup>157</sup> A Janssen, and T J Vennmanns (n 14) 41; J Dzienkowski, 'The Future of Big Law: Alternative Legal Service Providers to Corporate Clients' (2014) Fordham Law Review 2995, 2996; S Caserta and M Madsen, 'The Legal Profession in the Era of Digital Capitalism: Disruption or New Dawn?' (2019) 8 Laws 1, 4.

<sup>158</sup> J R Gunder (n 89) 404.

<sup>159</sup> S Caserta and M Madsen (n 68) 2; D F Engstrom and J B Gelbach (n 14) 1034.

<sup>160</sup> C Brooks, C Gherhes and T Vorley (n 14) 137.

<sup>161</sup> K D Ashley, 'Automatically Extracting Meaning from Legal Texts: Opportunities and Challenges', (n 46) 1147.

not how this new technology will affect the legal profession, but rather how the legal profession will adapt to AI.<sup>162</sup> As we said, the most likely scenario is that, in a few years' time, the use of generative AI will spread rapidly as an aid to lawyers and judges. In fact, there are already many generative AI-based tools designed to assist lawyers.<sup>163</sup>

- 76 Once again, apparently it is conceivable that we are facing a technological change like those that have already occurred in the past; think, for example, of the advent of computers or the Internet, which are now widely used by lawyers, but which have not significantly altered the practice of law. In fact, we might think that the impact of new technologies can also be moderated, as in the case of using AI for legal research, legal drafting, document drafting.<sup>164</sup>
- 77 Indeed, it is difficult to automate the activities most typically performed by lawyers, such as legal advice. AI 'reads' differently from lawyers, and it is unable to derive the implicit information<sup>165</sup> and to adapt to new circumstances and values<sup>166</sup>. The client is often not satisfied with mere statistics, but he wants to be reassured. Moreover, unlike a machine, the lawyer is also able to foresee the possible defences of the other party's lawyer and can perceive the client's needs and wants.<sup>167</sup>
- 78 But is the same true for generative AI? Indeed, the AI can simply 'assist' the lawyer, but it can also serve to 'augment' or 'automate' the lawyers' activities.<sup>168</sup> Unlike previous technologies (even more recent ones, such as computers and the Internet), generative AI is likely to engender a qualitative change, so to speak. Firstly, generative AI may lead to a redefinition, if not a reduction, of the activities traditionally performed by lawyers.

#### 4.2 A Case Study: Technology Assisted Review in the US Discovery and the Deskilling of Legal Profession

- 79 This is what happened in US *discovery*, where the review of documents discovered by the parties, traditionally carried out by law firms and often entrusted to junior members of those firms, is increasingly assisted by technology, as it is entrusted to AI tools.

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<sup>162</sup> As has been rightly observed, 'The answer to Turing's question, "Can machines think?", appears to be that they certainly seem to—that is, if we adopt Turing's definition of intelligence. His prediction for the twenty-first century was spot on. However, a critical follow-up question now seemingly grips the AI industry and, hence, the entire legal profession. *If machines can think, what now do we do with them?*'; D W Denno and E Valencia-Graham (n 59) 1796.

<sup>163</sup> D F Engstrom and J B Gelbach (n 14) 1033; J C Jiang, L A Di Matteo, R E Thomas (n 100) 11.

<sup>164</sup> D A Remus and F Levy (n 14) 515.

<sup>165</sup> K D Ashley, 'Automatically Extracting Meaning from Legal Texts: Opportunities and Challenges' (n 46) 1135.

<sup>166</sup> J P Davis (n 15) 1198.

<sup>167</sup> D A Remus and F Levy (n 14) 526.

<sup>168</sup> J J Avery, P Sanchez Abril and A del Riego (n 71) 93; A Murray, J E N Rhymer and D G Sirmon, 'Humans and Technology: Forms of Conjoined Agency in Organizations' (2021) 46 Acad. Mgmt. Rev. 552, 553.

- 80 It is well known that the 1938 reform of the Federal Rules of Civil Procedure was grounded in the idea of the pre-trial as a 'self-regulating' phase, suitable to allow the overcoming of the sporting theory of justice.<sup>169</sup> According to the drafters of the Rules, discovery is an 'attorney controlled, entrepreneurial model', aimed at allowing to obtain 'information relevant to litigation'.<sup>170</sup> Accordingly, its purpose was to allow the parties to acquire 'all the unprivileged evidentiary data that might prove useful in resolving a given dispute', in the belief that this would prevent the use of defensive tactics in the pre-trial.<sup>171</sup> As highlighted by Professor Hazard, 'broad discovery is thus not a mere procedural rule. Rather it has become, at least for our era, a procedural institution perhaps of virtually constitutional foundation'.<sup>172</sup>
- 81 However, since the seventies of the last century - which have represented the apex of the original conception of discovery – many scholars have stressed the importance of a pervasive phenomenon as that of the 'abuse of discovery', consisting of 'zealous overuse of permitted discovery procedures'.<sup>173</sup> In this regard, the first and perhaps even the best-known opinion is Judge Melvin E Frankel's, who clearly pointed out that, despite the intentions of the drafters of the Rules, 'the 'sporting theory' continues to infuse much of the business of our trial courts'.<sup>174</sup>
- 82 In this changed framework, new technologies progressively caused further changes; for example, since the late seventies, due to the progressive diffusion of photocopiers and subsequently of personal computers, the number of documents discoverable dramatically increased. This while, accordingly, it is most probably sure that 'the drafters of the rules probably could not have anticipated [...] the impact of technology on litigation with the introduction of copier machines, faxes, and computers'.<sup>175</sup>

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<sup>169</sup> W D Brazil, 'The Adversary Character of Civil Discovery: A Critique and Proposals for Change' (1978) 31 Vand. L. Rev. 1299. See also D A Remus, 'The Uncertain Promise of Predictive Coding' (2014) 99 Iowa L. Rev. 106 e; J H Beisner, 'Discovering a Better Way: the Need for Effective Civil Litigation Reform' (2010) 60 Duke L. J. 556.

<sup>170</sup> S N Subrin, M Y K Woo, *Litigating in America. Civil Procedure in Context* (Aspen Publishing 2006) 130.

<sup>171</sup> W D Brazil (n 169) 1298.

<sup>172</sup> G C Hazard, 'From Whom No Secrets are Hid' (1998) 76 Tex. L. Rev. 1694, adding that 'the essence of this procedural institution is that, when litigation eventuates, no secrets shall be hid'. See also G C Hazard, M Taruffo, *American Civil Procedure. An Introduction* (Yale University Press 1995) and S N Subrin, 'Fishing Expeditions Allowed: The Historical Background of the 1938 Federal Discovery Rules' (1998) 39 B.C. L. Rev. 710.

<sup>173</sup> J H Friedenthal, 'A Divided Supreme Court Adopts Discovery Amendments to the Federal Rules of Civil Procedure' (1981) 9 Cal. L. Rev. 811.

<sup>174</sup> M E Frankel, 'The Search for Truth: An Umpireal View' (1975) 123 U. Penn. L. Rev. 1033. About this influent article, see: M H Freedman, 'Judge Frankel's Search for Truth' (1975) 123 U. Pa. L. Rev. 1060, H R Uviller, 'The Advocate, the Truth, and Judicial Hackles: A Reaction to Judge Frankel's Idea' (1975) 123 U. Pa. L. Rev. 1067 and, still recently, D Walfish, 'Making Lawyers Responsible for the Truth: The Influence of Marvin Frankel's Proposal for Reforming the Adversary System' (2005) 35 Seton Hall L. Rev. 613.

<sup>175</sup> S N Subrin, M Y K Woo (n 170) 144.



- 83 Such a trend has been nowadays emphasized by the massive digitalization that occurred in about the last three decades, giving way to the phenomenon now commonly known as e-discovery or electronic discovery.<sup>176</sup> As a matter of fact, one can agree on the fact that e-discovery has determined (and is still determining) an epochal change in the US discovery.<sup>177</sup> The turning point occurred at the end of the first decade of the new millennium, with the overwhelming emergence of the Technology Assisted Review (TAR), implying the use, instead of keyword research, of AI tools for the selection of ESIs.<sup>178</sup>
- 84 The first decision by a US judge to allow the use of Technology Assisted Review in the discovery phase dates to 2012, *Da Silva Moore*.<sup>179</sup> It can certainly be affirmed that predictive algorithms have become the new ‘hot topic’ on e-discovery.<sup>180</sup> In fact, the TAR systems are increasingly used and, since 2012, widely accepted by judges.<sup>181</sup> In fact, almost immediately the question became not whether to use predictive algorithms but how to use them.<sup>182</sup> Despite this and although some scholars have proposed to adapt the Rule 26<sup>183</sup>, the 2015 Amendments of the Federal Rules of Civil Procedure don’t regulate the predictive algorithms. Nowadays we can refer only to the *Best Practices* published by the *Sedona Conference*<sup>184</sup>.
- 85 Moreover, as has been predicted, ‘with data volumes growing every day, predictive coding will soon reach a level of everyday acceptance for large discovery matters, just as

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<sup>176</sup> R Marcus, ‘E-Discovery Beyond the Federal Rules’ (2007) 37 U. Balt. L. Rev. 329; R Marcus (n 28) 1827; R Marcus, ‘Only Yesterday: Reflections on Rulemaking Responses to E-Discovery’ (2004) 73 Fordham L. Rev. 1; R Marcus, ‘E-Discovery and Beyond: Toward Brave New World or 1984?’ (2006) 25 Rev. Litig. 633; SA Scheindlin and J Rabkin, ‘Electronic Discovery in Federal Civil Litigation: Is Rule 34 Up to the Task?’ (2000) 41 B.C.L. Rev. 327.

<sup>177</sup> R Marcus, ‘“Looking Backward” to 1938’ (2014) U. Pa. L. Rev. 1724, Beisner (n 169) 563. See also K Endo, ‘Discovery Hydraulics’ (2019) 52 U.C. Davis L. Rev. 1317.

<sup>178</sup> SA Scheindlin in DJ Capra, *The Sedona Conference, Electronic Discovery and Digital Evidence, Cases and Materials* (West Academic 2015) 456. See also DF Engstrom, ‘Digital Civil Procedure’ (2021) 69 U. Penn L. Rev. 1, 25; C Yablon and N Landsman-Roos, ‘Predictive Coding: Emerging Questions and Concerns’ (2013) 64 S.C. L. Rev. 633, 637.

<sup>179</sup> *Da Silva Moore v Publicis Groupe* (District Court, US) [287 F.R.D. 182 (S.D.N.Y. 2012)]. See also D Dowling, ‘Tarbits: The Sticky Consequences of Poorly Implementing Technology-Assisted Review’ (2020) 35 in Berkeley Tech. L.J. 171.

<sup>180</sup> A Peck, ‘Search, Forward. Will manual document review and keyword searches be replaced by computer-assisted coding?’ (2011) L. Tech. News, 2011, 25, [https://judicialstudies.duke.edu/sites/default/files/centers/judicialstudies/TAR\\_conference/Panel\\_1-Background\\_Paper.pdf](https://judicialstudies.duke.edu/sites/default/files/centers/judicialstudies/TAR_conference/Panel_1-Background_Paper.pdf) accessed 12 September 2024.

<sup>181</sup> The first decision is, as known, *Da Silva Moore v. Publicis Groupe*, supra note 179, considering TAR as an ‘acceptable way to search for relevant ESI in appropriate cases’. Furthermore, see, *Global Aerospace Inc. v Lando Aviation, L.P.* (Circuit Court, US) [No. CL. 61040 (Va. Cir. Ct. Apr. 23, 2012)]. for a detailed indication of the decisions on TAR see: The Sedona Conference, *TAR Case Law Primer*, Second Edition (2023) 24 Sedona Conf. J. 1. See also C Yablon (n 178) 659, TH Murphy, ‘Mandating Use of Predictive Coring in Electronic Discovery: An Ill-Advised Judicial Intrusion’ (2013) 50 Am. Bus. L.J. 609, 652, and M Young, ‘To Cure the E-Discovery Headache, Revamp the Rule 26(f) Discovery Conference’ (2014) 12 Nw. J. Tech. & Intell. Prop., 365.

<sup>182</sup> D A Remus (n 169) 115.

<sup>183</sup> M Young (n 181) 372.

<sup>184</sup> Accessible at <https://thesedonaconference.org/publications> accessed 30 June 2024.



keywords and date filters are today commonplace'.<sup>185</sup> In fact, the use of TAR systems is also expanding outside the United States, such as in Canada<sup>186</sup>, England<sup>187</sup>, Ireland<sup>188</sup>, Hong Kong<sup>189</sup>, and Australia<sup>190</sup>. The European Court of Human Rights has also recognized the compatibility of these technologies with the principles of due process.<sup>191</sup>

- 86 The increasingly widespread use of Technology Assisted Review, however, has affected not only the discovery phase, but also the way lawyers work.<sup>192</sup> First of all, there has been a quantitative change, with a significant decrease in the number of lawyers devoted to document review in the discovery phase.<sup>193</sup>
- 87 But there was also a qualitative change; in fact, people began to think that the activity of reviewing documents, since it could also be done by a machine, was no longer a task reserved for a lawyer. In essence, it was assumed that the review of documents no longer constitutes the practice of law.
- 88 A first example of this possible change seems to be the *Lola v Skadden* decision<sup>194</sup>. In this case, involving a well-known US law firm, the Court of Appeal of the Second Circuit ruled that the activity of merely reviewing documents cannot be considered a true practice of law (as it can also be performed by a computer tool); on this assumption, it held that this activity should more properly be qualified as subordinate work and, as such, protected by labour standards.<sup>195</sup>

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<sup>185</sup> See also Hume (n 34) 564.

<sup>186</sup> *Perlmutter v Smith* (Ontario Superior Court of Justice, Canada) [2021 ONSC 1372, 2021 CarswellOnt 2055]; *PM&C Specialist Contractors Inc. v Horton CBI Ltd.* (Alberta Court of Queen's Bench, Canada) [2017 ABQB 400].

<sup>187</sup> *Pyrrho Investments Ltd v MWB Property Ltd* [2016] EWHC 256 (Ch), allowing the usage of predictive coding in a matter by one party, notwithstanding the other party's objection to using it; *Isbilen v Turk & Ors* [2022] EWHC 697 (Ch), considering the use of predictive coding as 'an appropriate way to proceed' in the high court; *Astra Asset Mgmt. UK Ltd. v Musst Investments; Musst Holdings Ltd v Astra Asset Mgmt. UK Ltd* [2020] EWHC (Ch) 1871, and *David Brown v BCA Trading Ltd.* [2016] EWHC (Ch) 1464.

<sup>188</sup> *Irish Bank Resol. Corp. v Quinn* [2015] IEHC 175 (HCT), upheld by the Irish Court of Appeal.

<sup>189</sup> *China Metal Recycling (Holdings) Ltd. (In Liquidation) v Deloitte Touche Tohmatsu* [2022] HKC 2344 (CFI).

<sup>190</sup> *McConnell Dowell Constructors (Aust) Pty Ltd v Santam Ltd & Ors* (Supreme Court, Australia) 2 December 2016 [VSC 734]; [51 VR 421]; see <https://www.lexology.com/library/detail.aspx?g=49d076f0-e695-4078-a600-cfe1ffb2a9ed>.

<sup>191</sup> *Sigurður Einarsson v Iceland*, case 39757/15, (ECtHR), Judgment 9 April 2009, Partly Dissenting Opinion of Judge Pavli, [ECLI:CE:ECHR:2019:0604JUD003975715].

<sup>192</sup> D F Engstrom and N F Engstrom (n 93) 144.

<sup>193</sup> N Barry, 'Man Versus Machine Review: The Showdown Between Hordes of Discovery Lawyers and A Computer-Utilizing Predictive-Coding Technology' (2013) 15 Vand. J. Ent. & Tech 343.

<sup>194</sup> *Lola v Skadden, Arps, Slate, Meagher & Flom* (Court of Appeal, US) [No. 14-3845 (2d Cir. 2015)]. On this decision, M Simon, A F Lindsay, L Sosa, P Comparato (n 17) 234; L A Gordon, 'Overworked, Seeking Overtime: Contract Lawyers Push for Better Pay' (2017) 103 Aba Journal 10; A Calabresi, 'Machine Lawyering and Artificial Attorneys: Conflicts in Legal Ethics with Complex Computer Algorithms' (2021) 34 Georgetown J. Leg. Ethics 789, 792.

<sup>195</sup> Hume (n 34).

89 What happened in the United States can certainly be repeated elsewhere, and the arrival of generative AI may make this phenomenon of deskilling the legal profession even more serious.<sup>196</sup> As has been noted, even apart from the use of technology, the lawyer's work has many routine aspects, many more than one might think.<sup>197</sup> Therefore, generative AI, having the possibility to automate many complex tasks, may lead to a redefinition, if not a reduction, of the activities traditionally performed by lawyers.<sup>198</sup>

### 4.3 Technology-Assisted Lawyering: Towards an Evolution of Legal Ethics

90 Although this evolution is still very uncertain, it does not seem difficult to foresee the disruptive impact of the use of AI on the role of lawyers. Also, because, as has been pointed out, it is precisely lawyers who are pushing in this direction; 'rather than advocating trust in the profession, they are advocating trust in computers'.<sup>199</sup>

91 However, enhancing the traditional characteristics of the professional model, even if necessary, does not seem sufficient to face the challenges posed by new technologies and especially generative AI.<sup>200</sup>

92 These possible changes also inevitably impose a rethinking of legal ethics itself.<sup>201</sup> Of course, the ethical principles remain current and valid; even in a technological world, lawyers must be competent, supervise the work product, protect confidential information, and charge reasonable fees and expenses.<sup>202</sup>

93 Many of these principles, however, need to be adapted or otherwise updated in view of the latest technologies. After all, one can hardly expect to pretend that AI-based tools that

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<sup>196</sup> S Ferey (n 155) 73.

<sup>197</sup> D A Remus and F Levy (n 14) 511.

<sup>198</sup> In these terms, see D F Engstrom and J B Gelbach (n 14) 1034; S Caserta and M Madsen (n 68) 13; D A Remus (n 1699) 118. More generally, on the influences of technology on the legal profession, R Marcus, 'Only Yesterday' (n 176) 16; R Marcus, 'The Electronic Lawyer' (n 28) 263.

<sup>199</sup> D A Remus (n 169) 104. In very similar terms, in the sense of an imminent and radical change in the role and professionalism of lawyers, see R Susskind, *The End of Lawyers?* (n 15) 270. On the latter thesis, see R Marcus, 'The Electronic Lawyer' (n 28) 275, as well as J Jenkins, 'What Can Information Technology Do for Law?' (2008) Harvard J. L. & Tech. 604.

<sup>200</sup> D A Remus (n 68) 871. In view of the importance of the issue, on 29 July 2024, the Standing Committee on Ethics and Professional Responsibility of the ABA published its own opinion on the legal ethics problems associated with the use of generative AI; see Standing Committee on Ethics and Professional Responsibility of the ABA, 'Formal Ethics Opinion 512 - Generative Artificial Intelligence Tools' (n 55) 1.

<sup>201</sup> D A Remus (n 63) 1286; K Medianik (n 129) 1527; A Calabresi (n 194) 789; S Lebreton-Derrien (n 120) 19; A Aidid (n 43) 1803 and 1810 (according to which, however, current ethical rules would already suffice, provided that we understand the differences posed by the probabilistic nature of new technologies). On legal ethics in general, see G C Hazard and A Dondi (n 63); A Dondi, V Ansanelli, and P Comoglio (n 63) 37.

<sup>202</sup> D F Engstrom (n 178) 31; M L Shope, 'Lawyer and Judicial Competency in the Era of Artificial Intelligence: Ethical Requirements for Documenting Datasets and Machine Learning Models' (2021) 34 Georgetown Journal of Legal Ethics 191, 194; R D Simon, 'Artificial Intelligence, Real Ethics' (2018) 90 Apr N.Y. St. B.J. 34.

assist lawyers do not exist. Indeed, it might even be considered unethical for a lawyer not to use new technology on the grounds that it would engender higher costs for his or her client.<sup>203</sup>

- 94 In particular, the issue of the lawyer's technological competence seems increasingly crucial. Generative AI algorithms are not just traditional software. Machine learning techniques, based on the analysis of large numbers of data, make it impossible to understand the exact functioning of an algorithm. Paradoxically, the control of an algorithm could only be performed by another algorithm.
- 95 As is now very clear, the algorithms are opaque and this makes it very difficult to understand the correctness of their results, because the results may not always be so blatantly wrong as to make obvious the incorrectness of the decision-making mechanism used by the algorithm.<sup>204</sup> In fact, the problem is not the efficiency of generative AI. Certainly, artificial intelligence is already able today to perform most human tasks efficiently. The problem, however, is mistakes; generative AI also makes mistakes and will make them in the future, but it will make them in a different way than humans.<sup>205</sup>
- 96 Precisely for this reason, it seems essential to impose on lawyers a specific and much more structured duty of technological competence; in other words, it is essential for them to know how generative AI works and to be able to understand the possible risks of error.<sup>206</sup>
- 97 As properly noted, lawyers should be more concerned with the current reality where algorithms are already making 'unacceptable' but correct decisions daily, rather than worrying about a future where this might happen. The real risk is in allowing AI to develop and impose new value systems that replace our existing ones, especially without the oversight of practitioners who have pledged to uphold both the law and societal values.<sup>207</sup>
- 98 On this point, ethical rules are still very deficient, as for example in the case of the American rules of legal ethics. Despite likely being among the most advanced ethical standards, *Rule 1.1. of the Model Rules of Professional Conduct*, like many other contemporary ethical disciplines, does not explicitly refer to the duty of technological competence. The existence of such a duty is only acknowledged in Comment 8 to the rule,

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<sup>203</sup> R D Simon (n 202) 34; A Calabresi (n 194) 801; N Yamane, 'Artificial Intelligence in the Legal Field and the Indispensable Human Element Legal Ethics Demands' (2020) 33 Geo. J. Legal Ethics 877, 889. Indeed, the use of generative AI can significantly affect the concept of reasonableness of attorney fees; on this topic, see Standing Committee on Ethics and Professional Responsibility of the ABA, 'Formal Ethics Opinion 512 - Generative Artificial Intelligence Tools' (n 55) 12.

<sup>204</sup> D A Remus and F Levy (n 14) 542.

<sup>205</sup> M Ananny, 'Seeing like an Algorithmic Error: What Are Algorithmic Mistakes, Why Do They Matter, How Might They Be Public Problem?' (2022) 24 Yale JL & Tech 342.

<sup>206</sup> J J Cook and D R Mavrova Heinrich, 'AI-Ready: Ethical Obligations and Privacy Considerations in the Age of Artificial Intelligence' (2024) 72 U Kan L Rev 313, 328; W Zheng, 'Research on Generative Artificial Intelligence Legal Profession Substitution' (2023) 4 Mod. L. Rsch. 32.

<sup>207</sup> M Simon, A F Lindsay, L Sosa and P Comparato (n 46) 306.

introduced in 2012, which clarifies ‘that not only is technological competence important to comply with other rules of practice, but it is also a requirement on its own’.<sup>208</sup>

99 But even expressly establishing a duty of technological competence is not sufficient, as it is unclear what this duty of competence consists of. Indeed, it is unreasonable to expect a lawyer to know how a tool based on generative AI works. Rather, a lawyer needs to know what the AI tool can and cannot do and to evaluate whether it is performing as advertised.<sup>209</sup>

100 However, imposing this duty of technological competence does not seem sufficient. We may also wonder whether it is necessary to impose a duty on lawyers who wish to use generative AI software to inform their clients about it. In fact, such a problem has never arisen in the past; no one has ever felt the need to impose a duty on lawyers to inform their clients of the fact that they are using a photocopier, a computer or even a case law database. This is because no one has ever doubted that a lawyer is capable of fully understanding the malfunctioning of these technologies.

101 The situation is different in the case of generative AI, because it is difficult to understand how this technology works. Precisely for this reason, in the first decisions against lawyers who had admitted to using a generative AI tool to draft a brief without having checked its correctness, according to *Rule 11* of the Federal Rules of Procedure US judges obliged the lawyers to inform the client of the decision and thus of the fact that he had made use of artificial intelligence.<sup>210</sup>

102 But this necessary updating of legal ethics must also affect pro se litigants, in jurisdictions where self-defence is allowed, with the provision of new and specific ethical

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<sup>208</sup> The same commentary makes it clear that lawyers have a responsibility to educate themselves and their clients on the new and relevant legal and technical issues relating to e-discovery. With specific reference to this Standard and its relationship to assisted review technologies, see T D Dryman, J R Baron, ‘The Road to Predictive Coding: Limitations on the Defensibility of Manual and Keyword Searching’, in J R Baron, M D Losey and RC Berman (coord), *Perspectives on Predictive Coding. And Other Advanced Search Methods for the Legal Practitioner* (ABA Chicago 2016) 5, 29.

<sup>209</sup> R D Simon (n 202) 34; A Calabresi (n 194) 799. In a similar way, see Standing Committee on Ethics and Professional Responsibility of the ABA, ‘Formal Ethics Opinion 512 - Generative Artificial Intelligence Tools’ (n 55) 2.

<sup>210</sup> *Park v Kim* (District Court, US) [20-Cv-2636 (PKC) E.D.N.Y. Aug. 24, 2022]. See also *Mata v Avianca, Inc.* (District Court, US) [No. 1:2022cv01461 - Document 54 (S.D.N.Y. 2023)]. See J J Cook and D R Mavrova Heinrich (n 206) 337, according to whom there would be a lawyer’s duty of communications is likely met if the lawyer obtains informed consent from their client to use AI technology during the course of representation. In that sense, see Point 7 of the UK Artificial Intelligence Guidance for Judicial Office Holders similarly provides (<https://www.judiciary.uk/wp-content/uploads/2023/12/AI-Judicial-Guidance.pdf> accessed 12 September 2024) and page 3 of the Information note of CEPEJ on the Use of Generative Artificial Intelligence (AI) by judicial professionals in a work-related context of 12 February 2024 (<https://rm.coe.int/cepej-gt-cyberjust-2023-5final-en-note-on-generative-ai/1680ae8e01> accessed 12 September 2024), 2.

duties.<sup>211</sup> It seems necessary to provide that the pro se litigant must also disclose to the court the use of algorithms<sup>212</sup>, both because the court is aware that the pro se litigant may not have adequate knowledge of the written briefs (as in the case of ghost-writing) and because pro se litigants are often treated with greater tolerance<sup>213</sup>.

103 In conclusion, the relationship between professional ethics and new technologies seems to be at a new starting point; it is precisely the new (and only apparently neutral) technologies and generative AI that impose a renewal of legal ethics. Indeed, as has been observed in relation to American *e-discovery* (but is certainly applicable to any change made by new technologies), ‘competence is the place to start, but candor is always the place to be’.<sup>214</sup>

## 5 BIG EVIDENCE AND AI: DOES THE CONCEPT OF ‘RELEVANT EVIDENCE’ STILL MATTER IN CIVIL PROCEEDINGS?

### 5.1 The Impact of Digital Evidence on Civil Proceedings

104 New technologies can affect not only legal advice but also the most typical activity performed by lawyers, namely defence in judicial proceedings. In this case, of course, the impact of new technologies is less immediate, since, in many cases, the use of AI may be allowed only after the law is changed. However, it is still possible to try to imagine what effect AI may have on the current configuration of civil proceedings.

105 Arguably, the area where new technologies are most likely to impact is the evidence law. It has rightly pointed out that new technologies can affect the law of evidence in two different ways: (a) as mechanisms for the reproduction of reality, that is, as new sources of evidence; and (b) as instruments to assist the traditional means of evidence insofar as they are presented as tools capable of verifying the results of the evidence of the interrogation of the parties, witnesses and expert statements.<sup>215</sup>

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<sup>211</sup> B K Brimo (n 123) 549, E Walters (n 132) 1073. See also Standing Committee on Ethics and Professional Responsibility of the ABA, ‘Formal Ethics Opinion 512 - Generative Artificial Intelligence Tools’ (n 55) 9, according to which ‘Even when Rule 1.6 does not require informed consent and Rule 1.4 does not require a disclosure regarding the use of GAI, lawyers may tell clients how they employ GAI tools to assist in the delivery of legal services. Explaining this may serve the interest of effective client communication’.

<sup>212</sup> B K Brimo (n 123) 573. The point 7 of the UK Artificial Intelligence Guidance for Judicial Office Holders provides that ‘if it appears an AI chatbot may have been used to prepare submissions or other documents, it is appropriate to inquire about this, and ask what checks for accuracy have been undertaken (if any)’ (<https://www.judiciary.uk/wp-content/uploads/2023/12/AI-Judicial-Guidance.pdf> accessed 30 June 2024).

<sup>213</sup> J R Gunder (n 88) 409.

<sup>214</sup> J M Barkett, *The Ethics of E-Discovery* (American Bar Association Chicago 2009) 99.

<sup>215</sup> J Picó i Junoy (n 23) 337; P Comoglio, ‘Inteligencia artificial y selección de pruebas en el proceso civil: ¿hacia un proceso más inteligente o hacia un proceso más artificial?’ (2022) *Revista Ítalo-Española*

106 The impact of new technologies on the field of evidence appears to be both quantitative and qualitative. In the first sense, it is obvious to note that nowadays there are many more new sources of technological evidence. To paraphrase a now very fashionable expression, we could say that we are in the era of *Big Evidence*.

107 But the change is also qualitative: firstly, documentary evidence is becoming increasingly more important than oral evidence; secondly, documentary evidence is becoming more complex, both because it is difficult to assess, and it is richer in data.<sup>216</sup> In fact, this phenomenon has been going on for several decades, even before the new digital technologies. We just recall old technology such as typewriters and photocopiers which have made it easy and cheap to create documentary evidence. A clear example of this is the evolution of the US Federal Rules of Civil Procedure, where, since the second half of the twentieth century, the quantitative and qualitative change of evidence determined by these new technologies has put the *discovery* system in crisis.<sup>217</sup>

108 Obviously, this change has become exponential with new digital and computer technologies. New sources of evidence are much more complex: the way they are generated is complex (ie, documents produced by artificial intelligence tools) and their information content (the so-called metadata) is also more complex.<sup>218</sup> In fact, even before the new technologies, documentary evidence had metadata; for example, the paper and ink used for writing contain information about the circumstances in which the writing was written. With the new technologies, however, metadata is much more and, above all, not easily interpretable by humans. As widely highlighted at the end of the last century, the evolution of the notion of document 'increasingly emphasized whatever functioned as a document rather than traditional physical forms of documents. The shift to digital technology would seem to make this distinction even more important'.<sup>219</sup>

## 5.2 New Technologies and the Test for Relevant Evidence

109 The possibility of using artificial intelligence tools in the gathering of evidence is very doubtful at this stage, in the absence of specific rules. However, it is worth asking whether the existence of such tools can influence the interpretation and application of traditional principles.

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Derecho Procesal 55. On this topic see EA Ontanu, 'Normalising the use of electronic evidence: Bringing technology use into a familiar normative path in civil procedure' (2022) 12 Oñati Socio-Legal Series 582, 587.

<sup>216</sup> Ontanu EA (n 215) 588.

<sup>217</sup> R Marcus, 'The Impact of Computers on the Legal Profession' (n 28) 1827; R Marcus, 'E-Discovery Beyond the Federal Rules' (n 176) 329; R Marcus, 'Only Yesterday' (n 176) 1; R Marcus, 'E-Discovery and Beyond' (n 176) 633; S A Scheindlin, J Rabkin (n 176) 327.

<sup>218</sup> J Walker, G D Watson (n 11) 265 ss, and G L Paul (n 11).

<sup>219</sup> M K Buckland (n 12) 808.



110 In this respect, a first aspect on which AI tools could have an impact is the test of relevant evidence. Certainly, it can be said that the principle of relevance is one of the few procedural principles in which the differences between legal systems are minimal or practically insignificant. Perhaps also for this reason, unlike other classical evidentiary issues (such as, for example, the burden of proof and the assessment of evidence), it has received less attention from procedural scholars<sup>220</sup>, albeit with some important exceptions<sup>221</sup>.

111 Also, the application of this principle is substantially the same in different legal systems: it is widely spread that evidence is relevant when, with even a superficial prognosis (ie, regardless of whether the means of evidence actually proves the fact), can be useful for the purposes of the decision.<sup>222</sup> In essence, the application of what Rule 401 of the US *Federal Rules of Evidence* (USFRE) calls the 'Test for Relevant Evidence' is widely accepted, according to which precisely any evidence that can prove one of the facts to be decided is relevant. Moreover, as a consequence of the lack of interpretative doubts about the concept of relevance, there is also the idea that the judicial proceedings must continue until the judge has all the elements useful for the decision.<sup>223</sup>

112 However, the concept of relevance in the legal sphere is far from clear. First of all, what is relevant in everyday life may not be relevant in law; as has been rightly pointed out, the law is not interested in every aspect of men's character, conduct and context.<sup>224</sup> Furthermore, while it is true that the relevance of evidence is not a matter of degree, given that evidence is either relevant or it is not<sup>225</sup>, it is equally true that, very often, the judge decides the case without having all the relevant evidence at his disposal. If, indeed, the concept of relevance is not gradable in itself, the extent of its application is.

113 In this respect, some clarifications and distinctions must be made. Firstly, in jurisdictions characterized by a *discovery-disclosure* phase, the principle of relevance

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<sup>220</sup> 'The phase of admission of evidence is one of the most neglected by treatises', as J Nieva Fenoll (n 23).

<sup>221</sup> See, for example, among Italian scholars, M Taruffo, *Studi sulla rilevanza della prova* (Padova Cedam 1970), and M Taruffo, *La prova dei fatti giuridici* (Milano Giuffrè 1992) 338.

<sup>222</sup> M Taruffo, *Studi sulla rilevanza della prova* (n 221) 3.

<sup>223</sup> M Taruffo, *Studi sulla rilevanza della prova* (n 221) 12, which states that 'Quando il giudice non ha a disposizione tutto il materiale probatorio, e deve valutare la prova esclusivamente in base al momento in cui la parte la formula nel richiederne l'ammissione, si può escludere che ogni apprezzamento relativo alla efficacia della prova possa avere un razionale fondamento'. This is the belief behind the instructions normally given to American juries, see D A Nance, *The Burdens of Proof. Discriminatory Power, Weight of Evidence, and Tenacity of Belief* (Cambridge University Press 2016) 350, which recalls the instructions given in the decision *Stocker v Boston & Me, R.R.* (Supreme Court New Hampshire, US) [151, A. 457-8 (nH 1930)], then constantly used: 'You may take it for granted that all of the available evidence material and favorable to either side has been placed before you by one side or the other so that you are as well informed and in as good a position to decide the case correctly as any jury could be'.

<sup>224</sup> W Lucy, 'The Death of Law: Another Obituary' (2022) Cambridge Law J. 109, 110.

<sup>225</sup> M Taruffo, *La semplice verità* (Bari Laterza 2009) 142.



serves as an inclusion rule by imposing on all parties, at the *pre-trial stage*, the duty to present all relevant evidence available to them.<sup>226</sup> Also at that stage, the above-mentioned principle serves as a rule of exclusion, prohibiting the introduction of irrelevant evidence into the proceedings. On the other hand, in jurisdictions that do not have this phase, the principle of relevance serves only as a rule of exclusion, although not for all types of evidence since, in general, documentary evidence is exempted from this rule.<sup>227</sup>

114 Secondly, especially in *civil law* systems, the intensity of application of the principle of relevance undergoes a kind of degradation during the proceedings; in fact, the judge can normally block the gathering of new evidence, even if abstractly relevant, when it is no longer useful, that is when new evidence would not be able to change the outcome of the decision.<sup>228</sup>

115 In fact, as in the case of standards of proof, it seems possible to speak of different standards of relevance. In this respect, it should be recalled that, as *Behavioural Economics* studies have already made clear, rational reasoning can be based on different degrees of rationality.<sup>229</sup> There is no need to recall at this point Herbert Simon's concept of bounded rationality.<sup>230</sup>

116 In short, different approaches to rationality in the fact-finding process can be envisaged. According to a first approach (called *maximizing approach*), the decision that arrives at the best possible solution in terms of the reference value, ie, it could be considered rational only the decision that guarantees the highest possible quality of fact-finding. According to another approach (called the *optimising approach*), it could be considered rational the decision that optimizes the value taken as a reference (the quality of the fact-finding) with other reference values, such as, for example, the cost (also in terms of time) necessary to obtain all the elements necessary for the decision. Finally, according to a third approach (corresponding to the so-called *satisficing approach*), a decision is rational if it is *good enough* in relation to the reference value (ie, even if it is neither the best nor the optimal one).<sup>231</sup>

117 These different approaches can also be applied to the test of relevant evidence. Indeed, the widely accepted idea of relevance assumes that the judge should base his

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<sup>226</sup> On the notion of relevance as a rule of inclusion see M Taruffo, *La semplice verità* (n 225) 140, and M Taruffo, *Studi sulla rilevanza della prova* (n 221) 12.

<sup>227</sup> J Nieva Fenoll (n 23) 36 (stating that 'what usually happens is that all the documentation provided is admitted').

<sup>228</sup> M Taruffo, *Studi sulla rilevanza della prova* (n 221) 74.

<sup>229</sup> See A Vermeule, 'Three Strategies of Interpretation' (2005) 42 San Diego L. Rev. 610.

<sup>230</sup> H A Simon, 'A Behavioral Model of Rational Choice' (1955) 69 Q. J. of Eco. 99, to whom we also owe the neologisms *satisficing* and *satisfier*.

<sup>231</sup> A Vermeule (n 229) 607.

decision (regardless of the standard of proof used) on all available relevant evidence.<sup>232</sup> In essence, the traditional concept of relevance is based on the *maximizing* approach, ie, the more traditional model of *Olympian* rationality. Indeed, obtaining all relevant evidence essentially means maximising the benchmark value, ie, the quality of fact-finding. In reality, this is not always the case. In fact, it is almost never the case, and, perhaps, this approach is not always rationally justified.<sup>233</sup>

118 For example, often procedural rules expressly refer to, so to speak, bounded approaches to relevance. For instance, the so-called summary procedures (ie, alternative procedures to the ordinary procedural model) are almost always characterised by a graduation of the test of relevant evidence: for example, in the order for payment proceedings, which are widespread in *civil law* jurisdictions, the principle of relevance is clearly limited according to a typically *satisficing* approach. In these cases, written evidence is indeed considered good enough to support the court decision (eg, in Italy, Art 634 Italian Code of Civil Procedure (ITCCP), in France Art 1405 French Code of Civil Procedure (FCCP), in Spain Art. 812 Spanish *Ley de Enjuiciamiento Civil* (LEC)), but it is not necessarily the one that maximises the quality of the fact-finding or the one that optimises it. Sometimes, moreover, the limitation of the principle of relevance is also linked to the application of a particularly rigorous standard of proof, as, for example, in the US (according to Rule 56 of the Federal Rules of Civil Procedure (USFRCP) ‘The court should state on the record the reasons for granting or denying the motion’), and in the English Summary Judgement (Part 24.3 of the Civil Procedure Rules (UKCPR)).

119 Even in the ordinary proceedings, there is a progressive tendency to apply more flexible rules of relevance, clearly inspired by a view of optimization and, therefore, of balance with other values, other than the quality of fact-finding.<sup>234</sup>

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<sup>232</sup> M Taruffo, *La semplice verità* (n 225) 140. who considers that the integrity of the elements is an essential and indispensable requirement of the rationality of the decision. On the total evidence principle, see A I Goldman, *Knowledge in a Social World* (Clarendon Press 1999) 204; I J Good, ‘On the principle of total evidence’ (1967) 17 *The British Journal for the Philosophy of Science* 319; on the principle of comprehensiveness (or completeness), S Haack, ‘Epistemology Legalized: Or Truth, Justice, and the American Way’ (2004) 49 *Am. J. Jur.* 56; S Haack, *Evidence matters* (Cambridge University Press 2014), 27.

<sup>233</sup> R Heesen, ‘How Much Evidence Should One Collect?’ (2015) 172 *Philosophical Studies* 2299, 2300, which states that ‘there is of course no suggestion that an infinite sequence of evidence will ever be observed; various practical constraints put upper bounds on the amount of evidence a scientist could obtain. [...] The problem is that scientists do not collect evidence indefinitely’.

<sup>234</sup> D A Nance (n 224) 195 (‘very often, rules of admissibility are rules about the practical optimization of Keynesian weight’, ie, ‘practical optimization of Keynesian weight in adversarial trials must and uncontroversially sometimes does involve restricting the fact-finder’s use of relevant evidence. This is clear enough in rules that exclude undeniably relevant evidence when its probative value is so weak, in context, that its considerations is not worth the tribunal’s time and energy and thus not worth the time and energy of a jury to duplicate the judge’s determination that it is unhelpful’).

### 5.3 AI Tools and the Gathering of Evidence: Toward a Reconfiguration of the Principle of Proportionality?

- 120 As just pointed out, from a strictly practical point of view, especially *civil law* systems have never provided for procedural mechanisms that encourage the parties to present all relevant evidence. On the other hand, even from a formal point of view, the traditional maximising approach is clearly contradicted by the possibility for the judge to stop the collection of evidence if he considers that additional evidence would be redundant, ie, when the degree of utility of the relevant new evidence (the marginal utility, if one wants to use economic language) does not make the taking of evidence more advantageous.
- 121 More generally, the increasingly widespread application of the principle of proportionality, expressly introduced in the English and American procedural disciplines<sup>235</sup>, but now also transposed in other legal cultures<sup>236</sup>, should be underlined. This principle represents a clear paradigm shift in civil justice. Considering that resources are limited in relation to the total number of disputes, the quality of the judicial decision no longer represents the only value to be maximised but is simply one of the values to be optimized.<sup>237</sup>
- 122 In other words, the principle of proportionality implies that, in some cases, the quality of the enquiry may be partially sacrificed in favour of other values. This implies, for example, that the taking of evidence, even if relevant, may be limited when it is too expensive in proportion to the value or importance of the proceedings, as shown, for example, by the differences in the length of the *disclosure* phase in the three different English procedural *tracks*.
- 123 The application of artificial intelligence in the collection of evidence can have a significant impact on the concrete configuration of the principle of proportionality and can mitigate the rigidity of this principle. AI tools may make it less costly to obtain evidence which, with current procedural tools, would be considered disproportionate.<sup>238</sup> Obviously, I do not believe that artificial intelligence can serve to return to the traditional maximization approach; instead, I believe that the use of artificial intelligence can modify

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<sup>235</sup> P W Grimm, 'Are We Insane: The Quest for Proportionality in the Discovery Rules of the Federal Rules of Civil Procedure' (2017) 36 Rev. Litig. 117; D Crump, 'Goodbye, Reasonably Calculated; You're Replaced by Proportionality: Deciphering the New Federal Scope of Discovery' (2016) 23 Geo. Mason L. Rev. 1093; J B Gelbach and B H Kobayashi, 'The Law and Economics of Proportionality in Discovery' (2016) 50 Ga. L. Rev. 1093. Among Italian scholars, V Ansanelli, 'Problemi di preparazione e trattazione delle controversie civili' in A Dondi, V Ansanelli and P Comoglio, *Processi civili in evoluzione* (Giuffrè Milano 2018) 170.

<sup>236</sup> A Dondi, V Ansanelli, and P Comoglio (n 63) 150; L Cadet, J Normand, and S Amrani Mekki, *Théorie générale du procès* (Presse Universitaire de France 2020) 271; L Cadet and E Jeuland, *Droit judiciaire privé* (LexisNexis 2013) 565.

<sup>237</sup> D A Nance (n 224) 183 ('optimizing evidence and maximizing the expected utility of the decision itself are not the only goals of a system of adjudication'); Comoglio P (n 215) 55.

<sup>238</sup> D F Engstrom and J B Gelbach (n 14) 1051.

the trade-offs in the balance of different values, in favour of a higher quality of fact-finding.<sup>239</sup>

## 6 'THE RECORD IS NOT ENOUGH': ARE NEW TECHNOLOGIES RESHAPING THE BOUNDARIES OF CIVIL PROCEEDINGS?

### 6.1 Small World v Large World: The Traditional Judicial Epistemic Strategy and its Current Inadequacy

- 124 Artificial intelligence can change the whole epistemic strategy of judicial proceedings. It can be said that humans continually try to reduce uncertainty by transforming reality into small worlds, characterized by limited information and, therefore, precisely because it is limited, manageable. In this regard, we can recall the well-known distinction between small world and large world coined by the US economist Leonard Savage in the mid-1950s to analyse decisions under risk and uncertainty. More specifically, the small world refers to a situation in which the decision is made by knowing all the facts, all the possible choices, all the relative probabilities and all the consequent effects.<sup>240</sup>
- 125 This kind of filtering and reduction strategy also seems to characterize the judicial proceedings. In fact, it seems possible to say that the judicial proceedings are structured precisely to allow the reduction of the real world into a smaller world in which it is easier to manage uncertainty and make decisions accordingly. The traditional epistemic strategy of the judicial proceedings envisages that the judge must decide on the basis of the evidence provided by the parties and that he must base his decision exclusively on the evidence included in the records. This principle is also summarised in the Latin brocard *quod non est in actis non est in mundo*. The basis of this principle is twofold, not only to guarantee the adversarial nature of the proceedings, thus banning independent judicial research<sup>241</sup>, but also to simplify the decision-making process by the judge.
- 126 However, this strategy no longer seems adequate to the new and pervasive digital reality. It seems increasingly difficult to think that a judge's decision can be limited to what is found in the 'records'. A recent example of this inadequacy is the hyperlink problem in the US discovery. By now, many documents are not only born digital but are stored and shared in the cloud. The question has recently arisen as to whether the definition of document families should include hyperlinks to documents stored in the cloud. In their first decisions on this issue, the courts held that hyperlinks are not the same as traditional attachments.<sup>242</sup> These decisions are evidently based on the traditional

<sup>239</sup> B Sheppard (n 22) 60.

<sup>240</sup> L J Savage, *Foundations of Statistics* (Dover Publications New York 1972) 8 ss. See also F H Knight, *Risk, uncertainty and profit* (Houghton Mifflin Company Boston-New York, 1921) 197.

<sup>241</sup> M Cappelletti, *La testimonianza della parte nel sistema dell'oralità* (Giuffrè Milano 1962) 352.

<sup>242</sup> *In re: Insulin Pricing Litigation* (District Court, US) 28 May 2024 [MDL No. 3080, 2024 WL 2808083 (New Jersey)], and *In re Meta Pixel Healthcare Litigation* (District Court, US) 2 June 2023 [No. 22-cv-03580, 2023 WL 4361131 (nD Cal)], 1.

epistemic strategy of a paper-based approach; this strategy, however, no longer seems appropriate for the digital world.<sup>243</sup>

## 6.2 A Dated Exception: The Judicial Notice

127 The aforementioned rule is not strictly mandatory. There are cases in which the judge may base his decision on information or knowledge not proven in the records. The best-known example is judicial notice.<sup>244</sup>

128 The use of judicial notice in litigation has been known for a long time, although it is very difficult to define a satisfactory definition of it. In any case, we all agree that it would be absurd to prove totally obvious facts. The *notoria non egent probatione* rule meets a practical need (for procedural economy, as we would say today) that is both long-standing and widespread.<sup>245</sup>

129 However, nobody knows exactly when a fact is well known. Indeed, there are very few standards dedicated to this subject. The few rules that do exist are recent, almost never contain a definition of well-known facts and are limited to establishing the possibility of using them for the purposes of deciding, even in the absence of proof.<sup>246</sup>

130 With a few approximations, we can say that, according to traditional opinion, especially in *civil law* jurisdictions, a fact can be considered notorious (and, therefore, true and proven also in the trial) when the conviction of its truth is acquired in a certain social circle (as, for example, in the culture of the average man or public opinion), although it is not known by all the members of the circle. This traditional notion derives from the thinking of the German scholar Friedrich Stein, at the end of the nineteenth century<sup>247</sup>, and the Italian scholar Piero Calamandrei, at the beginning of the twentieth century<sup>248</sup>. Even today, Calamandrei's famous essay, published in Italy in 1925 and subsequently

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<sup>243</sup> E A Ontanu (n 215) 606.

<sup>244</sup> In general, on these issues, see: F Stein, *Das Private Wissen der Richters. Untersuchungen zum Beweisrecht beider Prozesse* (Mohr Leipzig 1893), P Calamandrei, 'Per la definizione del fatto notorio' (1925) Riv. dir. proc. civ. I, 294. For further references, see P Comoglio (n 58).

<sup>245</sup> Also in common law jurisdictions, notorious facts do not have to be proven at trial. Already Wigmore clearly indicated that the Judicial Notice was designed to 'save time, labour, and expense, in securing and introducing evidence on matters which are not ordinarily capable of dispute and are actually not bona fide disputed' [J H Wigmore, *A Pocket Code of the Rules of Evidence in Trials at Law* (Little Brown Boston 1910) 476]; see also J B Thayer, 'Judicial Notice and the Law of Evidence' (1890) 7 Harvard Law Review 286 and J Bellin and A G Ferguson, 'Trial by Google: Judicial Notice in the Information Age' (2014) 108 Nw. U. L. Rev. 1142.

<sup>246</sup> For example, notorious facts are expressly regulated in the codes of civil procedure of Italy (Art 115 ITCCP), Brazil (Art 374 BRCCP), Spain (Art 281.4 LEC), Switzerland (Art 151 CHCCP), Peru (Art 190 CCPL-Peru), Colombia (Art 177 CCPL-Col) and Mexico (Art 88 CCPL-Mex).

<sup>247</sup> F Stein (n 244).

<sup>248</sup> P Calamandrei (n 244) 294.

translated into Spanish in 1945<sup>249</sup>, is constantly referred to in civil law jurisdictions, such as Italy, Spain and Latin America.

### 6.3 The Judicial Notice in Crisis: The Case of Wikipedia

131 Nowadays, new technologies are seriously affecting the judicial notice. Indeed, we are all now in the habit of consulting the Internet to easily find information, to verify facts of daily life or even to find information about other people. This new habit (but we could speak of a real new cognitive strategy) risks seriously jeopardizing the observance of the ban on independent judicial investigation. This is a problem that transcends specific jurisdictions and procedural rules.<sup>250</sup>

132 But can the judge then freely use the information available online? For example, all the facts reported in Wikipedia could be considered notorious, since they are controllable and knowable by everyone, ie, by the widest possible social circle, the whole of humanity. Indeed, before the Internet, all facts reported in traditional encyclopaedias were considered notorious. However, this consideration overlooks the particularities of Wikipedia.

133 Traditional epistemic strategies are based on knowledge transmitted by others. This is known as the epistemology of testimony and epistemic dependence.<sup>251</sup> Traditional encyclopaedias came into being when communication technologies were scarce and fairly expensive, and when there was necessarily a kind of selection for access, a selection between what could be published (and therefore had to be remembered) and what could not be published (and therefore had to be forgotten).<sup>252</sup> In other words, it can be said that all encyclopaedias are based on the same 'process by which the entries in the encyclopedia are produced', ie, on the principle of authority, consisting of the selection of authors and control of entries.<sup>253</sup> After all, the same traditional notion of culture is based precisely on losses of knowledge.<sup>254</sup>

134 Wikipedia's epistemic strategy is also based on epistemic dependency; however, what differs is the basis for this dependency. Unlike traditional encyclopaedias, Wikipedia's reliability should be based on the so-called 'wisdom of crowds', ie, the sociological theory

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<sup>249</sup> P Calamandrei, *Estudios sobre proceso civil: la definición del hecho notorio* (Editorial Bibliográfica Argentina 1945) 204.

<sup>250</sup> P Comoglio, 'Wikipédia et informations en ligne: vers une nouvelle forme de notoriété des faits?' (2020) Int. J. Proc. Law 4; B J Gorod, 'The Adversarial Myth: Appellate Court Extra-Record Factfinding' (2011) 61 Duke L.J. 1.

<sup>251</sup> D Pritchard, 'Epistemic Dependence' (2015) 29 Epistemology 305.

<sup>252</sup> D Weinberger (n 29).

<sup>253</sup> D Fallis, 'Toward an Epistemology of Wikipedia' (2008) 59 J. Am Soc. Inf. Science & Tech. 1667.

<sup>254</sup> P Burke (n 79) 187.



that a mass of inexperienced people would be able to provide a more correct answer to the same query than an expert.<sup>255</sup>

135 However, this theory assumes that the crowd is made up of a large number of people and that these people have different and independent opinions. This, however, is not enough; it is also necessary that all the components of the crowd want to express their opinion. Obviously, this last condition is necessary. What is not guaranteed is the real participation of the crowd; if an entry is of no interest, it is highly likely that few people will consult it and even fewer will want to check it or change it.

136 Indeed, the central point of Wikipedia is precisely this. Entries can be 'modified' by anyone, but that doesn't guarantee that they will actually be 'modified' and therefore verified by the crowd. It is precisely for this reason that the reliability of Wikipedia entries is proportional to the interest of their subject. In any case, even if we could understand when a fact arouses public interest, we couldn't be sure that the epistemic strategy of the wisdom of the crowd really works.<sup>256</sup> In other words, Wikipedia has epistemic value, but it is undoubtedly limited.<sup>257</sup>

137 But if Wikipedia isn't reliable, then we can't even trust the traditional notion of notoriety. If even Wikipedia (by communicating the existence of a fact to everyone and subjecting it to the scrutiny of the widest possible public opinion) is unable to guarantee the truth of the facts reported, this is even truer for any other case of online freely available information. However, nowadays there is now more information available online than ever before, but it is also generally less reliable and more open to challenge.

138 Therefore, online information cannot be considered an indisputable fact: it is easily accessible, but at the same time it is easy to edit and temper. If before documentary evidence was few, but (precisely because few) generally reliable, nowadays documentary evidence is many, but (precisely because many and therefore not selected), tendentially less reliable. It might therefore be thought that the judge can only use it if it is proven by the parties. However, this conclusion does not seem satisfactory.

#### 6.4 An Unavoidable Update: Online Information and Judicial Notice

139 The accessibility of information, especially via the Internet, makes the traditional configuration of judicial notice less and less justifiable, both in terms of procedural economy and social legitimization. It is increasingly difficult today to accept a judicial proceeding that does not consider information that is freely and easily accessible through new information technologies.

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<sup>255</sup> J Surowiecki, *The Wisdom of Crowds* (Knopf Doubleday Publishing Group New York 2004).

<sup>256</sup> J Goodwin, 'The Authority of Wikipedia' (2009) OSSA Conference Archive 59.

<sup>257</sup> D Fallis (n 253) 1669; P Comoglio (n 250) 4.

- 140 In fact, there is an increasing tendency to consider for decision-making purposes even what is available ‘outside the record’<sup>258</sup>, and this not only among jurors, who tend to be less rigid to trial formalism<sup>259</sup>. Indeed, such a trend seems to be clearly emerging, for example, in the US appellate judiciary, through an increasing use of so-called ‘judicial independent research’, justified by resorting to the traditional bipartition, on the subject of judicial notice, between ‘adjudicative facts’ (subject to the limitations of Rule 202 USFRE) and ‘legislative facts’ (not subject, on the other hand, to the same limitations).<sup>260</sup>
- 141 Consequently, we could risk an evolutionary interpretation of judicial notice. In other words, we can assume that the judge could use (obviously without any constraint on his free assessment) all the information that is accessible online and whose existence is known, independently of its production in the records of the trial. Precisely for this reason it seems to me possible to update the traditional configuration and to hypothesize a new category of evidence, that is the notorious evidence, ie, evidence whose existence is certain, but whose reliability is questionable.<sup>261</sup>
- 142 European Directive no 104 of 2014 (on certain rules governing actions for damages under national law for infringements of the competition laws of the Member States and of the European Union) would seem to represent an initial confirmation of this interpretation. This directive specifically provides that, in the case of claims brought by plaintiffs at different levels of the distribution chain, the court may take into account ‘relevant information in the public domain which arises from the implementation of competition law by the public sphere’ (Art 15).
- 143 Obviously, in this case, the problem is not the reliability of the information accessible online (the assessment of which, in any case, is left to the discretion of the judge), but the possibility of a review (subsequent to the decision) of the information used by the judge in the absence of its production in the trial file.
- 144 In this respect, we could update the medieval distinction between *notorium facti transeuntis* (ie, a fact known to all but which no longer exists) and *notorium facti permanentis* (ie, a fact known to all but which continues to exist and can always be verified). We could assume a judge’s free use exclusively of permanent notorious information (precisely, information whose existence is well known), ie, all information

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<sup>258</sup> B J Gorod (n 250) 4.

<sup>259</sup> T A Hoffmeister, ‘Google, Gadgets, and Guilt: Juror Misconduct in the Digital Age’ (2012) 83 U. Colo. L. Rev. 409; T A Hoffmeister, ‘Investigating Jurors in the Digital Age: One Click at a Time’ (2012) Kans. L. Rev. 611; C M Myers Morrison, ‘Jury 2.0’ (2011) 62 Hastings L.J. 1579.

<sup>260</sup> K C Davis, ‘An Approach to Problems of Evidence in the Administrative Process’ (1942) 55 Harv. L. Rev. 364, 402; E G Thornburg, ‘The Curious Appellate Judge: Ethical Limits on Independent Research’ (2008) 28 Rev. Litig. 131.

<sup>261</sup> See P Comoglio (n 58) 319.

that is not only online, but which can be checked at any time either during the trial or after its conclusion.

145 Consequently, it seems possible to consider freely usable (even in the absence of proof), for example, all the information available in public databases managed by the State or, in general, by public administrations.<sup>262</sup> But the same can be said of private databases, obviously only when it is possible to consult them at any time and especially after the conclusion of the trial (as, for example, with Wikipedia, Google Maps or Google Earth, since these sites offer the possibility of consulting the chronology of modifications and viewing the various changes that have occurred).

146 Of course, stating that Google Earth is a well-known source of information does not at all imply that the photographs it contains are undeniably representative of the place, as erroneously held in some decisions<sup>263</sup>; it only means that the judge can freely use them for the purposes of the decision, evaluating them according to his or her own judgment and subject to respect for the adversarial principle as recently suggested in the UK Artificial Intelligence (AI) Guidance for Judicial Office Holders<sup>264</sup>.

147 In conclusion, we must not fall into the illusion of thinking of the Internet as a gigantic repository of information. However, today it seems difficult to accept a judicial proceeding claiming that what is online does not exist and that does not adapt to this new reality.<sup>265</sup>

## 7 TOWARDS A CUSTOMARY PRECEDENT?

### 7.1 Predicted, Suggested, and Automated Justice: Some Crucial Clarifications

148 Talking about new technologies and legal professions inevitably implies considering the relationship between AI and the judge. Indeed, it can certainly be assumed that AI can not only be used by lawyers but also assist or even replace the judge.

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<sup>262</sup> E G Godwin, 'Judicial Notice and the Internet: Defining a Source Whose Accuracy Cannot Reasonably Be Questioned' (2015) 46 Cumb. L. Rev. 233.

<sup>263</sup> *United States v Perea-Rey* (Court of Appeals, US) [680 F.3d 1179, 1182 n.1 (9th Cir)] (holding that courts may take judicial notice of information from Google Maps, considered as a 'source whose accuracy cannot reasonably be questioned'), *Johnson v DTBA, LLC* (District Court, US) [424 F. Supp. 3d 657, 662 (nD Cal)], *Tesoro Refin. & Mktg. Co. v. City of Long Beach* (District Court, US) [334 F. Supp. 3d 1031, 1041-42].

<sup>264</sup> According to point 1 of the UK AI Guidance for Judicial Officer, 'as with any other information available on the internet in general, AI tools may be useful to find material you would recognise as correct but have not got to hand but are a poor way of conducting research to find new information you cannot verify. They may be best seen as a way of obtaining non-definitive confirmation of something, rather than providing immediately correct facts'. In general, among scholars, see J Bellin and A G Ferguson (n 245) 1159; S Jones, 'Trial by Google Maps? The Dangers of Admitting Privatized GIS Technology by Judicial Notice' (2023) 60 Cal W L Rev 185.

<sup>265</sup> S Spooner, 'The Internet Is a Series of Rubes: An Economic Model of Judicial Notice in the Information Age' (2023) 18 JL Econ & Pol'y 201, 222.

149 The last hypothesis is still futuristic. As we said for lawyers, the most likely scenario is that, within a few years, we may have AI tools that can assist the judge in his work.<sup>266</sup> At present, in fact, beyond the actual reliability of tools capable of replacing a judge, people would hardly accept being judged exclusively by a machine, except perhaps for some limited matters<sup>267</sup>, such as serial and ‘low-intensity disputes’<sup>268</sup>. The same perception occurs with reference to the use of AI in alternative dispute resolution tools, such as ODR, ADR, and mediation.<sup>269</sup> This represents an extremely significant difference of the legal industry from others, where the use of AI to replace humans is perceived as much more acceptable.<sup>270</sup>

150 In this regard, we often hear about predictive justice, algorithmic justice, robotic justice or other similar expressions. However, there is some confusion.<sup>271</sup>

151 Firstly, the fundamental difference between prediction and decision should be noted. In fact, the term itself is ambiguous. Prediction is when we use information we have to produce information we do not have.<sup>272</sup> Specifically, the word prediction in the legal domain suggests that we can forecast a decision (of the judge) that has not been made yet, whereas in NLP, prediction merely refers to the methodology and terminology of machine learning.<sup>273</sup>

152 Instead, judgment is a very distinct activity from prediction. While prediction involves easily describable information about the expected state of the world, judgment depends on indescribable factors. These factors often include intuition, transference, and drawing analogies for unfamiliar situations. Importantly, judgment is not a passive process; it demands deliberate cognitive effort.<sup>274</sup>

153 Therefore, it is necessary to make some distinctions. It seems necessary to distinguish between predictive algorithms, suggestive algorithms and decisional algorithms. An AI tool, in fact, can serve simply to *predict* the behaviour of others (without influencing it), but it can also *suggest* the behaviour to be adopted, or it can replace the behaviour itself

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<sup>266</sup> E Jeuland, ‘Justice numérique, justice inique?’ (2019) 64 Cahiers de la Justice 193, 194, W De Mulder, P Valcke and J Baeck (n 56) 332.

<sup>267</sup> G Yalcin, E Themeli, E Stamhuis, S Philipsen and S Puntoni, ‘Perceptions of Justice by Algorithms’ (2023) 31 Artificial Intelligence and Law 269. On this topic, see also M Simon, AF Lindsay, L Sosa and P Comparato (n 17) 306.

<sup>268</sup> K Benyekhlef, J Zhu (n 50) 796.

<sup>269</sup> A Sela, ‘Can Computers Be Fair: How Automated and Human-Powered Online Dispute Resolution Affect Procedural Justice in Mediation and Arbitration’ (2018) 33 Ohio State. J Dispute Resolution 91.

<sup>270</sup> N Helberger, T Araujo and C H de Vreese, ‘Who is the fairest of them all? Public attitudes and expectations regarding automated decision-making’ (2020) 39 Comput Law Secur Rev 1.

<sup>271</sup> V Janeček (n 128) 1.

<sup>272</sup> A Agrawal, JS Gans, and A Goldfarb, ‘Exploring the impact of artificial Intelligence: Prediction versus judgment’ (2019) 47 Information Economics and Policy 1.

<sup>273</sup> M Medvedeva, M Wieling M Vols, ‘Rethinking the field of automatic prediction of court decisions’ (2023) 31 Artificial Intelligence and Law 195, 198.

<sup>274</sup> A Agrawal, J S Gans and A Goldfarb (n 272) 5.

(in our case, the judicial decision). An AI tool, using a database of case law and employing sorting algorithms and advanced AI techniques, enables the prediction of the statistical probability of success in a legal dispute.<sup>275</sup> However, predicting the possible outcome of the dispute is very different from suggesting a decision.<sup>276</sup>

154 They are very different situations. A predictive algorithm must simply foresee which will be the most likely decision of a dispute, regardless of whether the outcome of the decision is right or wrong; on the contrary, a suggestive algorithm should suggest the most correct decision, not the most likely one. This difference matters precisely in the way an algorithm must be trained. In fact, a purely predictive algorithm is easier to train, simply having to provide the most probable answer. A suggestive algorithm, on the other hand, requires more attention: as we said, the answer it provides does not have to be the most probable one, but it must be the right one. In other words, suggestive algorithms, precisely because they can influence the decision, must be very reliable.<sup>277</sup>

155 We would like to deal only with the suggestive algorithms. For two reasons: they will be implemented in the short term, and they have the most critical issues, both at the theoretical and at the practical level.

## 7.2 How to Train a Suggestive Algorithm: The Quality of Data

156 As we said, the suggestive algorithm must indicate to the judge the most proper solution.<sup>278</sup> This is precisely why the training and validation phase of this kind of algorithm is particularly important, being necessary, in particular, to avoid the so-called unintended bias.<sup>279</sup> This is a technical (ie, the choice between supervised, unsupervised and reinforced training techniques<sup>280</sup>), but above all legal issue (ie, that of the selection of the data by which the algorithm will be trained)<sup>281</sup>.

157 Two fundamental problems arise: who chooses the training data and which data to choose? The first question is particularly sensitive, but we will return to this later. The choice of data is very problematic as well. Indeed, it is widely known that the reliability of an algorithm depends on the data with which it is trained. In this regard, it can certainly

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<sup>275</sup> C S Alexander, 'Litigation Outcome Prediction, Access to Justice, and Legal Endogeneity', in D F Engstrom (dir), *Legal Tech and the Future of Civil Justice* (Cambridge University Press 2023) 155, 157; F Ferrari, D Mustari (n 128) 125.

<sup>276</sup> M Medvedeva, M Wieling and M Vols (n 273) 208.

<sup>277</sup> C Novelli, M Taddeo and L Floridi, 'Accountability in artificial intelligence: what it is and how it works' (2023) *AI & Society* accessible at <https://doi.org/10.1007/s00146-023-01635-y>; J P Davis (n 15) 1173.

<sup>278</sup> J P Davis (n 15) 1201.

<sup>279</sup> S Chesterman (n 131) 271.

<sup>280</sup> K D Ashley, 'Automatically Extracting Meaning from Legal Texts: Opportunities and Challenges' (n 46) 1139 (who, for example, considers supervised training preferable); P Bhattacharya, S Paul, K Ghosh, S Ghosh and A Wyner, 'DeepRhole: deep learning for rhetorical role labelling of sentences in legal case documents' (2023) 31 *Artificial Intelligence and Law* 53, 87; DA Remus and F Levy (n 14) 510.

<sup>281</sup> D F Engstrom and J B Gelbach (n 14) 1018.

be useful to refer to the approach chosen by the European Union in regulating Artificial Intelligence. Indeed, the AI Act stipulates that an algorithm, to be reliable, must be trained, tested and validated on quality data. The problem is, of course, to define what is meant by quality data. In this respect, the AI Act also offers interesting pointers. In particular, the third paragraph of Article 10 of the EU Regulation n 1689/2024/EU (AI Act) provides that ‘Training, validation and testing data sets shall be relevant, sufficiently representative, and to the best extent possible, free of errors and complete in view of the intended purpose’.<sup>282</sup>

158 Algorithms suggesting a judicial decision that will be applied in Europe will certainly have to comply with the requirements of the AI Act when it comes into force. Regardless of the application of that regulation, however, the requirements of the AI Act undoubtedly represent a benchmark for any suggestive algorithm that aspires to be reliable. However, it is not easy to define when data are relevant, representative, free of errors and complete, and above all, this involves very sensitive assessments, often radically different from the traditional way of thinking of jurists.

159 For example, the concept of relevance would seem to be quite simple: one might think that all laws and all judicial decisions are potentially relevant to train an algorithm. It is not so obvious. First, the concept of relevance may change depending on the purpose at which the suggestive algorithm is aimed.<sup>283</sup> In particular, the relevance of a decision may vary depending on whether one wants to train an algorithm to be used in any field of law or in a specific field (eg, in the determination of damages).<sup>284</sup>

160 Even the reference to laws is only apparently clear. It is unclear, for instance, whether the algorithm is to be trained exclusively with what is expressly considered sources of law according to the rules of a specific jurisdiction or whether it is also to be trained with secondary (ie, soft law or *droit souple*) and interpretive sources (such as, for instance, scholars’ opinions<sup>285</sup>).

161 Representativity poses many problems as well. Representativity, in fact, concerns the composition of the data: we may say that a data set is representative only if it reflects the real data in proportions and quantities. This requires at least two conditions: the data must be sufficiently large to be a reliable sample, and the data must be proportionally representative of the entire mass of data. Both conditions are particularly challenging.

162 From the first point of view, the approach with which the algorithm is trained is essentially quantitative and horizontal: an algorithm only works if there is a lot of data.<sup>286</sup>

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<sup>282</sup> Annex III of the AI Act accessible at [https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=OJ:L\\_202401689#d1e38-127-1](https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=OJ:L_202401689#d1e38-127-1).

<sup>283</sup> M Medvedeva, M Wieling and M Vols (n 273) 206.

<sup>284</sup> W De Mulder, P Valcke and J Baeck (n 156) 332.

<sup>285</sup> T Massart (n 112) 17.

<sup>286</sup> C S Alexander (n 275) 164.



This approach, however, is radically different from the legal approach, which is traditionally vertical and based on the selection of a few data, considered to be more reliable (that is, for example, the decisions of the Supreme Courts).<sup>287</sup>

163 From the second point of view, however, it is not clear how to ensure the proportionality of data. Several questions arise: should the data only be representative of the decisions of the Supreme Courts or also of the lower courts?<sup>288</sup> In the latter case, then, must the data also guarantee geographical representativeness? In other words, must the decisions of the lower courts be representative of all the districts of the jurisdiction in which the algorithm is to be applied?

164 But representativeness can also be understood in a diachronic sense: should the data be representative only of the most recent decisions or also of the oldest ones? Traditionally, judicial precedents do not have an expiry date; at most, they are overruled. Ensuring representativeness also in a diachronic sense, however, poses further problems, one of reliability (older decisions may implicitly contain outdated biases) and one of practicality (older decisions are often not digitized). In the opposite direction, however, it could be argued that a document that is hard to locate using the prevalent legal search methods is less relevant precisely because it is unlikely to be found and, as a result, is unlikely to be considered relevant by other legal researchers.<sup>289</sup>

165 But let us assume that we have relevant and representative data. In this case, only those free of error should be chosen, as far as possible. Abstractly, this condition is entirely acceptable. Besides, as already mentioned, the reliability of algorithms is jeopardized precisely by the biases that are implicitly hidden in the data. However, this is a very difficult condition to meet in the case of judicial decisions. How can it be established whether legal data contain errors? For example, and just to mention a few doubtful cases, should decisions that are still subject to appeal be considered free of error? And should decisions that have been reversed automatically be considered wrong and therefore excluded from the training data? After all, even a decision that has become final may contain errors.

166 Finally, there is the problem of data completeness, a problem which also involves the criterion of relevance. When we think of a predictive justice algorithm, we generally think of an algorithm trained exclusively on judicial decisions. This issue is much trickier. Indeed, in fact, it seems reasonable to think that the algorithm should be trained with the procedural orders and with the pleadings and briefs filed by the parties to the proceedings (as done, for example, in some studies aimed at predicting the outcome of Supreme Court

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<sup>287</sup> In fact, predictive justice is essentially 'quantitative'; S Lebreton-Derrien (n 120) 5. See also, A Garapon and J Lassègue (n 84), 271, assuming a possible 'horizontalisation du contrôle'.

<sup>288</sup> P Deumier, 'La justice prédictive et les sources du droit: la jurisprudence du fond' (2018) 60 Arch. phil. Droit 49, 51.

<sup>289</sup> M A Livermore, P Beling, K Carlson, F Dadgostari, M Guim, and D N Rockmore, 'Law Search in the Age of the Algorithm' (2020) Mich St L Rev 1183, 1206.

decisions<sup>290</sup>). Moreover, certain sensitive procedural issues (such as the admission and relevance of evidence) are often never addressed in the final decisions. Obviously, this poses a problem of data availability: unlike decisions (normally public and now widely digitized), procedural orders and parties' briefs are generally not public and, in any case, not easily accessible.

167 Still about data completeness, a final problem arises. Should the algorithm only be trained based on judicial data, or should it also be trained with other data?

168 Actually, this question may be meaningless, especially with reference to generative AI algorithms. First, these algorithms are born already trained even with non-judicial data; secondly, it seems technically difficult to prevent these algorithms from 'investigating' on its own and from considering non-judicial data.<sup>291</sup> In fact, knowledge of non-judicial data appears necessary precisely to ensure the reliability of the algorithm. After all, even the human judge, to correctly apply the law, must know reality. In this respect, one can certainly recall the distinction between 'legislative facts' (ie, the facts relevant to the application and interpretation of the rules) and 'adjudicative facts' (ie, those specifically concerning the decision and normally related to the assessment of the decision). Precisely for this reason it is traditionally held that the judge may take judicial notice of legislative facts.<sup>292</sup>

169 We can reasonably assume, therefore, that a suggestive algorithm must also be trained with non-judicial data, a kind of algorithmic judicial notice. This could have important effects. It is often argued that algorithms, precisely because they are based on statistics derived from past data, would be conservative and past-oriented. This, however, might be less true in the case of algorithms trained with non-judicial data. It can certainly be said that, in general, law is slower to adapt to cultural, social and moral changes; however, these changes are much faster outside law. Consequently, an algorithm trained with non-judicial data, implicitly deducing from these data the inadequacy of law, could envisage adaptive and innovative solutions.<sup>293</sup>

### 7.3 The Availability of Data and the Tricky Interplay with Privacy Rules

170 As mentioned above, it is not easy to define the algorithm's training data. But let us admit that we can. In this case, a new problem arises, that of data availability.<sup>294</sup>

<sup>290</sup> K Benyekhlef, J Zhu (n 50) 820; M Medvedeva, M Wieling and M Vols (n 273) 206.

<sup>291</sup> M R Grossman, P W Grimm, D G Brown and M Xu (n 55) 33.

<sup>292</sup> K C Davis (n 260) 402.

<sup>293</sup> I Sayn, 'Connaître la production des juridictions ou prédire les décisions de justice?' (2019) 64 *Cahiers de la Justice* 229, 242, who hypothesises the implementation of predictive justice algorithms 'enrichis' with non-judicial data.

<sup>294</sup> V Janeček (n 128) 1.

- 171 The problem is both practical (the data must be digitized and must be in a format that allows it to be processed<sup>295</sup>) and legal (the processing of the data must be permitted by law). These are, in fact, two different issues. Even if the law stipulates that certain data are public, as is generally the case for judicial data or, at least, for judicial decisions (eg, in the UK, Art 8 of the Public Records Act 1958 or in Italy, Art 51 Decr. n. 196/2003), this does not imply that such data are easily accessible and computer processable.<sup>296</sup>
- 172 As already mentioned, the practical problem becomes much more complicated if one decides to train the algorithm also with procedural orders and parties' pleadings and briefs. But the problem may also concern judicial decisions. There are potential 'black holes' in the data due to shortcomings in the standardization of judicial data. This often leads to the task of data collection being outsourced to commercial companies that aim to exploit the data for profit.<sup>297</sup> Before digitization, this was almost essential for disseminating judicial opinions; today, however, this substantial monopoly is increasingly hard to justify.<sup>298</sup> There are also differences in the structuring of decisions and legal documents in general.<sup>299</sup>
- 173 It is precisely to solve this technical problem that the phenomenon of so-called open data has become widespread.<sup>300</sup> Open data requires not only that data be free but that it

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<sup>295</sup> E Kambrun-Favennec, 'L'ouverture des données publiques: un préalable à la justice prédictive. Tour d'horizon des politiques d'ouverture des données publiques' (2018) 60 Arch. phil. Droit 83.

<sup>296</sup> E Gabellini, 'Algoritmi decisionali e processo civile: limiti e prospettive' (2022) Riv. trim. dir. proc. civ. 59, 72.

<sup>297</sup> A Garapon and J Lassègue (n 84) 86, according to which the data are a paradoxical public good; indeed, 'le paradoxe de ces nouveaux biens publics informationnels est que pour recevoir un sens commun, ils doivent nécessairement en passer par des acteurs privés'.

<sup>298</sup> V Janeček (n 128) 2.

<sup>299</sup> P Bhattacharya, S Paul, K Ghosh, S Ghosh and A Wyner (n 280) 54.

<sup>300</sup> On the origins of open data, see K Benyekhlef, J Zhu (n 50) 817 (noting that the term 'Open Data' first appeared in 1995, mentioned by the American National Research Council in its reference to the need for a 'Full and Open Exchange') and E Kambrun-Favennec (n 295) 83. In general, on this topic, see L Cadiet, C Chainais, and J M Sommer (dir), S Jobert and E Jond-Necand (rapp), *La diffusion des données décisionnelles et la jurisprudence* (Rapport remis à la première présidente de la Cour de cassation et au procureur général près la Cour de cassation - juin 2022), <https://www.courdecassation.fr/publications/autre-publication-de-la-cour/la-diffusion-des-donnees-decisionnelles-et-la> accessed 30 June 2024; E Serverin, 'De l'informatique juridique aux services de justice prédictive, la longue route de l'accès du public aux décisions de justice dématérialisées' (2018) 60 Arch. phil. Droit 23; N Byrom, *Digital Justice: HMCTS data strategy and delivering access to justice* (The Legal Education Foundation 2019) available at <https://perma.cc/A4GD-YWPM>. Even in China, Art 21 of the draft of the Artificial Intelligence Law of the People's Republic of China ([https://cset.georgetown.edu/wp-content/uploads/t0592\\_china\\_ai\\_law\\_draft\\_EN.pdf](https://cset.georgetown.edu/wp-content/uploads/t0592_china_ai_law_draft_EN.pdf) accessed 30 June 2024) statutes that the State encourages the establishment of AI data resource sharing mechanisms and promotes making public data openly available and shareable.

be easily accessible by all<sup>301</sup>, ensuring, in particular, that a single standard format is used and that, if possible, the native format is provided<sup>302</sup>.

174 But let us also admit that all the necessary data are available. Even this is not enough; a problem arises as to the legitimacy of the processing of such data. While some limited problems of compatibility with copyright may arise<sup>303</sup>, the most sensitive issues concern compliance with privacy rules<sup>304</sup>. The problem is compounded by the fact that judicial data are non-excludable (no one can be prevented from using<sup>305</sup> or monetizing them<sup>306</sup>).

175 Moreover, with specific reference to the processing of data needed to train a predictive justice algorithm, there is a risk of data being misused. In this regard, it has been rightly observed that a dual function of judicial data must be distinguished; such data can be understood in a 'jurisprudential' sense and in a 'factual' sense. On one hand, judgments serve as sources of legal information and are relied upon as precedents for future cases. In this 'jurisprudential' sense, judgments impact both the real world (by resolving disputes) and the normative world (by establishing precedents and influencing existing case law). On the other hand, judgments can be treated as data for bulk analysis and mining to gain non-jurisprudential insights, such as identifying court biases or serving as training data for machine learning. In this 'factual' sense, judgments are open to data-driven analysis, providing observable data points that machines can read and analyse.<sup>307</sup>

176 Moreover, data privacy rules (even the most recent ones, such as the EU GDPR) do not seem to be fully adapted to algorithmic data processing. In this regard, it was noted that the establishment of a separate legal basis governing the processing data for AI-based applications would be appropriate, if not necessary.<sup>308</sup> A balancing of interests seems inevitable and necessary. A first example in this respect comes from France, where the

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<sup>301</sup> K Benyekhlef, J Zhu (n 50) 818.

<sup>302</sup> L E Mitee, 'The right of public access to legal information: A proposal for its universal recognition as a human right' (2017) 18 German Law Journal 1429. On this topic see CEPEJ European Ethical Charter on the use of artificial intelligence (AI) in judicial systems and their environment, <https://rm.coe.int/ethical-charter-en-for-publication-4-december-2018/16808f699c> accessed 30 June 2024, 19.

<sup>303</sup> P Leith and C Fellows, 'Enabling free on-line access to UK law reports: the copyright problem' (2009) 18 International Journal of Law and Information Technology, 72.

<sup>304</sup> J J Cook and D R Mavrova Heinrich (n 210) 347; J Gisborne, R Patel, C Paskell, *Justice Data Matters: Building a public mandate for court data use* (The Legal Education Foundation 2022), IPSOS, available at <https://perma.cc/39PUUVFV>.

<sup>305</sup> K Benyekhlef, J Zhu (n 50) 821.

<sup>306</sup> S Walker, 'Justice data is already monetised' (2022) The Law Society Gazette, 22 July <https://www.lawgazette.co.uk/commentary-and-opinion/justice-data-is-already-monetised/5113205>. article accessed 12 September 2024.

<sup>307</sup> V Janeček (n 128) 3.

<sup>308</sup> B P Paal, 'Artificial Intelligence as a Challenge for Data Protection Law: And Vice Versa', in S Voeneky, P Kellmeyer, O Mueller and W Burgard, *The Cambridge handbook of responsible artificial intelligence: interdisciplinary perspectives* (Cambridge University Press 2022) 290, 308.

push for accessibility of judicial data has been accompanied by bans on specific processing (eg, profiling of judges).<sup>309</sup>

177 But the interplay between algorithms and personal data also works in the opposite direction, so to speak. Indeed, the algorithmic processing of data can lead to an extension of the concept of personal data. It is no longer necessary to focus only on how data are collected and whether they make people identifiable, but also on how they are processed and what effects the inferences drawn from the data have. Data can still be classified as ‘personal data’ based on its potential impact on an identifiable person’s rights and interests, even if it does not directly describe or is not intended to influence that person.<sup>310</sup>

#### 7.4 A Herculean Algorithm: Suggestion, Decision or Source of Law?

178 Let us assume that we can identify all the quality data needed to train an algorithm and that all these data are available. Then, we could imagine an algorithm able to suggest to the judge the most correct decision. This, however, poses further problems. How does such an algorithm fit into the system of sources of law?

179 We might think that such an algorithm would be like the utopian Hercules judge, envisaged by Ronald Dworkin; that is a super judge, capable of applying a flawless theory of adjudication by knowing all laws, past cases, and applicable theories. An algorithm seems perfectly capable of meeting all these requirements.<sup>311</sup> In other words, such an algorithm would be able to provide the one right answer.<sup>312</sup>

180 Apart from the correctness of Dworkin’s theory, on which it is not possible to dwell here, it should be pointed out immediately that even the algorithm, although capable of processing an enormous amount of data and not subject to fatigue, is still unable to arrive at such a result. In fact, the algorithms used today, based on machine learning techniques,

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<sup>309</sup> Law n 2016-1321 of 7 October 2016, Law for a Digital Republic (France). On this topic, see Z Adams, A Adams-Prass and J Adams-Prass, ‘Online tribunal judgments and the limits of open justice’ (2022) 42 Legal Studies 42; P Magrath and G Beresford, *Publication of listed judgments: Towards a new benchmark of digital open justice* (The Incorporated Council of Law Reporting for England and Wales 2023), available at: <https://www.iclr.co.uk/wp-content/uploads/media//2023/01/Publication-of-listed-judgments-final.pdf>.

<sup>310</sup> S Wachter and B Mittelstadt, ‘Right to Reasonable Inferences: Re-Thinking Data Protection Law in The Age of Big Data and AI’ (2019) Columbia Business Law Review 494, 518; K Benyekhlef, J Zhu (n 50) 810.

<sup>311</sup> J P Davis (n 48) 171; M A Livermore, P Beling, K Carlson, F Dadgostari, M Guim and D N Rockmore ‘Law Search in the Age of the Algorithm’ (2020) Mich St L Rev 1183, 1212.

<sup>312</sup> S Greenstein (n 20) 293. ‘Most generative AI systems contain a degree of randomness that allows them to propose different answers to the same question’, according to CEPEJ Information note on the Use of Generative Artificial Intelligence (AI) by judicial professionals in a work-related context of 12 February 2024, <https://www.coe.int/en/web/cepej/-/information-note-on-the-use-of-generative-artificial-intelligence-ai-by-judicial-professionals-in-a-work-related-context> accessed 30 June 2024, 2.

always gives different (though very similar to each other) answers to the same question.<sup>313</sup> In fact, the algorithm provides a substantially customised rule of law, specifically tailored to the individual case it refers to.<sup>314</sup>

181 Therefore, a theoretical problem arises, namely that of trying to figure out whether this algorithm is merely an aid to the judge or a real source of law. At first glance, we might think that an algorithm merely provides a suggestion to the decision-maker and that this suggestion is substantially equivalent to the persuasive precedents typical of civil law jurisdictions. However, such an algorithm is certainly something different, given that it provides a single answer, although it is never perfectly identical. With what can the judge compare and, where appropriate, question the result of the algorithm? This represents a significant difference from persuasive civil law precedents, which are often numerous and therefore selected by the judge.<sup>315</sup> Moreover, on a purely psychological level, the persuasive force of such an algorithm appears much greater than civil law precedents. It is now evident, after all, that AI has great persuasive power, being very convenient to rely on.<sup>316</sup>

182 We might think, then, that such an algorithm can retrieve a sort of binding precedent, in a sense much more akin to common law jurisdictions. In fact, the functioning of the algorithm appears very similar to the traditional mechanism of precedent, in which the precedent is detected and not created.<sup>317</sup> Even the algorithm *uncovers* the precedent, precisely because it is constantly applied. As already mentioned, however, in the ideal configuration, the binding precedent is always the same and unchangeable, until it is overruled by a new precedent.<sup>318</sup> Unlike the traditional concept of precedent, however, the algorithm is self-programming and changes continuously. As mentioned above, even with the same data processed, an algorithm never gives the exact same answer.<sup>319</sup> *A fortiori*, a change in the processed data always results in a change in the answer.

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<sup>313</sup> M R Grossman, P W Grimm, D G Brown and M Xu (n 55) 32.

<sup>314</sup> S Ferey (n 155) 76.

<sup>315</sup> On the difference between precedent and case law, see M Taruffo, 'Precedente e giurisprudenza' (2007) Riv. trim. dir. proc. civ. 709, 711.

<sup>316</sup> J P Davis (n 15) 1200.

<sup>317</sup> See, also for further references, L Passanante, *Il precedente impossibile. Contributo allo studio del diritto giurisprudenziale nel processo civile* (Giappichelli Torino 2018) 254. Obviously, the topic of binding precedents is too complex to be addressed here. Without claiming completeness, we refer, also for further references, to R Cross and J Harris, *Precedent in English Law* (4th edn, OUP 1991); B A Garner and others, *The Law of Juridical Precedent* (Thomson Reuters 2016); T Endicott, H D Kristjánsson and S Lewis (ed), *Philosophical Foundations of Precedent* (Oxford UP 2023); D Mitidiero, *Precedentes. Da Persuasão à Vinculação* (São Paulo Revista dos Tribunais) 2021.

<sup>318</sup> As rightly observed, it is an individual precedent that becomes a source of law: see G Lemond, 'The Doctrine of Precedent and the Rule of Recognition', in T Endicott, HD Kristjánsson and S Lewis (ed), *Philosophical Foundations of Precedent* (Oxford UP 2023), 22.

<sup>319</sup> This risk is well highlighted in the CEPEJ Information note on the Use of Generative Artificial Intelligence (AI) by judicial professionals in a work-related context of 12 February 2024, <https://www.coe.int/en/web/cepej/-/information-note-on-the-use-of-generative-artificial-intelligence-ai-by-judicial-professionals-in-a-work-related-context> accessed 30 June 2024, 2.



183 Ultimately, we may wonder whether a predictive algorithm, in fact, can become a real source of law.<sup>320</sup> Indeed, such an algorithm (or, more precisely, the rule of law suggested by the algorithm) seems to come closest to the way customary law works. As in the case of customs, in fact, the rule devised by the algorithm is not the result of an express act of will (neither by the legislature nor by the courts) but is derived solely from the purely statistical fact of being recurrently applied (the algorithm's decision is statistically based, as mentioned). Moreover, like customs, the algorithm is never quite the same and is constantly evolving; it could be said that a machine learning algorithm constantly distinguishes or overrules itself. Certainly, the similarities between precedent and custom are not new. On the other hand, the rule of *stare decisis*, widespread in common law jurisdictions, is purely customary in nature, having never been expressly codified in a law.<sup>321</sup> As has been rightly pointed out the doctrine of precedent is part of the customary law of common law systems.<sup>322</sup>

184 There is, however, a significant difference: the rule of law that the algorithm devises is the one most frequently applied by judges and therefore considered correct and this on the basis of the mere statistical fact of the repetition of the same decision, without any specific consideration of the *ratio decidendi* of the case and even irrespective of a specific intention of the later courts to consider an earlier decision as precedent<sup>323</sup>; it could even be the case that the rule of law suggested by the algorithm does not find its basis in any specific judicial decision, but is the result of the synthesis of a plurality of decisions. This topic, of course, deserves a much more in-depth analysis; in any case, I dare to speculate that a suggestive algorithm or, rather, the rule of law suggested by such an algorithm can be defined as customary precedent, that is a rule that is recurrently applied by the judges, as it is considered binding, even in the absence of a specific decision that can be regarded as precedent.

185 Obviously, if these algorithms were to be considered as genuine sources of law, then a question, that is already sensitive, should become even more crucial: who chooses the algorithm's training data? Of course, if the algorithm is not a source of law, then there is wide latitude in identifying the persons in charge of choosing the data; conversely, if they are considered as sources of law, then the question arises as to whether the identification of such persons is compatible with the fundamental principles of every jurisdiction. This

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<sup>320</sup> P Deumier (n 287) 61; I Sayn (n 292) 232.

<sup>321</sup> N Duxbury, *The Nature and Authority of Precedent* (Cambridge UP 2008) 150; L Passanante (n 315) 257.

<sup>322</sup> G Lemond (n 318) 33.

<sup>323</sup> On the relationship between AI and precedent, see A Rigoni, 'Precedent and Legal Creep. A Cause for Concern?', in T Endicott, HD Kristjánsson and S Lewis (ed), *Philosophical Foundations of Precedent* (Oxford UP 2023), 72. In general, on the role of *ratio decidendi* in the doctrine of precedent in common law systems, see, also for further references, D Mitidiero, *Ratio Decidendi. Quando uma Questão é Idêntica, Semelhante ou Distinta?* (Revista dos tribunais 2023).

would also entail a real risk of loss of sovereignty, especially if the training of algorithms were to be entrusted to private companies.<sup>324</sup>

186 Finally, the impact of these algorithms can nevertheless have significant repercussions on the way we understand the nature of law.<sup>325</sup> First of all, it may further revive the debate between positivists and non-positivists; indeed, as has been observed, if one opts for a radically positivist approach, then an AI algorithm appears perfectly capable of interpreting the law on its own.<sup>326</sup> Conversely, if other elements (such as moral judgment) were needed to interpret the law, then ‘there may be a line that AI cannot cross in the foreseeable future, even if its technical capacities continue to increase at an extraordinary rate’.<sup>327</sup>

187 Secondly, the traditional idea of the nature of the law, based on abstractness, uniformity and limited avoidability, could also change; indeed, the interpretation of the law provided by the AI, as mentioned, is far from uniform; on the contrary, it is polarized on the concrete case and its particularities; we could speak, therefore, of a possible singularization of law, in which the particularities of the case, usually irrelevant, become the elements determining the rule to be applied in that situation.<sup>328</sup>

## 8 ‘HAVE YOUR DAI IN COURT’: SOME CONCLUDING REMARKS

### 8.1 New Technologies, Judicial Proceedings and the Theseus Ship Paradox

188 We may say, in general terms, that new technologies ‘lead us to reinterpret who we are and how we should interact with each other’.<sup>329</sup> As said earlier, it is difficult to think that, at least in the short term, algorithms can effectively replace lawyers and judges. The most likely hypothesis, in fact, is that machine learning algorithms and generative AI will be able, soon, to assist them.<sup>330</sup> However, there is still the risk of a substantial change. And here we can refer to the well-known paradox of the Theseus ship.<sup>331</sup>

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<sup>324</sup> E Filiol (n 122) 151.

<sup>325</sup> B Sheppard (n 22) 51.

<sup>326</sup> J P Davis (n 48) 201.

<sup>327</sup> Ibid 212.

<sup>328</sup> W Lucy (n 224) 111; A Garapon and J Lassègue (n 84), 245 (according to which there is the risk that ‘la loi universelle se dégrade en norme pour s’adresser directement et de manière individualisée aux sujets’).

<sup>329</sup> L Floridi (n 28) 166.

<sup>330</sup> See, about US e-discovery, R Keeling et al, ‘Humans Against the Machines: Reaffirming the Superiority of Human Attorneys in Legal Document Review and Examining the Limitations of Algorithmic Approaches to Discovery’ (2021) 27 Rich. J.L. & Tech. 7, who note that ‘the future looks more like a co-existence of humans and machines, not complete replacement of the former with the latter’.

<sup>331</sup> About this paradox see Hobbes, *De Corpore*, XI, 7.

189 This paradox can be applied to the judicial proceedings, as a consequence not only of new technologies but also of the widespread importance of expert witness.<sup>332</sup> As it was doubted that the ship used by Theseus after multiple repairs and substitutions could still be considered the same ship, it can also be doubted that the judicial proceedings in which most of the decisions are entrusted to expert witnesses and are *augmented* by the algorithms is really the same as before.

190 After all, already in the mid-nineties of the last century, professor Damaška, while affirming that the progressive 'scientization of inquiry' at that time did not significantly affect the judicial proceedings, anyway, believed that 'the situation could change: as science advances by leaps and bounds, reliable instruments and strategies might soon be developed whose employment justifies greater interference with the factfinder's decisional freedom'.<sup>333</sup>

191 In the end, a new balance will probably be struck between the fundamental values of the civil process. It is reasonable to think that AI tools may increase the quality of decisions; all this, however, is to the detriment of other principles. So, the question is to understand what the break-even point will be.<sup>334</sup>

## 8.2 Pre-trained Justice: The End of the Inference to the Best Explanation?

192 The first risk is that the new way of knowing by algorithms reshapes the traditional epistemic strategies, even in the judicial proceedings.<sup>335</sup> As has been said,

algorithms do not simply accelerate commerce, journalism, finance, or other domains – they are a discourse and culture of knowledge that is simultaneously social and technological, structuring how information is produced, surfaced, made sense of, seen as legitimate, and ascribed public significance.<sup>336</sup>

193 The traditional epistemic strategy, even in the judicial factfinding process, is widely known as 'Inference to the Best Explanation' and is composed of a set of abductive, inductive and deductive reasoning. Instead, the method based on the algorithms is essentially inductive and its reliability is based on the great amount of data processed.<sup>337</sup>

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<sup>332</sup> M Damaška, 'Free Proof and its Detractor' (1995) 43 Am. J. Comp. L. 343 and 352. See also S Brewer, 'Scientific Expert Testimony and Intellectual Due Process' (1998) 107 Yale L. J. 1535.

<sup>333</sup> See J Ferrer Beltrán, 'Legal Proof and Fact Finders' (2006) 12 Legal Theory 293.

<sup>334</sup> J Nieva Fenoll (n 88) 53; B Sheppard (n 22) 60.

<sup>335</sup> S Mckinlay (n 45) 472.

<sup>336</sup> M Ananny (n 205) 6.

<sup>337</sup> B Miller and I Record, 'Justified Belief in a Digital Age: on The Epistemic Implications of Secret Internet Technologies' (2013) 10 Episteme 117.

After all, causal reasoning can certainly be said to be the defining characteristic of human reasoning.<sup>338</sup>

- 194 The hypothesis of a real ‘End of Theory’, ie, a progressive loss of usefulness of explanatory models, is well known:

There is now a better way. Petabytes allow us to say: “Correlation is enough”. We can stop looking for models. We can analyse the data without hypotheses about what it might show. We can throw the numbers into the biggest computing clusters the world has ever seen and let statistical algorithms find patterns where science cannot’.<sup>339</sup>

Ultimately, as has been noted, to know ‘what’ is enough, even if we do not know ‘why’.<sup>340</sup>

- 195 AI applies statistical-inductive reasoning<sup>341</sup> and is unable to explain reasons<sup>342</sup>. Nowadays, the main risk is not the possible substitution of the man by machines but rather that the men progressively think according to the schemes of the algorithms.<sup>343</sup> There has even been speculation that the legislation itself will be turned algorithm-friendly.<sup>344</sup> Ultimately, there is the real risk of abandoning the traditional concept of knowledge, based on causal explanation, which has characterized human thought for millennia.<sup>345</sup>
- 196 This, of course, can also affect the legal reasoning. The increasing tendency to rely on predictive algorithms and, therefore, on correlations and inductive-probabilistic reasoning may lead to a progressive downsizing of abductive reasoning and, therefore, of causal explanation in judicial decisions.<sup>346</sup>

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<sup>338</sup> S Sloman and P Fernbach (n 26) 85.

<sup>339</sup> Anderson (n 7). See also D McQuillan (n 5) 5; D Weinberger (n 1) 25; R Kitchin, ‘Big Data, new epistemologies and paradigm shifts’ (2014) *Big Data & Society*, 2; E Pariser, *The Filter Bubble. What the Internet Is Hiding from You* (Penguin 2012) 161; and V Mayer-Schönberger, and K Cukier (n 8).

<sup>340</sup> V Mayer-Schönberger, and K Cukier (n 8) and D Weinberger (n 1) 128.

<sup>341</sup> J P Davis (n 15) 1181. In general, see E J Larson, *The Myth of Artificial Intelligence: Why Computers Can’t Think the Way We Do* (Harvard University Press 2021).

<sup>342</sup> K D Ashley, ‘Automatically Extracting Meaning from Legal Texts: Opportunities and Challenges’ (n 46) 1137; C S Alexander (n 273) 166.

<sup>343</sup> L Floridi (n 36) 4 (noting that ‘The debate is not about robots but about us, who will have to live with them’) and L Floridi (n 28) 40. See also, R J Allen, ‘Complexity, the Generation of Legal Knowledge, and the Future of Litigation’ (2013) in 60 *Ucla L. Rev.* 1388.

<sup>344</sup> S Caserta and M Madsen (n 68) 12.

<sup>345</sup> A Garapon and J Lassègue (n 84) 230; L Floridi (n 28) 130; F Foer, *World Without Mind: The Existential Threat Of Big Tech* (Penguin Putnam Inc 2017); and B Miller and I Record (n 323) 117.

<sup>346</sup> Kitchin (n 329) 470. About the risk of lawyers relying uncritically on results developed by AI tools see D Medianik (n 129) 1510 (who notes that ‘it is possible that once lawyers get comfortable with ROSS’s results and begin trusting its outputs they will cease verifying its answers with other legal research platforms’).

197 The probabilistic-inductive reasoning has its usefulness; in fact, it has always been one of the main heuristics of human reasoning in stressful situations or in any case faced with situations of great uncertainty, in which there is too much data to consider, or the time is too short to analyse them all.<sup>347</sup> This approach, however, as rightly pointed out, is substantiated in 'a form of pragmatic justification. This is not the same as epistemic justification which aims at truth'.<sup>348</sup>

198 Therefore, the abandonment of the causal explanation is not desirable, and we must be careful to lose our traditional way of knowing. Output-based legitimacy—where optimal ends justify uncertain means—is suitable in certain fields. In medical science, for instance, progress is achieved through the success or failure of clinical trials, supported by rigorous statistical analysis. However, legal decisions are typically not considered appropriate for statistical modelling. While some legal decisions can be framed in terms of burdens of proof—such as the balance of probabilities or beyond a reasonable doubt—these judgments must be made through individualized assessments of each case, rather than predictions based on the most likely outcomes from a broader set of cases.<sup>349</sup>

199 But the change may be more general and may involve the way the law is conceived. First, an algorithm (predictive, suggestive or decisive) is extremely simplifying, given that it provides a single answer and consequently is incapable of stimulating complex legal reasoning. Indeed, it has been rightly pointed out that the variety and use of legal materials is the distinctive feature of all legal reasoning'.<sup>350</sup> The simplicity and unambiguousness of the algorithm's response cannot account for such a variety of materials and thus opinions; rather, in essence, the algorithm eliminates legal research altogether. This is clearly very different from the traditional way of reasoning, which occurs both prior and subsequent to law search, but which, in any case, presupposes that search.<sup>351</sup>

### 8.3 Adversarial v Inquisitorial Models: A Distinction Being Overcome?

200 As it turned out, the application of artificial intelligence tools in the legal professions raises many questions and may significantly influence basic procedural principles. It can also be affirmed that the use of artificial intelligence can certainly have a positive impact, having the potential - in the aforementioned perspective of balancing the different values

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<sup>347</sup> A Vermeule (n 229) 607 and R N Strassfeld, 'If ...: Counterfactuals in the Law' (1992) 60 Geo. Wash. L. Rev. 345. See also B A Spellman, 'The Relation between Counterfactual (but for) and Causal Reasoning: Experimental Findings and Implications for Jurors' Decisions' (2001) 64 Law and Contemporary Problems 241.

<sup>348</sup> Mckinlay (n 45) 471.

<sup>349</sup> S Chesterman (n 131) 275

<sup>350</sup> F Schauer and V J Wise, 'Legal Positivism as Legal Information' (1997) 82 Cornell L. Rev. 1080, 1082.

<sup>351</sup> M A Livermore, P Beling, K Carlson, F Dadgostari, M Guim and D N Rockmore (n 311) 1186.

at stake in the process - to encourage the effective acquisition of relevant evidence and, therefore, to increase the possible quality of the decisions.<sup>352</sup>

201 It does not seem far-fetched to suppose that, soon, based on the identifying data of the parties and the subject of a dispute, an AI tool will automatically search, by means of a specific artificial intelligence algorithm, for all publicly accessible online information relevant to the dispute. But this research could also be thought of as extending to all public databases. It seems difficult to deny that, in this case, the result of the activity carried out by the algorithm is essentially identical to that obtained by an investigation of this type carried out by the parties or by the judge. On the contrary, it is reasonable to think that the investigation carried out by a computer tool is more efficient than a human one. Radically different, however, is the procedure used to arrive at the result.<sup>353</sup>

202 AI promises much efficiency but, at the same time, requires cost, both in reconfiguring traditional concepts and in limiting other process values.<sup>354</sup> For example, the use of algorithms could put the traditional distinction between adversarial and inquisitorial models into crisis. Although this distinction is not always interpreted unequivocally and never fully corresponds in the various procedural systems (which, although with great differences between them, are generally in mixed positions, ie, neither fully adversarial nor fully inquisitorial), it has long been a category under which scholars have classified the various procedural systems.<sup>355</sup>

203 But we can go further. We could suppose that the algorithm, in addition to searching for publicly accessible information, selects it and, to a certain extent, processes and synthesizes it for the parties and the judge. In this case, the activity carried out goes far beyond the mere gathering of evidence, extending also to the selection and evaluation of evidence. It would be difficult to place these activities according to the traditional distinction between the adversarial or inquisitorial method.<sup>356</sup>

204 Indeed, the application of AI tools could make this distinction lose much of its importance. It would be very difficult to speak of inquisitorial powers in the traditional sense since the research and selection activity carried out by an AI tool cannot be considered either as an initiative of the parties or as a power of the judge.

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<sup>352</sup> J Nieva Fenoll, 'Inteligencia artificial y proceso judicial: perspectivas tras un alto tecnológico en el camino' (2022) *Revista General de Derecho Procesal* 1.

<sup>353</sup> P Comoglio (n 250).

<sup>354</sup> F Gascón Inchausti (n 23) 70.

<sup>355</sup> In general on this topic, also for further references: A Dondi, 'Problemi ricorrenti e impostazione metodologica', in A Dondi, V Ansanelli and P Comoglio, *Processi civili in evoluzione. Una prospettiva comparata* (Milano Giuffrè 2018) 5, and J Nieva Fenoll, 'The CJEU and the Refinement of the Principle of Party Disposition' (2020) 10 *IJPL* 21.

<sup>356</sup> P Comoglio (n 215).



205 Traditional objections to the compatibility of the judge's inquisitorial powers would certainly also lose much of their weight. Indeed, there is a recurrent assertion that the judge, by exercising inquisitorial powers, would jeopardize his impartiality. This thesis, already debatable<sup>357</sup>, can certainly not be applied to what we might call automated or artificial powers of investigation<sup>358</sup>.

#### 8.4 How the Weak AI is Weakening the Adversarial Principle

206 All this, however, seems to be to the detriment of another fundamental principle, that of the adversarial principle, especially in its epistemic function.<sup>359</sup> As clearly known, this principle is twofold<sup>360</sup>: firstly, the adversariness is a guarantee of dialectical participation in the trial<sup>361</sup>; at the same time, however, the adversariness is also an epistemic instrument of fact-finding<sup>362</sup>; in this second meaning, it is, as has been rightly observed, a 'right of influence'<sup>363</sup>.

207 Well, it seems possible to affirm that the application of artificial intelligence tools in the judicial proceedings can strongly limit the epistemic function and the same effectiveness of the adversarial principle. As mentioned above, a distinctive feature of artificial intelligence tools (at least for the purposes of this research) is the fact that they are not intuitive, in the sense that a human cannot easily understand the mechanism that led the algorithm to make a certain decision.<sup>364</sup>

208 In this case we could ask whether it really makes sense to try to control the application of AI tools. This question may seem very provocative. Virtually all legal experts dealing with artificial intelligence say that the use of artificial intelligence tools must always be under the control of a human being. Human oversight, after all, is also imposed by the EU AI Act (Regulation n 1689/2024/EU); according to Article 14 of that regulation, whoever

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<sup>357</sup> M Taruffo, 'Poteri probatori delle parti e del giudice in Europa' (2006), Riv. trim. dir. proc. civ. 451; D Mitidiero, *Processo civil* (Revista dos Tribunais 2021) 203 (note 159 for more bibliographical references to Brazilian doctrine); L Cadet and E Jeuland (n 236).

<sup>358</sup> J Nieva Fenoll (n 23) 147; P Comoglio (n 237) 55.

<sup>359</sup> I Ferrari, D Becker (n 38) 280.

<sup>360</sup> L Cadet, J Normand and S Amrani Mekki (n 236).

<sup>361</sup> J Nieva Fenoll, *Derecho procesal, I, Introducción* (Tirant lo Blanch. Valencia 2022) 128.

<sup>362</sup> L Cadet, J Normand and S Amrani Mekki (n 236) 643 (according to whom 'the principle of the adversary has a first, classical function, which consists in ensuring the defence of the parties. It has a second function which goes beyond the framework of the interests at stake because it is a means of arriving at a solution which is closer to the truth of the dispute').

<sup>363</sup> A Cabral do Passo, 'El principio del contradictorio como derecho de influencia y deber de debate' (2010) 16 Revista Peruana de Derecho Procesal 261. Similarly, L Cadet, J Normand and S Amrani Mekki (n 236) 648 (who speak of 'contradictoire' as the power to 'contredire effectivement'). On this principle, in comparative perspective, F Ferrand, 'Le principe contradictoire et l'expertise en droit comparé européen' (2000) Revue internationale de droit comparé 345.

<sup>364</sup> W N Price and A K Rai (n 54) 775; J Burrell (n 2) 2; Mckinlay (n 45).

controls the algorithm must be able to understand and monitor its operation and interpret its results.<sup>365</sup>

- 209 This is the central point. Will a human being and, more specifically, a jurist (judge or lawyer) ever be able to effectively carry out this form of control? Beyond assertions of principle, it seems sincerely doubtful that this control can actually be carried out, precisely in view of the opacity of algorithms. Computer tools (including, no doubt, artificial intelligence tools) are not error-free; however, the errors made by these tools are qualitatively different from those made by humans, which makes it much more difficult for a human being to notice them. In fact, almost paradoxically, we could say that only another artificial intelligence tool is actually capable of detecting such errors.
- 210 In other words, and in conclusion, the (provocative, but only to a certain extent) question I ask myself is whether it really makes sense to regulate the use of artificial intelligence by providing for a necessary human control.<sup>366</sup>
- 211 Of course, the reliability of artificial intelligence tools should be checked beforehand. In addition, human input is still essential in the training and sample selection phases.<sup>367</sup> However, once this verification has been carried out, would it really be useful to monitor their performance?
- 212 We could suspect, frankly, that the maintenance of this kind of control serves simply to make socially acceptable the use of these tools in the search for and selection of evidence, as in a kind of new form of Procedural Justice.<sup>368</sup> Indeed, this control would appear to be very similar to what still happens today for airline pilots: no one is willing - yet - to accept to board a plane without a pilot, even if practically the entire flight is or could be effectively managed by computer, without any human verification: pilots check

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<sup>365</sup> Article 14 of the AI Act (EU) [https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=OJ:L\\_202401689#d1e3701-1-1](https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=OJ:L_202401689#d1e3701-1-1) accessed 12 September 2024.

<sup>366</sup> R Simmons, 'Big Data, Machine Judges, and the Legitimacy of the Criminal Justice System' (2018) 52 University of California, Davis 1067.

<sup>367</sup> M Grossman and G V Cormack (n 47).

<sup>368</sup> On the subject, on the fact that human decisions (although often inscrutable and based on often unconscious mechanisms) are more acceptable today than those made by algorithms B Brożek, M Furman, M Jakubiec and B Kucharzyk (n 27) 431. On the topic of procedural justice, see, in general, B Cavallone, "'Comme vous aultres, Monsieur" (François Rabelais teorico del processo e del giudizio)' (2008) Riv. dir. proc. 438; D Meyerson, C Mackenzie and T MacDermott (ed), *Procedural Justice and Relational Theory: Empirical, Philosophical, and Legal Perspectives* (Routledge 2021); N Duxbury, *Random Justice. On Lotteries and Legal Decision-Making* (Oxford University Press 1999); B Goodwin, *Justice by Lottery* (Pearson Education Limited 1992); L May and P Morrow, *Procedural Justice* (Routledge 2012); B Solum, 'Procedural Justice' (2004) 78 S. Cal. L. Rev. 181; C Brooks, C Gherhes and T Vorley (n 17) 135.

that the tools work, but they never question the criteria by which these tools make their decisions.<sup>369</sup>

### 8.5 Efficiency v Effectiveness: The Ultimate Challenge of New Technologies

213 But there is also an additional and ultimate risk. There is widespread agreement that access to justice must be effective. However, with the increasing application of technology to the judicial proceeding, there is the risk of abandoning the concept of effectiveness in favour of the concept of efficiency, ie, the typical parameter to which technology is related.

214 The change may seem minimal, but the difference is substantial.

215 Effectiveness is an absolute concept and does not involve any balancing with other values; efficiency, on the other hand, is a relative concept, which must be balanced with other values. In other words, effectiveness implies that there can be no errors. Of course, this is not in the sense of claiming that there are never mistakes; lawyers and judges make mistakes today and will make mistakes in the future.<sup>370</sup> Effectiveness implies that the risk of an error is not accepted, even if the error may occur. In contrast, efficiency inherently implies that there can be a margin of error and that full and complete contradiction is not necessary. In fact, the aim of the judicial proceedings should go beyond mere optimization to include the careful consideration of social and cultural norms, along with rigorous audits to ensure these standards are not being compromised.<sup>371</sup> In a nutshell, efficiency does not equate to quality.<sup>372</sup>

216 So, in conclusion, there is a risk that the judicial proceeding itself will be evaluated in terms of efficiency and no longer in terms of effectiveness and that, therefore, the possibility of errors will be taken for granted and accepted. So, do we want an effective judicial proceeding or an efficient one? Justice as fairness or justice as fitness?<sup>373</sup> This seems to me to be the ultimate challenge posed by artificial intelligence. Unfortunately, it is impossible to foresee what the outcome will be. In any case, we may agree on a guiding criterion for this balance; as it has been rightly observed, the efficiency of judicial proceedings cannot be achieved at any price and, therefore, even to the detriment of the quality of decisions.<sup>374</sup>

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<sup>369</sup> C V Giabardo, 'Ancora su "il giudice e l'algoritmo". riflessioni critiche su intelligenza artificiale e giustizia predittiva (occasionate da un contributo di Michele Taruffo)' (2023) *Revista Ítalo-Española de Derecho Procesal* 1, 11.

<sup>370</sup> J R Gunder (n 88) 408.

<sup>371</sup> S Chesterman (n 131) 271.

<sup>372</sup> Z Xu, 'Human Judges in the Era of Artificial Intelligence: Challenges and Opportunities' (2022) *Applied Artificial Intelligence*, 1026, 1032.

<sup>373</sup> This is the severe doubt posed by A Garapon and J Lassègue (n 84), 316.

<sup>374</sup> F Gascón Inchausti (n 23) 40.

**ABBREVIATIONS AND ACRONYMS**

ABA	American Bar Association (US)
ABS	Alternative Business Structure
ACHPR	African Court on Human and Peoples' Rights
ADR	Alternative Dispute Resolution
ADR	Alternative Dispute Resolution
AI	Artificial Intelligence
ALI	American Law Institute
ALSPs	Alternative Legal Service Providers
ANCCPC	Argentine National Civil and Commercial Procedural Code (Argentina)
Art	Article/Articles
ATCCP	Code of Civil Procedure (Austria)
BGH	<i>Bundesgerichtshof</i> (Federal Court of Justice) [Germany]
BID	<i>Banco Interamericano de Desarrollo</i> (Inter-American Development Bank)
BRCCP	Code of Civil Procedure (Brazil)
CCPL-Col	Code of Civil Procedure (Columbia)
CCPL-Mex	Code of Civil Procedure (Mexico)
CCPL-Peru	Code of Civil Procedure (Peru)
CEPEJ	<i>Conseil de l' Europe Commission européenne pour l' efficacité de la justice</i> (Council of Europe European Commission for the efficiency of justice)
cf	<i>confer</i> (compare)
ch	chapter
CHCCP	Code of Civil Procedure (Switzerland)
CIDH	<i>Corte Interamericana de Derechos Humanos</i> (Interamerican Court of Human Rights)
CJEU	Court of Justice of the European Union
EBRD	European Bank for Reconstruction and Development
ECLI	European Case Law Identifier
ECtHR	European Court of Human Rights
ed	editor/editors
edn	edition/editions
eg	<i>exempli gratia</i> (for example)
ELI	European Law Institute
etc	et cetera
EU	European Union
EUR	Euro
ff	following
fn	footnote (external, ie, in other chapters or in citations)

GCCP	Code of Civil Procedure (Germany)
GDPR	General Data Protection Regulation (EU)
ibid	<i>ibidem</i> (in the same place)
ICPR	Civil Procedure Regulations (Israel)
ICT	Information and Communication Technologies
ie	<i>id est</i> (that is)
IIDP	<i>Instituto Iberoamericano de Derecho Procesal</i> (Iberoamerican Institute of Procedural Law)
ITCCP	Code of Civil Procedure (Italy)
JCCP	Code of Civil Procedure (Japan)
JPY	Japanese Yen
LEC	<i>Ley de Enjuiciamiento Civil</i>
n	footnote (internal, ie, within the same chapter)
NLO	Nonlawyer Ownership of Law Firms
no	number/numbers
NLP	Natural Language Processing
ODR	Online Dispute Resolution
para	paragraph/paragraphs
PD	Practice Direction
PDPACP	Pre-Action Conduct and Protocols
pt	part
RDG	<i>Rechtsdienstleistungsgesetz</i> (Legal Services Act) (Germany)
RSC Order	Rules of the Supreme Court (UK)
SCC	Supreme Court Canada
Sec	Section/Sections
ss	<i>Scilicet</i> (that is to say; namely)
supp	supplement/supplements
TAR	Technology Assisted Review
trans/tr	translated, translation/translator
UK	United Kingdom
UKCPR	Civil Procedure Rules (UK)
UNIDROIT	<i>Institut international pour l' unification du droit privé</i> (International Institute for the Unification of Private Law)
UP	University Press
UPL	Unauthorized Practice of Law
US / USA	United States of America
USD	United States Dollar
USFRCP	Federal Rules of Civil Procedure (US)
USFRE	Federal Rules of Evidence (US)
v	versus
vol	volume/volumes

## LEGISLATION

### International/Supranational

European Convention on Human Rights 1951.

EU Regulation laying down harmonised rules on artificial intelligence and amending Regulations (EC) No 300/2008, (EU) No 167/2013, (EU) No 168/2013, (EU) 2018/858, (EU) 2018/1139 and (EU) 2019/2144 and Directives 2014/90/EU, (EU) 2016/797 and (EU) 2020/1828 (Artificial Intelligence Act), n. 2024/1689/UE of 13 June 2024.

EU Regulation on the protection of natural persons with regard to the processing of personal data and on the free movement of such data (General Data Protection Regulation), n. 2016/679/UE of 27 April 2016.

EU Directive on certain rules governing actions for damages under national law for infringements of the competition laws of the Member States and of the European Union, n. 2014/104/UE of 26 November 2014.

CEPEJ European Ethical Charter on the use of artificial intelligence (AI) in judicial systems and their environment.

CEPEJ Information note on the Use of Generative Artificial Intelligence (AI) by judicial professionals in a work-related context of 12 February 2024.

### National

Artificial Intelligence (AI) Guidance for Judicial Office Holders (UK).

Artificial Intelligence Law of the People's Republic of China (Draft for Suggestions from Scholars).

Civil Procedure Rules (UK).

*Code de procédure civile* (French Code of Civil Procedure).

*Codice di procedura civile* (Italian Code of Civil Procedure).

*Código Federal de Procedimientos Civiles* (Mexican Code of Civil Procedure).

*Código Procesal Civil* (Peruvian Code of Civil Procedure).

*Código de Processo Civil 2015* (Brazilian Code of Civil Procedure 2015).

Federal Rules of Civil Procedure (US).

Federal Rules of Evidence (US).

Interim measures for the management of generative AI services 15.8.2023 (China).

*Ley de Enjuiciamiento Civil* (Spanish Civil Procedure Act).



Law n 247 of 31 December 2012 (Italy).

Law n° 71-1130 of 31 December 1971 (France).

Law n 2016-1321 of 7 October 2016, Law for a Digital Republic (France).

Legal Services Act 2007, c 29 (UK).

Model Rules of Professional Conduct (US).

Public Records Act 1958.

Real Decreto 658/2001, of 22 June 2001 (*Estatuto general de la abogacía española*) (Spain).

*Rechtsdienstleistungsgesetz*-RDG (German Legal Services Act).

15 USC § 9401(3) (US).

## CASES

### International/Supranational

*Prezes Urzędu Komunikacji Elektronicznej v Commission*, Joined Cases C-422/11 P and C-423/11 P (CJEU), Judgment 6 September 2012 [ECLI:EU:C:2012:553]

*Nikula v. Finland*, case 31611/96, (ECtHR), Judgment 30 November 2000 [ECLI:CE:ECHR:2002:0321JUD003161196]

*Sigurður Einarsson v. Iceland*, case 39757/15, (ECtHR), Judgment 9 April 2009, Partly Dissenting Opinion of Judge Pavli, [ECLI:CE:ECHR:2019:0604JUD003975715]

### National

US:

*In re Samuel*, 2024 N.Y. Slip Op. 24014 (N.Y. Surr. Ct. 2024)

*In re: Insulin Pricing Litigation*, MDL No. 3080, 2024 WL 2808083 (D. New Jersey May 28, 2024)

*In re Meta Pixel Healthcare Litigation*, No. 22-cv-03580, 2023 WL 4361131, at \*1 (N.D. Cal. June 2, 2023)

*Nichols v. Noom Inc.*, 20-CV-3677 (LGS) (KHP) (S.D.N.Y. May. 6, 2021)

*Faridian v. DoNotPay, Inc.*, 23-cv-01692-RFL (N.D. Cal. Feb. 1, 2024)

*MillerKing, LLC v. DoNotPay, Inc.*, 3:23-CV-863-NJR (S.D. Ill. Nov. 28, 2023)

*Mata v. Avianca, Inc.*, 22-cv-1461 (PKC) (S.D.N.Y. Jun. 22, 2023)

*Park v. Kim*, No. 22-2057 (2d Cir. 2024)

*Johnson v. DTBA, LLC*, 424 F. Supp. 3d 657, 662 (N.D. Cal. 2019)

*Tesoro Refin. & Mktg. Co. v. City of Long Beach*, 334 F. Supp. 3d 1031, 1041-42 (C.D. Cal. 2017)

*Lola v. Skadden, Arps, Slate, Meagher & Flom*, No. 14-3845 (2d Cir. 2015)

*United States v. Perea-Rey*, 680 F.3d 1179, 1182 n.1 (9th Cir. 2012)

*Global Aerospace Inc. v. Landow Aviation, L.P.* No. CL. 61040 (Va. Cir. Ct. Apr. 23, 2012)

*Da Silva Moore v. Publicis Groupe*, 287 F.R.D. 182 (S.D.N.Y. 2012)

*Janson v. Legalzoom.com, Inc.*, 802 F. Supp. 2d 1053 (W.D. Mo. 2011)

*Gideon v. Wainwright*, 372 US 335, 343 (1963).

*Stocker v. Boston & Me, R.R.*, 151, A. 457-8 (N.H. 1930)

UK:

*Isbilen v Turk & Ors* [2022] EWHC 697 (Ch)

*Astra Asset Mgmt. UK Ltd. v. Musst Investments; Musst Holdings Ltd v Astra Asset Mgmt. UK Ltd.*, [2020] EWHC (Ch) 1871

*Pyrrho Investments Ltd v MWB Property Ltd* [2016] EWHC 256 (Ch)

*Brown v BCA Trading Ltd* [2016] EWHC 1464 (Ch)

*David Brown v. BCA Trading Ltd.*, [2016] EWHC (Ch) 1464

Australia:

*McConnell Dowell Constructors (Aust) Pty Ltd v Santam Ltd & Ors*, 2 December 2016, VSC 734; 51 VR 421

Canada:

*Perlmutter v. Smith*, 2021 ONSC (Ontario Superior Court of Justice) 1372, 2021 CarswellOnt 2055,

*PM&C Specialist Contractors Inc. v. Horton CBI Ltd.*, 2017 ABQB (Alberta Court of Queen' s Bench) 400

Germany:

*Lexfox*, Bundesgerichtshof, BGH, Urteil vom 27.11.2019 - VIII ZR 285/18

Hong Kong:

*China Metal Recycling (Holdings) Ltd. (In Liquidation) v. Deloitte Touche Tohmatsu*,  
[2022] H.K.C. 2344 (C.F.I.)

Ireland:

*Irish Bank Resol. Corp. v. Quinn*, [2015] IEHC 175 (H. Ct.)

## BIBLIOGRAPHY

- Abel R, *English Lawyers between the Market and the State: The Politics of Professionalism* (Oxford University Press 2003)
- Adams ES, 'Rethinking the Law Firm Organizational Form and Capitalization Structure' (2013) 78 Mo. L. Rev. 777
- Adams Z, Adams-Prass A and Adams-Prassl J, 'Online tribunal judgments and the limits of open justice' (2022) 42 Legal Studies 42
- Agrawal A, Gans JS, and Goldfarb A, 'Exploring the impact of artificial Intelligence: Prediction versus judgment' (2019) 47 Information Economics and Policy 1
- Aidid A, 'Toward and Ethical Human-Computer Division of Labor in Law Practice' (2024) 92 Fordham L Rev 1797
- Alexander CS, 'Litigation Outcome Prediction, Access to Justice, and Legal Endogeneity', DF Engstrom (dir.), *Legal Tech and the Future of Civil Justice* (Cambridge University Press 2023) 155
- Allen RJ, 'Complexity, the Generation of Legal Knowledge, and the Future of Litigation' (2013) in 60 Ucla L. Rev. 1388
- Ananny M, 'Seeing like an Algorithmic Error: What Are Algorithmic Mistakes, Why Do They Matter, How Might They Be Public Problem?' (2022) 24 Yale JL & Tech 342
- Anderson C, 'The End of Theory: The Data Deluge Makes the Scientific Method Obsolete' (2008) Wired, 23 June 2008, <https://www.wired.com/2008/06/pb-theory/> accessed 30 June 2024
- Andrews TR, 'Nonlawyers in the Business of Law: Does the One Who Has the Gold Really Make the Rules?' (1989) 40 Hastings L.J. 629
- Ansanelli V, 'Problemi di preparazione e trattazione delle controversie civili', A Dondi, V Ansanelli and P Comoglio, *Processi civili in evoluzione* (Giuffrè Milano 2018) 170
- Asai T, 'The Image of the Lawyer in Modern China', S. Fuma, *Research on the Social History of Chinese Litigation* (Kyoto University Press 2011) 566
- Ashley KD, *Artificial Intelligence and Legal Analytics: New Tools for Law Practice in the Digital Age* (Cambridge UP 2017)

- Ashley KD, 'Automatically Extracting Meaning from Legal Texts: Opportunities and Challenges' (2019) 35 Ga. St. U. L. Rev. 1117
- Avery JJ, Sanchez Abril P and del Riego A, 'ChatGPT, Esq.: Recasting Unauthorized Practice of Law in the Era of Generative AI' (2023) 26 Yale Journal of Law and Technology 64
- Barkett JM, *The Ethics of E-Discovery* (American Bar Association Chicago 2009)
- Barrio Andrés M (dir), *Legal Tech: la transformación digital de la abogacía* (Wolters Kluwer Madrid 2019)
- Barry N, 'Man Versus Machine Review: The Showdown Between Hordes of Discovery Lawyers and A Computer-Utilizing Predictive-Coding Technology' (2013) 15 Vand. J. Ent. & Tech 343
- Barton BH, 'The Future of American Legal Tech: Regulation, Culture, Markets', DF Engstrom (dir.), *Legal Tech and the Future of Civil Justice* (Cambridge University Press 2023) 23.
- Barton BH, 'The Lawyer' s Monopoly—What Goes and What Stay's (2014) 82 Fordham L. Rev. 3068, 3074.
- Barton BH, 'Why Do We Regulate Lawyers: An Economic Analysis of the Justifications for Entry and Conduct Regulation' (2001) 33 Ariz St LJ 429
- Barton BH and Bibas S, *Rebooting Justice: More Technology, Fewer Lawyers, and the Future of Law* (Encounter Books 2017)
- Barton BH and Rhode DL, 'Access to Justice and Routine Legal Services: New Technologies Meet Bar Regulators' (2019) 70 Hastings L.J. 956
- Baxter R, 'Dereliction of Duty: State-Bar Inaction in Response to America' s Access-to-Justice Crisis' (2022) 132 Yale L.J. Forum 228
- Beisner JH, 'Discovering a Better Way: the Need for Effective Civil Litigation Reform' (2010) 60 Duke L. J. 556
- Bellin J and Ferguson AG, 'Trial by Google: Judicial Notice in the Information Age' (2014) 108 Nw. U. L. Rev. 1142



- Benyekhlef K (ed), *AI and Law: A Critical Overview* (Montreal Les Éditions Thémis 2021)
- Benyekhlef K, J Zhu, 'Intelligence artificielle et justice: justice prédictive, conflits de basse intensité et données massives' (2018) 30 *Les Cahiers de propriété intellectuelle*, 789,
- Berrod F, 'Le modèle européen de régulation de l' intelligence artificielle' (2024) 25 *La revue des juristes de Sciences Po*, 1
- Bhattacharya P, Paul S, Ghosh K, Ghosh S and Wyner A, 'DeepRhole: deep learning for rhetorical role labelling of sentences in legal case documents' (2023) 31 *Artificial Intelligence and Law* 53, 87
- Biard A, 'Justice en ligne ou nouveau Far West? La difficile régulation des plateformes en ligne de règlement extrajudiciaire des litiges' (2019) *Revue internationale de droit économique* 165
- Boyd D, and Crawford K, *Critical Questions for Big Data* (2012) *Information, Communication & Society* 665.
- Bomhard D, Merkle M, 'Regulation of Artificial Intelligence. The EU Commission's Proposal of an AI Act' (2021) 6 *Journal of European Consumer and Market Law* 257
- Brazil WD, 'The Adversary Character of Civil Discovery: A Critique and Proposals for Change' (1978) 31 *Vand. L. Rev.* 1299
- Brewer S, 'Scientific Expert Testimony and Intellectual Due Process' (1998) 107 *Yale L. J.* 1535
- Brimo BK, 'How Should Legal Ethics Rules Apply When Artificial Intelligence Assists Pro Se Litigants?' (2022) 35 *Geo J Legal Ethics* 549
- Brooks C, Gherhes C, Vorley T, 'Artificial intelligence in the legal sector: pressures and challenges of transformation' (2020) 13 *Cambridge Journal of Regions, Economy and Society* 135
- Brożek B, Furman M, Jakubiec M and Kucharzyk B, 'The black box problem revisited. Real and imaginary challenges for automated legal decision making' (2023) 32 *AI & Law* 427
- Buckland MK, 'What is a "document"?' (1997) 48 *J. Am. Soc. Inf. Sci.* 808.

Bueno De Mata F, 'La necesidad de regular la inteligencia artificial y su impacto como tecnología disruptiva en el proceso: de desafío utópico a cuestión de urgente necesidad', in F Bueno De Mata (coord) *El impacto de las tecnologías disruptivas en el Derecho procesal* (Aranzadi 2022) 15

Burke P, *A Social History of Knowledge II. From the Encyclopedia to Wikipedia* (Polity Cambridge 2012)

Burrell J, 'How the machine 'thinks': Understanding opacity in machine learning algorithms' (2016) *Big Data & Society* 2.

Byrom N, 'Digital Justice: HMCTS data strategy and delivering access to justice'. The Legal Education Foundation (2019) available at <https://research.thelegaleducationfoundation.org/research-learning/funded-research/digital-justice-hmcts-datastrategy-and-delivering-access-to-justice-report-and-recommendations> (<https://perma.cc/A4GD-YWPM>)

Cabral do Passo A, 'El principio del contradictorio como derecho de influencia y deber de debate' (2010) 16 *Revista Peruana de Derecho Procesal* 261

Cadiet L and Jeuland E, *Droit judiciaire privé* (LexisNexis 2013)

Cadiet L, Chainais C and Sommer JM (dir), Jobert S and Jond-Necand E (rapp.), *La diffusion des données décisionnelles et la jurisprudence*, Rapport remis à la première présidente de la Cour de cassation et au procureur général près la Cour de cassation - juin 2022, <https://www.courdecassation.fr/publications/autre-publication-de-la-cour/la-diffusion-des-donnees-decisionnelles-et-la>

Cadiet L, Normand J and Amrani Mekki S, *Théorie générale du procès* (Presses Universitaires de France 2020)

Cagnasso O, 'L'oggetto sociale della società tra professionisti e della società tra avvocati' (2014) *Giur. comm. II* 6

Calabresi A, 'Machine Lawyering and Artificial Attorneys: Conflicts in Legal Ethics with Complex Computer Algorithms' (2021) 34 *Georgetown J. Leg. Ethics* 789

Calamandrei P, *Estudios sobre proceso civil: la definición del hecho notorio* (Editorial Bibliográfica Argentina 1945) 204

Calamandrei P, 'Per la definizione del fatto notorio' (1925) *Riv. dir. proc. civ. I*, 294

Cappelletti M, *La testimonianza della parte nel sistema dell' oralità* (Giuffrè Milano 1962)

Carr N, *The Glass Cage. Automation and Us* (W W Norton & Co Inc New York 2014)

Caserta S and Madsen M, 'The Legal Profession in the Era of Digital Capitalism: Disruption or New Dawn?' (2019) 8 *Laws* 1, 14

Cavallone B, "Comme vous aultres, Monsieur' (François Rabelais teorico del processo e del giudizio)' (2008) *Riv. dir. proc.* 438

Chayes A and Chayes AH, 'Corporate Counsel and the Elite Law Firm' (1985) 37 *Stan. L. Rev.* 277

Chesterman S, 'Through a Glass, Darkly: Artificial Intelligence and the Problem of Opacity' (2021) 69 *Am. J. Comp. Law.* 271.

Cohen JH, *The Law: Business or Profession?* (G.A. Jennings Rev. ed. 1924)

Comoglio P, *Il processo come fenomeno economico di massa. Problemi di finanziamento e di remunerazione delle controversie civili* (Giappichelli Torino 2022)

Comoglio P, 'Inteligencia artificial y selección de pruebas en el proceso civil: ¿hacia un proceso más inteligente o hacia un proceso más artificial?' (2022) *Revista Ítalo-Española De Derecho Procesal* 55

Comoglio P, *Nuove tecnologie e disponibilità della prova* (Giappichelli Torino 2018)

Comoglio P, 'Wikipédia et informations en ligne: vers une nouvelle forme de notoriété des faits?' (2020) *Int. J. Proc. Law* 4

Cook JJ and Mavrova Heinrich DR, 'AI-Ready: Ethical Obligations and Privacy Considerations in the Age of Artificial Intelligence' (2024) 72 *U Kan L Rev* 313

Cross R and Harris J, *Precedent in English Law* (4th edn, OUP 1991)

Crump D, 'Goodbye, Reasonably Calculated; You' re Replaced by Proportionality: Deciphering the New Federal Scope of Discovery' (2016) 23 *Geo. Mason L. Rev.* 1093

Damaška M, 'Free Proof and its Detractor' (1995) 43 *Am. J. Comp. L.* 343

Davis EA, 'The Meaning of Professional Independence' (2003) 103 Colum. L. Rev. 1281, 1282

Davis JP, 'Law Without Mind: AI, Ethics, and Jurisprudence' (2018) 55 Cal. West. L. Rev. 165

Davis JP, 'Of Robolawyers and Robojudges' (2022) 73 Hastings L.J., 1173

Davis KC, 'An Approach to Problems of Evidence in the Administrative Process' (1942) 55 Harv. L. Rev. 364

De Mulder W, Valcke P and Baeck J, 'A collaboration between judge and machine to reduce legal uncertainty in disputes concerning ex aequo et bono compensations' (2023) 31 Artificial Intelligence and Law 325, 326.

Deffains B, 'L' avocat et le marché: une perspective économique' (2023) Arch. phil. droit 291.

Denno DW and Valencia-Graham E, 'The New AI: The Legal and Ethical Implications of ChatGPT and Other Emerging Technologies' (2024) 92 Fordham L Rev 1785

Deumier P, 'La justice prédictive et les sources du droit: la jurisprudence du fond' (2018) 60 Arch. phil. Droit 49

Dezalay Y, *Marchands de Droit. La Restructuration de l' Ordre Juridique International par les Multinationals du Droit* (Paris Fayard 1992)

Dezalay Y, 'The Big Bang and the Law: The Internationalization and Restructuration of the Legal Field' 1990 7 Theory, Culture & Society 279

Dezalay Y and Garth BG, 'The Confrontation between the Big Five and Big Law: Turf Battles and Ethical Debates as Contests for Professional Credibility' (2004) Law & Social Inquiry 615

Dondi A, 'Conduite de l' avocat et loyauté procédurale – Une tentative de mise à jour', in JY Chérot (ed), *Mélanges en l' honneur de Jean-Louis Bergel* (Bruylant 2012) 867

Dondi A, 'Problemi ricorrenti e impostazione metodologica', in A Dondi, V Ansanelli and P Comoglio, *Processi civili in evoluzione. Una prospettiva comparata* (Milano Giuffré 2018) 5

Dondi A, Ansanelli V, and Comoglio P, *Procesos civiles en evolución. Una perspectiva comparada* (Marcial Pons 2017)

Dowling D, 'Tarpits: The Sticky Consequences of Poorly Implementing Technology-Assisted Review' (2020) 35 in Berkeley Tech. L.J. 171

Dryman TD, Baron JR, 'The Road to Predictive Coding: Limitations on the Defensibility of Manual and Keyword Searching', in JR Baron, MD Losey and RC Berman (coord), *Perspectives on Predictive Coding. And Other Advanced Search Methods for the Legal Practitioner* (ABA Chicago 2016) 5, 29

Duxbury N, *Random Justice. On Lotteries and Legal Decision-Making* (Oxford University Press 1999)

Duxbury N, *The Nature and Authority of Precedent* (Cambridge UP 2008)

Dzienkowski J, 'The Future of Big Law: Alternative Legal Service Providers to Corporate Clients' (2014) Fordham Law Review 2995

Ellul J, *La technique ou l'enjeu du siècle* (Paris, A. Colin 1954)

Endicott T, Kristjánsson HD, and Lewis S (ed), *Philosophical Foundations of Precedent* (Oxford UP 2023)

Endo K, 'Discovery Hydraulics' (2019) 52 U.C. Davis L. Rev. 1317

Engstrom DF, 'Digital Civil Procedure' (2021) 69 U. Penn L. Rev. 1

Engstrom DF (ed), *Legal Tech and the Future of Civil Justice* (Cambridge UP 2023)

Engstrom DF and NF Engstrom, 'Legal Tech and the Litigation Playing Field', in DF Engstrom (dir), *Legal Tech and the Future of Civil Justice* (Cambridge University Press 2023) 133

Engstrom DF, and Gelbach JB, 'Legal Tech, Civil Procedure, and the Future of Adversarialism' (2021) 169 University of Pennsylvania Law Review 1001, 1031.

Fallis D, 'Toward an Epistemology of Wikipedia' (2008) 59 J. Am Soc. Inf. Science & Tech. 1667

Ferey S, 'Analyse économique du droit, big data et justice prédictive' (2018) 60 Arch. phil. Droit 67

- Ferrand F, 'Le principe contradictoire et l' expertise en droit comparé européen' (2000) *Revue internationale de droit comparé* 345
- Ferrari F, Mustari D, 'The New Technologies and the Civil Justice as Commons' (2023) *Revista Ítalo-Española de Derecho Procesal* 121
- Ferrari I, Becker D, 'Direito à explicação e decisões automatizadas: reflexões sobre o princípio do contraditório', in Nunes D, Dos Santos Lucon PH and Navarro Wolkart E (coord), *Inteligência Artificial e Direito Processual: Os Impactos da Virada Tecnológica no Direito Processual* (Juspodivm Salvador 2021) 291
- Ferrer Beltrán J, 'Legal Proof and Fact Finders' (2006) *12 Legal Theory* 293
- Filiol E, 'Les risques concernant l' utilisation des algorithmes dits prédictifs dans le domaine sensible de la justice' (2018) *60 Arch. phil. Droit* 147
- Floridi L, *The 4th revolution. How the infosphere is reshaping human reality* (Oxford UP 2014)
- Floridi L, *Robots, Jobs, Taxes, and Responsibilities* (2017) *Philos. Technol.* 1
- Foer F, *World Without Mind: The Existential Threat of Big Tech* (Penguin Putnam Inc 2017)
- Fox LJ, 'Accountants, the Hawks of the Professional World: They Foul Our Nest and Their Too, Plus Other Ruminations on the Issue of MDPs' (2000) *84 Minn. L. Rev.* 1106
- Frankel ME, 'The Search for Truth: An Umpireal View' (1975) *123 U. Penn. L. Rev.* 1033
- Frankenreiter J and Nyarko J, 'Natural Language Processing in Legal Tech', in DF Engstrom (dir), *Legal Tech and the Future of Civil Justice* (Cambridge University Press 2023) 70
- Freedman MH, 'Judge Frankel' s Search for Truth' (1975) *123 U. Pa. L. Rev.* 1060
- Friedenthal JH, 'A Divided Supreme Court Adopts Discovery Amendments to the Federal Rules of Civil Procedure' (1981) *9 Cal. L. Rev.* 811
- Furlong J, 'The New Legal Economy: What Will Lawyers Do?' (2020) *Wis. Law.* 55



- Gabellini E. 'Algoritmi decisionali e processo civile: limiti e prospettive' (2022) Riv. trim. dir. proc. civ. 59
- Gabellini E, 'La 'comodità nel giudicare': la decisione robotica' (2019) Riv. trim. dir. proc. civ. 1305
- Galanter M and T Palay, *Tournament of Lawyers: The Transformation of the Big Law Firm* (University of Chicago Press 1991).
- Galloway AR, *Gaming: Essays on Algorithmic Culture* (Univ of Minnesota Pr, Minneapolis, 2006).
- Garapon A and Lassègue J, *Justice digitale* (PUF Paris 2018)
- Garner BA et al, *The Law of Juridical Precedent* (Thomson Reuters 2016)
- Gascón Inchausti F, 'Eficiencia procesal y sistemas de inteligencia artificial: la necesidad de pasar a la acción normativa', in F Ordóñez Ponz, SF Rodríguez Ríos, S Pereira i Puigvert (dir), T Armenta Deu (pr), MJ Pesqueira Zamora (dir), *Modernización, eficiencia y aceleración del proceso* (Aranzadi 2022) 41
- Gelbach JB and Kobayashi BH, 'The Law and Economics of Proportionality in Discovery' (2016) 50 Ga. L. Rev. 1093
- Giabardo CV, 'Ancora su "il giudice e l' algoritmo". riflessioni critiche su intelligenza artificiale e giustizia predittiva (occasionate da un contributo di Michele Taruffo)' (2023) Revista Ítalo-Española de Derecho Procesal 1
- Gillers S, 'A Profession, If You Can Keep It: How Information Technology and Fading Borders Are Reshaping the Law Marketplace and What We Should Do About It' (2012) 63 Hastings L.J. 953
- Gisborne J, Patel R, Paskell C, et al, *Justice Data Matters: Building a public mandate for court data use* (The Legal Education Foundation 2022), IPSOS available at: <https://research.thelegaleducationfoundation.org/wp-content/uploads/2022/07/Justice-Data-Matters-Report-Final-.pdf> (<https://perma.cc/39PUUVFV>)
- Glover GJ, 'Online Legal Service Platforms and the Path to Access to Justice' (2016) 90 Fla. B.J. 88
- Godwin EG, 'Judicial Notice and the Internet: Defining a Source Whose Accuracy Cannot Reasonably Be Questioned' (2015) 46 Cumb. L. Rev. 233

- Goldman AI, *Knowledge in a Social World* (Clarendon Press 1999)
- Good IJ, 'On the principle of total evidence' (1967) 17 *The British Journal for the Philosophy of Science* 319
- Goodman J, *Robots in Law: How Artificial Intelligence Is Transforming Legal Services* (Ark Group 2016)
- Goodwin B, *Justice by Lottery* (Pearson Education Limited 1992)
- Goodwin J, 'The Authority of Wikipedia' (2009), Ossa Conference Archive, 59
- Gordon LA, 'Overworked, Seeking Overtime: Contract Lawyers Push for Better Pay' (2017) 103 *Aba Journal* 10
- Gordon RW, 'The Independence of Lawyers' (1988) 68 *B.U. L. Rev.* 48
- Gorod BJ, 'The Adversarial Myth: Appellate Court Extra-Record Factfinding' (2011) 61 *Duke L.J.* 1.
- Greenstein S, 'Preserving the rule of law in the era of artificial intelligence (AI)' (2022) 30 *Artificial Intelligence and Law* 291, 292.
- Grimm PW, 'Are We Insane: The Quest for Proportionality in the Discovery Rules of the Federal Rules of Civil Procedure' (2017) 36 *Rev. Litig.* 117
- Grossman M, Grimm PW, Brown DG and Xu M, 'The GPTJudge: Justice in a Generative AI World' (2023) 23 *Duke L & Tech Rev* 1, 9.
- Grossman M and Cormack GV, 'Technology-Assisted Review in E-Discovery can be more effective and more efficient than exhaustive Manual Review' (2011) 17 *Rich. J.L. & Tech.* 82
- Guillemard S, Kerneis S, Menetrey S, 'La vie formulaire - Entre procédure judiciaire et dérive administrative du droit d' hier à aujourd' hui' (2018) 8 *Revue int. droit proc.* 322
- Gunder JR, 'Why Can' t I Have a Robot Lawyer? Limits on the Right to Appear Pro Se' (2014) 98 *Tul. L. Rev.* 363, 403
- Guttenberg JA, 'Practicing Law in the Twenty-First Century in a Twentieth (Nineteenth) Century Straightjacket: Something Has to Give' (2012) *Mich. St. L. Rev* 415, 480

Haack S, 'Epistemology Legalized: Or Truth, Justice, and the American Way' (2004) 49 Am. J. Jur. 56

Haack S, *Evidence matters. Science, Proof, and the Truth in the Law* (Cambridge University Press 2014)

Hadfield G, 'Legal Barriers to Innovation: The Growing Economic Cost of Professional Control over Corporate Legal Markets' (2008) 60 Stan. L. Rev. 1726

Hartung M, Bues M and Halbleib G, *Legal Tech* (Munich, C. H. Beck 2018)

Hazard GC, 'From Whom No Secrets are Hid' (1998) 76 Tex. L. Rev. 1694

Hazard GC and Dondi A, 'A Short Historical Sketch of the Legal Professions' (2001) ZZP Int. 205

Hazard GC and Dondi A, *Legal Ethics. A comparative study* (Stanford University Press 2004)

Hazard GC and Dondi A, 'Responsibilities of Judges and Advocates in Civil and Common Law: Some Lingering Misconceptions Concerning Civil Lawsuits' (2006) 39 Cornell Int'l L.J. 59

Hazard GC, Taruffo M, *American Civil Procedure. An Introduction* (Yale University Press 1995)

Heesen R, 'How Much Evidence Should One Collect?' (2015) 172 Philosophical Studies 2299

Heiss S, 'Artificial Intelligence Meets European Union Law. The EU Proposals of April 2021 and October 2020' (2021) 10 Journal of European Consumer and Market Law 252

Helberger N, Araujo T, de Vreese CH, 'Who is the fairest of them all? Public attitudes and expectations regarding automated decision-making' (2020) 39 Comput Law Secur Rev 39:105456. <https://doi.org/10.1016/j.clsr.2020.105456>

Hellwig H and Ewer W, 'Keine Angst vor Legal Tech' (2020) Neue Juristische Wochenschrift 1783

Hill RK, 'What an Algorithm Is' (2016) Philos. Technol. 35

- Hoch V and Hendricks J, 'Das RDG und die Legal Tech-Debatte: Und wo bleibt das Unionsrecht?' (2020) *Verbraucher und Recht* 254
- Hoffmeister TA, 'Google, Gadgets, and Guilt: Juror Misconduct in the Digital Age' (2012) in 83 *U. Colo. L. Rev.* 409
- Hoffmeister TA, 'Investigating Jurors in the Digital Age: One Click at a Time' (2012) *Kans. L. Rev.* 611
- Hume, 'Preparing for the near future: deep learning and the law', in Jr Baron, Md Losey, Rc Berman (ed), *Perspectives on predictive coding. and other advanced research methods for the legal practitioner* (ABA Book Publishing Chicago 2016) 559.
- Hyde A, 'Plaidoyer pour l' inclusion des outils de jurimétrie dans le futur règlement européen sur l' intelligence artificielle' (2023) *La semaine juridique - édition générale - n° 39 - 2 octobre 2023*, 1276
- Janeček V, 'Judgments as bulk data' (2023) *Big Data & Society* 1
- Janssen A, and Vennmanns TJ, 'The Effects of Technology on Legal Practice From Punch Card to Artificial Intelligence?', in LA Di Matteo, A Janssen, P Ortolani, F de Elizalde, M Cannarsa, M Durovic (ed) *The Cambridge Handbook of Lawyering in the Digital Age* (Cambridge University Press 2021)
- Jarrett-Kerr N, 'Alternative Business Structures – the Long Pregnancy' (2011) 11 *Legal Information Management*, 82
- Jenkins J, 'What Can Information Technology Do for Law?' (2008) *Harvard J. L. & Tech.* 604
- Jeuland E, 'Justice numérique, justice inique?' (2019) 64 *Cahiers de la Justice* 193
- Jiang JC, Di Matteo LA, Thomas RE, 'Disruptive Effects of Legal Tech', in Di Matteo LA, Janssen A, Ortolani P, de Elizalde F, Cannarsa M and Durovic M (ed), *The Cambridge Handbook of Lawyering in the Digital Age* (Cambridge University Press 2021) 9
- Jones S, 'Trial by Google Maps? The Dangers of Admitting Privatized GIS Technology by Judicial Notice' (2023) 60 *Cal W L Rev* 185

Julià Pijoan N, *Proceso penal y (neuro)ciencia: una interacción desorientada. Una reflexión acerca de la neuropredicción* (Marcial Pons 2020)

Kagan RA and RE Rosen, 'On the Social Significance of Large Law Firm Practice' (1985) 37 Stan. L. Rev. 399

Kambrun-Favennec E, 'L' ouverture des données publiques: un préalable à la justice prédictive. Tour d' horizon des politiques d' ouverture des données publiques' (2018) 60 Arch. phil. Droit 83

Kaplan J, *Artificial Intelligence. What Everyone Needs to Know* (Oxford UP 2016)

Keats Citron DK, Pasquale F, 'The Scored Society: Due Process for Automated Predictions' (2014) 89 Wash. L. Rev. 6

Kilian M, 'Alternative Business Structures ante portas?' (2014) Neue Juristische Wochenschrift 1766

Kitamura I, 'L' avocat dans la culture japonaise' (2023) 64 Arch. phil. Droit 255

Kitchin R, 'Big Data, new epistemologies and paradigm shifts' (2014) Big Data & Society, 2

Knight FH, *Risk, uncertainty and profit* (Houghton Mifflin Company Boston-New York, 1921)

Lassègue J, 'L' Intelligence artificielle, technologie de la vision numérique du monde' (2019) 64 Cahiers de la Justice 205, 207

Laux J, Wachter S and Mittelstadt B, 'Trustworthy artificial intelligence and the European Union AI act: On the conflation of trustworthiness and acceptability of risk' (2024) 18 Regulation & Governance 3

Lebreton-Derrien S, 'La justice prédictive. Introduction à une justice "simplement" virtuelle' (2018) Archives de philosophie du droit 3

Leeb CM, 'Update Legal Tech: So entscheiden die Gerichte', [www.lto.de/recht/zukunft-digiales/l/update-legal-tech-rechtsprechung-urteile-uebersicht-2020-smartlaw-wenigermiete-inkassoerlaubnis-digitalisierung-kanzleien](http://www.lto.de/recht/zukunft-digiales/l/update-legal-tech-rechtsprechung-urteile-uebersicht-2020-smartlaw-wenigermiete-inkassoerlaubnis-digitalisierung-kanzleien) (accessed 30 June 2024)

Leith P and Fellows C, 'Enabling free on-line access to UK law reports: the copyright problem' (2009) 18 International Journal of Law and Information Technology, 72.

Lemond G, 'The Doctrine of Precedent and the Rule of Recognition', in T Endicott, HD Kristjánsson and S Lewis (ed), *Philosophical Foundations of Precedent* (Oxford UP 2023), 21

Lener R, 'L' esercizio in forma associata della professione di avvocato in Inghilterra' (2005) *Anal. giur. econ.* 89

Livermore MA, Beling P, Carlson K, Dadgostari F, Guim M and Rockmore DN, 'Law Search in the Age of the Algorithm' (2020) *Mich St L Rev* 1183

Luban D, *Lawyers and Justice. An Ethical Study* (Princeton UP 1988)

Lucy W, 'The Death of Law: Another Obituary' (2022) *Cambridge Law J.* 109

Lustig C, Pine K, Nardi B, Irani L, Lee MK, Nafus D and Sandvig C, 'Algorithmic Authority: The Ethics, Politics, and Economics of Algorithms that Interpret, Decide, and Manage', *CHI EA 2016: #chi4good - Extended Abstracts, 34th Annual CHI Conference on Human Factors in Computing Systems*, 1057.10.1145/2851581.2886426 accessed 30 June 2024

Magrath P and Beresford G, *Publication of listed judgments: Towards a new benchmark of digital open justice* (The Incorporated Council of Law Reporting for England and Wales 2023), available at <https://www.iclr.co.uk/wp-content/uploads/media//2023/01/Publication-of-listed-judgments-final.pdf>

Mantelero A, *Beyond Data Human Rights, Ethical and Social Impact Assessment in AI* (Springer Berlin 2022) 140

Marcus R, 'E-Discovery and Beyond: Toward Brave New World or 1984?' (2006) 25 *Rev. Litig.* 633

Marcus R, 'E-Discovery Beyond the Federal Rules' (2007) 37 *U. Balt. L. Rev.* 329

Marcus R, "'Looking Backward' to 1938" (2014) *U. Pa. L. Rev.* 1724

Marcus R, 'Only Yesterday: Reflections on Rulemaking Responses to E-Discovery' (2004) 73 *Fordham L. Rev.* 1

Marcus R, 'The Electronic Lawyer' (2009) 58 *DePaul L. Rev.*, 273

Marcus R, 'The Impact of Computers on the Legal Profession: Evolution or Revolution?' (2008) 102 *Nw. U. L. Rev.*, 2008, 1827.



- Masieri C, 'Associazione tra avvocati, società tra avvocati e responsabilità professionale nel dir. italiano e comparato' (2020) Riv. trim. dir. proc. civ, 630
- Massaro M, 'Le réseau des projets LegalTechs en Belgique. Entre innovations techniques et avocats-entrepreneurs du droit' (2023) 46 Sociologies pratiques, 99
- Massart T, 'Les avocats confrontés à l' intelligence artificielle' (2023) Revue Pratique de la Prospective et de L' innovation 13
- May L and Morrow P, *Procedural Justice* (Routledge 2012)
- Mayer-Schönberger V, and Cukier K, *Big Data: A Revolution That Will Transform How We Live, Work, and Think* (Houghton Mifflin Harcourt New York 2013)
- McGinnis JO, Pearce RG, 'The Great Disruption: How Machine Intelligence Will Transform the Role of Lawyers in the Delivery of Legal Services' (2014) 82 Fordham L. Rev. 3041
- McKinlay S, 'Evidence, Explanation and Predictive Data Modelling' (2017) Philos. Technol. 463
- McQuillan D, 'Algorithmic paranoia and the convivial alternative' (2016) Big Data & Society 1
- Medianik K, 'Artificially Intelligent Lawyers: Updating the Model Rules of Professional Conduct in Accordance with the New Technological Era' (2018) 39 Cardozo L. Rev. 1498.
- Medvedeva M, Wieling M and Vols M, 'Rethinking the field of automatic prediction of court decisions' (2023) 31 Artificial Intelligence and Law 195
- Mercier H and Sperber D, *The Enigma of Reason* (Harvard University Press 2017)
- Meyerson D, Mackenzie C and MacDermott T (ed), *Procedural Justice and Relational Theory: Empirical, Philosophical, and Legal Perspectives* (Routledge 2021)
- Miller B and Record I, 'Justified Belief in a Digital Age: on The Epistemic Implications of Secret Internet Technologies' (2013) 10 Episteme 117

Mitee LE, 'The right of public access to legal information: A proposal for its universal recognition as a human right' (2017) 18 German Law Journal 1429.

Mitidiero D, *Precedentes. Da Persuasão à Vinculação* (São Paulo Revista dos Tribunais 2021)

Mitidiero D, *Processo civil* (Revista dos Tribunais 2021)

Mitidiero D, *Ratio Decidendi. Quando uma Questão é Idêntica, Semelhante ou Distinta?* (Revista dos tribunais 2023).

Mittelstadt BD, Allo P, Taddeo M, Wachter S, Floridi L, 'The ethics of algorithms: Mapping the debate' (2016) Big Data & Society 11

Miyagawa K, Nasu K, Koyama M and Kubori H (dir), *Henkaku no naka no bengoshi: sono rinen to jissen* (Lawyers and reform: ideas and practices, Tokyo, Yûhikaku 1992) – in japanese

Miyata I, *Gekihen suru bengoshi* (Lawyers and major changes, Tokyo Kyôei Shobô 2021) – in japanese

Mouriesse E, 'Quelle transparence pour les algorithmes de justice prédictive?' (2018) 60 Arch. phil. Droit 125.

Murphy TH, 'Mandating Use of Predictive Coring in Electronic Discovery: An Ill-Advised Judicial Intrusion' (2013) 50 Am. Bus. L.J. 609

Murray A, Rhymer JEN and Sirmon DG, 'Humans and Technology: Forms of Conjoined Agency in Organizations' (2021) 46 Acad. Mgmt. Rev. 552

Myers Morrison CM, 'Jury 2.0' (2011) 62 Hastings L.J. 1579

Nance DA, *The Burdens of Proof. Discriminatory Power, Weight of Evidence, and Tenacity of Belief* (Cambridge University Press 2016)

Nersessian D and Mancha R, 'From Automation to Autonomy: Legal and Ethical Responsibility Gaps in Artificial Intelligence Innovation' (2020) 27 Michigan Tech L Rev, 55

Nieva Fenoll J, *Derecho procesal, I, Introducción* (Tirant lo Blanch. Valencia 2022)

Nieva Fenoll J, *Inteligencia artificial y proceso judicial* (Madrid Marcial Pons 2018)

- Nieva Fenoll J, 'Inteligencia artificial y proceso judicial: perspectivas tras un alto tecnológico en el camino' (2022) *Revista General de Derecho Procesal* 1
- Nieva Fenoll J, 'Technology and Fundamental Rights in the Judicial Process' (2022) *13 Civil Procedure Review* 14
- Nieva Fenoll J, 'The CJEU and the Refinement of the Principle of Party Disposition' (2020) *10 IJPL* 21
- Nissan E, 'Digital technologies and artificial intelligence' s present and foreseeable impact on lawyering, judging, policing and law enforcement' (2017) *32 AI & Soc.* 441
- Noto-Jaffeux N, 'L' indépendance de l' avocat' (2023) *64 Arch. phil. Droit* 431
- Novelli C, Taddeo M and Floridi L, 'Accountability in artificial intelligence: what it is and how it works' (2023) *AI & Society*, <https://doi.org/10.1007/s00146-023-01635-y>
- Ontanu EA, 'Normalising the use of electronic evidence: Bringing technology use into a familiar normative path in civil procedure' (2022) *12 Oñati Socio-Legal Series* 582, 587
- Paal BP, 'Artificial Intelligence as a Challenge for Data Protection Law: And Vice Versa', in S Voeneky, P Kellmeyer, O Mueller and W Burgard, *The Cambridge handbook of responsible artificial intelligence: interdisciplinary perspectives* (Cambridge University Press 2022) 290, 308
- Pagallo U, 'Dismantling Four Myths in AI & EU Law Through Legal Information "About" Reality', in HS Antunes, PM Freitas, AL Oliveira, C Martins Pereira, E Vaz de Sequeira, L Barreto Xavier (ed), *Multidisciplinary Perspectives on Artificial Intelligence and the Law* (Springer 2022) 251
- Pariser E, *The Filter Bubble. What the Internet Is Hiding from You* (Penguin 2012)
- Passanante L, *Il precedente impossibile. Contributo allo studio del diritto giurisprudenziale nel processo civile* (Giappichelli Torino 2018)
- Patterson D, and Pardo MS (ed), *Philosophical foundations of Law and Neuroscience* (Oxford UP 2016)
- Paul GL, *Foundations of Digital Evidence* (American Bar Association 2008).

- Paul GL and Baron JP, 'Information Inflation: Can the Legal System Adapt?' (2007) 13 Rich. J.L. & Tech. 2
- Paul R, 'European artificial intelligence "trusted throughout the world": Risk-based regulation and the fashioning of a competitive common AI market' (2023) 18 Regulation & Governance 1
- Peck A, 'Search, Forward. Will manual document review and keyword searches be replaced by computer-assisted coding?' (2011) L. Tech. News, 2011, 25
- Phelps T and Ashley K '“Alexa, Write a Memo”: The Promise and Challenges of AI and Legal Writing' (2022) 26 Legal Writing: J. Legal Writing Inst. 329
- Picó i Junoy J, 'Cuestiones problemáticas del derecho probatorio' (2020) Revista asociación profesores der. proc. univ. esp. 337
- Prescott JJ, 'Improving Access to Justice in State Courts with Platform Technology' (2017) 70 Vand. L. Rev. 1993
- Pritchard D, 'Epistemic Dependence' (2015) 29 Epistemology 305
- Price WN and Rai AK, 'Clearing Opacity through Machine Learning' (2021) 106 Iowa L Rev 775
- Regan M and Rohrer LH, *Biglaw: Money and Meaning In The Modern Law Firm* (University of Chicago Press 2021)
- Reiling D, *Technology for Justice: How Information Technology Can Support Judicial Reform* (Amsterdam University Press 2010)
- Remus DA, 'Out of Practice: The Twenty-First-Century Legal Profession' (2014) 63 Duke LJ 1243, 1248
- Remus DA, 'Reconstructing Professionalism' (2017) 51 Ga L Rev 807, 864
- Remus DA, 'The Uncertain Promise of Predictive Coding' (2014) 99 Iowa L. Rev. 106
- Remus DA and Levy L, 'Can Robots Be Lawyers: Computers, Lawyers, and the Practice of Law' (2017) 30 Geo. J. Legal Ethics, 501
- Rhode DL (ed), *Ethics in Practice. Lawyers' Roles, Responsibility and Regulation* (Oxford UP 2000)

- Rhode DL, 'Policing the Professional Monopoly: A Constitutional and Empirical Analysis of Unauthorized Practice Prohibitions' (1981) 34 Stan. L. Rev. 1
- Rhode DL, 'Professionalism in Perspective: Alternative Approaches to Nonlawyer Practice' (1996) 22 N.Y.U. Rev. L. & Soc. Change 701, 704
- Rhode DL and SL Cummings, 'Access to Justice: Looking Back, Thinking Ahead' (2017) 30 Geo. J. Legal Ethics, 490
- Ribstein LE, 'The Death of Big Law' (2010) Wis. L. Rev. 749
- Rigertas LA, 'The Legal Profession' s Monopoly: Failing to Protect Consumers' (2014) 82 Fordham L. Rev. 2683
- Rigoni A, 'Precedent and Legal Creep. A Cause for Concern?', in T Endicott, HD Kristjánsson and S Lewis (ed), *Philosophical Foundations of Precedent* (Oxford UP 2023), 62
- Robinson N, 'When Lawyers Don' t Get All the Profits: Non-Lawyer Ownership, Access, and Professionalism' (2016) 29 Geo. J. Legal Ethics 1
- Rodriguez de las Heras Ballell T, 'Legal challenges of artificial intelligence: modelling the disruptive features of emerging technologies and assessing their possible legal impact' (2019) 24 Unif. L. Rev., 302, 305
- Rostain T, 'Robots versus Lawyers: A User-Centered Approach' (2017) 30 Geo. J. Legal Ethics 559
- Rumiati R, 'Decisioni giudiziarie e neuroscienze seduttive' (2016) *Giornale italiano di psicologia* 777
- Salaün JM, *Vu, lu, su. Les architectes de l' information face à l' oligopole du web* (La Découverte Paris 2012)
- Salaün JM, 'Why the document matters... and how it is being transformed' (2014) *Monist*, 187
- Samoili S, López Cobo M, Gómez E, De Prato G, Martínez-Plumed F and Delipetrev B, *AI Watch. Defining Artificial Intelligence. Towards an operational definition and taxonomy of artificial intelligence* (EUR 30117 EN, Publications Office of the European Union Luxembourg 2020) doi:10.2760/382730, JRC118163
- Sartor G, *Artificial Intelligence and Law* (Springer 1993)

- Sartor G, *L' intelligenza artificiale e il diritto* (Giappichelli Torino 2022)
- Savage LJ, *Foundations of Statistics* (Dover Publications New York 1972)
- Sayn I, 'Connaître la production des juridictions ou prédire les décisions de justice?' (2019) 64 Cahiers de la Justice 229
- Scarselli G, 'Le nuove società commerciali forensi. Una analisi e una protesta' [www.judicium.it](http://www.judicium.it) 6, accessed 30 June 2024
- Schatzberg E, '“Technik” Comes to America: Changing Meanings of “Technology” before 1930' (2006) 47 Technology and Culture 486
- Schauer F and Wise VJ, 'Legal Positivism as Legal Information' (1997) 82 Cornell L. Rev. 1080, 1082
- Scheindlin SA, DJ Capra, *The Sedona Conference, Electronic Discovery and Digital Evidence, Cases and Materials* (West Academic 2015)
- Scheindlin SA and Rabkin J, 'Electronic Discovery in Federal Civil Litigation: Is Rule 34 Up to the Task?' (2000) 41 B.C.L. Rev. 327.
- Seebok AJ, 'Selling Attorneys' Fees' (2018) 4 Ill. U. L. Rev. 1210
- Sela A, 'Can Computers Be Fair: How Automated and Human-Powered Online Dispute Resolution Affect Procedural Justice in Mediation and Arbitration' (2018) 33 Ohio State. J Dispute Resolution 91
- Sen B, 'Beyond the JD: How eliminating the legal profession' s monopoly on legal services can address the access-to-justice crisis' (2019) 22 U. Pa. J.L. & Soc. Change 121
- Serverin E, 'De l' informatique juridique aux services de justice prédictive, la longue route de l' accès du public aux décisions de justice dématérialisées' (2018) 60 Arch. phil. Droit 23
- Séve R, 'Avant-Propos: l' Avocature, de l' essence aux existences' (2023) 64 Arch. phil. Droit VII
- Shapiro L., *Embodied Cognition* (Routledge 2019)
- Sheppard B, 'Warming up to inscrutability: How technology could challenge our concept of law' (2018) 68 U. Toronto L.J., 36

Shope ML, 'Lawyer and Judicial Competency in the Era of Artificial Intelligence: Ethical Requirements for Documenting Datasets and Machine Learning Models' (2021) 34 Georgetown Journal of Legal Ethics 191

Simmons R, 'Big Data, Machine Judges, and the Legitimacy of the Criminal Justice System' (2018) 52 University of California, Davis 1067.

Simon HA, 'A Behavioral Model of Rational Choice' (1955) 69 Q. J. of Eco. 99

Simon M, Lindsay AF, Sosa L, Comparato P, 'Lola v. Skadden and the Automation of the Legal Profession' (2018) 20 Yale J.L. & Tech. 234, 257

Simon Jr. RD, 'Fee Sharing Between Lawyers and Public Interest Groups' (1989) 98 Yale L.J. 1069

Simon RD, 'Artificial Intelligence, Real Ethics' (2018) 90 Apr N.Y. St. B.J. 34

Simshaw D, 'Access to A.I. Justice: Avoiding an Inequitable Two-Tiered System of Legal Services' (2022) 24 Yale JL & Tech 150

Sloman S and Fernbach P, *The knowledge illusion: Why we never think alone* (New York Penguin 2017)

Solum B, 'Procedural Justice' (2004) 78 S. Cal. L. Rev. 181

Spellman BA, 'The Relation between Counterfactual (but for) and Causal Reasoning: Experimental Findings and Implications for Jurors' Decisions' (2001) 64 Law and Contemporary Problems 241

Spooner S, 'The Internet Is a Series of Rubes: An Economic Model of Judicial Notice in the Information Age' (2023) 18 JL Econ & Pol' y 201, 222

Standing Committee on Ethics and Professional Responsibility of the ABA, 'Formal Ethics Opinion 512 - Generative Artificial Intelligence Tools' [https://www.americanbar.org/content/dam/aba/administrative/professional\\_responsibility/ethics-opinions/aba-formal-opinion-512.pdf](https://www.americanbar.org/content/dam/aba/administrative/professional_responsibility/ethics-opinions/aba-formal-opinion-512.pdf) accessed 30 July 2024

Stein F, *Das Private Wissen des Richters. Untersuchungen zum Beweisrecht beider Prozesse* (Mohr Leipzig 1893)



- Strassfeld RN, 'If ...: Counterfactuals in the Law' (1992) 60 Geo. Wash. L. Rev. 345
- Striphas T, 'Algorithmic culture' (2015) European Journal of Cultural Studies 403.
- Suárez Xavier PR, 'Inteligencia artificial y uberización de la abogacía: ¿quien regulará al abogado robot o al robot del abogado?' (2022) Revista General de Derecho Procesal 1
- Subrin SN, 'Fishing Expeditions Allowed: The Historical Background of the 1938 Federal Discovery Rules' (1998) 39 B.C. L. Rev. 710
- Subrin SN, Woo MYK, *Litigating in America. Civil Procedure in Context* (Aspen Publishing 2006) 130.
- Surden H, 'Chatgpt, AI Large Language Models, and Law' (2024) 92 Fordham L Rev. 1941
- Surowiecki J, *The Wisdom of Crowds* (Knopf Doubleday Publishing Group New York 2004)
- Susskind R, *Online Courts and the Future of Justice* (Oxford UP 2019)
- Susskind R, *The End of Lawyers? Rethinking the Nature of Legal Services* (Oxford UP 2008),
- Susskind R, *Tomorrow's lawyers: an introduction to your future* (Oxford UP 2013),
- Susskind R, and Susskind D, *The future of the professions: how technology will transform the work of human experts* (Oxford academic 2015)
- Thayer JB, 'Judicial Notice and the Law of Evidence' (1890) 7 Harvard Law Review 286
- Tarnaud N, Bourgeois C, and Babin L, 'Les professions règlementées à l'épreuve de l'ubérisation du droit: vers un monde sans avocat?' (2018) 25 Management & Sciences Sociales 103
- Taruffo M, 'Judicial Decisions and Artificial Intelligence' (1998) Artificial Intelligence and Law 311
- Taruffo M, 'La decisione giudiziaria e la sua giustificazione: un problema per le neuroscienze?' (2016) Riv. trim. dir. proc. civ. 1247
- Taruffo M, *La prova dei fatti giuridici* (Milano Giuffrè 1992)

- Taruffo M, *La semplice verità* (Bari Laterza 2009)
- Taruffo M, 'Poteri probatori delle partile e del giudice in Europa' (2006) Riv. trim. dir. proc. civ. 41
- Taruffo M, 'Precedente e giurisprudenza' (2007) Riv. trim. dir. proc. civ. 709
- Taruffo M, *Processo e neuroscienze. Cenni generali, Verso la decisione giusta* (Giappichelli 2020)
- Taruffo M, *Studi sulla rilevanza della prova* (Padova Cedam 1970)
- Taruffo M, and Nieva Fenoll J (coord), *Neurociencia y proceso judicial* (Marcial Pons 2013)
- Thornburg EG, 'The Curious Appellate Judge: Ethical Limits on Independent Research' (2008) 28 Rev. Litig. 131
- Trancoso I, Mamede N, Martins B, Pinto HS and Ribeiro R, 'The Impact of Language Technologies in the Legal Domain', in H Sousa Antunes, PM Freitas, AL Oliveira, C Martins Pereira and E Vaz de Sequeira, L. Barreto Xavier, *Multidisciplinary Perspectives on Artificial Intelligence and Law* (Springer 2024) 25
- Tu SS, Cyphert A and Perl SJ, 'Artificial Intelligence: Legal Reasoning, Legal Research and Legal Writing' (2024) 25 Minn JL Sci & Tech 105.
- Tucci A, 'L' esercizio della professione forense in forma associata nell'ordinamento francese' (2005) Anal. giur. econ. 101
- Uviller HR, 'The Advocate, the Truth, and Judicial Hackles: A Reaction to Judge Frankel' s Idea' (1975) 123 U. Pa. L. Rev. 1067
- van Veenen J and Schmaal J, 'Legal tech en de advocatuur' (2018) Computerrecht 77,
- Vermeule A, 'Three Strategies of Interpretation' (2005) 42 San Diego L. Rev. 610
- Villasenor J, 'Generative Artificial Intelligence and the Practice of Law: Impact, Opportunities, and Risks' (2024) 25 Minn JL Sci & Tech 25
- Vismann C, *Files. Law and Media Technology* (Stanford UP 2008)

- Volokh E, 'Chief Justice Robots' (2019) 68 Duke L.J. 1135, 1142
- Wachter S and Mittelstadt B, 'Right to Reasonable Inferences: Re-Thinking Data Protection Law in The Age of Big Data and AI' (2019) Columbia Business Law Review 494
- Walfish D, 'Making Lawyers Responsible for the Truth: The Influence of Marvin Frankel' s Proposal for Reforming the Adversary System' (2005) 35 Seton Hall L. Rev. 613
- Walters E, 'The Model Rules of Autonomous Conduct: Ethical Responsibilities of Lawyers and Artificial Intelligence' (2019) 35 Ga. State U. L. Rev. 1073
- Walker J, Watson GD, 'New Trends in Procedural Law: New Technologies and the Civil Litigation Process' (2008) 31 Hastings Int' l & Comp. L. Rev. 265
- Walker S, 'Justice data is already monetised' (2022) The Law Society Gazette, 22 July, available at: <https://www.lawgazette.co.uk/commentary-and-opinion/justice-data-is-already-monetised/5113205.article>
- Wang J, 'Achievements of China's Lawyer Profession in the Past 40 Years and Future Prospects' (2019) 11 Justice of China 11
- Weinberger D, *Everything Is Miscellaneous: The Power of the New Digital Disorder* (Henry Holt and Company New York 2007)
- Weinberger D, *Too Big to Know. Rethinking Knowledge Now That the Facts Aren't the Facts, Experts Are Everywhere, and the Smartest Person in the Room is the Room* (New York Basic Books 2011)
- Wendel WB, 'Rumors of the Death of BigLaw Are Greatly Exaggerated Reviewing Mitt Regan & Lisa H. Rohrer, BigLaw: Money and Meaning in the Modern Law Firm' (2023) 36 Geo J Legal Ethics 177
- Wiesike O, 'La profession d' avocat en Allemagne' (2023) 64 Arch. phil. Droit 201, 203
- Wigmore JH, *A Pocket Code of the Rules of Evidence in Trials at Law* (Little Brown Boston 1910) 476
- Woo MYK, Cox C and Rosen S, 'Access to Civil Justice' (2022) 70 The American Journal of Comparative Law, i89, i90.
- Xu X, 'Lawyers in Chinese Culture' (2023) 64 Arch. phil. Droit 269

- Xu Z, 'Human Judges in the Era of Artificial Intelligence: Challenges and Opportunities' (2022) *Applied Artificial Intelligence*, 1026
- Yablon C and Landsman-Roos N, 'Predictive Coding: Emerging Questions and Concerns' (2013) 64 *S.C. L. Rev.* 633
- Yalcin G, Themeli E, Stamhuis E, Philipsen S and Puntoni S, 'Perceptions of Justice by Algorithms' (2023) 31 *Artificial Intelligence and Law* 269
- Yamane N, 'Artificial Intelligence in the Legal Field and the Indispensable Human Element Legal Ethics Demands' (2020) 33 *Geo. J. Legal Ethics* 877
- Yao Y, 'Uberizing the Legal Profession? Lawyer Autonomy and Status in the Digital Legal Market' (2019) *British Journal of Industrial Relations* 483, 490
- Yoon AH, 'The Post-Modern Lawyer: Technology and the Democratization of Legal Representation' (2016) 66 *U Toronto LJ* 456
- Young M, 'To Cure the E-Discovery Headache, Revamp the Rule 26(f) Discovery Conference' (2014) 12 *Nw. J. Tech. & Intell. Prop.*, 365.
- Younger SP, 'The Pitfalls and False Promises of Nonlawyer Ownership of Law Firms' (2022) *Yale L.J. Forum* 259
- Zheng W, 'Research on Generative Artificial Intelligence Legal Profession Substitution' (2023) 4 *Mod. L. Rsch.* 32
- Ziegler O, 'Les structures d' exercice de la profession d' avocat' (2023) 64 *Arch. phil. Droit* 351, 362.
- Zuo WM, 'Some thoughts on the application prospects of legal artificial intelligence in China' (2018) 12 *Tsinghua Law Science*, 108