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REPORT

ONLINE ARBITRATION

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ONLINE ARBITRATION

CLUB DES JURISTES REPORT

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GENERAL INTRODUCTION

Between the normative "code" and the digital "code", it isn't just a question of homonymy. In both cases, the aim is to translate a given instruction into a specific language, whether for an individual or for a machine. Encoding, common to both operations, is ultimately only a form of transliteration, whether classical or modern. In these days of multiplying codes, where we will soon need a code for the codes or a code to access the codes, programmers appear to be the new holders of knowledge capital, as was previously the case of the codes that had as their primary function to compile rules. As such, legal writing and digital writing adhere to similar concepts. For that matter, mathematics aren't far removed¹. There is therefore no ontological contradiction between the law and digital technology. On the contrary.

Is what's true for the law also true for justice? Does it also take in the concepts of digital technology? Will it blend with digital technology? Or must it only be used carefully and parsimoniously? To sum up, what's the best way for justice and digital technology to relate to one another? This is the question that this report will attempt to answer, at least in part.

But rather than keeping to the classical model of justice, incarnated by judicial institutions, this study proposes to concentrate on the other form of justice, namely arbitration. This choice, made by the people in charge of the Club des juristes, allows firstly some deviation from the beaten path and secondly consideration of a more flexible method for resolving disputes. Given its often *international dimension*, it could in principle, given the means sometimes made available to it and its adaptability, offer fertile ground for experimenting with digital technology in connection with justice.

I. Definitions

Before going into the analysis, however, it would be best to focus the scope of the study, which means agreeing on some of its terms. As a concept, "arbitration" has been solidly established for centuries. It can be defined as an institution based on an agreement between parties who

1. L. Cadiet, "Retour sur l'open data des décisions de justice. À propos d'un signal faible des relations entre la justice et les mathématiques", in *Études en l'honneur du Professeur Marie-Laure Mathieu. Comprendre : des mathématiques au droit*, Bruylant pub., 2019, p. 137.

turn to a third party for the resolution of a dispute². As such, it's private justice, of contractual origin, that the litigants choose to use instead of recourse to State justice, and which offers the guarantees provided by any justice, that of a fair hearing.

"Online" will be understood to be any digital or dematerialized process, in the broad sense. This will therefore take in simple electronic exchanges of documents within an arbitration body that remains mainly physical, and everything from partial dematerialization with the set-up of *data rooms* to totally dematerialized procedures in which the arbitrators and parties never meet or even speak with one another, and even procedures in which the arbitrators are purely and simply replaced by algorithms generated by artificial intelligence³.

As such, "online arbitration" consists of a private jurisdictional method for resolving disputes by digital means. In fact, there is no correlation between the source of the dispute and the method of its resolution. A dispute can originate online and be resolved by classical means, or inversely, it can originate off-line and be resolved online. The digital nature of arbitration is not tied in with the origin of the dispute : the only important thing here is its online resolution method.

However, while there is really only a single concept of arbitration, there can be many varieties. All of them, however, are intended to be included in the scope of this study, provided that arbitration remains central. This naturally applies to commercial arbitration, as well as investment arbitration, domestic or international arbitration, "small case" arbitration, serial arbitration, arbitration related to labour disputes, or within the family, sports, etc. Provided that the underlying criteria of the arbitration definition are met – namely that this is a kind of justice to which one has voluntary recourse, that allows for a choice of arbitrator, and that leads to a binding decision made as part of a procedure that respects the fundamental principles of a fair hearing – then this is indeed arbitration and falls within the scope of this study.

II. Qualifications

This reminder of the qualification criteria for arbitration serves to set aside two types of procedures that do not meet these criteria. This report will therefore exclude procedures that involve "arbitration" only in name, given that they lack one of the constituent elements, namely the voluntary choice of recourse to arbitration and the free choice of arbitrator. This is notably the case of the Bar Association "arbitration" or the "arbitration" commission for journalists, which have no place here. An initial recommendation can even be put forth, which will be reiterated

2. J.-B. Racine, *Droit de l'arbitrage*, PUF pub., coll. Thémis-droit privé, 2016, spec. n° 7.

3. On the question, cf. J. El-Ahdab J. and M. Mako, "Arbitrage international *versus* intelligence artificielle", *Revue Droit et Affaires*, 2018, p. 49.

at the end of this report: that dispute resolution processes that are not arbitration should stop referring to themselves as such.

Similarly, the following pages are not intended to accommodate alternative amicable methods for resolving disputes, notably mediation and conciliation. While it is true that they are often likened to arbitration, in reality the latter has much more in common with State justice, with which it shares the binding nature of the decision, than with amicable methods that first and foremost rely on voluntary adherence to the solution. The real dividing line is not in the State or contractual origin of the mission, which ultimately is of little importance for the parties having to carry out the decision, but between contractual methods and jurisdictional methods, whether stemming from a contract or not. The effect of the decision is more important than the source of the power. The judgement and the arbitral award share the fact that they are imposed, whereas the outcome of mediation or conciliation, that can take the shape of a settlement, always results from an agreement. On one side, an imposed solution, on the other side, a negotiated solution. The distinction is therefore between jurisdictional methods on the one hand, and amicable methods on the other. Mediation will therefore not be covered herein⁴.

Beyond this introductory assertion, however, it isn't always easy to distinguish arbitration via alternative hybrid methods that come so close to it that they ultimately confuse the models, though without offering the same guaranties as arbitration.

This is notably the case of the dispute resolution process for domain names under the aegis of the World Intellectual Property Organisation (WIPO). During the presentation by the working group of Mr. Ignacio de Castro, Assistant Director of the WIPO⁵ Arbitration and Mediation Centre, it was confirmed that, however efficient the dispute resolution system for domain names, which handles about 3,000 cases per year, it cannot really be qualified as arbitration⁶. The compelling reason is that this is an imposed procedure, that the parties cannot avoid. On top of this is the fact that the decision can be disputed before State courts and that it does not fall within the scope of the New York Convention on the recognition and enforcement of [foreign] arbitral awards. As such, though similar to arbitration, this is more of an administrative procedure without a hearing, so as to resolve disputes.

More complicated is sports arbitration as organised by the Court of Arbitration for Sport (CAS) established in Lausanne, since the parties quite often have no choice about participating or not. Moreover, as recently pointed out by the European Court of Human Rights, international federations have far too much weight in the set-up of

4. One can refer to a recent report by the Club des juristes *Médiation et entreprise. L'opportunité de l'autodétermination : une liberté créatrice de valeur*, under the dir. of P. Servan-Schreiber, Feb. 2019.

5. Interview of 6 June 2018.

6. Cf. *below*, chapter 2. Practices in effect

the lists of arbitrators officiating within the CAS⁷. But this is a general issue, not specific to online arbitration, even though digital technology is obviously used in sports arbitration. It is used primarily for sending documents, rather than anything specific. As long as the qualification of arbitration applies in positive law for such sports arbitration, it will be included in the scope of this study.

In general terms, the qualification criteria for arbitration are broadly accepted, if not universally, to the point of setting up international rules of public order, that can be opposed to the exequatur of decisions that are not the product of a true arbitration procedure, independently of the question of whether or not they are pronounced online or not.

Arbitration provides a path with legal landmarks, for which the concepts offer both solid and integrated markers, from which one cannot escape without risk.

To summarize this point, one must understand that the following report will cover all of arbitration, but only arbitration.

III. Stakes

A product of the digital revolution, online arbitration deserves an attempt to define this phenomenon while striving to measure its stakes. They are many, and can be grouped into four categories: legal, jurisdictional, ethical and economical.

To begin with, the legal stakes involve demonstrating the solidity of the concepts to see if they can resist the digital wave. Are they suitable or, on the contrary, obsolete? Will they evolve, remain unchanged, or be transformed? This is but some of the questions that will be covered in the following pages, especially since it's necessary to distinguish between the concepts of arbitration and the concepts within arbitration. principle, while the arbitration concept is solid and resistant to the digital form that it may take, certain concepts within arbitration will nevertheless have to adapt. This is the case, for example, of the *ad validitatem* demand for written elements for the domestic arbitration agreement. This condition must be met, even though the written document may only exist in electronic form. On this point, it is possible to draw inspiration from the terms of the Brussels Regulation I (a) for the choice of forum clause (article 25 § 2)⁸. Civil law already accepts electronic documents on the same footing as paper documents, when required for the validity of the document.

This is also the case for the recognition of an arbitral award pronounced

7. ECHR 2 Oct. 2018, n° 40575/10 and n° 67474/10, *Mutu and Pechstein v/ Switzerland*, JCP 2018.1121, obs. L. Milano ; *Global Arbitration Review* 4 Oct. 2018, obs. T. Jones ; D. 2018.2457, obs. Th. Clay.

8. "Any communication by electronic means which provides a durable record of the agreement shall be equivalent to "writing".»

in electronic form. We know that articles 1487 and 1515 of the Code of Civil Procedure indicate that exequatur or the recognition of an arbitral award, whether domestic, international or pronounced abroad, requires the production of the "original" of the award and of the arbitration agreement, or their "copies". The rule is also the same under the New York Convention (article IV).

Yet, these concepts of original and copy are unsuitable for online arbitration that may generate neither an original nor copies, given that the documents exist only in electronic form. These concepts, and even the rules, must therefore be adapted, in order to consider online arbitration. This is indeed anticipated in the new article 4-2 of the Justice in the XXIst century law, amended by article 4 of the 2018-2022 Programme and Justice Reform law n° 2019-222 of 23 March 2019⁹, which states that the "arbitral award can be pronounced in electronic form, except if opposed by one of the parties." As such, we see that online arbitration requires a review of the concepts and has significant legal stakes.

Beyond the above, there are, secondly, jurisdictional stakes. It's the entire method of delivering justice which is being overturned. With the multiplication of alternative dispute settlement methods, we're seeing what Professor Loïc Cadiet refers to as the advent of a "plural justice offer". Quite some time ago¹⁰, in fact, he showed that "French law has managed to articulate judicial and out-of-court dispute settlement methods. Each type of conflict has its appropriate solution method, some that don't exclude the others and, for a given conflict, that are likely to evolve in the direction of appeasement or, on the contrary, worsening, and it must be possible to go from one to the other. The Rule of law must guarantee this offer of plural justice within an overall justice system¹¹." »

As such, for a plural offer in terms of its models (State justice, arbitral justice, alternative conflict resolution methods), a response is now coming from a plural offer in terms of form (physical or virtual). We are therefore seeing a total hybridization of the schemes: justice can now be equally obtained via a physical hearing before a regional court, or by means of a transaction obtained online without the protagonists ever having to come face-to-face. There are now a thousand and one ways of resolving conflicts, and online arbitration is one of them.

This obviously encourages more specific reflections on the impact, within the arbitration process, of the procedure's dematerialization. As such, one might wonder if online arbitration might not be more easily

9. 2018-2022 Programme and Justice Reform law n° 2019-222 of 23 March 2019 (art. 26), OJ 24 March 2019, text n° 2.

10. L. Cadiet, "Les tendances contemporaines de la procédure civile", in *Mélanges Georges Wiederkehr*, Dalloz pub., 2009, p. 65.

11. L. Cadiet, "L'accès à la justice. Réflexions sur la justice à l'épreuve des mutations contemporaines de l'accès à la justice", in Th. Clay, B. Fauvarque-Cosson, Fl. Renucci and S. Zientara-Logeay (dir.) : *États généraux de la recherche sur le droit et la justice, États généraux de la recherche sur le droit et la justice*, LexisNexis pub., 2018, p. 727, spec. p. 742.

accessible in order to resolve small disputes and if, at the same time, this might have opened the door to a right to legal aid, whereas this is not authorised in classical arbitration. And if so, given the simplification of the procedure and steps, must this legal aid for digital arbitration be calculated in the same manner as for a classical procedure or should it, on the contrary, be reduced, even though we know that it is already quite very low?

Another question on the jurisdictional consequences of online arbitration: the recourse to predictive justice. Though the term has been so sullied that it now no longer means much of anything, the working group's interview of Jacques Lévy-Véhel, INRIA researcher and creator of Case Law Analytics, a true jurisdictional database and statistical tool, showed that this could indeed influence the person who makes the decision¹². Is there indeed a correlation between the digital nature of arbitration and predictive justice? none in principle, since the question goes far beyond the notion of online justice. But online justice, by its very nature, is naturally more inclined to the use of digital tools, a fact that enables the start of a reflection, through an analysis of online arbitration, on the use of digital technology within justice in general. Online arbitration therefore questions the very manner in which justice is provided.

Such question cannot avoid, thirdly, questions regarding ethical stakes. Since it does away with original models, dematerialization may tend to push back certain behavioural limits, thereby requiring new safeguards. It is in this sense that one must understand that the European Commission for the Efficiency of Justice (CEPEJ) of the Council of Europe adopted an Ethics charter in late 2018, with principles relative to the use of artificial intelligence in judicial systems¹³. This charter, intended to accompany and even encourage online justice, posits five principles that must be observed: fundamental rights and the protection of personal data, human rights and non-discrimination, data quality and security, transparency of methodologies and techniques, and user control, which means that the user must be able to make informed choices.

Behind this somewhat general inventory we find firstly the desire not to give up any fundamental principles in favour of modernity or dematerialization. This is, as the CEPEJ itself states, a "concrete reference point for justice professionals." Even though arbitral awards are not, strictly speaking, pronounced by justice professionals, no one doubts that these principles also apply to online arbitration. Justice itself is a principle, and it must apply regardless of how it is implemented.

In addition to legal, jurisdictional and ethical aspects, online arbitration also entails, finally and fourthly, economic stakes. The appetite for digital

12. Presentation on 13 September 2018.

13. European Ethical Charter on the use of artificial intelligence in judicial systems and their environment, adopted by the CEPEJ, 3-4 Dec. 2018, [online] < <https://rm.coe.int/ethical-charter-en-for-publication-4-december-2018/16808f699b> >.

technology and dematerialization is such that a new economic model for justice has been launched, with one of its merits, and not the least one, being its ecological progress: less travel, less paper, but perhaps more process.

A new Eldorado for conflict resolution, online arbitration is attracting economic actors that perceive it as a source of profits. This involves an entire generation, born with digital technology, that is now reaching maturity. For this age group, digital technology is natural, and it's therefore normal that justice should also use such channels. Not to do so almost seems unnatural.

As such, the economic model of justice itself is faced with an upheaval. With the arrival of new actors, such as eJust or FastArbitre, both of which were heard by the working group¹⁴, justice as a whole, and arbitral justice more specifically, are doubtlessly in the throes of one of their most significant upheavals. All the more so since there is an increasingly systematic recourse to alternative dispute settlement methods, for which public authorities have demonstrated unfailing favour. For more than 20 years, in fact, these authorities have repeatedly promoted the recourse to alternative dispute resolution methods. The interest in them originates not only with parties, jurisdictions or the Chancery, but also with the Ministry of Finance that promotes them in the name of modernizing public policies. The rationale of the wallet has triumphed over judicial or social concepts. Paradigmatic, in this regard, are the laws n° 2015-990 of 6 August 2015 on growth, business and equality of economic opportunities, known as the "Macron" law that considerably extends the possibilities of contractual settlement for labour tribunal disputes, law n° 2016-1547 of 18 November 2016 on the modernization of justice in the XXIst century, that devotes one of its eight sections, and a few of its other provisions, elsewhere in the text, to the assumed objective of "Promoting alternative dispute settlement methods", and finally the 2018-2021 programming and justice reform law n° 2019-222 of 23 March 2019 that is intended to "Develop the culture of amicable dispute settlements." The message is clear : alternative methods have been properly designed as a means of regulating flows¹⁵.

And digital technology is the way to get there. Indeed, that same law of 23 March 2019 ratifies both dematerialized procedures and online mediation. It is becoming a means, sometimes mandatory, for resolving disputes. As such, the new law implements some of the recommendations of the White paper published in January 2018 by the eJustice consortium, affiliated with the *République en marche* party, on the online settlement of small disputes, that defended the total dematerialization of small-scale disputes¹⁶.

14. Presentations on 6 June 2018.

15. Th. Clay : "Médiation et conciliation : un espoir de régulation des flux?", in L. Flise and E. Jeuland (dir.) : *Les instruments procéduraux de régulation des flux*. Éditions de l'IRJS, 2018, p. 13.

16. White paper on the online settlement of small disputes, published by the eJustice consortium, Jan. 2018.

Also, the twofold phenomenon of the promotion of alternative methods and the maturity of digital technology has led to an in-depth transformation of the economics of justice, as we have always known it.

In addition, other elements are enabling the digitization of justice to come into its own, such as group actions (i.e. class actions), authorised since 2014¹⁷ and expanded since 2016¹⁸, which in practice are made much easier through the use of digital technology. Then there are *small claims*, or serial cases, meaning cases that are reproduced ad infinitum or nearly so on legal question involving very repetitive matters with low stakes, that clog up the courts. A good example of this is the abundant number of cases for compensation for airline delays. Online arbitration would obviously be a solution, provided that a system could be set up to cover the expenses that do not, *in principle*, weigh on consumers. This is in no way prohibited, and there are already cases of asymmetrical financing for arbitration in favour of the weaker party, such as arbitration of labour disputes for the benefit of the employee¹⁹. Online arbitration to resolve labour disputes would also seem to be perfectly suited to this type of case.

Finally, the last element to round off the digital revolution is open data. With free and open access to all legal decisions, a universal database will soon be available. The economic impact of such openness, clearly pointed out in the Cadet report on this subject²⁰, is twofold: firstly, traditional publishers that do the selection and indexing work would find competition from new actors that don't have the same customs, nor the same constraints; secondly, the set-up of private databases of legal decisions could somewhat further deregulate the progress towards online justice, and therefore online arbitration. Indeed, nothing would prevent an arbitration centre from providing its arbitrators with a database from which they could draw so as to resolve the dispute. One might also imagine new businesses arising, such as third-party financiers, that are already present in high-stakes arbitration cases and that would now turn their attention to mass disputes. In some way, the considerable stake of a single case would be replaced by the low stakes of many identical cases, which could be of interest to third-party financiers.

Everything is therefore at hand in order for online arbitration to see exponential development. Yet, it's clear that at this moment, this is not always the case, and existing operators have little or no activity at all. Undoubtedly, dematerialization has still not attracted total confidence.

17. Law n° 2014-344 of 17 March 2014 on consumption (art. 1 and 2), *OJ* 18 March 2014, p. 5400.

18. Law n° 2016-41 of 26 Jan. 2016 on the modernization of our health system (art. 184), *OJ* 27 Jan. 2016, text n° 1 and law n° 2016-1547 of 18 November 2016 on the modernization of justice in the XXIst century (art. 60 to 92), *OJ* 19 Nov. 2016, text n° 1.

19. Cf. Arbitration regulation of the Centre national d'arbitrage du travail, which applies three quarters of the cost to the employer and one quarter to the employee, [online] < <http://www.cnat.paris> >.

20. L. Cadet (dir.), *L'open data des décisions de justice – Mission d'étude et de préfiguration sur l'ouverture au public des décisions de justice*, Report submitted to the Minister of Justice, Ministry of Justice pub., November 2017, Jan. 2018 ed., spec. p. 27 and sub

Undoubtedly, the safeguarding of means of exchange between protagonists and of retention of documents has not yet reached an optimal point. Undoubtedly, finally, actors must be better supervised, which will in fact be possible with the certification included in article 4 of the law of 23 March 2019 to which they will have to conform if they want to reassure and therefore exist. The conditions of this optional certification will be set by decree, and proposals will be provided in the coming pages.

IV. Presentation of the report

In more general terms, this report firstly considers the causes of the current lack of success of online arbitration, and secondly proposes avenues for its development under satisfactory condition.

This report results from the collective efforts of a group of high-level lawyers, offering different points of view on the subject, and that are even doubly complementary: firstly in view of the overlapping skills of arbitration and digital specialists; and secondly in view of the profiles of the members of the working group, which includes judges (François Ancel, François Catton and Valérie Delnaud), a State councillor (Thomas Andrieu), academics (Tristan Azzi, Valérie-Laure Benabou, Loïc Cadiet), barristers (Louis Degos, Christiane Féral-Schuhl, Jean-Yves Garaud, Jean-Pierre Grandjean, Élie Kleiman, Catherine Peulvé, Philippe Pinsolle), a council attorney (Patrice Spinosi), an arbitration centre member (Emmanuel Jolivet) and a legal director (Aurélien Hamelle). The group was chaired by Professor Thomas Clay and the secretary general was Sophie Sontag Koenig, an academic. The complete list of members, with their titles and capacity, is provided in the appendix.

In addition to these permanent members, the working group also heard from a number of people, which notably enhanced its analysis. The appendix also includes a list of these guests, who must be warmly thanked for the quality of their contributions and for the time that they were able to devote to providing clarifications to the working group. This document will also include a bibliography, and be preceded by a summary of its proposals. It will be published in French and English, on hard copy and of course online.

Given the subject, one should not be surprised that the working group wished to experiment, for its own aims, with regard to the future of online arbitration. Mimicking an arbitral tribunal, it strived to dematerialize part of its mission through the use of a dematerialized clerk provided by MyCercle for online arbitration, after an interview with its director, Mr. Jérôme Cazes²¹. As a kind of practical work surrounding the report that it was preparing, the group considered the dematerialization of

21. Interview on 13 September 2018.

its own procedure that, while not being jurisdictional, was also based on collective discussions and secure exchanges. Yet, even as online arbitration is having growing pains, it's clear that the recourse to a virtual clerk never really came into its own, and that physical meetings remained essential. From this plunge into the completed work, we can see signs of the limits of online arbitration. This point is covered in the first part of the report, that includes a detailed inventory of a reality that, today, remains modest (**part I**). But for many reasons that are developed in the following pages, there is also reason to be optimistic regarding the development of online arbitration, provided that it is kept under control and does not lead to the possibility of arbitrators being entirely replaced by algorithms. In any event, this would be unconstitutional, as indirectly stated by the Constitutional council in a recent decision²². This is the line that will be defended in the following pages (**part II**).

22. Constitutional council, decision n° 2018-765 DC of 12 June 2018 on the law relative to the protection of personal data, whereas clause n° 71, *in fine*: "As a result, algorithms that could themselves revise the rules applied by them cannot be used as the exclusive basis for an individual administrative decision, without the oversight and validation of the controller".

PART I



ONLINE ARBITRATION TODAY: A MODEST REALITY

CHAPTER 1.

SOURCES

To understand the subject put to the working group, one should start by recalling the normative framework. The first observation, in fact, at the present time, is that online arbitration is not regulated as such by French arbitration law. However, this does not mean that there is no legislation that must be considered. In this sense, it is necessary to approach the question of the law applicable to online arbitration from different angles. Firstly, electronic arbitration does not escape classical arbitration legislation as a conflict resolution mechanism. As such, a review of the general regime of arbitration law is necessary right from the start (I). Then, the dematerialization of procedures, in this case for arbitration, implies the consideration, from a legislative viewpoint, of dimensions that go beyond arbitration itself. As such, the specific regime of online arbitration will be addressed in the second part (II). Finally, though not directly linked to arbitration, there are domains that cannot be overlooked when considering online arbitration, and that will be addressed in turn: artificial intelligence and *legaltech* (III), blockchain (IV), data protection (V), open data (VI) and the dematerialization of judicial justice (VII).

I. Necessary application of the general regime of arbitration law

The legislation applicable to arbitration consists of various sources, the origins of which are national (A), regional (B) and international (C).

A. Application of French arbitration law

◆ 1. French arbitration law

Arbitration, whether electronic or using the classical procedure, remains a conflict resolution mechanism with a very extensive legal framework relative to compliance with the fundamental guarantees of good justice. As such, arbitration exists as a type of justice in its own right. In France, the main legislation applicable to arbitration can be found in articles 1442 to 1527 of the Code of Civil Procedure resulting from Decree n° 2011-48 of 13 January 2011 on arbitration reform. In theory, therefore, these provisions would be perfectly suitable for governing arbitration that takes place online.

Moreover, our topic is also touched upon by a few provisions of the Civil Code: the provisions on the domestic arbitration agreement, of course

(art. 2059 to 2061), the one on proof (art. 1174, 1175, 1366 reformed by order n° 2016-131 of 10 February 2016 on the reform of contract law) and the one on judicial mortgage resulting from an arbitral award (art. 2412).

In connection with specialised arbitrations, such as arbitration for labour or consumer disputes, various specific texts must be taken into consideration since they can apply to online arbitration: Labour Code (book V, section II, chapter IV, articles L. 2524-1 to L. 2525-2), Commercial Code (articles L. 721-3 and L. 721-5), Consumer Code (article R. 212-2 and article L. 132-1 which is no longer applicable after being repealed by article 34 (VD) of order n° 2016-301 of 14 March 2016), Administrative justice code (article L. 311-6 amended by article 30 of order n° 2015-855 of 15 July 2015), Code of Judicial Organisation (article L. 311-6) and Code for relations between the public and the administration (book IV, section III, chapter II, article L. 432-1 amended by order n° 2015-1341 of 23 October 2015).

In connection with such types of arbitration, even if the procedure goes online, these special provisions will have to be considered in order to comply with the legislative specifics of each procedure. Similarly, if legislation specific to online arbitration sees the light of day, it will have to tie in with all of these pre-existing sources.

◆ 2. Case law

French law is not the only element that must be considered, as it is strongly backed and completed by the solid case law of French courts that, in this regard, play a more important role than in other legal branches. In arbitration law, case law has always been a true source in its own right, since at least the Gosset decision of 1963 and through to today. This case law is so dense that it provided one of the main reasons for the reform of arbitration law in 2011, since it was necessary to integrate jurisprudence solutions into the Code of Civil Procedure, which was done.

This case law, systematically favourable to arbitration, *arbitration-friendly* in other words, contributes greatly to the influence of the Paris marketplace as the world capital for international arbitration²³.

◆ 3. Doctrine

Doctrine also has its own place within French arbitration law. Particularly scholarly, it has always demonstrated an ability to innovate and explain. Of course, this is the traditional role assigned to doctrine, and is no different with regard to arbitration. But in a subject that is also eminently jurisprudential, as is also the case of international private law, doctrine fulfils a heuristic function with a contribution that exceeds

23. Th. Clay and Ph. Pinsolle, *The French International Arbitration Law Reports 1963-2007* (with Thomas Voisin), JurisNet, New York, 2014.

the usual framework of its mission²⁴. This has been verified by French-language doctrine, rather than only from France, with a few authors that have contributed extensively to the influence of arbitration, from Henri Motulsky to Philippe Fouchard, and including Berthold Goldman, Bruno Oppetit and Pierre Lalive. The naturally international and even transnational nature of arbitration is also seen in the scope and influence of the international instruments that relate to it.

B. Application of regional law to online arbitration

◆ 1. Applicable treaties

The main text on the regional level is the 1961 European Convention on International Commercial Arbitration that was intended to regulate the "organisation and operation of international commercial arbitration in the relations between natural or legal persons from different European countries." This text regulates various aspects of the arbitral procedure, notably relative to the execution of arbitral awards. No definition is included relative to this notion, and the question would then be to determine if this text is applicable in case of an electronic award pronounced in connection with online arbitration.

◆ 2. Varying case law touching on the arbitration

A few decisions by European courts specifically relate to arbitration, and must be taken into account within the general regime applicable to arbitration.

Arbitration is not materially subject to the European Convention on Human rights, since it is not binding on the Member States and their judicial systems. Nevertheless, French judges have found that arbitration remains subject to the fundamental requirements of its article 6 § 1, which guarantees the right to a fair trial²⁵. For its part, the European Court of Human Rights makes a distinction between "voluntary arbitration" (to which the parties have consented by mutual agreement) and "compulsory arbitration" (that the parties have not voluntarily chosen, which is imposed on them by law), and states that article 6 § 1 will be applicable in connection with compulsory arbitration²⁶. Several orders from this Court also involve arbitration in various ways²⁷.

Similarly, the case law of the Court of Justice of the European Union (CJEU) can also have an influence on arbitration, sometimes positive,

24. E. Loquin, "L'apport de la doctrine à la science juridique dans l'arbitrage international", in F. Osman and A. C. Yildirim (dir.) : *Où va l'arbitrage international? De la crise au nouveau*. LexisNexis, 2017, p. 23.

25. In the *Pirelli* case before the Paris Court of Appeals, on 17 November 2011, 09/24158, the court confirmed a substantial application of article 6 of the European Convention on Human rights as part of the arbitration.

26. In this sense : ECHR, Commission decision, *Bramelid and Malmström v. Sweden*, n° 8588/79 and n° 8589/79, 12 December 1983.

27. For recent cases: ECHR, *SPRL Projet Pilote Garoube v. France*, 3 May 2018, n° 58986/13, and ECHR 2 Oct. 2018, *Mutu and Pechstein v/Switzerland*, n° 40575/10 and n° 67474/10.

with the *Claro* decision²⁸, and sometimes negative, with the *Achmea* decision²⁹.

C. Application of International law to arbitration

◆ 1. Applicable international treaties

Internationally, France has ratified three treaties that can be of particular interest with regard to online arbitration: the 1958 New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards, the 1923 Geneva Protocol on Arbitration Clauses, and the 1927 Geneva Convention for the Execution of Foreign Arbitral Awards. On various matters, notably in view of the consent of the parties to the arbitration or the oversight and execution of arbitral awards, these conventions are intended to prevail over national law in case of international arbitration. However, the now electronic nature of the online arbitration procedure is testing the compatibility of these texts with the new technical challenges of dematerialized procedures.

◆ 2. The application of international case law

There is no international court whose case law would be able to contribute to the preparation of a standardized or even regulated regime for online arbitration.

◆ 3. Other international sources touching on arbitration

Several international institutions promote international arbitration as the preferred method for resolving international trade conflicts. This is the case of the United Nations Commission on International Trade Law (UNCITRAL), the *International Council for commercial arbitration* (ICCA) and the *International bar association* (IBA).

As part of these promotional efforts, these institutions produce soft law regulations that provide guidelines for arbitral procedures. The 1985 UNCITRAL model law on international commercial arbitration and its amended 2006 version can therefore serve as a model for any type of arbitral procedure, if the parties choose to do so. The UNCITRAL also published a model law on electronic signatures in 2001, that can notably serve as a reference for questions related to the dematerialization of procedures, such as the consent of the parties to arbitration.

Finally, there are the *2010 IBA Rules on the Taking of Evidence in International Arbitration*, completed by the *IBA Guide to Good Practice on the Use of Video-Links Under the Evidence Convention*³⁰, that are intended to include online arbitration³¹.

28. CJEU 26 October 2006, C-168/05 (*Claro*), completing article R212-2 of the Commercial Code.

29. CJEU 6 March 2018, C-284/16 (*Achmea BV*) bringing an end to the arbitration system anticipated in intracommunity investment treaties.

30. The first draft was recently published and will be put to a vote in March 2019: [online] < <https://assets.hoch.net/docs/e0bee1ac-7aab-4277-ad03-343a7a23b4d7.pdf> >.

31. And generally relative to arbitration as a process: *IBA Guidelines for Drafting International Arbitration Clauses of 2010*, *IBA Guidelines on Party Representation in International Arbitration of 2013*, *IBA Guidelines on Conflicts of Interest in International Arbitration of 2014*.

II. The special case of online arbitration

A. French texts relative to online arbitration

While section II of law n° 2016-1547 of 18 November 2016 on the modernization of justice in the XXIst century does not directly cover electronic arbitration, it must be cited in view of its assumed desire to promote alternative conflict resolution methods, thereby improving the legal regime of arbitration under the Civil Code.

More recently, the 2018-2022 Programme and Justice Reform law n° 2019-222 of 23 March 2019 directly considered online arbitration in its article 4 that states that online arbitrators must guarantee "impartiality, independence, competence and diligence" (new art. 4-4 of the Justice in the XXIst century law), that online arbitration centres can now receive certification from an accredited institution (new art. 4-7), that personal data must be protected (new art. 4-2) and that arbitral awards can be pronounced in electronic form (same article). The phenomenon of online arbitration is thus now directly taken into account, and accompanied by lawmakers.

At the present time, no other domestic source is able to directly regulate online arbitration.

B. The absence of European texts regarding online arbitration

On the regional level, online arbitration is not regulated by any law text, case law or other sources.

C. International initiatives on the dematerialization of arbitration

On the international level, online arbitration is not the subject of any convention or case law.

With regard to soft law, various sources have touched on the question, but only in a scattered way. The Paris International Chamber of Commerce has notably set up the *ICC Commission on Arbitration and ADR's Task Force on the Use of Information Technology in International Arbitration*. This commission looked at the question of the dematerialization of arbitration within this centre and published two reports in 2004 and 2017 on the use of information technologies in international arbitration. Doctrine has also taken an interest in this same aspect of the use of information technologies in arbitration, which has led to a rich bibliography on this subject³².

32. Th. Schultz, *Information technology and arbitration; a practitioner's guide*, Kluwer Law International pub., 2006, 241 p.; L. Kiffer, "Les NTIC et l'Arbitrage", in *L'E-Justice Dialogue et pouvoir, Archives de philosophie du droit*, Volume 54, Dalloz, 2011, p. 55.

Doctrine has further considered the digital evolution of arbitration, in general terms³³, but also in connection with electronic proof³⁴, improvement of the arbitrator selection service³⁵ as well as the search for better accessibility to arbitral justice³⁶.

Moreover, in the University domain, empirical studies by Queen Mary University³⁷ have been undertaken on the development of arbitration in recent years. They notably dealt with the question of the technification of arbitral procedures. Finally, the contribution from various doctoral studies on the subject of online arbitration must also be pointed out³⁸.

Lastly, two international initiatives have been launched on the subject of cybersecurity in international arbitration, which is of great interest to the subject of the dematerialization of arbitration. This is the case, firstly, of the protocol of the Working group on Cybersecurity in international arbitration of the ICCA, carried out in collaboration with the New York Bar and the CPR and that underwent public consultation in April 2018³⁹. Secondly, the *IBA Presidential Task Force on Cyber Security* published guidelines in this regard⁴⁰ in October 2018.

These initiatives demonstrate a true preoccupation with various aspects relating to the dematerialization of the arbitral procedure, but without there being any true regulatory harmony within the arbitration digitization phenomenon. Of course, several procedural aspects must still be taken into account, and the regulation currently does not have a sufficiently solid framework in order to take control of it or organise it any further. Yet, the efforts undertaken by institutions on concrete subjects demonstrate the growing awareness of the existing needs when faced with the impact of new technologies in arbitration.

33. M. Piers, Ch. Aschauer, *Arbitration in the digital age*, Cambridge University Press pub., 2018.

34. For an example along these lines: C. Warshauer, "Electronic discovery and arbitration : a shortcut through e-discovery", in *Contemporary Issues in International Arbitration and Mediation: The Fordham Papers*, vol. 2, 2008, p. 239-254.

35. P. Shaughnessy, "Arbitrator Intelligence – An interview with its founder and director, professor Catherine Rogers", *The Journal of Technology in International Arbitration*, vol. 1, Issue 1, 2015, p. 87.

36. M. Philippe, "We walked on the moon but justice is not yet online! Technology revolution and Online Dispute Resolution", *Revue pratique de la prospective et de l'innovation*, n° 1, October 2016, p. 48.

37. Three studies have been performed on the subject: *International Dispute Resolution Survey: Pre-empting and Resolving Technology, Media and Telecoms Disputes*, Queen Mary University, 2016 [online] < <http://www.arbitration.qmul.ac.uk/docs/189659.pdf> > ; *International Arbitration Survey: Improvements and Innovations in International Arbitration*, Queen Mary University, 2017 [online] < <http://www.arbitration.qmul.ac.uk/docs/164761.pdf> > ; *International Arbitration Survey: The Evolution of International Arbitration*, Queen Mary University, 2018 [online] < <http://www.arbitration.qmul.ac.uk/research/2018/> > .

38. B. Bouiri, *L'arbitrage électronique : "la mise en place d'un environnement favorable"*, (ss. dir.) Y. Strickler et M'hamed Segame, Côte d'Azur university thesis, 2016 ; A. El Shakankiry, *Le Règlement des litiges du commerce international par l'arbitrage électronique: une approche sur le droit de l'économie numérique*, Montpellier university thesis, 2012.

39. *Draft Cybersecurity Protocol*, [online] < <https://www.arbitration-icca.org/projects/Cybersecurity-in-International-Arbitration.html> > .

40. *Cyber Security Guidelines*, [online] < <https://www.ibanet.org/LPRU/cybersecurity-guidelines.aspx> > .

III. Relevance of the laws relative to *legaltechs*, start-ups and artificial intelligence

A. French *legaltech* law: an uneven reality

Legaltechs, that can be defined as the technologies providing for automation of a legal service, whether in terms of a support (i.e. document), process (i.e. procedure) or relations with legal professionals, suffers from a paradoxical situation: the regular wishful thinking from which they benefit is not supported by any true reform intended to sustain and secure them, whereas this would be necessary.

◆ 1. Promotion of *legaltech* within an insufficient legislative framework

There is no regulation on start-ups, but rather a set of laws that form a legal and financial framework that contributes to the creation of start-ups. Laws notably promote the creation of such companies, while facilitating their organisation and financing⁴¹. The *legaltech* domain will also be concerned by the draft law on the action plan for business growth and transformation (known as the PACTE law), the text of which is currently being adopted by Parliament. While not all of these texts strictly apply to online arbitration, they are nevertheless of indirect interest. Suppliers of online arbitration services will therefore have to consider this legislative framework in order to be able to guarantee their offer on the *legaltech* market.

The introduction of start-ups, and notably of suppliers of online settlement dispute services, encourages an awareness of the very sensitive considerations that are inherent to the operation of justice (respect for procedural rules, traditional practices, interests of the litigant, etc.). Moreover, *legaltech* is made up of "regulated and non-regulated actors, that sometimes work together, and sometimes in confrontation"⁴². We note that the phenomenon of the digitization of legal activities (more concretely in terms of how justice is rendered) is very sensitive and insufficiently overseen by lawmakers at the present time.

◆ 2. Lacking case law relative to *legaltechs*

Up to now, no noteworthy decision has pronounced down on this subject, other than the aforesaid decision from the Constitutional council on 12 June 2018 relative to the use of algorithms in administrative decisions. On the other hand, the question of conformity with the law of certain services proposed by *legaltechs* has already been brought before various courts, but this did not involve online dispute settlement⁴³.

41. For an overview of these laws: law n° 94-1, promulgated on 3 Jan. 1994, establishing the joint stock company; law n° 99-587, promulgated on 12 July 1999, concerning innovation and research; law n° 2008-776, promulgated on 4 August 2008, concerning the modernization of the economy; finance law n° 97-1269 of 30 Dec. 1997, concerning the arrangements for BSPCE (founder warrants) and completed by article 163 (a) G of the French Tax Code; finance law n° 2003-1311, of 2004, establishing the status of the Young innovative company and completed by article 44 (e) A of the French Tax Code; finance law n° 2004-1484, of 30 Dec. 2004, establishing the arrangement surrounding allocations of free shares and order n° 2014-556, relative to participatory financing of 30 May 2014.

42. Ch. Féral-Schuhl, Speech on the occasion of the opening session of the Village de la *legaltech*, le 27 November 2018.

◆ 3. The place of *soft law* within *legaltechs*

Soft law has a certain impact in terms of *legaltech*. Notably, various public and private initiatives have taken an interest in the question of ethics in view of the emergence of artificial intelligence and its introduction into the legal world / justice.

As such, the Open Law association promoted the drafting of an ethics charter for an online legal market and its actors, the revised version of which was published on 7 December 2017. The CNIL (French Data Protection Authority) also wrote a report on the ethical stakes of algorithms and artificial intelligence, in December 2017. Finally, another private initiative originating with the Sciences Po Paris legal clinic, in collaboration with the start-up Prédicite and the Taylor Wessing firm, involved the publication on 20 November 2018 of an ethics charter on predictive justice, drafted by the Predictive justice ethics and scientific committee. Both charters operate with the spontaneous adherence of actors within the field of predictive justice.

This wealth of sources, often in the form of *soft law*, serves as a guide for litigants and arbitration actors on ethical questions within the framework of the digitization of their disputes.

B. European *legaltech*

On the European level, *legaltech* has no established legal framework. On the other hand, European institutions are contributing to the reflections on the matter by referring to "soft" law⁴⁴. Questions are notably being asked on the possible Europeanization of the *legaltech* ecosystem, though there has not yet been any official initiative along these lines⁴⁵.

As such, regarding artificial intelligence, the European Commission in 2018 set up the "European AI Alliance", that includes an expert committee⁴⁶. This Committee's tasks will have to be monitored with great interest since this can influence not only the use of artificial intelligence in connection with predictive justice, but also the development of online arbitration.

Moreover, the European Commission for the Efficiency of Justice (CEPEJ) of the Council of Europe recently adopted, on 3 and 4 December 2018, the European Ethical Charter on the use of artificial intelligence

43. In this sense, see [online] < <http://www.avocatparis.org/le-barreau-de-paris-poursuit-en-justice-la-societe-forseti-editrice-du-site-doctrinefr> > and < <https://business.lesechos.fr/entrepreneurs/actu/0302305086735-doctrine-attaque-par-l-ordre-des-avocats-de-paris-323612.php> >.

44. See not. the existence of a *European Legal Technology Association* [online] < <http://legal-tech-association.eu> >.

45. M. Lartigue, "Quel avenir pour l'écosystème de la *legaltech* à l'horizon 2030?", *Gaz. Pal.* 4 Dec. 2018, p. 6. Partially accessible on < <https://www.gazette-du-palais.fr/article/GPL338g9/> >.

46. In this sense, see [online] < <https://ec.europa.eu/digital-single-market/en/news/commission-appoints-expert-group-ai-and-launches-european-ai-alliance> >.

in judicial systems⁴⁷. This charter is intended for the 47 Member States of the Council of Europe and targets the national authorities in charge of integrating artificial intelligence into national legislative systems and/or judicial policies, justice professionals as well as most notably private actors, which will specifically be of interest to the Commission given that the actors of online arbitration are mostly private.

C. International *legaltech*

For now, no international text serves to govern questions relating to artificial intelligence or *legaltech*. It seems difficult to coordinate the efforts in such a competitive market, in which the policies correspond with more political, economic and cultural choices, rather than purely legal ones. The question of applicable law can nevertheless be asked in view of start-ups that would provide services of a cross-border nature. This last question should notably be of interest to start-ups that offer online arbitration services for more complex international arbitration procedures, which is not currently the case since the offer of online arbitration services still remains attached to small disputes.

IV. Blockchain regulation

A. Proactive French blockchain legislation

Unlike other countries, France very quickly began to look at blockchain regulation ("shared electronic recording systems" = official French term for blockchain). The first text that mentioned the blockchain is article 168 of the so-called "Macron" law n° 2015-990 of 6 August 2015 on growth, business and equality of economic opportunity. It was also completed by order n° 2016-520 of 28 April 2016 relative to interest-bearing notes, for which article 2 modifies article L. 223-12 of the Monetary and Financial Code, while finally legalizing the blockchain and anchoring it in French law.

Finally, a last order completed this legislative framework in 2017: order n° 2017-1674 of 8 December 2017 on the use of the blockchain for the representation and transmission of financial securities. Article 1 of this text modifies article L. 228-1 of the Commercial Code and, in its articles 2 and 3, modifies the Monetary and Financial Code relative to this matter. This order is also accompanied by decree n° 2018-1226 of 24 December 2018 relative to the use of blockchain for the representation and transmission of financial securities and for the issue and sale of *minibons*.

The introduction of this technology may have repercussions in the future in terms of conflict resolution methods, notably by facilitating new procedural forms that are completely dematerialized and secure.

47. European Ethical Charter on the use of artificial intelligence in judicial systems and their environment, adopted by the CEPEJ, 3-4 Dec. 2018, [online] < <https://rm.coe.int/ethical-charter-en-for-publication-4-december-2018/16808f699b>>.

B. Ambitious European objectives on the technology of distributed ledgers

The European Union is particularly interested in the subject of distributed ledgers, and it notably set up the *European Union Blockchain Observatory and Forum* in February 2018, the objective of which is to lead a larger reflection on the appropriate supervision of this technology. This reflection centre therefore produced, in July 2018, the EU *Study Cryptocurrencies and blockchain*⁴⁸. Similarly, a resolution of the European Parliament of 3 October 2018 on the technologies of distributed ledgers and blockchains calls for strengthening confidence via disintermediation [2017/2772 (RSP)]⁴⁹. The European Union is clearly showing its ambition of being a pioneer in the specific domain of distributed ledgers.

C. The decision against an international regulation regarding blockchain

At the end of the G20 in Argentina in March 2018, it was decided not to adopt any international regulation regarding blockchain⁵⁰. That being said, and as previously explained, regional regulations cannot be set aside. In the case of online arbitration services based on such technology, the absence of international regulation should lead to certain questions being raised, and justify the consideration of regulations.

V. Abundant regulation with regard to data protection

A. Confirmed legal protection of personal data

Data protection is primarily guaranteed by French data protection act n° 78-17 of 6 January 1978. This text was very recently the subject of a reform, pursuant to law n° 2018-493 of 20 June 2018 relative to personal data protection and by order n° 2018-1125 of 12 December 2018, in order to adapt domestic legislation to the European requirements⁵¹.

We nevertheless note that the law of 20 June 2018 must be read jointly with Constitutional council decision n° 2018-765 DC of 12 June 2018 that declared a partial non-compliance of this text with the Constitution due to the fact that the "public authority" that could use personal data in criminal matters was not defined with sufficient precision.

48. R. Houben, A. Snyers (dir.), *Cryptocurrencies and blockchain* [online] < <http://www.europarl.europa.eu/cmsdata/150761/TAX3%20Study%20on%20cryptocurrencies%20and%20blockchain.pdf> >.

49. European Parliament resolution of 3 October 2018 on distributed ledger technologies and blockchains: building trust with disintermediation(2017/2772(RSP)), [online] < <http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P8-TA-2018-0373+0+DOC+XML+V0//EN> >.

50. "Blockchain Regulation: Technology Is Welcomed, Cryptocurrency Regulated", *intellect soft*, 23 April 2018 [online] < <https://www.intellectsoft.net/blog/blockchain-government-regulation/> >.

51. See in this sense: "Protection des données personnelles : que contient la loi du 20 juin 2018?", [online] < <http://www.vie-publique.fr/actualite/dossier/securite-Internet/protection-donnees-personnelles-que-contient-loi-du-20-juin-2018.html> >.

All of these texts related to personal data protection must be observed carefully in connection with the dematerialization of procedures, whether judicial or arbitral. Indeed, questions arise relative to the anonymization of justice decisions (less with regard to arbitration matters, however, that are intended by nature to remain confidential, even in the event of becoming "electronic"). The digitization of procedures is an additional risk factor with regard to personal data protection.

B. Strong European desire for data protection

The first European text that touched on the online settlement of disputes relative to data protection was the Council of Europe convention for the protection of individuals with regard to automatic processing of personal data, of 28 January 1981.

The entry into force on 25 May 2018 of European regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 created an upheaval in the field of personal data protection, in all business sectors and notably in judicial matters, in which personal data are also judicial data. Since all Member States must observe this European regulation, the regime surrounding personal data has been further strengthened. This regulation will apply to all online conflict resolution mechanisms that are required to use the information of European parties or occurring within the territory of the Member States.

C. International instruments relative to personal data protection

There are no international agreements or treaties relative to the protection of personal data. Soft law on the matter exists, however, notably emanating from the OECD⁵² and the UN⁵³.

All guidelines created by these international institutions may well apply within the framework of online arbitration, when the parties opt for it. In any event, they can serve as a guide relative to the protection of personal data in case of transborder flows or file storage.

VI. "Open data" law

A. French law on open data

◆ 1. Recent French legislation on open data

The question of open data was the subject of discussions surrounding the Digital Republic law n° 2016-1321⁵⁴ of 7 October 2016. This text

52. OECD, Guidelines on the Protection of Privacy and Transborder Flows of Personal Data, versions of 1980 and 2013.

53. UN, Resolution for the Regulation of Computerized Personal Data (1990).

54. Articles 20 and 21 of this text therefore modified article L. 10 of the Code of administrative justice and anticipated that the single chapter of section 1 of book 1 of the Code of judicial organisation would be completed by article L. 111-13 and articles L. 321-1 to L. 326-1 of the Code of relations between the public and the administration.

notably imposed the principle of the disclosure of justice decisions. Moreover, as the subject of open data is linked with that of databases, it is also subject to article L. 112-3, sub-paragraph 2, of the Intellectual Property Code.

These two questions – disclosure of justice decisions and set-up of databases – correspond well with the challenges brought to light in this report. Yet, the question regarding arbitration must be qualified, given the confidential nature of this procedure. This raises the question of the linkage of legal systems that should be designed differently if regulation on online arbitration is intended to exist one day in French law.

◆ 2. Silence of French courts regarding open data

No court decision has said anything about open data relative to legal decisions, neither in judicial nor arbitration matters.

◆ 3. Extensive soft law relating to open data

The subject of open data relative to legal decisions was covered extensively in the report provided to the Ministry of Justice by Professor Loïc Cadiet⁵⁵.

More generally with regard to open data, mention can also be made, in the specific domain of health, of the report published by the Commission of the ministry for social affairs and health on 9 July 2014 or, relative to metadata, a 2016 report from the office of the Consultative committee of the Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data⁵⁶. For its part, the Council of State published an annual report in 2017, in which it notably covered matters relating to the opening of data, algorithms, artificial intelligence, big data, and *open source software*⁵⁷.

For its part, doctrine provides an abundant legal source relative to "related" subjects such as "predictive justice"⁵⁸, *legaltech*⁵⁹ and even automatic learning⁶⁰.

This set of sources adds to the reflections on the digitization of the law and, of interest to us, on very important aspects linked to the dematerialization of justice procedures (judicial and arbitral), and that relate to open data and to an analytical study of justice data.

55. L. Cadiet (dir.), *L'open data des décisions de justice – Mission d'étude et de préfiguration sur l'ouverture au public des décisions de justice*, Report submitted to the Minister of Justice, Ministry of Justice pub., November 2017, Jan. 2018 ed.

56. A. Rouvroy, *Des données et des hommes, droits et libertés fondamentaux dans un monde de données massives*, Report from the office of the Consultative committee of the Convention for the Protection of Individuals with regard to Automatic Processing of Personal Data, Council of Europe pub., 2016, 45 p.

57. Council of State, *La Puissance publique et plateformes numériques : accompagner l'ubérisation*, Annual report of the Council of State, La Documentation française pub., coll. Les Études du Conseil d'État, 2017, 189 p.

58. R. Sève, *La Justice prédictive*, Volume 60, Dalloz pub., coll. Archives de philosophie du droit, 2018, 412 p.

59. Legal-tech.fr The French legaltech magazine, < <http://legal-tech.fr> >.

60. A. Smola, S.V.N. Vishwanathan, *Introduction to Machine learning*, Cambridge University Press pub., 2008, 18 p. [online] < <https://www.kth.se/social/upload/53a14887f276540ebc81aec3/online.pdf> >.

B. European texts on open data

The European Union has a greater focus on transparency and respect for fair competition with regard to public information. As such, directive 2003/98/EC modified by directive 2013/37/EU calls for the publication and reuse of public sector information.

For its part, article 4 (4) of European regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 addresses the related question of profiling. This subject is of particular interest in connection with online arbitration, since arbitrators could be confronted with this question.

The question of anonymization is addressed within whereas clause n° 26 of European regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 and that of pseudonymisation by European regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016. These two texts should be of particular interest with regard to possible electronic arbitral awards within the framework of online arbitration.

C. International initiatives on open data

Countries have undertaken various initiatives relative to open data, in an effort to promote more transparent and fair governance in an era of the growing value of data. As such, on 18 June 2013, the representatives G8 countries signed the G8 Open Data Charter in order to promote a policy of open data. Anonymization was addressed by the G29 Member countries, that issued an opinion in May 2014 (opinion 05/2014).

Another initiative on open data was the creation of the *International Open Data Charter* 2015⁶¹, open both to countries (64 signatories including France) and institutions (48 signatories).

Though these texts do not directly apply to the topic of online arbitration, the working group asked the entire arbitral community to take these provisions regarding open data into account as part of the reflection on the legal framework applicable to online arbitration.

VII. The law applicable to dematerialization

A. French positive law on the dematerialization of documents and procedures

A vast collection of texts governs the dematerialization of State justice, from several angles. The working group concentrated on texts

61. In this sense, see < <https://opendatacharter.net/> >.

governing electronic communications, while carefully distinguishing the dematerialization of the transmission of documents from the dematerialization of documents themselves.

The electronic transmission of documents, to begin with, has been the subject of reforms involving civil procedure in recent years. The general regulatory framework results from decree n° 2005-1678 of 28 December 2005 that created, within the Code of Civil Procedure, a new section XXI as part of book one (articles 748-1 et seq of the CCP). This text allowed the electronic dispatch, delivery and notification of all documents and elements within the context of a judicial proceeding. Applicable since 1 January 2009, these provisions allow, in general terms, an electronic document to replace a document on paper, with the recipient's approval, provided that the employed technical procedures guarantee, under the conditions listed in the order, the reliability of the identification of the parties, the integrity of the documents, as well as the security and confidentiality of the exchanges with the jurisdictions. The actual implementation of electronic communications is therefore dependent on the publication of technical orders. Several orders were successively published starting in 2005 (notably for the Regional court, the Court of appeal and the Court of Cassation) which defined technical processes providing the required guarantees for the various jurisdictions, and according to the implemented procedures.

We are there note that the electronic transmission of documents has also been accepted both by the Council of State⁶² and by the Court of Cassation, which acknowledged the admissibility of a labour tribunal appeal submitted electronically⁶³. These decisions, that have not yet led to general rules, are interesting given that they were made by high jurisdictions within the absence of any text.

Then, with regard to the dematerialization of documents themselves, this matter is not governed by articles 748-1 et seq of the Code of Civil Procedure. As such, for a civil judgement, which is also not included in the list provided by article 748-1 (that only mentions the transmission of a potentially enforceable copy), the possibility of issuing judgements electronically (cf. article 456 of the Code of Civil Procedure) results from decree n° 2012-1515 of 28 December 2012 concerning various provisions relative to civil procedure and judicial organisation. This possibility is framed in such a manner that the employed processes guarantee the integrity and preservation of the judgement. An electronically issued judgement is therefore signed using a secure electronic signature process that meets the requirements of decree n° 2017-1416 of 28 September 2017 relative to electronic signature. The application provisions of article 456 of the Code of Civil Procedure must be clarified by an order from the Minister of Justice. An order dated 18 October 2013 provides for the electronic signing of legal decisions issued by the Court of Cassation

62. EC, 10th and 9th sub-sect., 28 December 2001, n° 112646.

63. Soc., 18 January 2017, n° 14-29.013, Bull. civ. V, n° 11.

in civil matters. Then, the dematerialization of arbitral awards was established in the 2018-2022 Programme and Justice Reform law n° 2019-222 of 23 March 2019.

Regarding arbitration, since it results from a contract, one must mention the electronic contract in order to recall that French law has also changed significantly since the start of the 2000s: indeed, legislators began by securing electronic documents as a means of proof by clarifying the admissibility of such a form of proof as well as its probative force. This was the subject of the law of 13 March 2000 that laid the groundwork for former articles 1316 et seq of the Civil Code that became, after the contract law reform resulting from the order of 10 February 2016, articles 1365 et seq. As such, article 1366 of the Civil Code imposes two conditions for an electronic document to be recognised as proof on an equal footing with a paper document: the person from whom it emanates can be duly identified (which can usually be done via a secure signature), and the document must be prepared and retained under conditions that will guarantee its integrity.

In addition to electronic documents, the Civil Code also regulates electronic signatures, that are also accepted. According to article 1367 of the Civil Code, this involves "the use of a reliable identification process that guarantees the link with its underlying document".

This same law also allowed the extension of electronic media to official documents by adding a sub-paragraph to former article 1317 of the Civil Code (now article 1369) which indicates that the authentic document "can use an electronic medium if it is prepared and retained under conditions established by Council of State decree". As such, decree n° 2005-972 of 10 August 2005 established the conditions for preparing an electronic bailiff's deed. Similarly, relative to notaries, decree n° 2005-973 of 10 August 2005 established the necessary procedures for the preparation and preservation of a notarial act on electronic medium.

Also, the law of 21 June 2004 accepted that when a document is required for the validity of an agreement (and no longer just for the purpose of providing proof), it can be prepared on an electronic medium: specifically, former Civil Code articles 1108-1 and 1108-2, now articles 1174 and 1175 of that same Code.

As such, the provisions relative to electronic documents contained in Civil Code include articles 1125 et seq (on the use of electronic media in the process for the conclusion of contracts), articles 1174 et seq (on questions surrounding the validity of electronic documents) and finally articles 1365 et seq (on questions surrounding proof and signatures). As a bit of history, we note that as part of the reflections on the reform of contract law, it had been envisaged to group all of these texts within a single chapter devoted to "electronic contracts". This was not done since it was noted that this ran the risk of granting, in the general part devoted to the ordinary law of contracts, a somewhat specific status

to "electronic contracts" by making them a special kind of contract that was out of place in this context. However, this clearly shows some of the specificities that must be taken into account.

B. European initiatives in the direction of cyberjustice

In connection with soft law, the European Commission for the Efficiency of Justice (CEPEJ) of the Council of Europe in 2016 published Guidelines on how to drive change towards cyberjustice.

Conclusion

All of these sources (laws, case law, reports, doctrine, studies, etc.), on a variety of subjects, are indicative of the complexity of the digital phenomenon. As indicated above, its impact can extend to several domains at the same time (arbitration, data protection, cybersecurity, etc.).

The above presentation leads to a twofold conclusion. Unfortunately, legislative developments are not occurring at the same rhythm in each of these domains. Moreover, French lawmakers have so far not given an overall, consistent and complete response in view of the rapid social and legal transformation that the technological transfer implies for the law, notably as it relates to disputes.

As such, online arbitration is at the crossroads of scattered and unbalanced legislative developments. One other element must also be taken into consideration: competition from foreign offers. Indeed, the digital market, and notably for conflict resolution services, is subject to strong competition, since arbitration is attractive and practices are developing at a steady pace.

CHAPTER 2.

PRACTICES IN EFFECT

As seen above, online arbitration is covered by existing legislative texts, that from various aspects apply a transversal look at online jurisdictional practices, whether arbitral or not. To ensure serene and controlled development of practices, it is necessary to go further and to imagine a consistent and complete set of rules. While still not explicitly anticipated by the texts, online arbitration nevertheless already exists in reality, thanks to its actors, though this reality is still quite modest.

The actors in online arbitration are already relatively numerous in France. Given their experience established in recent years, they can already provide an initial overview of how the sensitive subject of online arbitration should be tackled, at a time when the Internet has become the indispensable tool for processing a good many arbitration procedures that can be carried out around the world (or for certain aspects of the arbitral procedure such as the transmission of documents, communications at a distance, etc.), at least as a secondary support for the procedure⁶⁴. This practice has notably been translated into various experiments that have been, and are still being, carried out by arbitration centres and start-ups. We can notably refer here to the "Netcase" experience of the International Chamber of Commerce that was carried out from 2002 to 2004⁶⁵, to the emergence of new arbitration centres such as eJust and Fastarbitre, with which the working group was able to meet⁶⁶, as well as online clerk services such as MyCercle.

These actors did not all appear at the same time and have differing experience in the domain of arbitration, even more so online arbitration in view of the duration of their existence, but also in terms of the vision that they may have regarding the concept of online arbitration. Some believe that the "online" aspect of arbitration should be limited to a simple support for the classical procedure, while others consider that the "online" character of a procedure must change the very nature of arbitration. As such, there are almost as many online arbitration practices as there are actors in the domain.

64. G. Decocq, "L'influence d'Internet sur la pratique de l'arbitrage", *Rev. arb.* 2012, p. 769.

65. M. Philippe, "NetCase : une nouvelle ressource pour l'arbitrage CCI", in *Spécial Supplément 2004 : La technologie au service du règlement des différends commerciaux*, 2004, p. 55.

66. Interviews held on 6 June 2018.

The actors in online arbitration can be divided into three categories: the oldest ones whom we could describe as "established actors" (I), new and more recent actors that can be described as "emerging" (II), and finally, future actors who are demonstrating interest in this matter and who could begin focusing on online arbitration in the more or less near future, namely "potential actors" (III).

I. Established actors and online arbitration, secondary digital use within the procedure

Online arbitration is not truly something new. It has existed for many years, as a few actors can confirm, though such arbitration was limited both in terms of numbers and scope. Indeed, up to now, experiences with online arbitration were limited to small disputes, which would notably seem to be due to a kind of mistrust amongst arbitration practitioners relative to digital technology⁶⁷.

In this regard, three actors – two international and one French – naturally attracted the attention of the working group on online arbitration set up by the Club des juristes. They are the Cyberjustice laboratory of the University of Montreal, a pioneer in the organisation of online arbitration and that led to the birth of the phenomenon (A), large structures such as the World Intellectual Property Organisation (WIPO), also one of the pioneers in this practice, and the International Chamber of Commerce (ICC), each of which casts a light on the use of online arbitration by classical arbitration actors (B).

A. The birth of online arbitration

Before looking into the practices of online arbitration that are currently in effect, a study of the origins of this practice is needed. To this end, it is necessary to have a closer look at the Cyberjustice laboratory.

The Cyberjustice laboratory is a venue for reflections developed since 2010 within the law faculty of the University of Montreal, directed by Karim Benyekhlef, the objective of which is to rethink justice models in light of new technologies. Historically, the laboratory was the first public structure to experiment with resolving disputes online via arbitration⁶⁸ with the Cybertribunal experiment in 1996, a project that lasted only three years. As such, between 1996 and 1999, we find the roots of the reflection on online arbitration that led to the founding of eResolution between 1999 and 2001, which enabled the online resolution of more than 500 conflicts from more than 50 States. The reflection developed until the creation of the Cyberjustice laboratory, as part of a project to develop software programs for which one of the main aims was to computerize

67. G. Decocq, "L'influence d'Internet sur la pratique de l'arbitrage", op. cit.

68. Interview of Professor Karim Benyekhlef by the Online Arbitration Commission, on 6 June 2018

the judicial system and to build a cyberjustice hearing room. One of the key ideas of these projects was to not consider online arbitration as arbitration that is only carried out online. In other words, one might think of the use of certain communication technology elements as a kind of support for a classical arbitration procedure, perhaps through the use of videoconferences, but without totally denaturing the classical arbitral procedure. Indeed, the "physical" procedure still seems to be an element that is appreciated by actors in the arbitral community, notably in case of complex arbitration.

Starting with this pioneering initiative, other experiments were then carried out, notably in Ontario, within the co-ownership tribunal, which is a tribunal without a hearing room, as well as within the Nafta court as well as in Great Britain with the "money online" experiment that led to a report in 2004⁶⁹ by David Benichou, then examining magistrate at the Paris Regional court. All of these projects – and many other international ones – are clearly indicative of a desire to dematerialize justice, whether private (arbitral) or public (State). The success and various developments of these experiments also serve to prove that it is possible to put justice online.

Amongst the latter projects, we note that the Cyberjustice laboratory has set up a specific platform for settling disputes, referred to as PARLE (French acronym for "Online dispute settlement assistance platform"). With this platform, consumers can have their low-intensity disputes resolved quickly and at a low cost, since the service is free. The idea is for this to include negotiation elements using the platform's artificial intelligence, by proposing solutions for the dispute's protagonists in an effort to resolve it. Nevertheless, in case of unsuccessful negotiation, a mediation and arbitration procedure can then be initiated, also online.

Building on these experiences, both legal and social, Professor Benyekhlef was able to identify issues requiring further study, while identifying the interest in practices such as online arbitration, notably in view of the need to respond to the applications by litigants within reasonable time limits, but also with the objective of rationalising the procedural costs. The problems that are still to be handled today reside mainly with the financing of platforms and the risks related to the digital divide, given that some of the services now proposed online are no longer physically provided by state administrations⁷⁰.

Ultimately, the Cyberjustice laboratory brought to light many possible applications for online dispute settlement, thereby leading to a true reflection on the topic of online arbitration, based on many years of practice.

69. D. Benichou: "Justice online", Report on the course held in London from 26 to 30 April 2004, Franco-British legal cooperation committee.

70. In this sense, see the Ontario co-ownership tribunal, the residential management tribunal and its projects for a legal chatbot, as well as the Portalis project in France.

B. The use of online arbitration within classical institutions

With the birth of this phenomenon, large arbitration institutions attempted to integrate its procedures into their operating mode. This was notably the case of the World Intellectual Property Organisation and of the International Chamber of Commerce.

The World Intellectual Property Organisation has its own arbitration and mediation centre. This Centre is a neutral, international and non-profit institution that offers quick and economical out-of-court procedures for resolving commercial, intellectual property and technology disputes. Created in 1994, it is based in Geneva and has had an office in Singapore⁷¹ since 2010. This centre also developed several types of dematerialized procedures, suited to the various types of disputes within the intellectual property domain.

This can include classical arbitration procedures, accelerated arbitration, but also mediation or WIPO appraisal procedures. These procedures can also be based on contractual relations (for anything having to do with patent licences, for example) or non-contractual relations (notably with regard to patent infringements).

Our working group's attention notably focused on the procedure specific to disputes involving domain names, even though they do not come under arbitration. Since 1999, the Centre has handled several thousand procedures on this subject. This involves a procedure that the WIPO considers to be an "administrative procedure with no hearing", since in concrete terms, the procedure is initiated by e-mail and a decision is made at its end. The main pitfall⁷² of these procedures is that they are not "final", meaning that it is still possible to initiate, in parallel or thereafter, proceedings before a State jurisdiction.

Moreover, the WIPO encourages online hearings, notably through article 55 of its arbitration regulation, so as to enable the parties to request a hearing, notably in order to present evidence. As such, the parties are free to physically attend the hearing or to do so by videoconferencing, such as to reduce the costs of the case and the consultation with the tribunal.

Finally, it also set up a secure electronic system, referred to as ECAF, that enables the parties, i.e. arbitrators, mediators and experts as well as the Centre itself to communicate electronically, to store procedural documents and to access these documents via an Internet-based register. This system makes it possible to quickly obtain information on the file's content.

72. In fact, the WIPO considers that these procedures are "administrative", but this is nevertheless an internal characterization by the WIPO, which considers that the aim of arbitration is an arbitral award, enforceable via the New York Convention, which is not always the case here since they can result in recourse before the national courts (with the competent jurisdiction being that of the defendant's location).

The WIPO therefore uses a mixed online arbitration procedure, which allows it to use certain of the strengths of online arbitration, together with elements of the more classical arbitral procedure. Nevertheless, the WIPO is continuing with the reflection on the place of machines in decision-making relative to the handled files, while working on an algorithm that could respond autonomously. While there is no question in France of allowing a machine to determine the outcome of an arbitration on its own, this project is nevertheless worthy of study.

This is a new challenge that cannot fail to grow with the use of new technologies in arbitration, though the offer can become misleading. A user – a litigant – might then think of using an arbitral procedure that would provide him with many guarantees, while in reality being subjected to unexpected consequences from the improper use of this term (impossibility of carrying out the decision, possibility of appeal, etc.). It would therefore be advisable to consider a method for controlling the use of this term.

The WIPO is not the only institution to use online processes. This is also the case of the International Chamber of Commerce. For its part, with the discontinuation in 2002 of Netcase, its online arbitration platform for the resolution of small disputes, the ICC has looked at online arbitration only in a very limited manner. Unlike what may have been mentioned above – where specific services could be offered in connection with online arbitration – the ICC has a mixed offer, just like the WIPO in certain cases. As such, it combines the traditional arbitration procedure with new technologies, while adapting it to these new possibilities, but in a fairly limited manner. Indeed, one has only to look at the arbitration regulation in effect during any arbitration via the ICC, and it will be noted that the question is only handled very partially. In fact, reference to it is only made once, in appendix IV of the regulation that deals with techniques for managing the procedure⁷³. In this document, the ICC offers the possibility for the parties and the arbitral tribunal, in an effort to manage the cost of the procedure, of using information technologies and exchanging communications online, whether between themselves, with the arbitral tribunal or with the Secretariat.

It should nevertheless be noted that the ICC imposes a firm limit on the use of this communication process during the arbitral procedure. Within appendix IV f) of its regulation, it states that it is possible for the parties, the arbitral tribunal or the Secretariat to proceed online unless physical presence is essential. In other words, there are cases in which the ICC feels that it is not possible to do without the physical presence of the actors in the arbitral procedure, and that accordingly, totally online arbitration cannot be envisaged.

As such, while the ICC asks the parties to use information technology so as to better manage the procedural costs, so that they will remain

73. ICC arbitration regulation, appendix IV f), applicable as of 1 March 2017.

reasonable relative to the amount of the dispute, it only appears to consider this as a support for the arbitral procedure, and cannot view it as an arbitral procedure in and of itself. Online arbitration would therefore not be "only" online, with digital technology serving simply as a support when allowed by circumstances. This is therefore a question of arbitration being assisted by new technologies, rather than arbitration being performed digitally. Accordingly, the ICC's offer is indeed mixed, since it proposes classical elements of the "physical" arbitral procedure as well as elements of an online procedure, in an effort to optimise the procedure.

Classical arbitration actors are gradually beginning to turn to online arbitration, while including it in their operating method. They aren't the only ones, however, with some actors making an appearance with this new method of online dispute resolution. A clear difference can nevertheless be noted. While classical and established arbitration actors tend to offer mixed solutions, meaning arbitration solutions that are "assisted" by digital technology, as we have seen, the new actors, for their part, have a tendency to develop arbitration solutions that are "performed" by digital technology.

II. The new actors and online arbitration, digital technology at the heart of the arbitration procedure

Arbitration practitioners are far from unanimous when it comes to online arbitration, with some rejecting both the principle and the application⁷⁴. This rejection builds on two refusals, firstly of online arbitration in the form of a "judging machine"⁷⁵, and secondly of online arbitration centres. Nevertheless, we see that such actors are emerging, in France and elsewhere. These online arbitration centres, while new in terms of their form, are quite classical in terms of content, and can be classified according to their dispute practices. Some, in fact, offer a very generalist platform and are quite concentrated on business law in general (A), while others are promoting much more targeted and specialised initiatives (B).

A. Installation of new generalist online arbitration centres

The initiatives are growing in number, abroad and in France. Many platforms are being created, and are completing the existing panel of online arbitration offers. Our working group met with some of them, notably FastArbitre and eJust, that presented the challenges relative to online dispute resolution for an arbitration centre.

FastArbitre is one of the emerging actors in online arbitration. An outcropping of the Institut Digital d'Arbitrage et de Médiation, this 100%

74. G. Decocq, "L'influence d'Internet sur la pratique de l'arbitrage", *op. cit.*

75. *Ibid.*

online platform can be used to submit a dispute or a specific procedure, in three steps: a no-cost mediation phase, then an arbitration phase and a ruling phase, which will allow the litigant to exercise his or her rights within the 159 signatory countries of the New York Convention, according to FastArbitre⁷⁶. The platform's stated objective is clear: simpler management of the procedure⁷⁷.

To this end, FastArbitre seeks to democratize access to arbitration by offering it online, thereby providing for efficiency in terms of managing the time devoted to the conflict, while also controlling the costs requested from the parties, notably through the use of flat-rates ranging from €750 to €2,250 per dispute.

FastArbitre offers its services for a large part of the disputes that can involve companies and the business world in general, notably in connection with an actual dispute, or with regard to collecting a claim.

This online arbitration and mediation centre is quite recent. This start-up's method is based on two fundamental aspects: one procedural and the other substantive⁷⁸.

Regarding the procedural aspects, this notably includes successfully encoding legal rules on an online platform, while respecting a formal concept, an ethical concept (which leads the platform to interact with the litigant, by recommending elements that the latter should submit for the formulated request), as well as a procedural concept. Indeed, while online arbitration seems to be a new way of imagining the arbitral process and dispute resolution, it is nevertheless true that it must comply with ancient but fundamental rules, that its modernity will not allow it to bypass⁷⁹. The question here is always the one of all of the rules of a fair trial, notably the adversarial principle, that must be translated into IT terms so that the dispute resolution platform remains compliant with these essential rules.

These challenges are also shared by another online arbitration centre, eJust. Based in Paris and Geneva, this centre claims a similar desire to democratize arbitration by making it accessible online. Its efforts are also primarily targeted at companies and the business world.

Notice was taken of EJust when the SNCF Transilien wished to launch a partnership with it, in order to set up an online dispute resolution method for its consumers⁸⁰. Indeed, the SNCF Transilien wished to implement an

76. Convention on the Recognition and Enforcement of Foreign Arbitral Awards ("New York Convention"), 1958, effective 7 June 1959 pursuant to its article XII.

77. In this sense, see the platform's Internet site: <https://fast-arbitre.com/fr/>

78. Interview of Mr. Étienne Deshoulières and Mr. Thomas Saint-Aubin, co-founders of FastArbitre, by the Online Arbitration Commission, 6 June 2018.

79. B. Oppetit, *Théorie de l'arbitrage*, PUF pub., coll. Droit, éthique, société, 1998, p. 25.

80. M. Danis, "L'arbitrage online, une nouvelle forme de service client?", *L'Opinion*, 12 September 2017, <https://www.lopinion.fr/blog/relais-d-opinion/l-arbitrage-en-ligne-nouvelle-forme-service-client-133844>

efficient dispute resolution system, as it was dissatisfied with the option of using a mediator because of the lack of results and accusations of bias weighing upon the latter⁸¹. As such, in case of a dispute between this company and a customer, the latter was given the choice of turning to eJust in order to obtain redress for any harm, via a procedure before this online arbitral tribunal. It was indeed this notion of day-to-day disputes, and mass disputes that would be arbitrated in this case, as allowed by the law on Justice in the XXIst century⁸².

As such, eJust offers⁸³ to resolve disputes through online arbitration while maintaining a focus on five challenges. Firstly that of the standard, which will enable the platform to implement a structure that will cover as many disputes as possible; then, a challenge involving cost, by ensuring that users will not view the procedure as too expensive when compared with the State procedure; next is speed, by ensuring that the litigant will receive a decision within 90 days; then simplicity, enabling the parties to understand the procedure and maintain control over it; and finally adequacy with the market, in order to propose solutions that suit the needs of litigants.

Though recent, these two online arbitration centres are now in continuous operation. It seems, however, that they have only been used for a very limited number of cases up to now, demonstrating that there is still a need for attitudes to mature. They remain quite classical, at least as much as an online arbitration centre can be, given the nature of the disputes that they handle. It is nevertheless worth noting that there is a trend for the emergence of other types of online arbitration centres, clearly more specialised, an example of which is the Arbitral tribunal for family affairs.

B. Installation of new specialised online arbitration centres

The particular feature of digital technology is that it enables new initiatives to arise at a low cost, and online arbitration is no exception. With an emphasis on specialisation, like the State courts that are specifically orientated on certain subjects (judicial court, commercial court, labour tribunal, etc.), some new arbitration centres specialise in a certain legal field.

Launched in 2018, the Arbitral tribunal for family affairs⁸⁴ is a striking example. An emanation of the Institut digital d'arbitrage et de médiation, just like FastArbitre, this dematerialized arbitral tribunal enables legal professionals to have access to the tools needed in order to organise online arbitration in family matters⁸⁵.

81. In this sense, see: F. Guernaec: "SNCF Transilien propose le recours à l'arbitrage dans le règlement des litiges", *MobilisCités.com*, 6 July 2017, [online] < <http://www.mobiliscites.com/Dossier-20-Le-nouveau-visage-de-la-SNCF/011-6345-SNCF-Transilien-propose-le-recours-a-l-arbitrage-dans-le-reglement-de-litiges.html>

82. Law n° 2016-1547 of 18 November 2016 on the modernization of justice in the XXIst century.

83. Interview of Mrs. Anne-Sophie Reynaud and Mr. Christophe Delétraz, representatives of eJust, by the Online Arbitration Commission, on 6 June 2018.

84. <http://www.tribunal-familial.fr/>

85. In this sense, see: E. Deshoulières: "Ouverture du Tribunal arbitration des affaires familiales", 10 July 2018, <https://www.deshoulieres-avocats.com/ouverture-du-tribunal-arbitration-des-affaires-familiales/>.

While, as previously recalled, the law on Justice in the XXIst century⁸⁶ promoted arbitration by considerably extending its scope in France, it remains nevertheless true that certain questions are still present, notably in terms of the arbitrability of disputes, including in family matters⁸⁷.

In any event, this panel exists and offers its services, in a manner similar to FastArbitre, which for its part is concentrated on commercial disputes for which the question of arbitrability does not arise.

The emergence of such arbitration centres illustrates a movement in the direction of privatizing justice that, while desirable in many respects, requires a legal framework and must be accompanied or validated by the Ministry of Justice, so as to ensure legal security not only for the litigants who are using these tribunals, but also for the arbitration centres that are offering their services. For that reason, article 4 of the 2018-2022 Programme and Justice Reform law n° 2019-222 of 23 March 2019 anticipates that online arbitration centres will be able to obtain certification from an accredited institution.

III. Potential actors

The online arbitration model, as currently known and envisaged, will have to evolve either via the emergence of new actors, as defined above, or because this domain is of interest to more and more actors, including some of the biggest. This dispute settlement method will have to expand very widely in order to become, over and above a settlement method appreciated by professionals from the business world, a means for settling mass disputes, or day-to-day disputes.

Actors in this area are not lacking, and include very large international groups, notably the Gafa (Google, Amazon, Facebook, Apple). The Facebook example in this regard speaks volumes.

This social network is often faced with many controversies. Whether with regard to the processing of personal data⁸⁸, censorship of works of art⁸⁹ or even online harassment⁹⁰, Facebook has had to answer for its actions

86. Law n° 2016-1547 of 18 November 2016 on the modernization of justice in the XXIst century, section II.

87. Cf. "Patrimoine, famille, entreprise : l'arbitrage pour tous", *Cahiers du Conseil national des barreaux*, 4th ed., 2019 : <https://www.cnb.avocat.fr/fr/actualites/etats-generaux-du-droit-de-larbitrage-retrouvez-les-actes-de-la-deuxieme-edition>.

88. In this sense, see: "Vie privée et Internet : la polémique Facebook", *Le Monde*, 19 February 2009, [online] < https://www.lemonde.fr/technologies/article/2009/02/19/vie-privee-sur-internet-la-polemique-facebook_1157484_651865.html >

89. In this sense, see: A. Rousset, "Facebook censure encore une œuvre d'art", *Les Échos*, 4 March 2018, [online] < https://www.lesechos.fr/04/03/2018/lesechos.fr/0301362361215_facebook-censure-encore-une-oeuvre-d-art.htm#> >

90. In this sense, see: "Facebook veut mieux combattre le harcèlement online", *Le Figaro with AFP*, 2 October 2018, [online] < <http://www.lefigaro.fr/flash-eco/2018/10/02/97002-20181002FILWWW00353-facebook-veut-mieux-combattre-le-harcèlement-en-ligne.php> >.

before some of the biggest American⁹¹ or European⁹² bodies. This company therefore wished to implement an innovative solution for resolving certain of its problems, notably having to do with the issues surrounding the censoring of certain content by the American social network. Faced with a wave of disputes that grows every time any content, artistic or not, is withdrawn from the social network, Facebook reached the conclusion that it could no longer, on its own, make a decision to withdraw content. Facebook therefore decided to turn to a form of online arbitration in order to set up a "court of appeals" for any controversial content⁹³.

This choice is interesting and very revealing in several regards. While the degree of independence of this "court of appeals" relative to the Facebook company remains unknown, two clear observations can already be made. Firstly, Facebook's managers no longer wish to make "decisions relative to freedom of expression or security on their own"⁹⁴. This means that the company would comply with the decisions of this court, that would be independent of it. Secondly, these decisions will not be made by State jurisdictions. This is a question of a court of appeals that would not be answerable to any State. Based on these observations, it seems reasonable to believe that Facebook is heading towards a form of online arbitration for disputes relative to any controversial content that appears on its network.

It would not be the first large group to opt for this method for resolving disputes. Indeed, eBay and Cisco have chosen online arbitration to handle the bulk of the disputes submitted to them⁹⁵.

Moreover, as previously indicated, French companies are also turning to this dematerialized method for settling disputes. This is notably the case of the SNCF Transilien, that established a partnership with an online arbitration centre in an effort to increase the efficiency of the handling of disputes that could arise between itself and consumers. While SNCF Transilien currently only represents a branch of the SNCF, it's entirely possible – if the experiment proves to be conclusive – that the system might be extended to all services offered by the Company.

91. In this sense, see: M. Tual, "Facebook : face au congrès américain, la stratégie des excuses ne suffit plus", *Le Monde*, 11 April 2018, [online] < https://www.lemonde.fr/pixels/article/2018/04/11/face-aux-senateurs-americains-mark-zuckerberg-assure-ne-pas-etre-hostile-a-une-regulation-de-l-internet_5284142_4408996.html >

92. In this sense, see: "Le patron de Facebook présente ses excuses au Parlement européen", *Le Point*, 22 May 2018, [online] < https://www.lepoint.fr/high-tech-Internet/le-patron-de-facebook-presente-ses-excuses-au-parlement-europeen-22-05-2018-2220539_47.php >.

93. In this sense, see: "Facebook lance une "cour d'appel" pour contenus controversés", *L'Obs avec AFP*, 16 November 2018, [online] < <https://www.nouvelobs.com/les-internets/20181116.OBS5512/facebook-lance-une-cour-d-appel-pour-contenus-controverses.html> >.

94. *Ibidem*, Statement by M. Zuckerberg, director of Facebook in "Facebook lance une "cour d'appel" pour contenus controversés", *op. cit.*

95. M. Danis, "L'arbitrage online, une nouvelle forme de service client?", *op. cit.*

It is therefore not unreasonable to think that online arbitration is very likely to grow in the future, thereby allowing for quicker resolution of the small disputes that are part of daily life, also known as mass disputes. In any event, this is the desire of French legislators, that have clearly expressed⁹⁶ their favourable attitude towards these alternative dispute resolution methods. Accordingly, the legislative framework will have to evolve in order to enable these initiatives to prosper within the domain of arbitration, in a notable effort to respond to the many challenges with which these online arbitration actors are faced.

In the end, the existence of online arbitration today is undeniable, as proven by the presence of many actors, though this assertion must still be shaded. In reality, this practice remains limited by the small number of referrals to existing online arbitration systems, which leads one to believe that, at the present time, online arbitration still only represents a modest reality. But for how long?

96. Law n° 2016-1547 of 18 November 2016, *op. cit.*

CHAPTER 3.

COMPARISON OF THE USE OF DIGITAL TECHNOLOGY IN ARBITRATION AND IN STATE JUSTICE

One of the main attractions of arbitration is its speed and flexibility, notably when compared with State justice⁹⁷. In this regard, everyone recognises that digital tools are a factor for the procedure's efficiency⁹⁸. A study on the compared use of these tools within arbitration and the State question is therefore needed.

As such, even though digital tools are seldom used within arbitration procedures (I), the dematerialization process of State justice is, on the contrary and paradoxically, well-established (II).

I. The limited role of digital tools in arbitration

In the last 20 years, new technologies have made their way into the world of arbitration. The efficiency gains resulting from digital tools help to explain the desire of certain actors to make massive use of them. As such, while historical arbitration institutions have seen their dispute settlement procedure evolve in the direction of dematerialization, new entirely digital arbitration services have also appeared, notably thanks to *legaltechs*.

However, the results of this digitization appears to be mixed. Indeed, the proposed services, however varied, most notably appear to be unstructured (A), whereas the question of their compliance with the applicable text regarding arbitration leaves doubts as to their genuine efficiency (B).

A. A varied and unstructured spectrum of digital tools in the service of arbitration

The development of new technological tools has enabled certain arbitration centres to adapt their procedure, from the introduction of the proceeding to the notification of the verdict, and including the communication of documents and writings.

97. E. Loquin, "Arbitrage", Vol. 1015, *JCI Procédure civile*, 2016, n° 85.

98. See notably S. Amrani-Mekki, "Efficacité et nouvelles technologies", *Procédures*, April 2010, n° 4, dossier 5.

The most striking example is that of the Arbitration and mediation centre within the World Intellectual Property Organisation (WIPO). It provides electronic settlement of disputes relating to domain names. Three procedures have been set up: online mediation, an online procedure before the administrative dispute committees, and finally, online accelerated arbitration.

As we have seen, the International Chamber of Commerce (ICC) also attempted to digitize its arbitration procedure. As such, at the start of the 2000s, it launched a new tool for the electronic communication of documents: "Netcase." This included a platform created for ICC arbitration users in order to enable the parties and the arbitrators to carry out their procedures in a dedicated digital environment. Presented as an option available to users, the Netcase platform served as an equivalent to the RPVA (Lawyers virtual private networks) of the judiciary, by enabling the electronic and secure communication of procedural documents. As everyone knows, these documents can represent a significant volume in the event of commercial arbitration. However, despite this platform and the positive user feedback, the ICC decided to suspend this service pending the construction of a more modern platform that will include new technologies. It has still not seen the light of day.

Apart from these few examples, most major historical arbitration centres have not dematerialized their procedures. On the contrary, the practice itself is making use of digital tools. Indeed, while arbitration regulations include almost nothing with regard to the dematerialization of procedures, the parties and arbitrators nevertheless use new technologies whenever they might prove to be useful⁹⁹. As such, the communication of documents is naturally performed electronically today, notably through a specialised service provider. Similarly, "virtual" hearings, instead of physical hearings, are becoming increasingly frequent through the use of videoconferencing tools¹⁰⁰. In this regard, the ICC arbitration regulation encourages the "[recourse to telephone conferences or videoconferences for procedural and other hearings when a physical presence is not essential" and the "[use] of information technologies, which enable the parties, the arbitral tribunal and the Secretariat to communicate online¹⁰¹. »

The use of new technologies by arbitration institutions is therefore rather limited, even though, as two authors have written, "the arbitration world nevertheless does not seem to be resistant to the introduction of a certain degree of innovation its practices"¹⁰². Indeed, the dematerialization of arbitration procedures results primarily from private initiatives, aborted

99. P.-Y. Gautier, "Arbitrage et Internet", in Th. Clay (dir.) "Nouvelles perspectives en matière d'arbitrage. Ouverture", *Droit et Patrimoine*, n° 105, June 2002, p. 88.

100. Th. Clay, "L'écrit, la parole et l'image dans les modes alternatifs de règlement des conflits", in S. Gaboriau and H. Pauliat (dir.) : *La Parole, l'écrit et l'image en justice : quelle procédure au XXI^e siècle?* PULIM, coll. Entretiens d'Aguesseau, 2011, p. 61.

101. Appendix IV – Procedure management techniques.

102. J. El-Ahdab J. et M. Mako, "Arbitrage international versus intelligence artificielle", *Revue Droit et Affaires*, 2018, p. 49, spec. p. 53.

in certain cases, and even from the desire of the parties and arbitrators who themselves make use of these digital tools.

B. The question of the conformity of these tools with the texts in effect with regard to arbitration

Doctrine has already raised the matter of the conformity of these new technologies used as part of arbitration procedures with the text and regulations that are applicable to them¹⁰³. In this regard, it recalls that the provisions of the Code of Civil Procedure, and those of most arbitration regulations, include few or no rules relative to dematerialization or to the use of new technologies when carrying out arbitration procedures.

While this absence of a legal framework seems to allow a reappraisal of the efficiency and even the reliability of the use of digital technology as part of arbitration, it should nevertheless be recalled that this absence of a clear standard is explained by the fundamentally contractual nature of arbitration. Indeed, it relies on the initial agreement of the parties to submit their dispute to a third party. As arbitration therefore consists of private justice, the desire of the parties naturally dominates this institution¹⁰⁴.

As such, exactly because of this contractual nature, the development of digital tools within arbitration procedures can only come from the exterior. In any event, the existence of solidly established practices, the conservatism of the field's historical institutions, and the absence of centralised power makes the progress towards dematerialization uncertain and slow. The new actors in the arbitration world must therefore serve as sources of proposals in order to institutionalize the use of new technologies over the long term. In this regard, the aim will be to benefit from the savings of time and money resulting from their use, so as to provide users with more competitive procedures.

In this way, arbitration is fundamentally different from State justice. Indeed, the eminently institutional nature of the latter enables, inversely, a deliberate, quick and structured development of the digitization of procedures, since it results from legislative efforts that have a monopoly in this matter.

II. Growing recourse to digital tools in State justice

State justice has undergone recent reforms that target its growing dematerialization, with the aim of making it more efficient, more accessible and faster¹⁰⁵. Under the impetus of public authorities, it is

103. See notably : J. El-Ahdab J. et M. Mako, *op. cit.* ; J. Huet et S. Valmachino, "Réflexions sur l'arbitrage électronique dans le commerce international", *Gaz. Pal.*, 9-11 Jan. 2000, n° 11, p. 6.

104. G. Balladore-Pallieri, "L'arbitrage privé dans les rapports internationaux", *Rec. cours The Hague* 1935.1.287.

105. S. Amrani-Mekki, "Efficacité et nouvelles technologies", *op. cit.*

therefore making increasing use of digital tools. Indeed, the "digitization" of State justice takes in several different realities, that simultaneously include the electronic communications used by lawyers and courts (A), the digital accessibility of the procedures to litigants (B), and finally, access to digitized justice decisions for everyone (C).

A. Electronic communication

Electronic communication is certainly the most visible and best implemented process as part of the dematerialization of State justice. However, this concept covers two distinct realities. In the broad sense, now surpassed, it involves a recourse to electronic processes in order to ensure the transmission of documents that, legally, are assumed to still have a paper form. However, in its full acceptance, "electronic communication is intended to enable a true dematerialization of the documents of the parties, whether emanating from the parties (application, brief, production of documents) or the court (communication, instruction measures, summons to a hearing, notification), in order for them to exist legally in digital format¹⁰⁶. It is therefore based on the principle of equivalence between the written document in electronic form and the written document on paper, as confirmed by article 1366 of the Civil Code. The electronic communication of documents, writings and other elements of the procedure currently involves the judicial courts (1), the administrative courts (2), and the Constitutional council (3).

◆ 1. Judicial courts

■ General framework

The principle of the validity of electronic communication, both between the parties and with the courts, results from articles 748-1 to 748-7 of the Code of Civil Procedure.

These articles apply to all courts in civil matters, extended in the broad sense by article 749 of the Code of Civil Procedure, such that electronic communication can always be envisaged, in the absence of a formal provision in the opposite sense. This applies even when the texts specifically governing certain procedures make no reference to electronic communication. This solution was confirmed by the Court of Cassation as part of an appeal procedure involving a labour dispute¹⁰⁷.

According to article 748-1 of the Code of Civil Procedure, electronic communication can be used for the dispatch, tendering and notification of documents. It applies indifferently to procedural documents, as well as elements, opinions, warnings, summonses, reports or minutes, as well as to copies and decisions bearing an executory clause.

This legislative and regulatory framework led to the creation of the *e-barreau* platform and of the system used by lawyers to connect to it: the

106. L. Helmlinger, "Télérecours", Fasc. 44-10, *JCI Justice administrative*, 10 Jan. 2007, n° 1.

107. Soc., 18 January 2017, n° 14-29.013, *Bull. civ.* V, n° 11.

RPVA (Lawyers virtual private network). After an initial agreement signed between the Chancellery and the National bar council on 5 May 2005, other agreements successively extended this system to the criminal procedure on 28 September 2007, then to appeal courts and regional courts on 16 June 2010.

In this regard, it should be noted that a new framework agreement was signed on 24 June 2016, with the simultaneous aim of reducing referral times and more transparent information, and to allow for better management of cases for the benefit of litigants, thanks to time-saving and reduced travel requirements of attorneys. Electronic communication is therefore widely used in the judicial courts.

■ Specific provisions

There is also a set of rules relative to electronic communication that are specific to certain documents, certain courts or even certain procedures.

Firstly, electronic communication is mainly used these days in the regional court¹⁰⁸ and the commercial court¹⁰⁹. It is even becoming mandatory – under threat of ex officio inadmissibility – before the regional court for "documents relating to cases initiated as of 1 September 2019"¹¹⁰. »

Before the court of appeals, electronic communication has been mandatory since 1 January 2011 for procedures that include mandatory representation, only for the records submitted to the court "under threat of ex officio inadmissibility"¹¹¹. »

Finally, before the Court of Cassation, it has been possible to submit all documents electronically since 2008¹¹². The order of lawyers at the Council of State and the Court of Cassation has been given the task of implementing it with the use of the *Comavo* application. While still optional, electronic communication is in reality widespread in all procedures with mandatory representation by an attorney before the Court of Cassation¹¹³.

■ Prospective law

Article 26 of the 2018-2022 Programme and Justice Reform law n° 2019-222 of 23 March 2019 further accelerated the dematerialization of civil procedures. An entirely dematerialized handling of small disputes is now possible, provided that the parties agree to it beforehand¹¹⁴. Accordingly,

108. Order of 7 April 2009 relative to electronic communications before the regional courts.

109. Order of 21 June 2013 concerning electronic communications between lawyers, and between lawyers and the court in procedures before the commercial courts.

110. Decree of 6 May 2017 n° 2017-891.

111. Art. 930-1 of the Code of Civil Procedure.

112. Order of 17 June 2008 concerning the early application of the provisions relative to electronic communications for the procedure before the Court of Cassation.

113. J.-M. Sommer, M. Azoula, "La dématérialisation de l'organisation du travail et des procédures : l'exemple de la Cour de cassation", *Cahiers de la fonction publique*, 2012, n° 35.

114. 2018-2022 Programme and Justice Reform law n° 2019-222 of 23 March 2019 (art. 26), *OJ* 24 March 2019, text n° 2.

certain affairs can be handled without a hearing. This is unquestionably a considerable advance in the dematerialization process for State justice, that no longer includes only procedural records, but now extends to the very core of the process.

Regarding criminal procedures, a programme called *PPN – Procédure pénale numérique* (Digital criminal procedure) has been jointly launched by the ministries of the Interior and Justice. Its aim is the complete dematerialization of records, minutes and documents. Indeed, while dematerialized formats are already being used in certain courts, as permitted by article 19 of the Code of Criminal Procedure, the PPN system is intended, thanks to an original digital format, to render "outdated the transmission of a procedure from one service to another, from one court to another" and "obsolete the very notion of a copy, since it will be accessible according to the legal rights of the procedural actors"¹¹⁵. »

◆ 2. Administrative courts

Administrative case law initially accepted, with no text and under certain conditions, the communication of an application or brief by e-mail¹¹⁶. However, genuine electronic communication, understood to be the dematerialization of records and procedural documents, initially involved an experiment in the form of an application called *Télérecours* relative to disputes surrounding the tax basis before the Council of State¹¹⁷.

This application is now used by all ordinary law administrative courts, namely the Council of State, the administrative appeal courts and the administrative tribunals. *Télérecours* provides for dematerialization at all stages of the administrative procedure, from the tendering of the application¹¹⁸ to the notification of the decision¹¹⁹, and including the communication of briefs¹²⁰.

Initially optional, the electronic transmission of applications and briefs *via Télérecours* has been mandatory since 1 January 2017, both for attorneys and for government agencies¹²¹, under threat of inadmissibility of the application¹²², or that writings will be excluded from the debates¹²³.

◆ 3. Constitutional council

Constitutional law n° 2008-724 of 23 July 2008 introduced the QPC (i.e. "priority preliminary ruling on constitutionality") into the French

115. S. Hardouin, "La transformation numérique au service de la justice", *JCP G*, 10 Dec. 2018, doctrine 1321.

116. ED, 10^e et 9^e sub-sect., 28 December 2001, n° 112646.

117. Decree n° 2005-222 of 10 March 2005, relative to the experimentation on the introduction and electronic communication of applications and briefs and the notification of decisions by electronic means: *OJ*, 11 March 2005, p. 4212.

118. Art. R. 414-1 of the Code of administrative justice.

119. Art. R. 751-4-1 of the Code of administrative justice.

120. Art. R. 611-8-2 and sub. of the Code of administrative justice

121. Decree n° 2016-1481 du 2 November 2016 relative to the use of teleprocedures before the Council of State, the administrative appeal courts and administrative tribunals.

122. Art. R. 414-1 sub. 1 of the Code of administrative justice.

123. Art. R. 611-8-2, sub. 4 of the Code of administrative justice.

legal system. The QPC is therefore a recent procedure, and its technical implementation provisions have had to be clarified. In this regard, it's clear to see that there has been a systematic choice for "all-digital". Though an exceptional procedure, that only involves a relatively low number of disputes, this orientation confirms the underlying trend within State justice. This time, the aim is not to dematerialize procedures that already exist, but rather to create a new and entirely dematerialized procedure right from the start.

The applicable procedure before the Constitutional council regarding the priority preliminary ruling on constitutionality is governed by an eponymous domestic regulation¹²⁴. According to article 3, first sub-paragraph of the regulation: "During the examination, records and procedural documents as well as warnings or summonses are delivered electronically." Similarly, the fourth sub-paragraph of article 1 states that records and documents must be delivered to the other parties electronically¹²⁵.

The entire procedure therefore relies on electronic communication. In this regard, sub-paragraph 2 of article 3 limits the ability to use other means of communications. It should also be noted that, contrary to what exists for judicial and administrative courts¹²⁶, only e-mail addresses are used, thereby excluding any teletransmission application. This difference can doubtlessly be understood in view of the lesser confidentiality of the exchanged documents and records.

At the end of the procedure, the decision will not only be indicated to the parties electronically, it will also be published on the Internet site of the Constitutional council, as well as in a press release. This broad dissemination is indicative of the desire to increase the visibility of digital justice as pronounced in the *rue de Montpensier*. This impression is confirmed by the wealth and clarity of the information available on the Council's Internet site, which allows anyone to obtain a certain amount of information on past and ongoing procedures, as well as with regard to procedural provisions. Even more, the arguments of attorneys during hearings can be viewed live or after-the-fact.

B. Litigant's digital accessibility to the procedure

While electronic communication is now standard for French State justice¹²⁷, the litigant's digital access to the procedure, and more generally to relevant legal information, appears to have been somewhat overlooked relative to the dematerialization of procedures, barring a few exceptions. As such, before the administrative courts, an application called

124. Constitutional council, n° 2010-117 ORGA, 4 February 2010 ; n° 2011-120 ORGA, 21 June 2011 ; n° 2013-128 ORGA, 24 November 2013.

125. P. Flores, "Question prioritaire de constitutionnalité", Fasc. 156, *JCI Procédure civile*, 2012, n° 169.

126. Cf. *supra* II.A.1., II.A.2.

127. Cf. *supra* II.A.

Télérecours citoyens enables individuals and legal persons governed by private law to have exchanges with the administrative courts. It is also worth noting the existence of a European portal that is slated to become a unique electronic platform in the field of justice. This is the *e-justice* project promoted by the European Union, the eventual ambition of which is to summarize, translate and disseminate, as widely as possible, European law as well as the legislation of the Member States.

Nevertheless, as recalled by Stéphane Hardouin, assistant director general at the Ministry of Justice, "until 2016, the litigant was largely absent from IT modernization projects¹²⁸. In this regard, the law on the modernization of justice of 18 November 2016¹²⁹ marked a paradigm shift. A digital portal entirely accessible to the public, called *Portalis*, will be available for general use in 2019. This will initially provide everyone with access to accurate information on the legal procedures that are of concern to them, while in time, experiments will be carried out with online referrals for certain measures.

C. Digitization of legal decisions

The implementation of open data for legal decisions, meaning their digitization and free access to all, raises many questions both in terms of its provisions and its challenges. It's clear that, at present, this remains fragmentary. As such, while more than 180,000 decisions are disseminated each year via the internal databases *Jurinet* and *Jurica* run by the Court of Cassation, fewer than 15,000 are ultimately disseminated for public access via the *Légifrance* site. Indeed, each decision must be proofread in order to ensure its anonymization.

It is for this reason that the availability "at no cost while respecting the privacy of the persons in question" of legal decisions is anticipated in the Digital Republic law¹³⁰, namely in articles 20 for the administrative courts, and 21 for the judicial courts.

A report drafted by a ministerial mission chaired by Professor Loïc Cadiet was provided on 9 January 2018 to the Minister of Justice, in order to provide a framework for the preparation of the regulatory provisions needed to apply these articles¹³¹. The task is to reconcile the opposing notions of transparency regarding public data, and the protection of privacy and personal data.

In this regard, the initial text indicated that the availability to the public "is preceded by an analysis of the risk of re-identification of the people¹³²."

128. S. Hardouin, "La transformation numérique au service de la justice", *op. cit.*

129. Law n° 2016-1547 of 18 November 2016 on the modernization of justice in the XXIst century.

130. Digital Republic law n° 2016-1321 of 7 October 2016.

131. L. Cadiet (dir.), *L'open data des décisions de justice – Mission d'étude et de préfiguration sur l'ouverture au public des décisions de justice*, Report submitted to the Minister of Justice, Ministry of Justice pub., November 2017, Jan. 2018 ed.

132. Art. L. 10, sub. 2 of the Code of administrative justice; Art. L. 111-13, sub. 2 of the Code of Judicial Organisation.

However, the 2018-2022 Programme and Justice Reform law did away with these risk analyses in favour of a two-speed system, anticipating that the "surnames and first names of the natural persons mentioned in the decision, when they are parties or third parties, are redacted prior to the public release. When its disclosure could undermine the safety or respect for the privacy of these people or their entourage, any elements that could be used to identify the parties, third parties, judges and personnel of the court clerk are also redacted."»

Moreover, the reuse of data identifying judges for predictive purposes is now prohibited, under threat of criminal penalties. As such, it's clear that while the principle of open data is firmly entrenched, its concrete provisions are still the subject of much debate.

Conclusion

The intervention of digital progress seems to have somewhat bridged the long-standing divide between arbitration and State justice.

The latter is increasingly presented as justice that is keeping up with the times, that has technological tools certified by the public authorities, and that enables the disputes of litigants to be handled with greater speed and efficiency.

On the other hand, the field of arbitration appears to be a kind of justice with a lesser orientation on the use of new technologies, despite a few private initiatives, the reliability of which is not yet perfectly established. This lack of structure and credibility is less attributable to the actors than to an absence of a legal framework that would serve to institutionalize the use of digital technologies in arbitration.

The result of this is a digital offer that seems to be much more efficient in terms of State justice, while remaining more limited when it comes to arbitration.

PART II



ONLINE ARBITRATION TOMORROW: NECESSARY OVERSIGHT



CHAPTER 1.

WHAT IS THE VOCATION OF THE ALGORITHMIC SOLUTION: TO HELP / ASSIST / REPLACE THE ARBITRATOR?

Would it really be possible to replace man by a machine, and the arbitrator by artificial intelligence? While perhaps hypothetically possible, would this be desirable? Without conjecturing with regard to the technology of tomorrow, the destiny of which has not yet been written, as is demonstrated by the constantly delayed date of the advent of singularity¹³³, it is nevertheless possible to put forward certain credible hypotheses as starting points for a prospective analysis.

The first of these is that of an exponential growth of the processing capacities of algorithms and increasing digitization of knowledge bases, with this alliance leading to a genuine increase of the performances of a possible virtual arbitrator. The second is that of the market's economic reality, which is in favour of the least expensive solution, unless it's possible to show that there is a difference that would justify a higher cost of the service. Yet, the services proposed by the operators of online arbitration solutions will certainly display – justifiably or not – several of these qualities, amongst which we could notably envisage increased speed in the processing of information and its exchange between the interested parties. Accordingly, if sufficient technical responses are implemented at an interesting cost, the practice will tend to seize on them, unless a legislative intervention prevents this or limits recourse to them, with the aim of preserving specific social values.

The legal accompaniment of such a solution therefore presupposes identifying the difficulties that could arise from the potential advent of algorithmic arbitration, and developing action and interpretation principles that could preserve these social values¹³⁴.

Transposing these concerns to an algorithmic universe would firstly lead to a focus on the methods for developing an arbitration software

133. Singularity is said to be the point at which artificial intelligence is considered to have surpassed human abilities.

134. In this regard, see the CNIL report of 15 December 2017, CNIL, "Comment permettre à l'homme de garder la main?", *Rapport sur les enjeux éthiques des algorithmes et de l'intelligence artificielle*, Dec. 2017. Adde J. El-Ahdab J. and M. Mako, "Arbitrage international versus intelligence artificielle", *Revue Droit et Affaires*, 2018, p. 49.

solution and for choosing the arbitration technical solution that should be given preference amongst the available ones in view of the statement of requirements (I), then envisaging the necessary oversight of the principles that govern its application, despite difficulties when it comes to grasping the principles on the basis of which the algorithm operates (II), and finally the sustainability of the resulting arbitral solution (III).

I. Identification and choice of the algorithmic arbitration entity

The identification of the preferred arbitral technical solution presupposes a combination of multiple factors that are not necessarily grasped by all stakeholders, namely parties in the dispute, arbitration platforms and suppliers of algorithmic services. Unless arbitration is to be stripped of its DNA, the phase of setting up the arbitral tribunal or designating the arbitrator is an indispensable element of the interest of having recourse to such a solution. The parties are looking for a person who has, firstly, intrinsic qualities (A) and who, secondly, secures their consent (B). Relative to these two dimensions, the recourse to algorithmic arbitration raises a series of questions regarding the fact of maintaining certain principles such as fairness and transparency, and regarding the set-up of mechanisms to ensure the existence thereof.

A. The intrinsic qualities of tomorrow's arbitrator

In principle, the arbitrator has specific invariable qualities according to the arbitration: technical expertise in a given sector, familiarity with the law, procedure and experience with such solutions, human qualities that will make it possible to bridge antagonistic positions notably in connection with amiable composition, which presupposes an in-depth understanding of the stakes, etc. The multitasking arbitrator and the success of his office assumes that he will be able to make use of his skills and constantly adapt his reasoning according to changing circumstances. Before encouraging any use of an algorithmic solution in order to perform all or part of the arbitrator's work, it is necessary to check that such a solution can meet at least the same expectations as a human arbitrator, and even meet new ones. Yet, it is not certain that this can always be the case, notably in view of the complexity and variability of these expectations.

◆ 1. What innovative and disruptive capacity for an algorithmic arbitrator?

Indeed, one of the characteristics of justice is its ability to evolve or adapt, for example in order to consider a view that goes against established case law if justified by series of circumstances. In countries in which the Supreme Court has a regulating function, as in the United States, its decisions can evolve according to societal changes or this body's perception thereof. More simply, a judge may decide to give a ruling that goes contrary to established case law because he has been convinced by new arguments, or by the talent of the lawyer appearing before him.

This also applies for an arbitrator. We believe that this ability to modify solutions, often referred to under the term legal uncertainty, reflects the very essence of justice, in other words a fundamental ability to adapt to a changing situation.

This question arises in a particularly pointed manner in legal systems in which the mandatory precedent does not exist, in other words most civil law and international law systems. It is nevertheless not absent from *Common Law* systems, since changes to case law are more flexible than might otherwise be thought. The practical reality is indeed that, using the *distinguishing* technique, *Common Law* judges also manage to change opinions when necessary, and that a Supreme Court may validate this change by means of a more general rule, at the appropriate time. If they consider it necessary, the Supreme Courts of *Common Law* countries can change their opinions. The example of the United States illustrates this perfectly.

The question that arises, amongst others, relative to algorithmic justice is that of its ability to change opinions, to decide the opposite of what has been decided by other arbitrators or judges in similar circumstances, or at least to deviate from the majority trend that can result from existing decisions. Primarily, the algorithms existing at this time involve, on the basis of a more or less representative sample of past decisions, predicting or imitating the results of this sample. Given how algorithmic solutions are currently designed – i.e. vertically and on the basis of deductive reasoning, "*if this then that*" – it is fairly improbable that artificial intelligence may be able to deviate from the considerations that resulted in its design, that are essentially based on a study of what already exists, and that it will attain a level in which, in a totally independent matter, it may decide at a given moment to issue a ruling that is opposite of previous rulings.

These are therefore not tools that "decide" in the strictest terms, but instruments that reproduce, in a more or less faithful manner, the statistical behaviour of a population of judges or decision-making bodies that have been studied. Perhaps there are other algorithms that seek to reproduce or imitate decision-making, independently of the existence of a substrate that would guide the algorithm, but we are unaware of any. Yet, if we accept that this ability to change opinions is the very characteristic of justice, the question arises as to what degree the arbitrator's role can be fulfilled by an algorithm that is incapable of such adaptation.

As such, an analogy with human arbitration has its limits¹³⁵. An algorithmic body might excel in one domain – for example knowledge of

135. A. Rouvroy, "Homo juridicus est-il soluble dans les données?" *Law, Norms and Freedom in Cyberspace = Droit, normes et libertés dans le cybermonde: liber amicorum* Yves Poulet, Brussels, Larcier pub., CRIDS collection; number 43, 2018, p. 417-444 and A. Rouvroy, "La robotisation de la vie ou la tentation de l'inséparation", *Intelligence artificielle et droit*, Brussels, Larcier pub., CRIDS collection; number 41, 2017, p. 13-46.

the various applicable laws and of the procedure – but, in the absence of emotional intelligence, it will doubtlessly have trouble understanding the underlying reasons of the actors in the arbitration, or grasping the external events that could modify the mathematical assessment of the advisability of referring to one legal system or another, or to a pre-existing solution. In other words, the programming methods for algorithms raise doubts as to the ability of such a solution to be innovative, or quite simply, to contextualize precedents in order to make the best of them.

The report by the CNIL *Comment permettre à l'homme de garder la main*¹³⁶ points out the ambivalence of certain characteristics of mechanical justice and puts into perspective the efficiency gains that are generally attributed to it. It therefore casts a light on the limits of the deliberation methods of the quick and solitary algorithmic judgement body that "avoids" the contribution of common discussion and the time needed for this discussion, which can contribute to phenomena of settling for a given solution, and could lead to an evolution of the perception of difficulties by the people that must judge them. Can such maturing of the algorithm's position be envisaged¹³⁷? And must not the promise of promptness be set aside when this is not a guarantee of an improved decision? The National Bar Council, in the report that it submitted to the CNIL in 2017, stressed that it was essential to avoid having the obsession for efficiency and predictability that prompts the recourse to algorithms lead us to designing categories and legal rules, no longer in consideration of our ideal justice, but in such a manner that they are easily "codable".

◆ 2. What physical proximity between the arbitrator and the parties?

As already identified, the choice of a "distant" solution for arbitration also results in a certain number of advantages such as speed and economy of costs, but also inconveniences, including the alteration of the function of the presence of the parties and arbitrators during the procedure. Though such a principle is not clearly recognised, it is essentially due to the advent of digital technology that the question of its usefulness now arises. Algorithmic arbitration will be without the "person" of the arbitrator, and this dimension – or rather its absence – must also be taken into consideration in order to grasp the possible need for maintaining a human presence in connection with arbitration at one moment or another. To this end, the CNIL report, which recalls the 2014 annual study by the Council of State¹³⁸, suggests that the total disappearance of the human factor is probably not desirable in a process that results in a decision enforceable on third parties, and that it would be best to ensure the effectiveness of the human intervention, but without making it systematic: "One might well ask the question: how to have machines perform tasks that had previously been accomplished by human intelligence (i.e. the definition of artificial intelligence) without sidelining the person? One way of answering this would be to put forward

136. CNIL, "Comment permettre à l'homme de garder la main?", *op. cit.*

137. *Ibidem*, p. 31.

138. Council of State, *Le Numérique et les droits fondamentaux*, 2014 Annual study.

that we could envisage the effectiveness of the human intervention otherwise than on the scale of each individual decision. We could, for example, ensure that human and contradictory forms of deliberation oversee and accompany the use of algorithms while examining and querying the configuration, but also all of the system's effects, both direct and indirect. This supervision could be provided not with regard to each individual decision, but at a distance¹³⁹. »

◆ 3. "Set-up" of the algorithmic arbitral entity

It is likely that the intervention of artificial intelligence will initially be only sequential, and limited to certain tasks assigned to it. Since a computerized solution is developed incrementally, one might also envisage the fact that several software solutions, either together or applied separately, will be necessary in order to fulfil various functions performed by man.

The arbitrator could therefore be configured by means of "bricks" of intelligence that will have to be assembled on-site, for the needs of the cause and that may vary in time because of technical changes or different configurations of the actors (bankruptcy of the developers, absorption, etc.). It will therefore be difficult to envisage a stable algorithmic "arbitrator" whose services we could seek, since the most efficient solution would probably be to set up an *ad hoc* algorithmic solution for the purposes of each arbitration. Though it might, in theory, lead to better results, this strategy could prove to be expensive and could lead to the arbitration being somewhat unstable, as a result of being unable to capitalize on the experience of a given algorithm.

In a more modest configuration, the arbitration could use standardized programming, less tailor-made, but more identifiable and economical than the aforesaid "patchwork" configuration. A combination of the two will most likely be the most frequent case, combining a common base and special developments. The question therefore arises of the possible determination by the parties of specifications relating to suitable developments, and more generally, of controlling the principles underpinning the software.

Indeed, the other difficulty relates to the presence of potential biases¹⁴⁰ when writing the computer code and that would be difficult to detect in practice, since such biases are not necessarily voluntary or immediately visible. They sometimes result simply from the social or ethnic origins of the programmers, or an imperfect understanding of the needs. Mention has often been made of the performance effect risks attached to algorithms and existing feedback loops, with machines relying, for the solutions that they develop, on the fact that they are using them in order to design their responses.

This situation raises the question of the "intellectual independence" of arbitrator-algorithms. For now, an algorithm is always created by one or

139. CNIL, "Comment permettre à l'homme de garder la main?", *op. cit.*, p. 52.

140. C. O'Neil, *Algorithmes : la bombe à retardement*, Les Arènes, 352 p., selon laquelle les algorithmes sont des opinions intégrées au code (Weapons of Math Destruction).

more person(s). In the future, it is predicted that artificial intelligence will not require this impetus, and that the solution will evolve autonomously *via machine learning*. However, even in this second configuration, human intervention will not be completely excluded, notably for the selection of data that are used to build up these processes. This observation leads to the question of knowing how this algorithm can guarantee independence relative to the conceptions of the people who created it. Indeed, the idea of algorithmic justice is based on the confidence that users may have that the algorithm will make, within a set of given circumstances, a decision that is free of bias relative to the state of positive law in the system in which the algorithm is involved.

One might respond that, by its nature, human justice is necessarily infused with various biases, which is quite correct. Here, however, the risk is of a different kind. The risk most often associated with human justice is that of an error committed in good faith. In terms of State justice, the various degrees of jurisdiction serve to limit this risk. In arbitral justice, where there are no jurisdiction degrees, the choice made by the parties relative to their judges implies acceptance of any errors that they might make.

The risk associated with algorithmic justice that is opaque in terms of its operating methods is, for its part, that of manipulation for the benefit of specific interests. A fundamental aspect of the trust of users in a given algorithm resides in the fact that this algorithm cannot be manipulated by all or part of the community of users, or by a limited number of beneficiaries. Of course, this risk also exists with human justice, but this involves cases of criminally punishable practices that most often end up being uncovered. Yet, it is much less certain that the manipulation of an algorithm would be so easily identified. For that very reason, transparency plays a decisive role here.

◆ 4. "Independence" of the arbitral entity or the paradox of algorithmic arbitration

■ a. Requirement for information able to guarantee the arbitrator's integrity, independence and equality of arms

As has just been mentioned, the arbitral entity must of course be able to resolve difficulties, but it must also be set up in such a manner as to establish an indisputable link between the decision and its "author", and the "integrity" of the latter. Yet, such a guarantee is only possible if the algorithm is known to the interested parties, and that its stability is assured.

Independence is at the very heart of arbitral justice, and algorithmic justice must be held to offer the same guarantees if there is to be any prospect, not so much of replacing it, but at least of truly competing with it. Questions of the independence of the algorithms are not limited only to the function of rendering justice or making decisions. They also include the environment in which these algorithms are designed and

managed. There are many who would criticize, for example, the opacity of the algorithms governing virtual currencies such as bitcoin, and their ability to be manipulated in the interests of a small group of people. Such criticism is driven by the lack of transparency as to the provisions that govern these algorithms.

To guarantee this independence or "integrity", the specifications of the technical solution must be agreed between the parties or, at the very least, known to the latter. It would be hard to imagine the "blind" appointment of an arbitrator while knowing nothing of his *curriculum vitae*, experience, ability to grasp the issues behind the dispute needing arbitration, and the resolution opportunities. The virtual arbitral entity will therefore have to demonstrate its ability to meet these requirements for the people who choose it.

It's inconceivable that, regarding this point, one of the parties will have more information or processing capabilities than the other. It will therefore be necessary for all parties to receive the same quantity and quality of information – transparency principle – as well as equal access, as complete as possible, to the specifications of the software solution and even to its writing, for the duration of the arbitration process. The equal distribution of reliable information is a necessary condition for respecting the equality of arms. It is therefore particularly important for independent oversight processes to be able to guarantee the realisation thereof, otherwise the existence of possible information asymmetries will disqualify the very notion of arbitration.

Moreover, to guarantee the arbitrator's intellectual and financial independence, it would be best to allow any interested person to check that the design has not been affected by any particular bias. In theory, absolute transparency is the only guarantee for the community of users that will presently make it possible to ensure the absence of a bias, of any nature whatsoever, from algorithmic justice. This transparency should ideally also apply to the operating foundation of the algorithm, and to the manner in which the latter "reasons" abstractly, at the very least. The algorithm's computer code should therefore be revealed.

Also, to ensure the arbitrator's financial independence, the identity of all parties having a direct or indirect financial interest in the algorithm's design, modification and operation must be revealed, as well as any possible links between them. The exact provisions of their remuneration as well as the corresponding amounts should also be revealed, by means of regularly updated disclosures.

However, if these instructions are followed, people capable of reading computer code will always be able to use this fact in order to derive an advantage, which creates another bias. This, in fact, is one of the paradoxes of algorithmic justice. Indeed, IT tools are better accepted when the community of users can access them in order to convince themselves of their correct operation, and to make improvements, if

relevant. But this observation is obviously incompatible with the notion of justice as we understand it, and the related uncertainty.

■ b. Obstacles to useful access to this information

Firstly, the requirement of being familiar with the specific characteristics of the algorithm is extremely difficult to put into practice. The first difficulty relates to the ability of the parties to understand the programming choices. Even though they may well have access to lines of code, they would still have to be able to decipher them efficiently. This IT ability is likely to become a strategic advantage for the parties. It would be necessary to improve the "digital literacy" of the actors, but also to establish procedures for impartial reporting relative to any processing.

In principle, only a finely tuned dialogue between IT specialists and arbitration specialists would serve to limit these undesirable effects upstream. Unfortunately, right now and probably for several more years, due to a lack of appropriate training, few individuals have both skills and expertise in these respective domains, thereby making any fruitful discussions rather difficult. It's necessary for such training to be provided so that IT developments are carried out on the basis of accurate specifications that correspond with the expressed needs and, inversely, so that human arbitrators are able to appropriate instruments and understand the uses thereof.

In the meantime, one can envisage a solution that would involve the help of a third party capable of translating into widely understandable terms the machine's abilities in real-time. This third party would demonstrate technical skills and be bound by impartiality and confidentiality obligations. Also, to be reliable, this appraisal must be permanent, since an algorithm and, even more so, artificial intelligence can only be efficient if the parameters comprising them are constantly modified. As such, it is illusory to think that reading the code at a given moment T will still be relevant at $T+1$, regardless of the competence of the person doing the reading. The audit cannot be once and for all, but must be constantly repeated.

The obstacle coming in second place has to do with the fact that, once compiled, the code is in principle only accessible after de-compiling. It is permissible, with the prospect of introducing a guarantee of maximum transparency, to propose the promotion of an *open source* solution that would make it possible to know how the code was written, and thus to oblige the designers to reveal the programming of their solution. This suggestion nevertheless has several disadvantages. Firstly, it goes against the interests of the technical solution's provider relative to protecting its business model through business secrecy in order to avoid having competitors copy the core of the produced value, and can therefore only be the result of a legal obligation that cannot only be national. It also replies on a "static" and monolithic view of the algorithm. As we have said, this would not take permanent modification into account and would ignore the future of self-learning solutions

by means of artificial intelligence that, on its own and during the use of the application, will modify the specifications that determine it. The large quantity of information to be processed, combined with incessant adjustments of the parameters, make any complete and up-to-date knowledge of the machine illusory. Accordingly, it would be best to abandon this effort and be content with an approximate grasp of what this algorithm is conveying.

As the CNIL report indicates, "the idea of the transparency of algorithms is considered by many as overly simplifying and ultimately unsatisfactory. Transparency likened to the pure and simple publication of source code would leave the vast majority of the unspecialised public with no understanding of the logic at work. Moreover, at least with regard to the private sector, the idea of transparency conflicts with intellectual property law, since algorithms come under the heading of industrial secrets, the disclosure of which could threaten an economic model¹⁴¹." A requirement for algorithms to be intelligible or explainable is preferred over any theoretical transparency, by many experts such as Daniel Le Métayer or Dominique Cardon. Rather than having direct access to source code, it would be of greater importance to have an understanding of the algorithm's general operating logic. This logic should be understandable by all, and therefore expressed verbally rather than in the form of lines of code. "The important thing is not for the code to be transparent, but rather for us to have an understanding of what goes into and comes out of the algorithm, as well as its objective. That is what must be transparent¹⁴²."»

We see that these demands for "relative" transparency should lead to recourse to an external algorithm labelling system. It would be best to determine standards for solutions that include a certain number of specifications as well as certifying bodies in order to verify the IT solution's "quality". But this labelling work, over and above its incomplete nature, can only satisfy arbitration if it has an international character or, at the very least, a multinational one in view of the particular geographic distances of the disputes that may be resolved by arbitrators. Yet, to say the least, it is difficult to imagine that such work could be completed in the short term. Arbitral institutions should nevertheless initiate this movement for the algorithmic arbitral solutions that they would propose on their platforms.

Satisfactory identification of the arbitrator also involves the preparation of security protocols that will serve to ensure that the arbitral entity is not "corrupt". This amounts to protecting the conditions of its integrity such that the algorithm's characteristics are not altered by any hacking of information systems – whether by a party in the arbitration or a third party. This integrity guarantee requires the algorithm to be administered

141. CNIL, "Comment permettre à l'homme de garder la main?", *op. cit.*, p. 51.

142. CNIL, Launch event for the cycle of public debates on the ethical challenges of algorithms, organised at the CNIL on 23 January 2017, Report, p. 9 [online] < https://www.cnil.fr/sites/default/files/atoms/files/compte_rendu_table-ronde_-_ethique_et_numerique_-_les_algorithmes_en_debat.pdf >.

and stored by a trusted third party, so that its participation in the arbitration can be validated.

Finally, it is fundamental that the security of the arbitration platform must be such as to prevent any third-party intrusion into the information system that could distort the arbitration process and bypass the confidentiality of the exchanges. It is therefore important for the reliability of the arbitral entity to be verifiable. This condition, applicable to all operations that use a remote IT tool, is of particular importance in the event of arbitration performed by artificial intelligence. Indeed, in this case, such an intrusion could alter the underlying parameters of the arbitral entity and not only the factual elements surrounding the performance of the dispute resolution.

For all of these reasons, it is truly difficult to create a totally transparent arbitral justice algorithm and, accordingly, to guarantee the arbitrator's "intellectual" independence. Nevertheless, the independence and transparency requirements that are part of conducting arbitration are very strict for natural person arbitrators; they should be just as strict for algorithmic justice, and this minimum degree of transparency does not exist in the current offer. That being said, it is essential to find a translation in order for algorithmic justice to be able to claim any qualification as justice.

B. Appointment of the arbitrator as an expression of consensus between the parties

◆ 1. What is the place of collegiality?

Unlike a judge, an arbitrator is chosen and not imposed. The "consensual" nature of the arbitrator's designation exists even in case of institutional arbitration. It is often at the end of an intense negotiation phase that the parties will agree on the identity of the person(s) who will decide their dispute. Trust is decisive in this case, and will seal the choice: trust between the parties, trust in the arbitrators, trust between the arbitrators.

Is it possible to reach such an equation with regard to an IT solution that, as already stated, would be potentially complex, meaning therefore that only a few people would be capable of verifying its reliability? Can we correct the possible impartiality of the artificial intelligence solution by introducing other safeguards? Balance is sometimes attained by the upstream introduction of a system intended to correct biases. As such, to avoid any challenge when appointing a single arbitrator, recourse is often made to an arbitral tribunal made up of three arbitrators, one chosen by each party, with these two arbitrators then choosing the third. Would it be possible to envisage an equivalent with artificial intelligence: each party chooses a specific software solution, the two solutions then agree on the designation of a third? For this purpose, the developers would have to anticipate, when designing the algorithm, that it will have to work with the other two. It's easy to realise the series of difficulties that this could entail: interoperability of systems, permanent application maintenance,

updating, but especially a need to introduce exterior variables into the algorithm's initial programming, even though the reasons behind the choice of the algorithmic solution by each party would indeed be dependent on a certain degree of reliability assessed in view of the initial parameters.

By pushing the hypothesis of self-learning intelligence somewhat further, is it possible to envisage that the parties might agree to a collective operating method, and based on which criteria they would be willing to abandon their position for the benefit of a decision emanating from another artificial intelligence? It's hard to imagine that an artificial intelligence would be willing to make such a "sacrifice", unless forced to do so by an external factor. Will it therefore be necessary to abandon the very principle of arbitration collegiality which seems to combine poorly with the approaches used by current technical solutions?

◆ 2. Arbitration centres as platforms?

Just like the offer of arbitrators selected by arbitration centres, the algorithmic solution could be developed or made available to the parties by arbitration centres that become platforms.

The platform's liability for the delivered technical solution could be variable according to the chosen configuration: from minimum liability if the arbitration centre simply gives a recommendation or arranges for contact with a service provider, to maximum liability if the algorithmic solution is developed by the centre, and including intermediate states dependent on the centre's involvement – labelling of service provider, list of recommendations to be followed, etc. Arbitration centres would therefore have to meet the fairness obligation of platforms, enshrined in an embryonic manner in the Digital Republic law¹⁴³, which also serves as a basis for the proposed European regulation of 26 April 2018 on the transparency and fairness of platforms¹⁴⁴. With this prospect, platforms would have to explain the conditions governing the presence of algorithmic arbitrators, the reasons why certain technological solutions are being promoted, and therefore resolve the problems of informational asymmetry between the designers of virtual arbitrators and users.

It is permissible to go further in the platform accountability phenomenon by assuming, as part of the obligation for fairness and as recommended by the CNIL in its 2017 report¹⁴⁵, a vigilance obligation applicable to the entire chain consisting of the design and supply of the artificial intelligence, and an obligation to be "answerable" by formally allocating responsibilities to these various actors in the chain, with the platforms serving as a link in the chain. However, imposing such obligations could only be seriously

143. Digital Republic law n° 2016-1321 of 7 October 2016.

144. Proposal for a regulation of the European Parliament and of the Council on promoting fairness and transparency for business users of online intermediation services, Brussels, 26 April 2018, COM(2018) 238 final 2018/0112 (COD), [online] < <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018PC0238&from=EN>

145. CNIL, "Comment permettre à l'homme de garder la main?", *op. cit.*, p. 48 and sub.

envisaged on an international level, otherwise the platforms may well prefer to set up shop in countries where such obligations don't exist. In the context of competition of arbitration marketplaces, we can perceive the impossible choice with which the parties are being presented.

II. Oversight of the algorithmic arbitration procedure

The question of the choice of the IT solution can extend to that of oversight of the principles governing the arbitration process. While original questions are likely to be asked at this point, this step is subject to the same concerns as the ones relative to the set-up and designation of the arbitrator. Unquestionably, the first precaution would be an obligation to inform the parties of the involvement of an algorithmic process in the arbitration procedure and/or in the arbitrator's final decision. When requested, the interested parties should have access, if not to exhaustive information, at least to the "main characteristics" of this implementation. Along the lines of the Constitutional council decision of 12 June 2018¹⁴⁶, the arbitrator – viewed as the "controller" – could be required to guarantee its oversight of the algorithmic processing and of its developments such as to be able to provide the data subject with a detailed and intelligible explanation of how the processing has been performed relative to this person.

However, as previously stated, the development of "intelligent" and self-learning solutions complicates the real-time access to the parameters that determine the processing of the dispute by the algorithm. Indeed, as with a human arbitrator, these parameters evolve throughout the process. It nevertheless remains necessary that the trust underpinning the choice of the solution must persist throughout the arbitral procedure, with the parties enjoying the same guarantees as provided by classical arbitration.

However, the relevance of this algorithmic processing is the subject of recurring criticism targeting its very essence¹⁴⁷. As such, in its decision of 12 June 2018¹⁴⁸, the Constitutional council spontaneously and strongly expressed mistrust relative to such solutions as part of decision-making by an administration. In substance, it therefore decided that "algorithms that could themselves revise the rules applied by them cannot be used as the exclusive basis for an individual administrative decision, without the oversight and validation of the controller." Though different in nature, the precedent could easily be transposed to arbitration and provide the basis for the expression of a general principle applicable to decisions that could lead to grievances. The result could be that the exclusive recourse to this type of exclusively algorithmic self-learning process would be radically excluded in arbitration, or be reappraised *via* a quick and simple "challenge" procedure.»

146. Decision n° 2018-765 DC of 12 June 2018, Law relative to the protection of personal data.

147. F. Rouvière, "La justice prédictive, version moderne de la boule de cristal", *RTD Civ.*, 2017, p. 527.

148. Decision n° 2018-765 DC of 12 June 2018, *op. cit.*

Regarding the arbitration process, the reproach directed at algorithms above, regarding their structural inclination for the past and their difficulty with providing original and inventive responses given that they "crunch" their decisions on the basis of pre-existing elements, is accompanied by a possible prevalence for reasoning by analogy when carrying out the arbitration. Indeed, the application of mathematical principles could favour the reference to a prior solution, rather than lead to an original resolution of the dispute. However, the more complex and singular the situation, the less a reference to the past appears relevant. We have already noted that an arbitrator's creativity is precisely based on his ability to adapt to the new aspects of the dispute put before him, for which, at times, experience does not exist¹⁴⁹.

Moreover, the machine's performance is a function of the volume of data on which it is based and the "stock" of decisions that may be put to use. Contrary to the reflections on "predictive justice" with regard to court decisions¹⁵⁰, in view of the specific features of arbitration, there can be no question of encouraging arbitral awards to be included in open data, which thereby equally reduces the possibility for artificial intelligence systems to exceed "human" arbitration in terms of efficiency. The efficiency gains anticipated by the algorithmic processing of the legal merits of the dispute are therefore far from certain.

As such, the private nature of the awards and the confidentiality surrounding arbitration will be able to limit the number of available relevant occurrences. However, it has been shown that when the algorithm does not have sufficient data, the responses that it provides for the resolution of a problem can prove to be radically inadequate and lead to absurd results.

The transparency principle that must determine the choice of the arbitral solution should also provide oversight of these various steps, such as to ensure observance of the adversarial principle and equality of arms. As such, all elements submitted as part of the procedure and brought to the arbitrator's attention should be in a format previously validated by the parties, otherwise problems can occur in terms of incompatibility and interoperability of the systems used for exchanges. This would most notably serve to avoid a difference of formats leading to a loss of reliability of the information processed by the algorithm as result of necessary "translation" and adaptation operations. The communication protocols of the parties with one another and between the parties and the arbitral entity must, similarly, be defined beforehand so as to guarantee equal access to information.

As such, during the arbitration, it would be wise to develop oversight

149. A. Garapon, "Les enjeux de la justice prédictive", *JCP G.* 2017, doctr. 31.

150. Report from the study and planning mission for public access to legal decisions, *L'open data des décisions de justice*, delivered to the Minister of Justice in November 2017.

mechanisms in order to detect the limits that the artificial intelligence may encounter when dealing with the question raised with regard to the tools at its disposal. Test phases could be envisaged such as to check that the arbitration steps are taking place in compliance with a process defined by the parties, and that the information made available is correctly digested by the algorithm, such as to avoid the production of an absurd solution, or one that is simply incorrect.

As stated by the founders of the company *Case Law Analytics*¹⁵¹, it is not always possible to set aside the algorithm's "performative" dimension, namely that the adopted solution is self-legitimizing and produces its effects via circular reasoning. This risk is doubtlessly lower in the event of arbitration, given the confidentiality attached to the award, but it cannot be excluded in connection with the mechanization of the procedure's steps.

III. Destiny of the algorithmic arbitral award

The last questions relative to arbitration involving the greater or lesser participation of artificial intelligence relate to the destiny and sequels of the arbitral award. Once again, original problems are likely to present themselves.

Firstly, it is necessary to ensure that the parties are not bound by a decision that none of them understands, which would be absurd or iniquitous in view of the basic standards of human justice – this risk cannot be overlooked, notably when little relevant data are available. As such, and notably provided that the recourse to artificial intelligence remains experimental, it would be wise to require a form of oversight of the basic intelligibility and fairness of the solution, a procedure that could lead to the pure and simple rejection of the solution by the oversight entity.

Another question is that of the combination of arbitration with automatic award execution processes, of the *blockchain* type. Already in the works with regard to time-stamping systems for evidence and documents submitted as part of the procedure, the intervention of the blockchain should, in the near future, allow for an automatic application of all or part of the arbitral award. This prospect nevertheless rests on the question of the parties accepting the solution provided by the arbitrator. Could it be envisaged that this "integrated" application would be part of the arbitral agreement – with execution being in some way the inseparable extension of the award pronounced by the algorithmic body – or should it remain separate from the decision, which would mean splitting off the machine-based processing?

151. Interview with Mr. Jacques Lévy-Vehel, 13 September 2018.
For a presentation of this solution, cf. *above* Chap. 3, II. A.

Assuming sufficient human intelligibility of the award, it must always be permissible for the parties to use an appeal procedure in order to challenge the delivered solution. In which case the following question arises: can the appeal be heard by another algorithmic entity or will it be necessary to once again involve a person as the appeal authority? The first option of the alternatives seems to lack credibility, since it would result in a hierarchical relationship between two "machines". However, this cannot be totally set aside to the extent that, notably for mass disputes, it would be permissible to refer to an algorithm that has expertise limited to the processing of certain simple questions, but that is incapable of tackling more complex hypotheses for which the processing would be delegated to other more sophisticated intelligences. A hierarchy could accordingly be designed between the artificial intelligences. It would not be attached to a judicial organisation, but rather to the degree of expertise of the machine. This hypothesis cannot avoid the question of the cost of recourse to a more sophisticated machine, which could prevent certain less fortunate parties from having access to such recourse.

In conclusion, with the prospect of "transparency" as stated above, the question arises on the provisions for processing results of algorithmic justice, and their revelation. One could envisage the idea of requiring the solution's designer to assume a "revelation" obligation relative to the existence and provisions of the marketing or simple dissemination of the data collected during and at the end of the arbitration, even in an anonymous form, and relative to the direct and indirect beneficiaries of such marketing. This notion of transparency again brings us back to the paradox of algorithmic justice: while desirable in principle, it is faced with many practical as well as legal obstacles. As such, the processing of arbitration-related data, necessary in order to improve the algorithm through *machine learning*, is likely to result in dissemination – voluntary or not – that could potentially violate the confidentiality obligations that are binding on the "arbitrator", or the compliance rules surrounding the processing of personal data.

At all stages of the arbitration – set-up of the arbitral body, arbitration process, issuing of the award and sequels thereof – the recourse to an algorithmic solution brings up all-new difficulties that must serve to temper the enthusiasm surrounding the discussion of such solutions by their proponents. As quickly shown, the search for functional equivalents that would serve to ensure respect for the essential values of arbitration – competence, respect for the adversarial principle, confidentiality – presuppose the implementation of multiple oversight procedures that must be designed and developed. Probably for quite some time in the future, an algorithm is incapable of "replacing" a human arbitrator, whether technically or legally, which necessarily calls for caution relative to any solution that would neglect human input. It therefore seems useful, as part of the precautionary principle, to assert a principle of the prevalence of human decisions over algorithmic decisions, such as to guarantee the existence of a right to recourse to a solution provided by people.

CHAPTER 2.

THE ARBITRATION CENTRE

The supply of an online tool for the people involved in arbitration – parties, arbitrators, arbitration centre – often elicits an expectation of increased availability of this service relative to an off-line arbitration service. Potential users, parties and arbitrators generally consider that the arbitration centre with an online arbitration mechanism must guarantee continual access, regardless of the day and time and with equal quality, for any user. This presupposes a conceptual and technical choice for the arbitration centre: the integration of digital technology must be envisaged as of the design of the platform that will be made available to users. It is necessary to identify the procedural phases that will be digitized, and to choose the tool able to meet the selected requirements: quick and easy access regardless of the employed terminal, the user's location, etc.

Two types of arbitration offers can be proposed (I). Moreover, arbitration centres will have to provide proof of personal guarantees (II), and provide safeguards of the security of the implemented procedures (III).

I. Dichotomy of arbitration offers

The common hope is that the introduction of digital technology into arbitration procedures will contribute to simplifying the use of the traditional arbitration mechanism proposed by arbitration centres, or to propose an alternative, simple, quick and therefore less expensive arbitration offer. This renewed arbitration offer is generally considered as having to make access to arbitration easier. Accordingly, the possible greater complexity of the dispute settlement procedures linked to the introduction of alternative or hybrid procedures could be poorly understood, leading to disinterest and even a rejection of the modifications or of the arbitral institution. This risk is leading the bodies that are providing arbitration mechanisms that are totally online (special offer) or partially so – by means of a hybrid off-line arbitration procedure that includes procedural aspects using digital technologies (mixed offer) – for parties and arbitrators to have to commit to an initiative to present and explain the new mechanisms, in a sustained manner and one that consumes resources, notably financial.

A. The offers

Both types of offers are generally proposed by the different actors: firstly, a specific and totally dematerialized arbitration offer that is often

proposed by new companies, created in order to propose this service and belonging to the new technologies sector; secondly, a mixed (hybrid) arbitration offer that combines traditional services and new services based on the use of new technologies, often proposed by arbitration centres that have been established for some time, and that are seeking to modernize their dispute resolution service in order to meet user demand.

The specific online arbitration offer is generally proposed by new companies created in the form of for-profit companies, whereas the mixed offer tends to come from established actors that generally have status as a non-profit institution under private or public law (association, professional consortium, chamber of commerce). The differing legal nature of these actors elicits questions regarding the fiscal qualification of these online procedures, as well as the fiscal consequences on arbitration centres that could result from the offer of such procedures. While online arbitration can be organised indifferently by a for-profit or non-profit organisation, can this service activity not be considered as profitable regardless of the legal form of the service's author? Would a more in-depth analysis not be necessary in order to distinguish between the specific offer that comes under the scope of profitability and the mixed offer that comes within the scope of non-profitability, with the use of computerized means being only accessory to the traditional non-profit activity of dispute settlement?

B. The challenges

In an effort to adapt its offer, the arbitration centre will be confronted with a certain number of challenges that vary according to the offer type, specific or mixed, that it intends to provide to the potential users of its arbitration services.

◆ 1. Challenges of the specific offer

■ a. A challenge of acceptance of the offer by the users

There are three factors behind this challenge. First is the reputation of the offer's author. The latter does not always have experience in the dispute settlement activity. The offer's author can start an activity without claiming any references other than a belief in the relevance of its approach and the promotion of more or less advanced collaboration with certain known personalities within the arbitration sector.

Next is the continuing existence of the offer. The financial solidity of the offer's author is not always in line with the proposed service and its supposed use. The acceptability of the selected technical solution can elicit questions. In particular, one must consider the degree of integration of standard technical modules relative to special developments.

Finally, there is the degree of innovation of the proposed procedure. The envisaged technical solution may go beyond classical procedural frameworks with which the users are familiar. The willingness of the latter to undergo change will be decisive for the recourse to the proposed services.

■ **b. A challenge of the acceptance by the authorities in charge of oversight of the decision and of the technical and legal framework in which it was pronounced**

The judges of the procedure's legality, whether this is a procedure for recognition or fulfilment of the award, for example, the judges of the arbitration organisation contract and the administrative authorities possibly called on to review the procedure from the viewpoint of the oversight of personal data or not, or of financial flows, taxation, exports, international sanctions, etc., must be convinced that the processing of the arbitral procedure in connection with this specific offer does indeed comply with the legal standards for which they are providing oversight.

■ **c. A financial challenge**

This challenge relates to the development cost for the technical solution, information on the existence of the offer, and the start of production of the selected system. Unlike centres proposing a mixed offer that can distribute the internal costs on both components of the offer, notably traditional if it already exists and digital, centres proposing a specific offer must develop an economic model in which the use of digital technology alone must guarantee the system's profitability. These operators are faced with the question of knowing if their offer meets a sufficiently widespread need that has so far gone unsatisfied, or only partially satisfied, in order to reach a critical size, as required for their economic survival. The centre's remuneration could depend on invoicing for usage or payment of an inclusive fee for subscription to the services, correlated or not with the volume of exchanged data and the number of accesses or users.

The uncertainty related to this development mode could prompt actors proposing a specific offer to work together with traditional arbitration operators so that the latter can develop a traditional offer as a supplement to their usual offer, or design a mixed offer that includes a digital component within their traditional offer.

◆ **2. Challenges of the specific offer**

■ **a. A conceptual challenge for the arbitration centre**

A centre already in possession of an arbitration offer must consider the relevance of adapting the existing offer by introducing a modification of certain aspects of the procedure through digital means. Would this introduction cause a reappraisal of certain fundamental and distinctive aspects of the centre's arbitration offer? For example, introducing a digital component into the procedure's initial phase is less simple than it appears. Without an approval of the parties in their arbitration agreement on the use of a platform for carrying out the procedure, including its beginning phase, how to notify defendants electronically that an arbitration request has been initiated, and how to ensure that the latter have actually received the information intended for them?

■ **b. A challenge when adapting a traditional existing procedure while integrating the use of new technologies**

The use of these digital technologies could compel the arbitration centre to make procedural choices, and even impose a modification of the traditional arbitration procedure. It is not always possible to digitize the procedure without these modifications. Digitizing certain phases of the procedure may be simple on a procedural level, but prove complex on a technical level, and thus expensive for the arbitration centre.

The offer's digital component may depend on the centre's internal use of an arbitral procedure, perhaps only its secretariat (closed architecture) or its availability for other actors: parties, arbitrators, administrative secretaries, experts, translators (open architecture) of a dematerialized clerk. Rules related to the management of access rights and the communication of documents, such as sending things by post or the format of the files, can be imposed by an IT service provider that proposes a turnkey service or by the centre that will establish acceptable usage parameters according to its arbitration regulation, the image that it wishes to project to users, and the types of the latter.

The offer's digital component may also correspond with the design and use of intelligent tools for seeking out precedents or situational analyses. The arbitration centre may use a certain number of digital tools in order to fulfil its missions of organising the arbitration, but also other missions of varying importance according to the role that the centre plans to fulfil: publication, collaboration with teaching establishments, assistance for researchers, dissemination of knowledge regarding arbitration. These tools, to which access can be restricted only to the centre's personnel or extended for certain functionalities to an identified public (such as researchers or arbitrators involved in the procedures administered by the centre), can be simple databases or genuine platforms for tracking procedures. They enable the centre to quickly find the document, retain it and provide a certified true copy. In their simplest form, they are not new. The repeated use over a long period, associated with modern technologies, nevertheless make it possible to envisage increased use of the information retained by the arbitration centres. The data accumulated by certain arbitration centres could, in the near future, allow for the development of true decision-assistance tools, both for procedural purposes and for the application of substantive law.

■ c. A challenge of user acceptance of modifications linked to the introduction of digital technologies into the procedure

This can involve the centre's internal users. The centre's employees may be uncertain of their grasp of the new technologies or may not have time to release the resources needed for the development of digital tools, as a result of being monopolized by the possible success of the traditional arbitration procedure. In the minds of external users, an institution can be associated with a type of defined procedure, and any development would require the arbitration centre to communicate on the interest value of the change for these users, as well as persuasion. The use of digital technology can complicate the offer when the digital tool does not replace an aspect of the classical procedure, but constitutes an alternative with optional procedural usage.

II. Safeguards relative to arbitration centres: certificate or authorisation

Arbitration centres will be intended to administer the resolution of a dispute, most often via a platform. This administration may involve making the platform's services available to an ordinarily established arbitral tribunal or, going further, could also include a disembodied arbitral tribunal and using algorithms or, later on, artificial intelligence solutions¹⁵².

In both cases, the arbitration centre will receive considerable data from the parties: personal data, confidential data or data covered by business secrecy, data relative to the dispute, documents provided by the parties, conclusions and briefs, etc. Given the sensitivity of such data, but also the missions entrusted to the arbitral tribunal, the parties must feel reasonably comfortable regarding the confidentiality of the data, the reliability of the platforms, their location and protection against hacking and data theft.

In this sense, the working group considered the need to require arbitration centres to obtain labelling (or certification), or even an authorisation. The working group's discussions as well as the interviews with the assistant director of the Civil Affairs and Seals Directorate¹⁵³ as well as with the secretary general of the CNIL¹⁵⁴ brought to light the following major outlines.

The working group quickly set aside the idea of authorisation of arbitration centres by a public authority. It appeared that the requirement of an authorisation would be disproportionate relative to the targeted aims. Digital arbitration centres are evolving in a competitive universe that must not be denatured by submitting it to excessively strict administrative requirements. Also, parties making use of arbitration are deliberately and knowingly attempting to avoid the settlement of their dispute through State courts, such that it is probably not in line with their desires to have the State authorise the arbitration centres that could potentially accommodate the procedures.

On the other hand, the necessary trust that an arbitration centre must inspire encourages labels or certifications¹⁵⁵ that would be granted by institutions that are themselves approved by the Cofrac (French accreditation committee). Such labels could usefully anticipate the following¹⁵⁶:

- ▶ mandatory user information in case of recourse to algorithm;

152. J. El-Ahdab J. And M. Mako, "Arbitrage international versus intelligence artificielle", *Revue Droit et Affaires*, 2018, p. 49, spec. p. 65 and sub.

153. Interview of Mrs. Valérie Delnaud, DACS assistant director, on 9 July 2018.

154. Interview with Mr. Jean Lessi, CNIL general secretary and of Mrs. Amandine Jambert, expert engineer from the technological expertise department, 19 October 2018.

155. The standard ISO/IEC 27001, presenting the requirements relative to information security management systems, is used as a reference.

156. Cf. interview by the working group of Mrs. Valérie Delnaud, *op. cit.*

- ▶ the final solution must not result exclusively from processing by an algorithm;
- ▶ rules relating to a condition of competence, due diligence, impartiality and independence must be required in order to obtain the label;
- ▶ participants will be subject to professional secrecy or to a confidentiality obligation;
- ▶ personal data protection must be guaranteed;
- ▶ the reliability and security of the employed information systems must be assured;
- ▶ the conditions relative to the platform's upgrade (technological development) and, if relevant, data transfers must be brought to the attention of the users.

Without reaching a consensus, the working group discussed the advisability of making certification mandatory, or of simply leaving certification in the hands of the arbitration centres. According to certain group members, several arguments point in the direction of a simple possibility: firstly, in terms of international arbitration, it would be odd to require French arbitration centres to obtain certification whereas this requirement would not apply to other well-known international centres. In addition, the dynamics of a competitive market will oblige each arbitration centre to demonstrate a certain level of capacity in terms of security, confidentiality and data protection in order to remain competitive. We see this with social networks today: the prospect of a scandal in these domains could contribute to driving off "customers", namely litigants. Also, arbitration centres will be naturally encouraged to obtain certifications, even if not required to do so.

Inversely, other working group members felt that the sensitivity of the missions entrusted to digital arbitration centres justify a certain level of requirements that, without extending as far as an authorisation, could involve having to obtain mandatory certification.

An intermediate solution was proposed, that of including digital arbitration within the perimeter of a certification obligation, but reserving this certification for small disputes (capped at €4,000 or €5,000) and disputes coming under consumer law. Other disputes, for example between companies, could be handled by certified centres or not, whereas the former would have a competitive advantage in terms of attractiveness.

To conclude, the working group considered that the 2018-2022 Programme and Justice Reform law now being examined by Parliament did well to anticipate the same certification for arbitration and amicable methods. Incidentally, the absolute majority of the working group's members considered that the law had also done well not to alter the current perimeter of mandatory representation by an attorney, and that it was therefore not advisable to extend this perimeter to alternative dispute settlement measures (French acronym: MARD), including digital arbitration.

III. Guaranteed safeguarding of the procedure and data by the arbitration centre

In addition to questions relative to the protection of personal data (cf. below), arbitration centres will have to propose technological solutions that offer reliability guarantees: indeed, a service fault or a loss or alteration of data could considerably hinder the performance of the jurisdictional mission entrusted to the arbitral jurisdiction under the aegis of the centre.

Also, given its role, the arbitration centre would have to offer security guarantees relative to two types of risks that could occur in connection with its activity. The first is of a "hardware" nature, notably the risk of intrusion and hacking, whereas the second is more of a "legal" nature, i.e. the risk that the data administered by the arbitration centre could be the subject of a seizure ordered by foreign authorities.

The management of these two risks presupposes that the arbitration centres – and upstream the certification criteria thereof – would design data hosting systems that include reasonable guarantees against these risks.

Hosting services and, potentially, PaaS (*platform as a service*) and SaaS (*software as a service*), will have to be used while considering the reliability and sturdiness of the selected information systems, as well as their location. In this regard, legal and hardware security does not provide a response to a binary question: a public Cloud offered by a large vendor – often American – will be the subject of a very high level of protection against hacking risks, since the large multinational companies that offer these services devote unparalleled investments to network security. At the same time, there is a growing exposure to American legal risk (*Cloud Act*¹⁵⁷). In this regard, arbitration centres could usefully make a distinction between services proposed to individuals, consumers and SMEs, or to international groups. While the former are relatively indifferent to the risk of foreign legal seizures, the latter will certainly be more vigilant. Solutions based on private Clouds or hybrid Clouds¹⁵⁸ will also have to be studied by arbitration centres.

To conclude on this point, the working group considers that differentiated offers will be usefully proposed by arbitration centres based on the targeted public, while recognising that a minimum basis relating to the platform's reliability and data security will have to be observed by all. This minimum basis could be defined by institutions authorised to issue certifications.

157. Clarifying Lawful Overseas Use of Data Act (known as the "Cloud Act") was enacted by the President of the United States on 23 March 2018.

158. "Private" Cloud platform shared by several users that have common objectives. It would therefore be conceivable for several arbitration centres to use the same Cloud to each host their platforms and the data that they contain. Other than strong confidentiality rules, it will be necessary to check that no competition law rule would oppose this. We note that the French government is currently working on setting up a "sovereign" Cloud as part of protecting French interests given the risk of the extraterritorial application of foreign regulations (Cloud Act, etc.).

CHAPTER 3.

THE PROCEDURE

As tools in the service of the correct performance of the arbitral procedure (I), software solutions and, eventually, artificial intelligence, have a natural place. This could be a source of efficiency for international arbitration, provided that the disputes characterizing it frequently bring to light various needs that the technology is – or soon will be – able to meet: translation, interpretation, multimedia communications, document management programs and searches for keywords such as "Relativity" or other, access to legal sources, etc.

Moreover, while it is certain that, as indicated above¹⁵⁹ in this report, the arbitrator's replacement by a machine cannot be envisaged (even in the medium term, in any event in arbitration as it is performed today), the digitization of arbitration is having an influence on awards. The formidable research, calculation and reasoning power of artificial intelligence will make it an indispensable aid for the arbitrator when preparing a decision (II).

Moreover, envisaging the impact of digital technology during the arbitral procedure requires a consideration of the changes brought about by the General Data Protection Regulation on international arbitration (III).

Finally, as digital technology offers increasingly better performing assistance tools to arbitration bodies, there will be grounds to wonder about the in-depth changes, and even upheavals, that could be expected during the arbitral procedure (IV).

I. Artificial intelligence and assistance for the international arbitration procedure

The support of technology is all the more relevant since, as a sign of the times, the smooth performance of an arbitral procedure increasingly often presupposes resolution of the question of the absorption by parties and arbitrators of considerable volumes of information, for which human processing is costly both in terms of money and time. The growing volumes of information having to be processed by arbitration stakeholders is an undeniable phenomenon: this involves both the

159. Sebelow part II. 1.

information at the heart of the dispute (A), as well as the information produced as part of its settlement (B).

A. Growth of the volumes of information comprising the disputed matter

The settlement of disputes in business life presupposes an ability to handle factual situations, often technical, the expression of which could take the shape of a considerable volume of multiple dematerialized communications. A general consensus admits that the dematerialization of information exchanges, except in special cases, does not undermine the operating conditions. The fluidity and speed of exchanges that are now carried out by e-mail, SMS and on messaging platforms, is a modern phenomenon. It is not specific to arbitration: it has caught up with the various forms of justice that consider the various aspects of business life. But arbitration, most notably international arbitration where the examination of the facts of the case is very in-depth, is faced with this on a daily basis.

B. Growth of the number of documents created and exchanged for arbitration purposes

The activity specific to the performance of international arbitration is generating a document flow that is growing exponentially. Once again, this is not specific to arbitration: the legal world, whether relative to the preparation of standards or settlement of disputes, generates a considerable volume of information exchanges and documentary media. Lawyers create more documents and produce them faster, in keeping with their ability to make use of IT tools, which themselves offer increasingly better performance. Briefs exchanged during arbitration are all the more verbose since they reproduce, by copying / pasting, large excerpts of documents, statements by witnesses and experts as well as legal sources, which is made possible by their accessibility in electronic form. It is no longer rare to exchange briefs that contain hundreds of pages, with volumes of appended attachments that can sometimes range into the thousands of pages. Arbitral awards are also not avoiding this phenomenon, if for no other reason than to provide complete justification of a decision. We will not dwell on the fact that in some cases, easily imaginable tactical purposes can be behind factual narratives that are as long as they are burdened with inaccuracies or the communication of a plethora of documents. The arbitrator will hesitate to set aside allegations or documents that have no relevance, for fear of being accused of bias; the opposing counsel will also strive to safeguard his professional liability, all the more so if the client requires him to refute allegations that are disputed despite their lack of relevance. As such, it is often necessary to process all of the information submitted to arbitrators, to the point of behaviour being sanctioned if its aim seems to be to obstruct, for example by adding extra costs for the responsible party.

Advisers and arbitrators must therefore find the means for dealing efficiently with this abundance of information. Assistance from software solutions and eventually artificial intelligence could provide a useful response to the growing volumes of information by selecting, under reasonable conditions of time and cost, the information that is relevant for the resolution of the dispute. A few examples will be given here, but with no claim of exhaustiveness.

◆ **1. Documentary review by *Technology Assisted Review/predictive coding***
Not specific to arbitration, *Technology Assisted Review* ("TAR" or *predictive coding*) is used for much faster and less expensive review of documents. It is increasingly used in the United States as part of disputes, notably during the *pre-trial discovery of documents* phase (known as *e-discovery*). This is an "assisted" technology which presupposes, for the modelling of the code, that the lawyers have highly detailed knowledge of the facts and stakes of the case: indeed, the lawyers themselves choose the documents and keywords included in the algorithm. TAR considerably reduces the human share of the work, previously performed by the youngest employees within legal firms, and therefore the cost, since traditionally, this work is paid on the basis of an hourly rate applied to the number of hours devoted to it. The human part of the work therefore involves defining facts and keywords with the customer's teams upstream of the TAR and, downstream of it, analysing the documents obtained before exchanging them with the opposing party¹⁶⁰. *Predictive coding* is an effective solution that would serve to reduce the cost of international arbitration, notably by reducing the time devoted to a review of documents¹⁶¹.

◆ **2. Access to legal sources**
The development of *expert systems* – IT programs with specialised knowledge in a specific legal domain – elicits the question of their ability to replace *expert witnesses*, who are often heard by all parties in connection with international arbitration, in order to provide proof of the content of foreign laws. In the current state of the development of expert systems, university doctrine as well as practitioners are currently divided with regard to the ability of technology to replace legal experts, but they agree that these technologies provide both lawyers and arbitrators with assistance as a result of providing information on the legal situation within a specific domain.

An expert system is an intelligent program that uses, on the same level as a human domain expert, defined knowledge and logical inferences. These programs use logic and probability formulas and, in their basic format, do not constitute artificial intelligence programs¹⁶². However, the foreseeable development of these systems would have them evolve into

160. S. D. Becerra, "The Rise of Artificial Intelligence in the Legal Field: Where We Are and Where We Are Going", *J. Bus. Entrepreneurship et L.*, vol. 11, p. 40, 27(2018) ; see also L. Angelo *et al.*, examples of artificial intelligence systems in legal, 2018 txcle-af1 30-v (2018).

161. M. Mills, "Using AI in Law: It's Practical Now", 42 No. 4 *Law Prac.* 48, 2016.

162. Pamela S. Katz, J.D., "Expert Robot: Using Artificial Intelligence to Assist Judges in Admitting Scientific Expert Testimony", 24 *Alb. L.J. Sci. et Tech.* 1, 13 (2014)..

true artificial intelligence programs, in which the reflection and reasoning methods of an expert would constitute the basic rules on which the logic formulas would then be based¹⁶³. To this end, new programs will combine the methods of expert systems and automatic learning¹⁶⁴. This combination tends to enable the consideration of the fact that judges may arrive at different conclusions on the basis of similar facts. The automatic learning technique aims to balance the "raw" application of rules with historical examples of different decisions made by judges in a comparable situation¹⁶⁵. According to the developers of these new programs, their ambition is to set up a system that will emulate the decision process of a judge or arbitrator¹⁶⁶.

In the legal domain, these expert systems have been developing for several years already, but without imposing themselves as a standard. Such progress is illustrated by the following examples:

- ▶ in Brazil, the Judges on Wheels program, specialising in traffic accidents, uses an algorithm that reviews the case law and gives a recommendation; research has shown that the judges, who are not required to follow the proposed solution, adopt it in 68% of cases¹⁶⁷;
- ▶ a program developed in Australia, called SplitUp, is used by divorcing couples in order to determine the procedure for the separation of assets that will apply to their case. This program can predict a judge's decision on the basis of previous decisions¹⁶⁸. SplitUp uses a "knowledge base" made up of 94 variables, which are the factors identified by legal experts as being the most important ones relative to the separation of assets in connection with a divorce;
- ▶ also in Australia, the GetAid program is used by the *pro bono* legal aid services (*Victoria Legal Aid*) to enable applicants to determine if their case is eligible for legal assistance, which represents a considerable savings of time and money in comparison with a human assessment¹⁶⁹.

Moreover, the development of "expert robots" is being seen in the *legaltech* world. In the United States, the Neota Logic company has developed an artificial intelligence program that can supposedly re-create the work of an expert automatically, in the domains of finance, immigration, trade or compliance¹⁷⁰. This program has already been used to develop so-called "intelligent" databases in the field of compliance and that are intended for corporate lawyers and compliance managers, notably for companies that do not have the means to develop their own structure for anti-corruption measures¹⁷¹.

163. *Ibidem*.

164. "AI am the Law", *The Economist*, 10 March 2005 [online] < <http://www.economist.com/node/3714082> >.

165. *Ibidem*.

166. *Ibidem*.

167. J. Jenkins, "What Can Information Technology Do for Law?", 21 *Harv. J.L. et Tech.* 589, 602 (2008).

168. "AI am the Law", *op. cit.*

169. *Ibidem*.

170. Neota Logic, "Replicate the thinking and actions of experts" [online] < <https://www.neotalogic.com/solution/expert-advisors/> >.

Predictive coding systems are also being developed with the aim of predicting the outcome of legal decisions. These programs have been designed for decisions by the European Court of Human Rights (ECHR), and those of the United States Supreme Court. Such programs could constitute increasingly useful tools in order to provide an orientation during the preliminary research stage in certain domains of arbitration law. In 2016, researchers from the University College London developed an artificial intelligence capable of preparing legal decisions and predicting the decisions of the European Court of Human Rights. This artificial "judge" analysed 584 ECHR cases, corresponding with three articles of the European Convention on Human rights : prohibition of torture and inhuman or degrading treatment (article 3), right to a fair trial (article 6) and, finally, right to respect for private and family life (article 8), and in 79 % of cases, the artificial intelligence provided judgements similar with those of the judges. To avoid any bias, the researchers had selected an equal number of decisions in which the judges had taken into account or set aside a violation of the Convention¹⁷². Similarly, the LexPredict start-up developed an algorithm that predicts the decisions of the United States Supreme Court, the performance of which was considered to provide results that are more accurate than the ones obtained from human judges in this domain; the algorithm correctly predicted the result of a legal decision in 70.2% of cases, compared with 66% for the experts¹⁷³. The Lex Machina uses *data mining* and predictive analysis methods in order to determine the results of legal decisions in the domain of intellectual property. This program has access to state and federal court clerks, the US International Trade Commission information system, and the US Patent and Trademark Office (USPTO)¹⁷⁴.

In terms of international arbitration, the domain of the protection of international investments could lend itself to a comparable initiative. Indeed, this subject is characterized by legal services that are both accessible and subject to limited legal variables. The debates are

171. Neota Logic, "Bloomberg BNA features Neota Logic: Automating Legal Advice: AI and Expert Systems", 22 January 2016 [online] < <https://www.neotalogic.com/2016/01/22/bloomberg-bna-features-neota-logic-automating-legal-advice-ai-and-expert-systems/> >. The "Data Law Center" developed by the Akerman firm no longer exists since the partners who had founded this program left the firm in 2018. See also Foley Global Risk Solutions < <https://www.foley.com/grs/> >.

172. A. Cherif, "Justice : Une intelligence artificielle rend des verdicts semblables à ceux des juges", La Tribune, 26 October 2016, [online] < <https://www.latribune.fr/technos-medias/informatique/justice-une-intelligence-artificielle-rend-des-verdicts-semblables-a-ceux-des-juges-611119.html> > ; see also "AI predicts outcomes of human rights trials", UCL, 24 October 2016 [online] < <https://www.ucl.ac.uk/news/2016/oct/ai-predicts-outcomes-human-rights-trials> >. ("The most reliable factors for predicting the court's decision were found to be the language used as well as the topics and circumstances mentioned in the case text. The "circumstances" section of the text includes information about the factual background to the case. By combining the information extracted from the abstract "topics" that the cases cover and "circumstances" across data for all three articles, an accuracy of 79 % was achieved. »). See also the report published in the scientific journal Peer J : "Predicting judicial decisions of the European Court of Human Rights : a Natural Language Processing perspective", Peer J, 24 October 2016 [online] < <https://peerj.com/articles/cs-93/> >.

173. M. Hutson, "Artificial Intelligence prevails at predicting Supreme Court decisions", Science Mag, 2 May 2017 [online] < <http://www.sciencemag.org/news/2017/05/artificial-intelligence-prevails-predicting-supreme-court-decisions> > ; D. Katz et al., "A General Approach for Predicting the Behavior of the Supreme Court of the United States", PLoS ONE 12(4), 16 January 2017 [online] < <https://doi.org/10.1371/journal.pone.0174698> >.

174. M. Mills, *Artificial Intelligence and the Law : The State of Play 2016*, p. 5 [online] < <http://www.legalexecutiveinstitute.com/wp-content/uploads/2016/03/Artificial-Intelligence-in-Law-The-State-of-Play-2016.pdf> >.

most often transparent, given issues of general interest raised by such disputes, which allows access to the awards decided both with regard to competence as well as the content. Bilateral and multilateral treaties could lend themselves to a certain degree of systematization, both relative to the conditions of competence, and the ones relating to protection and redress. The applicable principles of international law have been thoroughly identified. The recourse to the national laws of the involved States is not systematic and can, if relevant, also be modelled. The economic interest of the development of an expert system in this regard is not, however, necessarily evident in view of the moderate cost of a preliminary consultation with an expert in this matter, and of the volume of files relating to this domain.

It would probably be of more interest to develop a comparable solution relative to the challenging of arbitrators or requests for the enforced communication of documents, domains in which the arbitrators and lawyers currently rely on soft law rules that have become virtually universal: the rules of the International Bar Association (IBA) on conflicts of interest and access to evidence. On the other hand, the obstacle relates to limited access to sources, given that most decisions in this domain are confidential. Regarding the challenging of arbitrators, certain arbitral institutions are beginning to publish their decisions, but the set-up of a body of relevant decisions in this matter would presuppose systematic access and in-depth collaboration between competing arbitration institutions. Moreover, the case law of State courts in this matter can vary greatly. Regarding decisions on requests for the communication of documents during arbitration, most of them are confidential.

Finally, relative to the awards given with regard to competence or merits in arbitration matters, the number of variables – factual, contractual and in terms of applicable law – constitutes an even bigger obstacle and must be added to the aspects of privacy and confidentiality.

II. Artificial intelligence, precious decision-making aid that must remain under control

The move towards greater use of artificial intelligence within decision-making processes represents a challenge on a technical level and in terms of principles (A), to the point that the question arises of whether it is intended to assist or replace the arbitrator¹⁷⁵. But artificial intelligence is inevitable, and efforts must be made in order to maintain control over it (B).

A. Artificial intelligence for decision-assistance: a challenge on a technical level and in terms of principles

175. J. El-Ahdab J. et M. Mako, "Arbitrage international versus intelligence artificielle", *Revue Droit et Affaires*, 2018, p. 49, spec. p. 60 and sub.

◆ 1. A technical challenge

The use of information technology when preparing the arbitrator's decision is a gradual phenomenon that has already begun. This use can involve all steps of the arbitrator's decision process, i.e. in chronological order, analysis of the legal issue, search for precedents, preparation of the reasoning, and production of a solution. The introduction of IT does not follow this chronology for multiple reasons, notably having to do with the development of the abilities of artificial intelligence. In order to better grasp the various phases of this development of artificial intelligence applied to the decision process of the arbitrator (and judge), Marc Clément¹⁷⁶ proposed the following assessment grid of the various steps:

- ▶ **Level 1** : Use of legal databases, notably databases of judgements.
- ▶ **Level 2** : Analyses using more sophisticated databases, such as analyses of the links between the decisions comprising case law¹⁷⁷.
- ▶ **Level 3** : Automatic selection of relevant case law based on the problem at hand or by class of problems, based on a brief description of the case being processed. The algorithm takes partial control of the search criteria within the database.
- ▶ **Level 4** : Proposal of alternative reasoning. As a supplement to the previous level, scenarios for resolving problems will be proposed while diversifying the hypotheses.
- ▶ **Level 5** : Totally automated decision based on a description of the facts of the case.

This classification may be disputed, but its interest value is that it enables a measurement of the steps that separate us from a decision produced entirely by artificial intelligence.

The working group held a number of interviews in order to assess the development status of tools for so-called "predictive" justice and their application to arbitration, with the companies Predictice, Legalmetrics, JurisPredis and Case Law Analytics.

All of these companies propose more or less improved search systems. In addition to a search by keywords, the tool adds associated words. However, these additions are limited. For example, the tool asked to search for decisions containing the word "reduction" will also return decisions containing the word "reduce", but not "price cut", for example. Some propose predictive analyses on the chances of winning or losing a given type of dispute, and the amounts granted by a given type of court relative to these disputes.

The working group received Mr. Jacques Lévy-Vehel¹⁷⁸, co-founder of Case Law Analytics. Case Law Analytics only works with a limited number of

176. M. Clément, "Algorithmes au service du juge administratif : peut-on rester maître?", *AJDA* n° 43/2017, n° 2453.

177. For example, for the analysis of the decisions of the Court of Cassation performed by lawdataworkshop in collaboration with A. Gonzales of the University of Aix Marseille : See "What is Law Data Workshop?" [online] < <http://lawdataworkshop.eu> >.

178. Interview with Mr. Jacques Lévy-Vehel, 13 September 2018.

legal domains (15 or so), that are relatively narrow and uniform, notably the sudden interruption of commercial relations, dismissals without genuine and serious cause, compensatory services and insider misconduct. According to Mr. Lévy-Vehel, Case Law Analytics stands out from other *legaltechs* in that the latter only operate as large search engines that will provide statistics based on keywords contained in judgements and for major types of disputes. These systems do not attempt to model the legal reasoning in order to be able to process specific factual or legal situations.

The originality of Case Law Analytics is that it indicates, based on accurate facts, a range of possible solutions with the probabilities attached to each one. For now, the tool only works with a certain number of modules, including the ones indicated above. To create a module, the Case Law Analytics team meets with judges and attorneys specialising in the domain in order to draft a list of criteria (between 30 and 150) and the various types of reasoning used by the judges in order to decide the disputes in question. After that, a database of legal decisions on the subject is set up. Then, using the rules identified during the first step and the decisions grouped during the second step, Case Law Analytics "teaches" the machine to reason in a manner that approaches that of the judge. As such, a hundred algorithms are prepared as the computerized representation of 100 judges who are capable, based on data from identified past decisions, to reproduce the results of these decisions. Once the module is ready, it is made available to users. They have only to fill in the facts of their case using the criteria proposed by the tool, which then provides them with the obtained results in a statistical format. As such, regarding the interruption of commercial relations, it is necessary to enter information relative to the duration of this commercial relation, excluding the turnover, commercial margin or contract violation by the distributor... and the tool will indicate that:

- ▶ no compensation will be obtained in w % of cases ;
- ▶ compensation between 10,000 and 20,000 euros will be granted in x % of cases ;
- ▶ compensation between 20,000 and 40,000 euros will be granted in y % of cases ; and,
- ▶ compensation above 40,000 euros will be granted in z% of cases.

The tool only provides results, but it enables the user to vary the parameters in order to measure the impact on the obtained results. The technical limits are obvious.

The tool can only work on mass disputes, such as with regard to severance pay, compensatory benefits or compensation in lieu of notice for the interruption of commercial relations. Indeed, the reliability of its modelling results depends on the quantity of available decisions. However, Case Law Analytics claims that it can create a reliable module even in cases of "rare" disputes, if two conditions are met: firstly, it must have all – or nearly all – of the decisions, and secondly, it must know the expressed criteria. As such, the decisions of the judges would

be consistent and systematic. In other words, the structure of the reasoning for the decisions must be highly repetitive. An initial analysis of the "insider trading" module, however, indicates lesser reliability given the approximately 300 available decisions. Its use in connection with arbitration will therefore depend directly on the availability of arbitral awards and the existence of a sufficient number of decisions dealing with a given issue, in order to prepare a module.

- ▶ Moreover, the tool works better with a small number of criteria that have a decisive influence on the solution; this is the case of seniority in terms of dismissal or relative to the interruption of commercial relations ;
- ▶ the tool is also more efficient when it relies on objective criteria that are difficult to dispute, such as numbers (duration, amount, etc.). On the other hand, it is more fragile when the input of the criterion requires a prior legal analysis by the judge. Hence, the tool's particular interest when quantifying harm or compensation;
- ▶ the results will also be more relevant if the criteria behind the decision have a binary functioning mode, for example the "exclusivity" criterion that can be indicated as "yes" or "no". On the other hand, factual or legal situations with shades or gradations are grasped with greater difficulty. As such, it is much more difficult to get the tool to work in the presence of a state of economic dependency or a contractual violation that can exist to varying degrees. Similarly, in terms of insider trading, the question of proof of the possession of inside information is complex and difficult to reduce into sub-criteria. In general, this proof is never direct, but in virtually all cases, the results of an analysis of "*red flags*" that are assessed in light of the justifications provided by the party in question. This multi-criteria assessment exercise would again need more decisions than the other modules; however, this is a subject in which precedents are insufficient in number. We can nevertheless perceive the interest value of successful modelling in such a domain with regard to the resolution of questions that are frequently encountered in international arbitration, such as corruption;
- ▶ ultimately, the tool produces a result, but not a reasoning. This limitation relates to the tool's design, as it was originally intended to focus on risk management. It is not intended to produce the solution to a dispute, but the various probabilities that one solution or another might arise. There are then only two solutions: either purely and simply adopting the most probable solution without worrying about the legal reasoning that could justify it, or treating this result as a simple indication. Nevertheless, the use of this indication is not simple. How to know if the result proposed as the most probable is based on the arbitrator's intended reasoning? The solution proposed by Case Law Analytics, i.e. varying the different criteria in order to measure the impact on the obtained results, is interesting, but it remains a statistical approach and not a legal reasoning with which the arbitrator must necessarily agree. This indication is obviously much more relevant when it comes to the amount.

Despite these limitations, such a tool, which is very easy to use, is certainly of interest. It is neither the starting point nor the ending point of the arbitrator's reasoning, but it provides a worthwhile overview of what a hundred other judges or arbitrators would have decided if the case at hand had been submitted to them. What use will be made of it? Indeed, these tools strive to rationalise the judge's legal reasoning, with reference to averages or aggregated indicators. Of course, they operate by correlating facts and not by legal reasoning, but is the beneficial aspect not to alert the arbitrator to the fact that his solution is deviating from what "a hundred other judges" would have decided, so that he can reappraise the subjective biases resulting from his human analysis? For some people, this pressure from predictive justice would be no more than a digital form of collective consciousness¹⁷⁹.

Should one lament justice that is free of any "prediction" and that would remain pure? This does not give much weight to the arbitrator's spirit of independence. The arbitrator is no more bound by the results obtained from the tool than he is by case law.

◆ 2. A challenge in terms of principles

This is not a question of legal constraints relative to the use of artificial intelligence, but simply a focus on the questions that affect the decision process itself.

The first objection to the use of artificial intelligence in the decision process is that of the bias that is part and parcel of any modelling that results from the algorithm's design. To begin with, this rejection of algorithmic bias is paradoxical given that artificial intelligence has as its purpose, or at least its effects, to reduce the arbitrator's human bias, which is necessarily greater and often criticized. It is clear that in this domain, as in others (self-driving cars is a good example), we don't accept from the machine something that we would tolerate from a human.

This bias is also present at the stage of the use of simple databases, a threshold crossed several years ago. As correctly pointed out by Marc Clément¹⁸⁰, the chronological presentation of results provides a grasp of the most recent legal developments, but with the risk of not identifying the gap between these solutions and the oldest solutions that established the principles. Similarly, the systematic use of databases, often the starting point of any research, alters the legal reasoning itself. The search for precedents acquires an importance that it did not have in our civil tradition that gave emphasis to deductive reasoning, based on facts and the rule of law.

The second objection is that of the obstacle to the evolution of law. Predictive tools based on an analysis of the past would bind the arbitrator to these

179. A. Garapon, J. Lassègue, *Justice digitale : Révolution graphique et rupture anthropologique*, PUF pub., 2018, p. 279.

180. M. Clément, "Algorithmes au service du juge administrative : peut-on rester maître?", *op. cit.*

solutions and eliminate, or at the very least inhibit, his ability to innovate, in terms of his prescriptive ability. This could lead to a strengthening of majority trends and, eventually, some people raise the spectre that this predictive justice could become a "secondary normativity"¹⁸¹. The third objection has to do with the nature of the processing itself. Indeed, it requires deconstructing the elements of the judgement that were linked to one another within the decision. Decisions are no longer considered based on an argumentative logic, for example of the syllogistic type, based on premises and arriving at a conclusion, but rather as a collection of criteria and statistical calculation data, with the model identifying correlations¹⁸². In our legal system, however, case law and doctrine are responsible for selecting and prioritizing legal decisions in order for the rule of law to make sense.

B. Artificial intelligence for decision-assistance : oversight likely to increase in keeping with the role of artificial intelligence in the arbitrator's decision process

◆ 1. A likely growing role for artificial intelligence

Amongst the scenarios presented by the president of MyCercle¹⁸³ is the extension of arbitration to new sectors in order to relieve the workload of traditional courts. In this model, judicial bodies would become the overseers of the correct operation of private arbitration platforms. As such, he mentioned three levels : digital mediation, then digital arbitration in case of unsuccessful mediation, and finally possible oversight by the court by means of an appeal, an action for annulment, or an exequatur procedure.

Could such entirely digital arbitration be qualified as arbitration? The choice of a digital arbitrator appears to be a natural extension of the choice of a natural person arbitrator, even though the Code of Civil Procedure still requires a natural person, at least in connection with domestic arbitration (art. 1450). Artificial intelligence would produce a solution to the dispute. And this solution would be imposed on the parties subject to appeal, which once again adds to the legal qualification of arbitration.

As it is, we can only imagine such arbitration in connection with deciding simple mass disputes that do not require an assessment of complex contradictory evidence, such as, for example, compensation for transportation delays. Though referred to and described as arbitration, this dispute settlement mode would remain quite close to a customer service procedure implemented by companies. The progress of artificial intelligence should doubtlessly push back the frontier of what is doable and reliable, and enable the "artificial intelligence" arbitrator to deal with increasingly complex disputes.

181. A. Garapon and J. Lassègue, *Justice digitale : Révolution graphique et rupture anthropologique*, op. cit., p. 239.

182. *Ibidem*, p. 222.

183. Interview with Mr. Jérôme Cazes, 13 September 2018.

Both technically and legally, imposing entirely digital arbitration is currently impossible. As such, it is necessary to reflect on an optional implementation of such measures so as not to add a factor of obscurity and anxiety to a procedure that already elicits considerable mistrust. Indeed, the paradox is that many people still view human arbitration with suspicion. It appears hazardous for the so-called "weak" party – individual, consumer, small SME and anyone else who does not use this procedure¹⁸⁴. It is probable that future generations (i.e. "digital babies") will not have the same degree of apprehension relative to digital arbitration, and that the fear of an algorithmic bias will be much less significant for them than that of a human bias.

Another solution could be to only introduce artificial intelligence in the phase for quantifying the harm. Arbitrators are frequently faced with contradictory appraisal reports and therefore only infrequently have an expert designated by the court. Artificial intelligence can become this Court expert that compares the reports from the experts, explores the calculations and produces a new solution based on rectified parameters, drawn or not from the reports by the experts of the parties.

◆ 2. Strengthened oversight

The oversight would appear to require strengthening, whether from the viewpoint of partially automated arbitration (a) or in connection with entirely automated arbitration (b).

■ a. Oversight of partially automated arbitration

In connection with partially automated arbitration, the oversight must in particular consider the relations between man and machine, while guaranteeing control of the former over the latter. This principle is expressed by all, but its content is the subject of a great lack of precision. Indeed, is detailed information on the processing and operating methods of the employed algorithms sufficient? Is it enough for a certifying institution made up of IT specialists and lawyers to validate the tool? Must a degree of in-depth understanding by the user arbitrator himself be required?

This debate can be illustrated with regard to the issue of stating grounds. Doing away with the requirement to state grounds cannot be envisaged. The discontinuation of the need to state grounds, essential for acceptance of decisions by the parties, appears inconceivable in the current state of the law and mentalities. The question that immediately arises in the name of efficiency is that of the cost of the effort to state grounds in the presence of a solution produced by artificial intelligence and validated by the arbitrator. Is it necessary to anticipate a different obligation to state grounds when the solution chosen by the arbitrator is the one considered as most probable by the predictive justice tools?

184. On this question, cf. M. de Fontmichel: *Le Faible et l'arbitrage*. Preface of Th. Clay. *Économica*, coll. Recherches juridiques, 2013.

It is indisputable that the parties who will have different predictive justice tools will have a given expectation for the justification of a solution, which is different from the one suggested by the artificial intelligence. Nevertheless, we consider it equally necessary that the same degree of stating grounds should be required for decisions that align with the artificial intelligence. Indeed, as long as our society and legal system maintain the principle that the machine must remain under human control, the arbitrator must at all times demonstrate his ability to justify the decision resulting from his own legal reasoning, and not from the artificial intelligence.

Alongside the official use of artificial intelligence, the arbitrator and the parties will be faced with the issue of the revelation of the arbitrator's use of artificial intelligence. Certain *legaltechs* will make their tool available to judges and arbitrators at no cost. In any event, for a modest sum, any arbitrator will have access to an increasingly broad range of predictive tools that can provide decision-assistance. There is no possibility of oversight if there is no revelation. The revelation obligation of arbitrators will therefore have to be extended to artificial intelligence tools. This will then provide the parties with the right to challenge if the artificial intelligence solution is not labelled.

■ b. Oversight of entirely automated arbitration

It may appear heretical to envisage entirely automated arbitration with regard to protecting foreign investments. However, both the recent questioning of arbitrators frequently involved in such arbitration, and the criticism directed at the establishment of permanent courts with judges / arbitrators designated by States, would become pointless if the arbitration could be entirely resolved by artificial intelligence. Too complex? Is that certain? Questions of the definition of investors and investments are recurring, treaties are relatively standard, the alleged violations are fairly few in number, and the compensation issues are fairly similar. The decisions are accessible. The stakes are significant. Artificial intelligence is already widely used for profiling arbitrators and the use of precedents. All of these factors should encourage IT specialists to develop decision-assistance tools, and then "all artificial intelligence"¹⁸⁵ resolution tools. »

With this in mind, the interesting question is that of the oversight of the "artificial" arbitrator proposed in the treaty for the protection of investments or by the international institution (a "cirdiia"). In this regard, the quality of protection provided to the investor (including the artificial intelligence resolving the dispute) is decisive for the investment. This will therefore exert natural pressure on the States when choosing "artificial" arbitrators, so that the latter will operate in a manner such as to provide investors with efficient protection.

185. See opposite: P. Bordachau, "La justice prédictive et l'arbitrage international relatif aux investissements étrangers", *Archives de philosophie du droit*, 60 (2018), p. 199.

This forward-looking reflection has the merit of demonstrating that the oversight of arbitration can be variable, and will be directly a function of the degree of sophistication of the parties.

But, enhanced oversight will be necessary in the vast majority of arbitration cases. No one doubts that the expansion domain of "artificial" arbitration will be that of consumer law, and that this is a domain in which a weak party must be protected and reassured. One can understand that for budget and possibly technical reasons, the Chancery refers, in the current state of artificial intelligence, to opt for private certification of online arbitration platforms. Nevertheless, one could ambitiously imagine that the Court of Cassation would set up an "artificial intelligence" cell, with "artificial" platforms and arbitrators being certified under its authority.

III. Impact of the General Data Protection Regulation on arbitration

The General Data Protection Regulation ("GDPR" or the "Regulation") applies to all levels of the arbitral procedure. Understanding how the GDPR applies to arbitration actors and the procedure (A) makes it possible to establish and organise the respective responsibilities of each actor – notably parties, lawyers, arbitral institutions and arbitrators (B).

A. Application of the General Data Protection Regulation on arbitration

◆ 1. Applicability of the Regulation to the data provided and exchanged in connection with an arbitral procedure

The GDPR requires any entity having to process the personal data of a natural person (i) to obtain the prior consent of the latter, and (ii) to guarantee respect for the protection provided to natural persons by the GDPR. The rights of the concerned natural persons include the right to transparency¹⁸⁶, the right to access their data¹⁸⁷, a rectification and erasure right¹⁸⁸, the right to restrict processing¹⁸⁹, the right to data portability¹⁹⁰, the right of opposition and the right not to be subject to an automated individual decision¹⁹¹. Such protection can be difficult to reconcile with the reality of arbitration, notably in view of the confidentiality principle that dominates arbitral procedures, and the need for a court to be able to reach a decision without essential data being withdrawn from it¹⁹². In this context, the question arises of how the GDPR can be applied to an arbitral procedure.

186. Articles 12, 13 and 14 of the GDPR.

187. Article 15 of the GDPR.

188. Articles 16 and 17 of the GDPR.

189. Article 18 of the GDPR.

190. Article 20 of the GDPR.

191. Articles 21 and 22 of the GDPR.

192. K. Paisley, "It's All About the Data: The Impact of the EU General Data Protection Regulation on International Arbitration", 41 *Fordham Int'l L.J.* 841, 856 (2018); see also K. Paisley, "Managing Arbitration Data under the GDPR", *Global Arbitration Review*, 29 May 2018; L. Young, "More Questions than Answers: Philippe Pinsole on the challenge of GDPR", *Global Arbitration Review*, 25 May 2018.

According to article 3 of the Regulation, it applies:

1. "to the processing of personal data in the context of the activities of an establishment of a controller or a processor in the Union, regardless of whether the processing takes place in the Union or not", and
2. "to the processing of personal data of data subjects who are in the Union by a controller or processor not established in the Union, where the processing activities are related to : a) the offering of goods or services, irrespective of whether a payment of the data subject is required, to such data subjects in the Union ; or b) the monitoring of their behaviour as far as their behaviour takes place within the Union."»

Accordingly, any party, lawyer, arbitrator, expert or arbitral institution, if established within the European Union, is in principle subject to the Regulation to the extent that they process personal data during the arbitral procedure. The question of the applicability of the GDPR nevertheless requires an analysis of the concepts of "personal data" (1), in order to see how they apply (2).

◆ 2. Personal data

In the context of arbitration, all "personal data" are subject to the provisions of the GDPR, namely "any information relating to an identified or identifiable natural person [...], in particular by reference to an identifier such as a name, identification number, location data, an online identifier or to one or more factors specific to the physical, physiological, genetic, mental, economic, cultural or social identity of that natural person"¹⁹³. Examples of personal data listed by the European Commission include "a name and surname", "a home address", "an e-mail address", "an identification card number", "location data", "an Internet protocol address", "a cookie" or the "advertising identifier of your phone"¹⁹⁴. »

As such, any information, even professional, exchanged as part of an arbitration procedure and containing information capable of identifying an individual is considered to be personal data for the purposes of the Regulation. This firstly concerns the documents exchanged by the parties that could contain such information, but also briefs, witness statements, expert reports and the award itself. All such documents, if capable of identifying individuals, can therefore be subject to the provisions of the GDPR¹⁹⁵.

■ a. Processing

For the purposes of the GDPR, "processing" means any operation or set of operations which is performed on personal data, whether or not by automated means, such as collection, recording, organisation, structuring, storage, adaptation or alteration, retrieval, consultation, use,

193. Article 4 (1) of the GDPR.

194. European Commission, "What is personal data?", [online] < https://ec.europa.eu/info/law/law-topic/data-protection/reform/what-personal-data_en >.

195. K. Paisley, "It's All About the Data: The Impact of the EU General Data Protection Regulation on International Arbitration", *op. cit.*, p. 863.

disclosure by transmission, dissemination or otherwise making available, alignment or combination, restriction, erasure or destruction¹⁹⁶. »

During the arbitral procedure, the collection and examination of documents, transfer of documents to an attorney or expert, exchange of documents between parties or the disclosure of evidence ordered by the court are thus likely to be considered as "processing" activities within the meaning of the regulation¹⁹⁷.

■ b. Controller and processor

The Regulation organises the respective responsibility of the various actors in the data processing. The controller (or *responsable du traitement* in French) is the person with the primary obligation of complying with the Regulation, and is defined as "the natural or legal person, public authority, agency or other body which, alone or jointly with others, determines the purposes and means of the processing of personal data"¹⁹⁸. »

For the "G29"¹⁹⁹, understanding who "determines" the means used for processing presupposes "an analysis of the factual elements or circumstances of the case: it will be necessary to examine the processing operations in question and to understand who determines them, by initially answering the questions "why is this processing occurring?", and "who initiated it?"²⁰⁰. »

According to article 5 of the Regulation, the controller must ensure that the personal data are "processed lawfully, fairly and in a transparent manner"; "collected for specified, explicit and legitimate purposes, and not further processed in a manner that is incompatible with these purposes"; "adequate, relevant and limited to what is necessary in relation to the purposes for which they are processed"; "accurate and, where necessary, kept up to date"; "processed in a manner that ensures appropriate security of the personal data"; and retained for a limited duration. Indeed, the regulation prohibits the processing of certain data categories such as data pertaining to racial origin or religious beliefs, except when "processing is necessary for the establishment,

196. Article 4 (2) of the GDPR.

197. K. Paisley, "It's All About the Data: The Impact of the EU General Data Protection Regulation on International Arbitration", *op. cit.*, p. 864.

198. Article 4 (7) of the GDPR; see K. Paisley, "It's All About the Data: The Impact of the EU General Data Protection Regulation on International Arbitration", *op. cit.*, p. 869: "The question is who decides why and how the Personal Arbitration Data is processed in order to undertake its role in the arbitration process, whether it be as a party, a data analyst or lawyer doing an electronic data review to retrieve relevant evidence, counsel preparing a memorial, an independent expert writing a report, a tribunal preparing the award, or an arbitration institution reviewing the award. »

199. "Article 29" working group on data protection – consultative and independent group established pursuant to article 29 of directive 95/46/EC with the task of providing the Commission with opinions on matters relating to data protection and contributing to the uniform application of the directive within the Member States. Dissolved in May 2018 after the repeal of European Directive 95/46/EC on data protection, the G29 was replaced by the *European Data Protection Board*, or EDPB.

200. "Article 29" working group on data protection, Opinion 1/2010 on the concepts of "controller" and "processor", adopted on 16 February 2010, p. 9, [online] < https://cnpd.public.lu/dam-assets/fr/publications/groupe-art29/wp169_fr.pdf > : Opinion still relevant given that certain GDPR rules are similar to those of the old Directive.

exercise or defence of legal claims or whenever courts are acting in their judicial capacity²⁰¹." These "special categories" of data can therefore be processed during an arbitration procedure if they are "necessary for the establishment, exercise or defence of legal claims." Though the meaning of the word "necessary" is not defined in the Regulation, the European Data Protection Board ("EDPB"), successor to the G29, explained that this "necessity test" required "a close and substantial connection between the data in question and the specific establishment, exercise or defence of the legal position²⁰²." As such, the simple informative nature of the data or the goodwill of the parties are not sufficient in order to process these data categories during the arbitration²⁰³.

Given the nature of the functions of the attorney, arbitrator, expert or arbitral institution, all actors in the arbitral procedure are likely to be considered as controllers. In order to anticipate the question of the respective responsibility of each of the participants and the overlap of these responsibilities, it would therefore be best to implement a protocol in order to distribute the processing responsibility during the procedure²⁰⁴.

◆ 3. A few rules applicable to the processing of personal data

When the GDPR applies to an arbitration, each controller or processor is subject to obligations, the main ones of which are recalled below.

■ a. Set-up of a cybersecurity system (article 32)

Controllers and processors are required to implement appropriate technical and organisational measures in order to guarantee a security level in keeping with the risk, including anonymization and encryption of the personal data, or measures intended to restore the availability to personal data. Certain initiatives have already been taken in order to develop a processing security protocol in connection with arbitration, notably the *Protocol to Promote Cybersecurity in International Arbitration from the Debevoise et Plimpton law firm, as well as the Draft Cybersecurity Protocol for International Arbitration* drafted by the ICCA, the New York City Bar Association and the International Institute for Conflict Prevention and Resolution (CPR)²⁰⁵. Though these models for cybersecurity protocols have not been developed specifically to meet the GDPR requirements, they constitute a useful basis for

201. Article 9 (2)(f) of the GDPR. See also whereas clause 52 of the GDPR, which states that in connection with special categories of personal data, "a derogation should also allow the processing of such personal data where necessary for the establishment, exercise or defence of legal claims, whether in court proceedings or in an administrative or out-of-court procedure".

202. EDPB, Guidelines 2/2018 relative to the derogations anticipated in article 49 of Regulation (EU) 2016/79, 25 May 2018. Though these guidelines discuss article 49 and not article 9 of the GDPR, article 49(1)(e) mentions as an exemption to the ban on the transfer of data to a third country the necessity to process data for the "establishment, exercise or defence of legal claims", which is similar to the exemption included in article 9 of the Regulation.

203. *Ibidem*.

204. K. Paisley, "It's All About the Data: The Impact of the EU General Data Protection Regulation on International Arbitration", *op. cit.*, p. 870.

205. Debevoise and Plimpton, *Protocol to Promote Cybersecurity in International Arbitration*, 2017 [online] < https://www.debevoise.com/~/_media/files/capabilities/cybersecurity/protocol_cybersecurity_intl_arb_july2017.pdf >; *Cybersecurity Protocol for International Arbitration*, Consultation Draft, 2018, 32 p. [online] < http://www.arbitration-icca.org/media/10/43322709923070/draft_cybersecurity_protocol_final_10_april.pdf >.

implementing a data protection regime in connection with arbitration. The parties and their respective attorneys will therefore be initially responsible for the development of a processing security system; in the absence of an agreement between the parties, the arbitral tribunal may be called on to decide on appropriate security measures²⁰⁶.

■ b. Data minimisation (article 5)

Data minimisation is mandatory when the Regulation applies to personal data collected as part of an arbitration. The principle of data minimisation is the principle whereby "personal data can only be the subject of processing if, and insofar as, the processing purposes cannot be attained by the processing of information that does not contain personal data"²⁰⁷. The parties must therefore ensure that the collected data are necessary for the processing, while reducing the categories as well as the volume of data processed to a minimum.

■ c. Right to transparency or principle of observance of personal rights (articles 13 and 14)

Every controller shall provide the data subject with the following information, namely (i) the contact details of the controller and processor, (ii) the purposes of the processing and the basis thereof, (iii) the legitimate interests pursued by the controller, (iv) where applicable, the intention of transferring personal data to a third country and the existence or absence of an adequacy decision by the CNIL, (v) the period for which the personal data will be stored and/or the criteria used to determine that period, (vi) the existence of the right to request from the controller access to and rectification or erasure of personal data, or restriction of processing concerning the data subject, or to object to processing as well as the right to data portability, (vii) the existence of the right to withdraw consent at any time, and (viii) the right to lodge a complaint with a supervisory authority²⁰⁸.

GDPR article 14 devotes particular importance to personal data that are not collected directly from the data subject. This is notably the case when an attorney receives, from his client, information on the opposing party – the attorney receiving these elements cannot convey them to the data subject without violating professional secrecy. It is for this reason that article 14 includes an exception to the information obligation in subparagraph 5 (d) when the said data must remain confidential subject to a regulated obligation of professional security²⁰⁹. It is still to be clarified if this exception can be claimed in order to maintain the confidentiality of exchanges between arbitrators during their deliberation, and the preparation of draft orders or awards; while simple confidentiality cannot

206. *Cybersecurity Protocol for International Arbitration*, *op. cit.*, article 13.

207. National Bar Council, *Guide : Les avocats et le règlement général sur la protection des données*, March 2018, p. 13 [online] < https://www.cnb.avocat.fr/sites/default/files/documents/guide_rgpd_avocats-2018.pdf >.

208. National Bar Council, *Guide : Les avocats et le règlement général sur la protection des données*, *op. cit.*, p. 10-11.

209. *Ibidem*, p. 11.

be likened to a "professional secrecy rule", one must consider that the secrecy of the deliberation comes under this heading²¹⁰. In their data protection protocol, the parties can include that only the parties will be responsible for communicating the information required by the GDPR to the data subjects, thereby exempting the arbitrators and arbitral institution that will be exempt from any information obligation²¹¹.

■ d. Right to rectification and right to erasure (articles 16 and 17)

According to GDPR article 16, "the data subject shall have the right to obtain from the controller without undue delay the rectification of personal data concerning him or her." Article 16 includes no exceptions and therefore applies to arbitration, except if a Member State creates an exception pursuant to article 23 of the Regulation.

The right to erasure indicates that the data subjects shall have the right to obtain from the controller the erasure of personal data concerning him or her without undue delay. This right cannot be exercised when the data processing is necessary for the "establishment, exercise or defence of legal claims." The arbitral procedure could be exempted from this obligation if the data in question are considered necessary for the exercise and defence of the rights of the parties, and that their erasure would cause prejudice. A cautious measure could consist of data retention for the duration of the limitation periods pertaining to the various actions that could be initiated against the award or the stakeholders.

■ e. Data portability (article 20)

The data portability right means that the data subject shall have the right to receive from the controller to whom he or she has directly provided personal data, their transmission to another controller, without hindrance from the initial controller²¹². In connection with arbitration, this right *in principle* only results in an obligation for the parties, since the data collection initiated with them (*Initial Data Controllers*), and not for the arbitrators or arbitral institution, and should therefore have no effect on the procedure.

◆ 4. Exceptions to the restriction of the processing of data of the data subjects in connection with judicial or out-of-court procedures

In its list of legitimate causes for data processing, the GDPR does not formally make reference to arbitral procedures (nor even to dispute

210. K. Paisley, "It's All About the Data: The Impact of the EU General Data Protection Regulation on International Arbitration", op. cit., p. 908 ("the GDPR provides that confidentiality can only be a basis for not providing the requisite data privacy notice when 'the personal data must remain confidential subject to an obligation of professional secrecy regulated by Union or Member State law, including a statutory obligation of secrecy.' This standard will typically not be met by arbitration confidentiality generally, although it may apply to counsel who is subject to legal privilege and to the arbitrator's duty of confidentiality").

211. *Ibidem*.

212. Article 20 of the GDPR indicates "the right to receive the personal data concerning him or her, which he or she has provided to the controller, in a structured, commonly used and machine-readable format, and [...] the right to transmit those data to another controller [...]" and "the right to have the personal data transmitted directly from one controller to another, where technically feasible".

procedures)²¹³. In a working document on data exchanges as part of international dispute procedures with the United States, the G29 had envisaged the question of compatibility between European data protection rules and American *disclosure* rules²¹⁴. From its conclusions, it is possible to infer that data processing by an attorney, arbitrator or arbitral institution in connection with arbitration should constitute processing that is necessary by the controller in connection with its legitimate obligations (a). Moreover, though the GDPR prohibits data transfers outside of Member Countries, certain exceptions allow the transfer of data abroad in connection with an arbitral procedure (b).

■ a. Legality of the processing

The Regulation includes six cases in which the processing of personal data is lawful²¹⁵:

- ▶ the data subject has given consent to the processing of his or her personal data for one or more specific purposes;
- ▶ processing is necessary for the performance of a contract ;
- ▶ processing is necessary for compliance with a legal obligation to which the controller is subject;
- ▶ processing is necessary in order to protect the vital interests of the data subject or of another natural person;
- ▶ processing is necessary for the performance of a task carried out in the public interest or in the exercise of official authority vested in the controller; and finally
- ▶ processing is necessary for the purposes of the legitimate interests pursued by the controller or by a third party.

Data processing in connection with an arbitral procedure must be considered as "lawful" since it is necessary for the fulfilment of a contract, in order to meet a legal obligation, or for the purposes of the legitimate interests pursued by the controller²¹⁶. The G29, in its working document on data protection in connection with international disputes, indicated that data processing in connection with an international judicial proceeding could be considered as "necessary for the purposes of a legitimate interest²¹⁷." Though this working document had been published as part of the application of the previous directive now replaced by the GDPR, this conclusion can prove to be relevant in terms of arbitration under the GDPR regime, since the principle included in this *Working Paper* supports the legality of data processing in the context of arbitration, if the processing is proportional and measures are taken to protect the data of the data subjects²¹⁸.

213. Article 6 of the GDPR.

214. G29, "Working Document 1/2009 on pre-trial discovery for cross border civil litigation", 0339/09/EN WP 158, 11 February 2009 [online] < <https://www.garanteprivacy.it/documents/10160/10704/ARTICOLLO+29++WP+158++cross+border+civil+litigation.pdf> >.

215. Article 6 of the GDPR.

216. In this sense, see "GDPR: A guide for non-data protection lawyers", *Practical Law* 2018, p. 9-10 [online] < [https://uk.practicallaw.thomsonreuters.com/w-014-2560?transitionType=Default&contextData=\(sc.Default\)](https://uk.practicallaw.thomsonreuters.com/w-014-2560?transitionType=Default&contextData=(sc.Default)) >.

217. G29, "Working Document 1/2009 on pre-trial discovery for cross border civil litigation", op. Cit., p. 8-9.

218. *Ibidem*.

Article 23 authorises the Member States to implement certain exceptions that would allow data processing in contexts other than the ones indicated in the Regulation. A Member State can notably limit this scope in order to guarantee "the protection of judicial independence and judicial proceedings", which can serve to limit the rights of the data subjects²¹⁹. An arbitration procedure in a Member State where these rights have been limited in this way would make it possible to continue observing certain fundamental rules of arbitration such as confidentiality, and avoid the proliferation of data processing and transfer protocols²²⁰. Ireland is one of the first countries to have adopted an exception in order to allow a limitation of the rights of data subjects in connection with a judicial or arbitral proceeding, with an exception relative to the rights of data subjects when this is necessary for the exercise or defence of legal claims²²¹. It would be desirable for France to do the same thing.

■ b. Data transfer outside of the European Union

The Regulation only authorises the transfer of personal data to a country other than a Member State when (1) the Commission considers that the protection level provided by the third country is adequate²²² (2), the controller or processor has provided appropriate safeguards for the data transfer²²³ (3), a court orders the data transfer in compliance with a treaty,²²⁴ and (4) one of the exemptions under article 49 applies, thereby authorising, amongst other things, the data transfer to a third country when "the transfer is necessary for the establishment, exercise or defence of legal claims." This exemption should enable the data transfer to a third party in connection with arbitration²²⁵.

219. Articles 12 to 22 of the GDPR.

220. *Ibidem* p. 858 "The data subject rights that can be exempted [...] are particularly difficult to apply to an arbitration, and can be inconsistent with the arbitrator's decision-making function, including the interactions among arbitrators, and with the institution. The exemption of these rights makes the GDPR more consistent with international arbitration, while at the same time protecting the fundamental goal of the GDPR to protect the personal data of data subjects".

221. Irish Data Protection Act 2018, Section 60: "The rights and obligations provided for in Articles 12 to 22 and Article 34, and Article 5 [of the GDPR] in so far as any of its provisions correspond to the rights and obligations in Articles 12 to 22 are restricted... to the extent that the restrictions are necessary and proportionate... in contemplation of or for the establishment, exercise or defence of, a legal claim, prospective legal claim, legal proceedings or prospective legal proceedings whether before a court, statutory tribunal, statutory body or an administrative or out-of-court procedure". See also L. Moerel, *GDPR Conundrums Part 1 et 2*, International Association of Privacy Professionals (2018), [online] < <https://iapp.org/about/person/0011a0000DIOpYAA/> >.

222. Article 45 of the GDPR. The European Commission considers that the data protection laws of Switzerland, Andorra, the Faroe Islands, Guernsey, Jersey, the Isle of Man, Argentina, Canada, the United States, New Zealand and Uruguay are adequate. The decisions on Canada and the United States are "partial" adequacy findings. The decision regarding United States only applies to entities that have adopted the EU-United States Privacy Shield. European Commission, Communication from the Commission to the European Parliament and the Council, *Exchanging and Protecting Personal Data in a Globalised World*, COM(2017) 7, p. 7 [online] < <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52017DC0007&from=EN>

223. Articles 46 and 47 of the GDPR.

224. Article 48 of the GDPR.

225. See also whereas clause of the Regulation, which indicates that "[p]rovisions should be made for the possibility for transfers in certain circumstances where the data subject has given his or her explicit consent, where the transfer is occasional and necessary in relation to a contract or a legal claim, regardless of whether in a judicial procedure or whether in an administrative or any out-of-court procedure, including procedures before regulatory bodies." Though arbitration is not explicitly mentioned, it is possible to deduce that arbitration includes the processing of data "necessary for the establishment, exercise or defence of legal claims", and the reference to "out-of-court" procedures could certainly include arbitration.

However, the interpretation of the "necessity" by the EDPB is strict, and therefore considerably limits the number of documents that can be transferred abroad²²⁶.

B. Responsibility sharing between the various actors

In connection with an arbitral procedure, the GDPR brings differing responsibilities to bear with regard to the parties to the dispute (1), attorneys (2) and arbitral institutions and arbitrators (3).

◆ 1. Responsibilities of the parties

■ a. Obtaining of consent from any person whose data are likely to be processed in connection with an arbitration

All legal persons that could potentially have recourse to arbitration should, in an effort to comply with the GDPR, anticipate in their data protection policy that the personal data of their present, past and future employees may be processed in connection with an arbitral procedure, and that the said data can be transferred abroad to a third country, provided that the conditions of the Regulation are met. The data subjects should be informed, and their consent obtained²²⁷. In compliance with whereas clause 39 of the Regulation, "natural persons should be made aware of risks, rules, safeguards and rights in relation to the processing of personal data and how to exercise their rights in relation to such processing. In particular, the specific purposes for which personal data are processed should be explicit and legitimate and determined at the time of the collection of the personal data²²⁸. »

■ b. Possibility and methods for processing of the data collected by the parties, originally in connection with an employment relationship or professional relationship

This "secondary processing" situation is anticipated in article 6 of the Regulation, which states that the basis of the processing of the collected personal data (in connection with arbitration, for example) must have a "compatible" purpose with the purpose for which the data had initially been collected (a work relationship, for example). To this end, parties should, when collecting data, inform the natural persons that their data could be used in connection with a dispute or arbitration, and obtain their consent for their data to be used for this purpose²²⁹.

■ c. Data protection safeguards in case of transfer to a third country

If the data must be transferred to a country in which the data protection rules have been judged as inadequate by the Commission, the parties must

226. EDPB, Guidelines 2/2018 on derogations of Article 49 under Regulation (EU) 2016/79, 25 May 2018, [online] < https://edpb.europa.eu/sites/edpb/files/files/file1/edpb_guidelines_2_2018_derogations_en.pdf >.

227. K. Paisley, "It's All About the Data: The Impact of the EU General Data Protection Regulation on International Arbitration", op. cit., p. 884.

228. *Ibidem*, p. 885, 887.

229. *Ibidem*, p. 884-885.

anticipate a data protection safeguard contract for the data subjects. This implies that the parties will have to first perform a *data mapping* exercise in order to determine which personal data are collected and processed, where the said data will be stored, and the physical and logical security measures implemented in order to safeguard the protection thereof. These measures may prove necessary in view of the location of the arbitral venue or an arbitral examination, or even with the prospect of a para-arbitral dispute or the execution of the award, within a country targeted by this provision.

■ d. Maintaining of a record of activities and appointment of a data processing officer

Article 5 (2) of the Regulation states that "the controller shall be responsible for, and able to demonstrate compliance with, paragraph 1", while article 30 states that the controller must maintain a "record of processing activities under its responsibility". According to article 30 of the Regulation, companies with fewer than 250 employees are not required to maintain a record of activities unless the processing that it carries out is likely to result in a risk to the rights and freedoms of data subjects, if the processing is not occasional, or if the processing includes special categories of data, or data relating to criminal convictions and offences²³⁰.

◆ 2. Responsibility of the attorneys of the parties

The attorneys of the parties are considered as controllers by the GDPR. They can notably limit their compliance obligations by signing a data processing contract with their client, such as to reduce the scope of their processing obligations to a limited number of data subjects²³¹.

◆ 3. Arbitral institutions and arbitrators

In December 2018, the International Chamber of Commerce (ICC) published a memo, in effect since 1 January 2019, that updates its procedural rules and contains a section VII (D) relative to the protection of personal data²³². It notably anticipates the consent of all stakeholders in an ICC arbitration relative to the processing, in the broad sense and including archiving as long as necessary and publication, of their personal data, as well as the transfer thereof to a possible third country. It is anticipated that the arbitrators will have to remind the parties, before starting a hearing, of the application of the GDPR and of their consent relative to the processing of their personal data. It is also

230. Article 30 of the GDPR. The record must include the following information: the name and contact details of the controller and, where applicable, the joint controller, the controller's representative and the data protection officer; the purposes of the processing; a description of the categories of data subjects and of the categories of personal data; the categories of recipients to whom the personal data have been or will be disclosed including recipients in third countries or international organisations, where applicable, transfers of personal data to a third country or an international organisation, including the identification of that third country or international organisation, and the documentation of suitable safeguards; the envisaged time limits for erasure of the different categories of data; and a general description of the implemented technical and organisational security measures.

231. *Ibidem*, p. 895-896.

232. International Chamber of Commerce, *Note to Parties and Arbitration Tribunals on the Conduct of the Arbitration under the ICC Rules of Arbitration*, 1st January 2019 [online] - <https://cms.iccwbo.org/content/uploads/sites/3/2016/11/icc-note-to-parties-and-arbitration-tribunals-on-the-conduct-of-arbitration-english.pdf>

anticipated that the parties and arbitrators will ensure that the personal data are collected, communicated and archived securely throughout the procedure.

This solution prompted the working group to reflect on the applicability of the GDPR to digital arbitration centres. The response lacks evidence, given that arbitration centres administer procedures for the settlement of disputes that fall under the exercise of a judicial function. Indeed, an arbitral tribunal is a jurisdiction that must comply with the fundamental guarantees of the process, and the independence of which must be assured in order for the separation of powers to be fully effective. In this regard, in a decision of 12 June 2018²³³, the Constitutional council set aside the grievance targeting article 5 of the law on personal data protection that excludes CNIL oversight of processing operations performed by courts as part of the exercise of their judicial function. By analogy, an arbitral tribunal exercising a judicial function should avoid oversight by the CNIL for the purposes of its judicial mission.

It must firstly be determined whether or not a digital arbitration centre can be viewed as an arbitral tribunal. A negative answer could be required if the arbitration centre "limits" itself to administering the arbitral procedure without in any way contributing to the dispute settlement: it is indeed the arbitral tribunal that settles the dispute and therefore performs a judicial function, such that the arbitration centre should not be considered as similar to it. However, this would be omitting the fact that the arbitration centre will be required to collect, process and retain volumes of personal data in order to allow the arbitral tribunal to perform its judicial function. As has been seen, the arbitration centre's purely administrative function cannot be completely separated from the arbitral tribunal's judicial function. Even further, when the digital arbitration centre proposes for the dispute to be settled, at least partly, by an algorithm or a solution using artificial intelligence, the arbitration centre itself performs part of the judicial function.

There would seem to be no easy answer. The working group finds that while there is a question as to CNIL oversight of arbitration centres, it should be settled by the latter under the oversight of the Council of State.

It is nevertheless true that, beyond the question of oversight, nothing would allow one to think that arbitration centres could avoid having to comply with the regulations on the protection of personal data. As has been indicated, the reason is the existence of an at least partially "administrative" function that is performed by the arbitration centres, and even more so the need for trust that digital arbitration centres must inspire amongst litigants. The conditions for creating such trust would not be well served by avoiding the compliance rules relative to personal data.

233. Decision n° 2018-765 DC of 12 June 2018, Law relative to the protection of personal data.

The working group finds that arbitration centres will therefore have to determine the provisions of their compliance with the GDPR, notably in the following domains²³⁴ :

- ▶ the purpose of the data processing : the performance of the judicial mission obviously presupposes that the data will be processed, but it will also be necessary to indicate the conditions under which they may be processed, so as to contribute to populating the databases used to strengthen the reliability of the algorithms (e.g. for predictive justice);
- ▶ access management : the centre must define the access authorisations and scope of the rights granted to users with access, to the extent of each person's need to know ;
- ▶ the conditions for exercising the rights to access, rectification and erasure of personal data ;
- ▶ retention duration : the centre will have to explain the retention duration, either as a duration quantified as of the filing of the application, or as a duration beginning with a given event (e.g. as of the date on which the digital arbitral award becomes final);
- ▶ interconnection with other data processing systems;
- ▶ the possible conditions for data transfers outside of the European Union.

The certification procedure for arbitration centres will have to include requirements relative to the protection of personal data, by adopting the accountability approach established by the GDPR : each controller of personal data assumes responsibility for compliance with the regulations, without it being necessary to obtain an authorisation or even to make a declaration to any authority whatsoever.

IV. A greater upheaval for arbitration?

Digital technology offers interesting and always better performing tools for assistance for arbitral institutions. People familiar with them appreciate their ease-of-use and the productivity gains that they provide. Attorneys and their clients, experts and arbitrators are familiarizing themselves with these new tools that they will use more and more.

Are more in-depth changes expected? Without looking very far into the future, the answer is yes.

If, tomorrow, justice programs said to be "predictive" supply – thanks to artificial intelligence – reliable statistical elements on the outcome of a case, even before it is initiated, the risk would be that disputes, whether involving the State or arbitration, will end up disappearing in certain sectors. Indeed, what is the point of initiating or undergoing a procedure, the end result of which can be anticipated with sufficient certainty by algorithms?

234. Interview by the working group of Mr. Jean Lessi, *op. cit.*

There are reasons to think that, once predictive justice tools have attained maturity, the old adage whereby "a bad settlement is better than a good lawsuit" will become truer than ever, as a result of the anticipation, now possible thanks to artificial intelligence, of the chances of success and of the probable economic result of the case.

The parties on either side would have the same information, or comparable information, on this result and its probability, and will be encouraged to seek a negotiated solution, if necessary through mediation, in order to avoid the costs and duration of the proceeding.

Of course, there will always be litigants seeking to obtain a decision in principle, if only to provide an "example" within a network of suppliers or distributors, to use one illustration amongst many others. There will always be parties that, regardless of the digital tool's prediction, imagine that they will be able to obtain a different result thanks to the talent of their lawyer, or in some other way.

It is nevertheless true that whole swaths of disputes will most likely end up avoiding the courts, in particular when judges are ruling on the basis of simple factual data, or in simple domains in which the law can be modelled by a digital mathematician.

In commercial terms, the determination of compensation in case of sudden interruption of established commercial relations²³⁵ provides an example. This is also the case of severance pay under labour law, or of child support or compensatory benefits in family matters, or in the event of harm.

The modelling of such disputes raises the question of the advisability of having recourse to the judge, whereas negotiation, using statistical responses provided by the algorithms, is a more efficient way of settling disputes. The duration and cost of a dispute avoided by means of a settlement will be an element of this negotiation, independently of the probable outcome of the case after years of procedure.

With the progress of artificial intelligence, the question will also be asked – with increasing acuteness – of whether or not disputes could be settled without the intervention of a judge (as a human being). Technically, a decision could be obtained online via platforms dedicated to dispute settlements. In criminal matters, however, this seems very difficult to imagine, most notably on the ethical level and in terms of the litigant's rights. But what will happen in domains, such as consumer law, in which access to a judge is now viewed as an obstacle to asserting one's rights? State justice is most likely, and probably for a long time yet, sheltered from any such development. For arbitration, on the other hand, this could lead to new opportunities sooner. This would require only limited adaptations

235. Article L. 442-6 of the Commercial Code.

of arbitration law and arbitral procedure, reformed by the decree of 13 January 2011 and the law of 18 November 2016, which extended the validity of the arbitration clause to non-professional activities.

Other than new types of arbitration that could develop "online" for such disputes, arbitration would appear to be less affected by artificial intelligence than State justice. This is the case for several reasons.

Firstly and naturally, when arbitrators are asked to give a ruling as *amiable compositeurs*, therefore on the basis of fairness, algorithms lose their reliability in terms of forecasting the result. Without being an engineer, one can assert (without too much risk of error) that the arbitrator's feeling of fairness is more difficult to model than the application of a legal rule to a given factual situation.

Secondly, modelling presupposes access to case law decisions on the basis of which the digital tools make their predictions. However, access to arbitral awards, when they aren't published (which, other than within the ICSID – international centre for settlement of investment disputes – is often the case) is far from being as easy as access to State justice decisions. At least in the short term, there is no prospect that arbitral awards will be added to the big data that can be exploited by algorithms. Indeed, the confidentiality of arbitration remains a principle, both domestically and internationally.

Thirdly and more fundamentally, even when not ruling on the basis of fairness, arbitrators have more flexibility relative to the rule of law than is the case of a State judge. It is in fact settled case law in France that the arbitral award is not reviewed on the merits by the state judge providing oversight of this award (subject to questions of public order in which case law continues to attempt to strike a balance with this oversight). Of course, other than by ignoring his mission, the arbitrator cannot set aside the rule of law in the name of fairness. But whether when assessing fault or quantifying harm, the arbitrator has greater latitude than a State judge, since his decision cannot be appealed on the merits, even if it deviates somewhat from the rule of law or the contract. The arbitrator therefore applies justice with lesser constraints than those of a State judge, who only gives a ruling in the first instance. Once again, without being an engineer, one can imagine that the modelling of arbitral justice is therefore more difficult than that of the case law through State courts, which is already sufficiently complex even for experienced mathematicians.

Finally, many arbitrations involve questions of fact, law and figures that are often quite – and even very – complex. Simplicity is rarely a factor in arbitration. The solution is never binary. Simple disputes are not very numerous, given the length and cost of arbitration. The influence of Anglo-American philosophy on arbitral bodies, even in domestic arbitrations within France, are contributing to their expansion (with hearings of witnesses and experts as well as arguments, the usefulness of which is obvious, and multiple points of law, the usefulness of which

is much less obvious). A party rarely initiates such a procedure if the complexity of the case does not justify it...

As such, because algorithms are finding their place within arbitral justice with greater difficulty, one might be allowed to think – or to hope, as lawyers and arbitrators might say – that arbitration is and will remain less impacted by artificial intelligence than State justice.

CHAPTER 4.

THE ARBITRAL AWARD

Online arbitration already exists under different guises: firstly, that of a dematerialized communication platform, where exchanges between the applicant and the arbitration centre, between the parties and the arbitrator or the arbitral tribunal, between the arbitral tribunal and the centre are done by e-mails or online, in a secure and quick manner; then, under that of an electronic procedure platform, which allows dematerialized communication of briefs and documents, of the award or even the holding of procedural meetings and hearings at a distance by means of telephone or videoconferencing.

Such dematerialization of the arbitration process, if real, does not nevertheless seem to be causing an upheaval of arbitration rules, nor of its practice, except perhaps with regard to the online filing of briefs and documents, in which case, for reasons of access simplification and cost, the procedure is rationalised and the number of characters and documents is limited.

But let us now consider the arbitral award, not only in terms of knowing if the arbitration can make use of digital technology (which is common practice), but in terms of knowing whether or not digital technology can make use of arbitration, while appropriating and automating it.

In other words, can the judicial decision process (which is of course not exclusive to arbitration) be systematized or automated to a point where an "arbitrator robot" could pronounce an arbitral award?

Several avenues must be explored. Firstly, can digital technology be part of the process to help with the drafting, and even the decision (I)? Could the entire award itself be digital (II)? And as such, should the arbitrator's digital signature not become the standard in order to "authenticate" an award, especially if the latter is digital (III)? Finally, what is or could be the impact of digital technology on exequatur, execution and on the recourse relative to the award (IV)?

I. Drafting of the award and decision-assistance

Digital technology is already – and will continue to be – an unavoidable tool for the drafting of the award. Indeed, when drafting the award, the arbitrator or arbitral tribunal must, for its construction, justification, and to make it

enforceable, reuse a certain number of elements such as the identification of the parties, the identification of the attorneys, the identification of the arbitrators, the facts, the conduct of the procedure, the means and the claims of the parties. It can be a somewhat tedious task, but with low added value: in the past, the arbitral tribunal's secretary, or certain arbitration institutions, therefore "prepared" the start of an arbitral award.

Now, the parties and their attorneys habitually provide their briefs (and even their documents) in an open computerized format to the arbitrator or to the arbitral tribunal. Also, the terms of reference, or the arbitration minutes if prepared, also include considerable information that could easily be reused. As such, the digital tool facilitates the secretariat's work, even replacing it.

At this stage, however, nothing very new, digital technology is certainly more widely used than in State justice, but it has no significant impact on the arbitration cost nor on the work of the arbitrators themselves, since it involves mainly the work of the secretariat.

We move to the next stage with the increased use of voice recognition programs that make it possible to generalize the transcription of debates and automated dictation which facilitates the examination of cases, but also the oversight of the adversarial debate and the production of awards. Such tools already exist, as is the case in Beijing Intermediate People's Court n° 3 that, since 2016, has used an automatic transcription system that can recognise and process several simultaneous conversations, with the complete text being available 10 minutes after the hearing, with a maximum margin of error of 5%²³⁶.

This machine recognition of human speech can in turn be analysed by algorithms that know how to "read", i.e. "understand" the text, file it, recognise keywords, etc. And with always more advanced artificial intelligence, these algorithms will be able to compare text increasingly well (as well as arguments, whether written or oral) on the basis of speech (and not only simple form), and then to relate it, since algorithms able to "write" are also developing.

These same algorithms are capable of reading and analysing the case law databases now proposed by legal publishers and *legaltechs* that are increasingly high-performance, and increasingly intelligent. On top of this is the open data trend for legal decisions, established in France by the "Lemaire" law of 7 October 2016²³⁷, that should lead to the creation of public big data, i.e. an enormous database providing free access to all French case law, which could be studied, classified and reused by algorithms and artificial intelligence.

236. A. Manwaring, "Des "tribunaux intelligents" aux "tribunaux Internet": la justice chinoise à l'ère du numérique", *Rev. Prat. Prospective et Innovation*, n° 2, Oct. 2018, p. 47.

237. Digital Republic law n° 2016-1321 of 7 October 2016.

By cross-referencing the arguments of the parties and its "knowledge" drawn from databases, a program could therefore technically give "one" solution to a dispute. But what solution? A purely statistical solution, a jurisprudential average, or a solution created and designed in the same manner as would be done by a judge or arbitrator?

Paradoxically, these decision-assistance systems, often referred to as "predictive justice", could reduce the number of proceedings in general, and arbitrations in particular, since they would prompt the parties to settle while adopting the solution proposed by the software program. This would be quick, less expensive and supposedly "objective". If an intelligent algorithm, using a good database, has a 90% reliability rate when indicating that 80% of case law cases are determined in a given sense, which attorney, legal specialist, judge or arbitrator would be tempted to say that the solution should go in the opposite sense²³⁸? We saw this above, with the example of Case Law Analytics.

In other words, provided that there is a minimum of case law or data (which could be arbitral awards), artificial intelligence could potentially "mimic" the judge (or arbitrator) in order to "give" the decision, rather than simply locating the most similar decisions within past case law. This is therefore no longer just modelling the matter and the object resulting from justice, but also modelling the actors of justice itself, the subject who is doing the judging²³⁹.

This development is also accompanied by the *machine learning* capability of artificial intelligence. This is indeed a case of learning, and not simply a search for jurisprudential documentation. The collection of case law decisions is replaced by expressing the law as an equation which, assuming that this is possible²⁴⁰, raises genuine ethical problems²⁴¹. It is sufficient to realise that this machine learning can be biased by being "bombarded" with unreliable or poorly sorted data. The self-learning mechanism itself can lead to the consideration of criteria that are too simplified or overvalued in quantitative terms relative to other more qualitative data, thereby leading to poor results (such as "false positives")²⁴².

And if artificial intelligence itself participates in the decision-making, thereby adding to the case law that will constitute the database – whereas human decisions will primarily be settlements remaining within the private sphere, therefore outside of the jurisdictional database – the subject matter could be degraded, or at the very least the system could run in a

238. On this question cf. L. Degos, "Justice prédictive : ni justice ! Ni prédictive !", colloque *Éthique et intelligence artificielle*, école Polytechnique, 12 April 2018 ; Adde. L. Degos, "Juriste d'entreprise : une profession en plein bouleversement", in Les Échos, [online] < <https://www.lesechos.fr/idees-debats/cercle/cercle-183272-juriste-dentreprise-une-profession-en-plein-bouleversement-2179217.php> >.

239. L. Degos, "Justice numérique et justice judiciaire, contradiction et aléa", *JCP. G*, n° 51 Suppl, 17 December 2018, p. 38.

240. P. Jensen, *Pourquoi la société ne se laisse pas mettre en équation*, Seuil pub., 2018.

241. Y. Meneceur, "Les systèmes judiciaires européens à l'épreuve du développement de l'intelligence artificielle", *Rev. Prat.* Prospective et Innovation, p. 11.

242. On this question cf. Y. Meneceur, *ibidem*, § 10-12.

vacuum and become increasingly less useful or increasingly simplified.

As such, one author referred to [*free translation*] "the appearance of such positive law that emerges with the machine and the technique, a law that applies on its own and that needs no administration, no justice third party, is no longer dependent on customs or culture, a law that would coincide completely with science²⁴³. »

We aren't there yet, but it nevertheless remains that if litigants have not settled, a decision-assistance program could lighten the arbitrator's work, which is considerable and takes time with regard to the drafting of the award, and this could partly help to reduce, eventually, the arbitration cost. Indeed, this financial impact will only produce effects once the digital tool has been amortised, i.e. in time, with the volume of cases. As such, the most fertile ground for the development of automated decisions is that of disputes with low legal or economic stakes, within a limited and clearly known domain, that occur on a repeated basis or involve an entire class of people.

Typically, complaints from travellers using airline companies (notably with the development of low cost) correspond with these characteristics : many flight problems therefore serial disputes, many plaintiffs for each flight, simple and generalized legal framework (European regulation, international agreement), predetermined compensation or penalties.

As such, the "*Flight Right*" proposes to automatically resolve disputes between travellers and airline companies (the platform's "members") by recording complaints and "obtaining" compensation, which is remitted by the platform in exchange for a commission withholding of 27%²⁴⁴.

As such, if what the parties want is a jurisprudential average and automated processing of the type indicated in the "*Flight Right*" example, then artificial intelligence will no longer be only a tool for helping with the drafting of the award and the decision, but rather will become the decision-maker. In other words, artificial intelligence will replace the arbitrator, and the proposed solution will become THE one and only solution. It's a step towards a digital award.

II. The digital award

The term arbitral award can cover two meanings: either a digitized award, i.e. rendered in electronic form without human intervention, barring simple proofreading, or a purely digital award "rendered" by the machine, but which is not necessarily expressed or written out, given that it is part of an algorithmic chain²⁴⁵ of automatic systems.

243. A. Garapon, "Les enjeux de la justice prédictive", *JCP G*, n° 12, 9 Jan. 2017, doctr. 31.

244. See the Flightright site < <https://www.flightright.fr/> >.

245. To use the CNIL expression from its report *Comment permettre à l'homme de garder la main? Rapport sur les enjeux éthiques des algorithmes et de l'intelligence artificielle*, December 2017, p. 6.

These days, of course, it is the digitized award, or in electronic form, which is most widely used and is tending to develop. As such, article 4 of the 2018-2022 Programme and Justice Reform law n° 2019-222 of 23 March 2019 (that amends article 4 of law n° 2016-1547 of 18 November 2016 on the modernization of justice in the XXIst century), indicates [*free translation*] :

"Art. 4-2. – Natural or legal persons offering, in a digitized manner or not, and online arbitration service are subject to the obligations relative to the protection of personal data and, except agreed by the parties, confidentiality obligations. The online service provides detailed information on how the arbitration is performed.

The arbitral award can be rendered in electronic form, unless one of the parties objects."»

These provisions follow from an amendment presented on 1 October 2018 n° 463 by Messrs. Buffet and Détraigne, rapporteurs, the subject of which was to "better distinguish the obligations applicable to platforms offering online conciliation or mediation services and the ones applicable to platforms offering online arbitration services, since amicable resolution services are not of the same nature as conventional justice as represented by arbitration", and was intended to replace the existing sub-paragraphs with the following sub-paragraphs:

Art. 4-1-1. – Persons offering, in a digitized manner or not, an online arbitration service are subject to the obligations relative to the protection of personal data and, except agreed by the parties, confidentiality obligations. The online service provides a guarantee of direct access to information relative to the arbitration process.

"The arbitral award can be pronounced in electronic form."»

In the final wording of sub-paragraph 4.2, the formula "except if opposed by one of the parties" was therefore added such that persons lacking digital competence would not be deprived of their right to recourse to arbitration. As such, the award is provided in digital format, but without overwriting the consensual nature of arbitration and each person's desire in compliance with the law on access to justice, including arbitral.

This new law therefore does not target the hypothesis of a purely digital award, since the latter is only digital in its form, which can be refused by one party such that the award will be pronounced on hard copy.

Even better, the new law, which looks ahead to 2023, indicates that [*free translation*]:

"Art. 4-3-1. – The online services mentioned in articles 4-1 and 4-2 cannot be based solely on an algorithmic or automated processing of personal data. When this service is proposed with the help of such processing, the parties must be so informed in explicit terms, and must formally give their consent. The controller provides the rules defining this processing as well as the main characteristics of its implementation, to any party who requests them. The controller provides oversight of the processing

and of its upgrades such as to be able to explain to the requesting party, in detail and intelligibly, exactly how the processing was carried out with regard to him/her.»

Since the online arbitration service cannot be based solely on an algorithmic or automated processing, human intervention is therefore mandatory, but not necessarily as an arbitrator whose mission may well be shared between the man and machine. Two sets of questions then arise.

Firstly, it's clear that we are therefore not in the situation of a completely automated system for processing consumer disputes such as Flight Right, which processes complaints relative to air transport disputes as described above. According to the new law, such a service – which already exists – is not an online arbitration service (indicated in article 4.2), nor is it an online conciliation or mediation service (indicated in article 4.1). However, this service does indeed process complaints, supported by documents, that when relevant lead to compensation that is paid automatically, thereby ending the dispute.

An author therefore considered that the *Flight Right* service [free translation] "is not really a dispute resolution mechanism, but rather a macroeconomic processing of the bulk of the complaints that are paid on the basis of properly calculated discounts or reimbursements, etc. In short, a commercial rather than legal resolution, performed by the machine²⁴⁶. »

Also, though there may well be human involvement, mandatory in order to be considered as arbitration, but that it is only partial since the solution is also provided by artificial intelligence, how can the author of the award be determined? Can we consider, while ignoring the impartiality rule that is nevertheless required in domestic matters, that an arbitral tribunal can consist of a human being and an artificially intelligent machine? On the contrary, must we consider that the machine is just an instrument for the human, even if the role of the latter is simply to validate the algorithm's "prediction"? To what degree is the human arbitrator free, independent and impartial, relative to the scientific solution from the "robot" arbitrator? Is there a sharing of responsibilities? Does the human arbitrator not bear greater responsibility if he contradicts the machine, and resists the machine's solution?

These considerations logically elicit questions on the signing of the award, since this obligation continues to exist. In connection with the 2018-2022 Programme and Justice Reform law n° 2019-222 of 23 March 2019, if the parties choose an award pronounced in electronic form and if, in addition, they had accepted algorithmic processing (non-exclusive), the online arbitration service will have to ensure the set-up of a reliable means for the digital signature of the award.

246. L. Degos, "Justice numérique et justice judiciaire, contradiction et aléa", *op. cit.*, § 5.

III. Digital signature

Electronic signatures and digital signatures are different. According to the American federal law on electronic signatures (*federal esign act*), the term electronic signature refers to "an electronic sound, symbol or process, attached to or logically associated with a contract or other record and executed or adopted by a person with the intent to sign the record." It is the equivalent of a digitized handwritten signature.

With regard to digital signatures, the challenge is to be able to verify that the document's signatory is indeed the person that s/he claims to be, that his/her signature is valid and not falsified, and that the document has not changed. It's the "online" equivalent of a notarised signature, and unlike an electronic signature, a trusted third party, the Certification authority (CA), verifies the signatory's identity.

Signatures can be customized to include an image (physical signature or official seal) and a variety of information regarding the signature (place, date and reason thereof). Signatures can also be invisible and contained in documents that then display a blue ribbon in the taskbar.

With regard to arbitral awards, if the parties choose its digital form, the digital signing thereof will certainly have to be organised, with the associated encryption operation then serving to verify and guarantee that: (i) the document containing the award is authentic and comes from a verified source, (ii) it has not been falsified since the electronic signature given that in case of any modification, the signature would be displayed as invalid, and (iii) the identity of the arbitrator or arbitral tribunal has been verified by a trusted institution (the CA).

But this question will also have to be analysed in view of the law applicable to the procedure and in the countries in which the execution of the award will be pursued, such as to determine what type of digital or electronic signature these countries recognise as valid.

IV. Impact of digital technology on exequatur, on execution, and on recourse

In France, the exequatur of arbitral awards is governed by the provisions of articles 1487 and 1488 of the Code of Civil Procedure for domestic arbitration, and the provisions of articles 1516 and 1517 of the same Code for international arbitration. These provisions are similar and are not suited to an award that would be pronounced exclusively in electronic form, since the procedure relative to the exequatur request is a written procedure, that has to be filed with the "originals" of the award and of the arbitration agreement, or otherwise their "copies", and the exequatur itself will be noted on the filed award.

The same applies under the Convention on the Recognition and

Enforcement of Foreign Arbitral Awards (known as the "New York Convention"), signed on 10 June 1958. This convention could surely not have anticipated the development of dematerialization, digitization and even less of online arbitration services. Accordingly, its article IV on exequatur, that provided the basis for the articles of the French Code of Civil Procedure (and of the arbitration laws of the 159 States that are parties to the Convention), still requires a written award and the arbitration agreement, either originals or certified copies.

But these concepts of original and copy are unsuitable for online arbitration that may generate neither an original nor copies, given that the documents exist in electronic form. The concepts and even the rules had to be adapted in order to include online arbitration, which was done by article 4 of the 2018-2022 Programme and Justice Reform law n° 2019-222 of 23 March 2019, which states that the "arbitral award can be pronounced in electronic form, except if opposed by one of the parties." Though expressed once again, this rule already existed. It serves to establish the notion of online arbitration, but does not set aside the production of copies of awards in order to obtain the exequatur.

One could nevertheless envisage going further, and accepting the exequatur of awards produced only in electronic form.

Another solution would be to purely and simply bypass the exequatur, for example a means of *smart contracts* that provide for automated execution of an order (an award, for example) as soon as possible once predetermined conditions have been met (absence of recourse, for example). All the more so since the participation, even partial, of digital technology in the preparation of the arbitral award, from its formal wording to its legal content, raises doubts as to the usefulness of recourse. Indeed, for a given question or a given dispute, artificial intelligence can only indefinitely provide the same response, given its algorithms and databases. Unless the data or processing methods thereof are changed, the machine will always perform the same calculation and arrive at the same result, since exact science dispels uncertainties.

This is a good example of what digital technology can provide to the modification of arbitration rules, however solidly established they may be.

GENERAL CONCLUSIONS



These days, what place is held by digital technologies and, in particular, artificial intelligence within arbitration? What place are they likely to hold tomorrow? The Club des juristes working group on online arbitration strove to respond to these questions, with all necessary caution in view of the considerable uncertainties existing in this regard.

An initial area of uncertainty, quickly dispelled, related to the very qualification of arbitration. The choice was made to adhere to the strict sense of arbitration. As such, amicable dispute resolution methods – conciliation and mediation – were excluded from the scope of the study, even though they may at times have inspired some reflection amongst working group members. Similarly, certain procedures that sometimes avail themselves of the term "arbitration" were set aside, since analysis indicated that they lacked one or more characteristics of genuine arbitration. This is notably the case of the UDRP procedure administered by the WIPO Arbitration and Mediation Centre, intended to resolve conflicts between domain names and trademarks. Once again, however, the experience of these *sui generis* procedures was able, in certain respects, to add to the reflection of this report's authors. Also, such procedures are tending to multiply within the digital environment. Yet, as they cannot formally be identified as arbitration, they do not always provide litigants with the same guarantees. To avoid any ambiguity, it has been proposed to limit the use of the term "arbitration" only to those dispute resolution methods that have the characteristics of genuine arbitration.

A second uncertainty relates to the scope of the technical opportunities that digital technologies will offer in the future. Recently, doctoral contributions on this subject, legal or not, have multiplied. When reading them, it is not always easy to realise the dividing line between what these technologies will actually provide, and flights of the imagination, even science fiction. While it is certain that artificial intelligence is now a reality and cannot help but progress, the current exercise of anticipating the exact impacts that it may have on arbitration nevertheless remain difficult, to say the least. Like any ongoing technological revolution, artificial intelligence will produce effects that are still difficult to measure accurately.

Under these conditions, the working group members, guided by clarifications provided to them by the various interviewed persons, chose to structure their reflection by comparing the present with the future or, at least, what the future could be.

I. Considering firstly the present, online arbitration currently appears as a rather modest reality

A. The working group firstly considered it necessary to draft an inventory of the various legal sources in this matter. French law includes many provisions devoted to arbitration, whether the well-known general provisions included in the Civil Code and the Code of Civil Procedure or special provisions specific to certain legal branches, contained in other codes (Labour Code, Commercial Code, Consumer Code, etc.). None of these provisions, however, including the most recent, specifically deal with the role that digital tools can play with regard to arbitration. They are simply intended to apply to online arbitration, just like any other form of arbitration. A review of European documents and international treaties leads to the same conclusion: these texts certainly cover online arbitration, but without devoting specific provisions to it, some of which even pre-date the development of the Internet.

From a different angle, not in terms of arbitration law but rather of digital technology law, the finding is about the same. The rapid expansion of digital technologies has naturally led to the adoption of domestic, European and international texts devoted to online activities: provisions relative to the liability of technical intermediaries, personal data protection, open data, the protection of cyber-consumers, intellectual property, etc. Several of these texts are naturally intended to govern, in view of the questions that they cover, certain aspects of online arbitration, but without devoting any specific provision to it. This is also true of recent French laws intended to modernize, through enhanced consideration of digital tools, procedures before the national courts: these laws do not relate to arbitration in and of itself; they only govern it indirectly, in that they apply to disputes carried out before State courts in parallel with the arbitral procedure or at the end thereof (*judge d'appui*, appeals, exequatur, etc.).

With the enactment of the 2018-2022 Programme and Justice Reform law n° 2019-222 of 23 March 2019, article 4 of which explicitly deals with online arbitration services²⁴⁷, this was the first significant legislative advance relative to the links between arbitration and new technologies. This law firstly supplements the work undertaken by doctrine – French and foreign – and secondly, the reports prepared by various arbitration centres and institutions.

B. Specifically, after having noted the scarcity of formal legal sources relative to online arbitration, the working group focused its attention on the practices already in place within this domain. Despite many initiatives, the actual recourse to online arbitration still appears modest. The actors in online arbitration could thus be grouped into three categories.

247. 2018-2022 Programme and Justice Reform law n° 2019-222 of 23 March 2019 (art. 26), OJ 24 March 2019, text n° 2.

The first category consists of "established" or "first generation" actors. They include the Cyberjustice laboratory created within the Faculty of Law at the University of Montreal. The works of this institution highlighted many possible applications for new technologies with regard to dispute settlement. More specifically with regard to arbitration, the experience and reflections of the Cyberjustice laboratory indicate that digital technology is an efficient tool for managing procedures, for example for conveying documents online, hearings by videoconference, or the set-up of a digital clerk. However, the parties generally did not wish to bypass human justice, notably in the event of complex arbitration. As such, digital technologies can help natural person arbitrators, but cannot replace them when having to make judgements. The second classical actor with experience in the field of online dispute settlement is the WIPO Arbitration and Mediation Centre. As stated above, the UDRP procedure administered by the Centre is not true arbitration. However, this is not the only procedure proposed by WIPO, which is also active as an actual arbitration centre relative to intellectual property. For now, the role that artificial intelligence could play when it comes to rendering the decision is still only at the reflection phase. Once again, in practice, digital tools are only used by the Centre so as to facilitate the progress of the procedures that it administers. Moreover, they are generally coupled with classical tools. The same finding applies to the practices of the International Chamber of Commerce. At the start of the 2000s, the ICC created the Netcase online arbitration platform. The experiment came to quite a quick end, however. Over and above this attempt, the ICC now accepts the use of digital technologies within arbitration, but only to a limited degree. As such, its regulation allows litigants and the arbitral tribunal to use these technologies and to exchange online communications with one another, and with the Secretariat. However, it prohibits the use of these technologies when a physical presence is essential. From the current state of the ICC regulation, one can deduce that totally dematerialized arbitration cannot be envisaged.

The second category of actors includes new operators established as *Legaltech* start-ups, such as FastArbitre or eJust, whose representatives were interviewed by the working group. These companies offer online arbitration services with the objective of the most complete possible dematerialization of the procedures, which is supposed to lead to lower costs and greater speed. Such dematerialization notably involves the encoding of certain procedural rules, an operation that presupposes special attention being devoted to respect the main fundamentals of the procedure. These new actors therefore give the machine a bigger role than is the case of established actors. Nevertheless, there is no question of allowing the machine to rule on the merits. Once again, digital technology is presented as a simple tool – more advanced, in this case – that will help the parties and arbitrators as the proceeding is carried out. But the machine remains in the shadow of man, who alone can prepare and pronounce the award. It is also not certain if, up to now, these new actors have had a significant quantity of disputes to process.

The third category of online arbitration actors is, for now, primarily virtual. Digital justice constitutes a true market that major Internet operators, amongst others, will certainly attempt to capture. Initiatives on the part of companies such as Facebook or eBay lead one to think that, in time, a large part of the disputes linked to the use of these platforms – mostly small, but numerous – could be settled via online arbitration.

C. As part of an examination of positive law, the next task was to make a comparison between arbitral justice and State justice.

The arbitration regulations of established actors, in particular of the ICC, only devote a small amount of space to digital tools, as we have seen. Faced with this lack, the parties and arbitrators themselves must develop new practices leading to the greater consideration of these tools, which can only contribute to making arbitration more attractive in view of the simplicity and speed that they can provide. In this regard, it is important to recall that the conventional nature of arbitration allows litigants the possibility of agreeing on the bulk of the procedural rules. As such, their common desire is able to provide new technologies with the place that they deserve.

The data of the problem are different in the case of State justice. The procedural rules in this case are set down by law. However, many countries have quickly grasped the interest value, in terms of accessibility to justice, costs, time limits and, in a word, efficiency, that could result from the development of the recourse to digital tools. France is one of them. In a relatively short period, our country has adopted several laws intended to accentuate the dematerialization of procedures. Based on political will, the movement appears to have gone much further than in the case of arbitration. As such, the electronic communication of records and documents has developed considerably, both in connection with legal procedures and with regard to administrative or constitutional disputes, and has almost become the principle. Though the development is less clear for now, the litigant's digital access to the procedure should become generalized in the near future. Finally, digitization and open data of legal decisions are at the core of the current concerns of lawmakers and should continue with the digital revolution.

To sum up, we note, on the one hand, a lack of legal framework that would serve to institutionalize and systematize the recourse to digital technology during arbitral procedures, and on the other hand, a strong political will for increased dematerialization of procedures before the State courts. Of course, arbitration is still generally presented as a more efficient type of justice than State justice, but it is not impossible that, in time, without the reaction of arbitration practitioners in this regard, the paradigm could be reversed.

II. Thereafter, the analysis focused on the future of online arbitration, with necessary oversight of such a dispute resolution method being recommended by the working group

A. The first step of this forward-looking examination involved considering the *role of the algorithm*: does this mean simply providing material assistance to the arbitrator and parties as part of the conduct of the procedure, a role to which current digital tools are more or less limited, as noted in the first part? Taking it up a notch, can artificial intelligence help the arbitrator when making a decision, notably with the help of so-called predictive instruments? Can totally replacing the arbitrator be envisaged? Tying in with the decision of the Constitutional council on 12 June 2018²⁴⁸, the working group firmly discarded the latter solution, with the act of judging having to remain the prerogative of human intelligence. More generally, various considerations prompted its members to a much more cautious consideration of the machine's intervention in connection with arbitration.

The first ones relate to the arbitrator's presence. Several qualities are expected from a private judge: technical competence in a given sector, practice of substantive law, expertise with procedural rules, ability to understand and to ensure the interaction between all data of a generally complex dispute, concept of justice, in particular in the event of amiable composition, and independence, to mention only the main ones. It is not certain, however, at least in the near future, that artificial intelligence will be able to have all of these qualities. The ability to judge is directly dependent on conscience, which is characteristic of human intelligence. In this regard, this report insists on the fact that one of the conditions of true justice has to do with the ability of judges to doubt, an ability that allows them to cause a shift of case law. Given its operating mode, however, artificial intelligence seems to lack such a capacity, self-learning notwithstanding. Lacking in feeling, it will also have trouble considering certain elements of context or certain developments that could lead a human judge, occasionally or definitively, to deviate from the direction of decisions normally rendered with regard to a given matter. Moreover, the physical proximity of the arbitrator and the parties allows for better listening and mutual understanding, whereas, on the contrary, a totally disembodied procedure will drive them apart. Another difficulty has to do with the presence of possible biases in the programming of the artificial intelligence, which are also not always perceptible. They can notably result from the programmer's personality or origins, or even from a poor understanding of contextual elements. The data supplying the machine could therefore be orientated, even involuntarily, thereby depriving the decision of objectivity. Under these conditions, transparency appears to

248. Constitutional council, decision n° 2018-765 DC of 12 June 2018 on the law relative to the protection of personal data, whereas clause n° 71, *in fine*: "As a result, algorithms that could themselves revise the rules applied by them cannot be used as the exclusive basis for an individual administrative decision, without the oversight and validation of the controller. »

be key so that the parties can be aware of the origin and content of the judgement algorithm, and for their understanding of how it operates. This transparency requirement should lead to recourse to an external algorithm labelling system. It is also important to provide the parties with safeguards of high security in the operation of the intelligent arbitration platform, such as, firstly, to protect the confidentiality of the exchanges and, secondly, to prevent third parties from penetrating the information system in an effort to distort the conduct of the arbitration. Clearly, it will always be more difficult to ensure the independence and neutrality of a machine, rather than that of a person. Yet, this quality is essential for arbitration.

These elements are not without consequence as part of the choice of arbitrator by the parties. The interest and success of the arbitration primarily have to do with the trusting relationship established between the various participants: trust between the parties, trust of the parties in the arbitrators, trust between the arbitrators. In case of an arbitrator machine, in the event of difficulty fully understanding its operation, one might fear that this trust would be lacking, and that the use of such a machine would not secure the consent of the litigants. Also, in classical arbitration, trust contributes to the collegiality of the formation of the judgement: in the most frequent configuration, each party appoints an arbitrator, then the two designated arbitrators appoint a third to be the presiding arbitrator. However, this collegiality appears difficult to transpose into the hypothesis of algorithm-based arbitration. Another question has to do with the liability of the arbitration centres serving as digital platforms. For now, the honesty and transparency obligations weighing on such platforms are embryonic, but they will have to be ratified in more accurate terms in the near future.

Trust must be maintained throughout the arbitral procedure, until the award is pronounced. Also, it is necessary that the parties must always be informed of the main characteristics of the algorithm's operation. The difficulty is that, in the hypothesis of a self-learning machine, these characteristics can evolve. The information obligation could therefore become difficult or even impossible to implement. In its decision of 12 June 2018, quoted on several occasions in this report, the Constitutional council considered that "algorithms that could themselves revise the rules applied by them cannot be used as the exclusive basis for an individual administrative decision, without the oversight and validation of the controller." The solution should be extended to arbitral awards and, more generally, to all judgements.

Questions also arise as to the algorithm's performance in terms of arbitration. In principle, arbitration is governed by confidentiality, such that most awards are not published. Artificial intelligence can therefore only use a limited amount of data as its source, which could distort the results to which it could come. It would also be necessary to ensure that the records and documents exchanged through it would be in a format common to both parties so that, firstly, the adversarial aspect and equality of arms are respected, and also so that there is no loss of information that could lead to a bias in the operation of the machine.

For the award itself, it should be checked that it corresponds properly with the standards of human justice, without being absurd or iniquitous. Human oversight therefore appears to be essential. With the decision pronounced and checked, *blockchain* and *smart contract* technologies could enable the automatic execution of certain elements of the award, such as the payment of damages and interest. Finally, there should be an avenue for recourse against an award pronounced by artificial intelligence, either before human judges or possibly via another artificial intelligence, but provided that the latter is more sophisticated than the one that gave the initial ruling, an aspect that raises other questions.

Obstacles, queries and uncertainties, all of which ultimately serve to stave off the hypothesis of arbitration performed entirely by a robot.

B. Still from a prospective angle, the report studies the role of the arbitration centre. The working group members started with the observation, provided in the first part, that there are currently two types of offers: a highly dematerialized offer, proposed by new actors; a partially dematerialized offer, proposed by established actors. For the former, acceptance of their innovative offer is the challenge: acceptance by users – parties and arbitration practitioners – even though these new actors do not necessarily have true experience in the domain of dispute settlement; acceptance by judicial and administrative authorities that will be required to check the various aspects of their activity (conformity of the awards with public order and, in particular, with the procedural guidelines, respect for the regulations relative to personal data, etc.). The challenge is also financial: new actors must manage to perpetuate their economic model that is based exclusively on online arbitration, which so far does not appear to have been done. There are also significant challenges for established actors providing a mixed offer. The introduction of digital technology into a system that had previously given it a little space includes risks and represents a cost. Strategic choices will have to be made: should digital tools be developed internally, or through service providers? How far should the use of these tools go without denaturing the offer and "spirit" of the centre, upon which its success rests? From a simple database allowing for easier searches for precedents to decision-assistance while including a virtual clerk, the range is actually quite vast. While the development is strong, the centre should communicate on the benefits thereof, so as not to scare off its usual clients. In the same vein, the people working within the centre may be uncertain of their grasp of the new technologies or may not have time to release the resources needed for the development of digital tools, as a result of being monopolized by the possible success of traditional arbitration procedures.

Regardless of the degree of involvement of digital tools in the procedure, the centre will receive considerable sensitive data (personal data, data subject to secrecy, records and procedural documents). It's important for it to be able to provide the parties with true guarantees: data confidentiality, reliability of the platform, location thereof, protection against hacking and information removal, etc. The working group then considered the

need to require online arbitration centres to obtain certification, or even an authorisation. After interviews with the assistant director of the Civil Affairs and Seals Directorate, and of the CNIL secretary general, major outlines were drawn. Complex to implement and lacking compatibility with the general desire of the parties for arbitration that avoids the State justice model, the idea of having arbitration centres accredited by a public authority was set aside. The working group was more in favour of simple certification granted by an institution approved by the Cofrac (French accreditation committee). Certification would require compliance with certain conditions, some of which are set by law, such as: obligation to inform the parties in case of the use of an algorithm; obligation not to pronounce a decision exclusively based on an algorithm; protection of personal data; respect for confidentiality; requirements related to the competence, independence, diligence and impartiality of the arbitrators; safeguards relative to the reliability and security of the employed digital tools. The working group is divided on the question of whether or not this certification should be mandatory. An intermediate solution was proposed, with this mandatory nature being accepted only for small disputes or consumer law disputes (capped at €4,000 or €5,000).

C. The future impact of digital technologies on the arbitral procedure was also analysed. The volume of information and documents exchanged as part of an arbitration is growing constantly. Digital technologies and artificial intelligence are capable of remedying this expansion by selecting, under reasonable conditions of time and cost, the data that will be useful for solving the dispute. Two examples are presented in this report : *Technology Assisted Review* or *predictive coding*, which is used, in a given case, to select documents based on keywords chosen by the lawyers; the expert system, i.e. intelligent software that, like a human expert, uses knowledge – primarily case law – in a specific legal domain and proposes a solution. The difficulty in terms of arbitration is the fact that most awards are not published.

While artificial intelligence can, under these conditions, provide precious decision-making aid, it must remain under control. The experience of Case Law Analytics is enlightening in this regard. The instruments developed by this company make it possible to indicate, based on accurate facts, a range of possible solutions with the probabilities attached to each one. For now, the system has been developed only with regard to certain disputes: notably compensatory allowance as part of a divorce, sudden interruption of commercial relations, dismissal without genuine and serious cause. The Case Law Analytics team firstly meets with judges and attorneys specialising in the relevant domain in order to draft a list of criteria and the various types of reasoning used by the judges in order to decide the disputes in question. A database of legal decisions on the subject is then set up. Based on elements drawn from the first step and the decisions identified during the second step, the machine "learns" to draw closer to the result that various judges would likely have reached. It is sufficient for users to enter the proposed criteria according to the facts of their case, and the machine will produce these results

in statistical form. There are several limits to this simulation exercise, however. For now, it only works with very targeted and quite recurring disputes, for which a large number of decisions is available. Moreover, it can only provide responses to relatively simple questions – amount of a compensatory allowance, compensation, etc. – and appears unable to grasp disputes that are more complex, and that would require the construction of genuine reasoning. Operating by correlation of the facts, it therefore provides no legal reasoning. This part of the report highlights other weaknesses of artificial intelligence: while there can be biases resulting from its programming, biases can also affect the data that it uses, for example if it is only provided with recent data, whereas older data could produce other solutions; the machine's difficulty with innovating is also once again pointed out.

As such, proposing entirely digital arbitration may at the present time appear excessively ambitious, and even unreasonable. While classical arbitration is trusted by business circles, it generates more mistrust outside of them. Litigants unfamiliar with this dispute settlement mode have a tendency, in fact, to view it as a danger. Allowing non-human intelligence to decide disputes would contribute to increasing this mistrust. Mentalities will doubtlessly have to evolve: more accustomed to "all-digital", future generations may be better able to tolerate biases on the part of the machine, rather than people. Until then, a middle path can be suggested: limiting the use of artificial intelligence, within the decision process, to the phase of quantifying damages.

In any hypothesis, assistance from artificial intelligence when making a decision must not enable the tribunal to avoid its obligation to state grounds. Moreover, the multiplication of predictive justice tools encourages a reconsideration of the perimeter of the revelation obligation weighing on arbitrators: any arbitrator using such technology would have to so inform the parties, notably so that the latter will be able to oversee its operation, in line with the observations provided above.

The examination of procedural questions also presupposes measuring the application of the personal data protection mechanism as it applies to online arbitration. The interview with CNIL members was very instructive in this regard. As such, this report contains in-depth developments on the implementation of the GDPR. Article 4 of the 2018-2022 Programme and Justice Reform law n° 2019-222 of 23 March 2019 is a step in the direction of the analyses proposed by the working group, since it states that online arbitration services "cannot be based solely on an algorithmic or automated processing of personal data. When this service is proposed with the help of such processing, the parties must be so informed in explicit terms, and must formally give their consent. The controller provides the rules defining this processing as well as the main characteristics of its implementation, to any party who requests them. The controller provides oversight of the processing and of its upgrades such as to be able to explain to the requesting party, in detail and intelligibly, exactly how the processing was carried out with regard to him/her."»

Finally, there are reasons to ask if, in the longer term, digital tools might not bring about an in-depth upheaval of arbitration. As such, predictive justice instruments, independently of their possible implementation by arbitrators, could well be put to systematic use by the parties and their lawyers. If they prove to be reliable, litigants – rather than launching dispute proceedings for which the result is known in advance – will have every reason to opt for a settlement, which would be a faster and less expensive solution. Arbitral justice, just like State justice, could then suffer a decline or even disappear, at the very least in the legal fields in which the predictive tools manage to prove themselves. Upon analysis however, it is uncertain that the upheaval will be so profound. We recall firstly the many obstacles hindering the correct operation of artificial intelligence in arbitral matters, beginning with the absence of the systematic publication of awards, and the complexity of the disputes generally submitted to arbitrators. Specifically with regard to amiable composition, the fairness that governs this type of arbitration is clearly more difficult to model than the parameters that can result from a legal decision. Outside of the specific case of amiable composition, arbitration is generally chosen for the flexibility that it provides, with the arbitrator having more freedom in the application of the rule of law than is the case with a State judge. However, it is uncertain whether artificial intelligence will one day be able to offer such flexibility.

D. To conclude, the working group considered the influence that digital technologies could have on the arbitral award. Digital tools already facilitate the drafting of the award. It must include elements such as the identification of the parties, their lawyers and the arbitrators, the facts and the progress of the procedure, the means and claims of the parties. It is now sufficient to draw these elements from the briefs and documents exchanged digitally during the procedure. More innovative, voice recognition programs provide for written transcription in record time of the oral exchanges taking place before the tribunal. Algorithms can also read and classify databases, notably relating to case law, and can therefore be used for the selection of relevant precedents, but still limited to the low number of published arbitral awards. Predictive justice and the tools proposed by companies such as Case Law Analytics can also, subject to the above reservations, constitute decision-assistance instruments. Eventually, the use of digital technologies should help to bring down the cost of procedures. This will only be possible, however, after amortising the costs related to the acquisition of these technologies, either over time or via the volume of cases.

The 2018-2022 Programme and Justice Reform law n° 2018-222 of 23 March 2019 formally anticipates arbitral awards being pronounced in electronic form, except if opposed by one of the parties. The final aspect will be to protect persons lacking Internet access or who are unfamiliar with the new technologies. Beyond the question of the award's digital form, the report considers the hypothesis of an award pronounced by an arbitrator who, in order to resolve certain points bearing on the merits, has made use of artificial intelligence. How to reconcile this hypothesis with

the imparity required with regard to arbitration? Must we consider that the machine is just an instrument for the human, the sole arbitrator, even if the role of the latter is simply to validate the algorithm's prediction? The answer is not at all obvious.

The award must be signed by the arbitral tribunal, which then elicits questions as to the safeguards provided by electronic signatures. The challenge is to be able to verify that the document's signatory is indeed the person that s/he claims to be, that his/her signature is valid and not falsified, and that the document has not changed.

In conclusion, the report examines the influence of digital technology on the post-arbitral phase. French law is not perfectly suited to an award in electronic form since the procedure relative to the exequatur request is a written procedure, that has to be filed with the originals of the award and of the arbitration agreement, or otherwise their copies, and the exequatur itself will be noted on the filed award. The provisions of the Code of Civil Procedure could therefore be modified so that exequatur could directly be applied to awards in electronic form. Digital technology could also facilitate the execution of awards thanks to *smart contracts*, which provide for automated fulfilment of an order (an award, for example) as soon as predetermined conditions have been met (absence of recourse, for example).

In conclusion, while it is important to promote the use of digital tools during the performance of arbitration, it is not desirable for artificial intelligence to completely take the place of a human in the event of having to pronounce a binding decision. Digital technologies can provide precious assistance with the organisation of the procedure, but they should only have a limited impact on the preparation of the award, a task that should primarily remain within the sphere of human intelligence. In other words, it is important that machine-assisted arbitration should not degenerate into arbitration performed by the machine.

12

WORKING GROUP
RECOMMENDATIONS



SUMMARY

Throughout the report presented above, the working group established by the Club des juristes has made recommendations. Of course, they are not intended to hinder the development of the online arbitration activity, but rather to provide oversight so that it can develop under the best conditions.

As such, the working group highlighted two essential axes that must be followed in order to ensure the lasting development of online arbitration. Indeed, it will have to develop around two values or two key words, neither of which is a new concept in connection with "classical" arbitration: transparency and security.

Working group recommendations regarding the transparency and security of online arbitration :

- ▶ **1.** For purposes of intelligibility and transparency, the term "arbitration" should be limited to procedures that correspond with the legal qualification of arbitration, thereby distinguishing it from other alternative dispute settlement methods. This provides security to the users of online arbitration, who will know what to expect and can thus benefit from the protection and safeguards provided by arbitration.
- ▶ **2.** The principle of the prevalence of human decisions over algorithmic decisions should be asserted. The ability to judge must remain within the remit of a human being, and not be totally delegated to a machine or artificial intelligence. In jurisdictional matters, human intelligence is not soluble in artificial intelligence. To this end, backing must be provided for the decision of the Constitutional council on 12 June 2018, which refuses that a decision, even administrative, can be based solely on algorithms.
- ▶ **3.** In any event, the existence of a right to recourse to a solution provided by human beings must be assured. In this regard, Court of Cassation could set up an "Artificial Intelligence" cell.
- ▶ **4.** The certification intended to guarantee that the various suppliers of online arbitration services must comply with adequate procedural safeguards should be mandatory within the framework of small disputes, and consumer disputes (ceiling of €4,000 or €5,000).

- ▶ **5.** For transparency purposes, it appears essential that an arbitrator making use of artificial intelligence as part of the handling of a dispute should be required to so inform the parties beforehand, in order for them to have the option of opposing this, if relevant. In case of disagreement between the parties, the arbitrator must waive the use of artificial intelligence when pronouncing the decision.
- ▶ **6.** Platforms or other technological supports intended to offer online arbitration services must guarantee a satisfactory level of security relative to the sensitive nature of the data that they will be required to process, notably in terms of confidentiality, reliability and location, as well as protection against hacking, removal or manipulation of information.
- ▶ **7.** For transparency purposes, the algorithm's designer must be required to reveal firstly the existence of the algorithm itself, and then how it is used, i.e. the method and various provisions of the algorithm itself, so that the algorithm and its operation can be understood by the parties and all of the actors that may be involved in the procedure.
- ▶ **8.** The supplier of the platform or any other technological support intended to provide online arbitration services must guarantee security on two levels: firstly with regard to the processing, transfer and storage of data; and secondly, relative to the authenticity of the arbitral award, that will serve to ensure the validity of an electronic signature at the bottom of the award, which must be signed by the arbitral tribunal.
- ▶ **9.** As the oversight of electronic arbitral awards is not really taken into account in positive law, it would be desirable to set up a system suited to this reality, in order to ensure effective oversight and efficient execution of electronic awards. A possibility to be explored would be that the Code of Civil Procedure should evolve in order to enable sentences pronounced in electronic form to directly receive exequatur, without having to follow the classical procedure.
- ▶ **10.** It should be possible for arbitration centres as well as dispute resolution algorithms to be certified or approved by an external institution accredited by the COFRAC, thereby ensuring a certain level security and confidence for the platform's users. Certification would require compliance with certain conditions, some of which are set by law, such as: obligation to inform the parties in case of the use of an algorithm; obligation not to pronounce a decision exclusively based on an algorithm; protection of personal data; respect for confidentiality; requirements related to the competence, independence, diligence and impartiality of the arbitrators; safeguards relative to the reliability and security of the employed digital tools.

- ▶ **11.** The involvement of artificial intelligence in the settlement of disputes submitted for online arbitration must be provided with oversight. This entails two consequences: artificial intelligence, applied in its current state of development, should be used only for the limited jurisdictional purposes of quantifying damages, and the assistance from artificial intelligence provided to the arbitral tribunal should in no case relieve it of its obligation to state grounds for the pronounced award. In particular, the tools generated by artificial intelligence for assistance with research or statistical analysis should always serve as a supplement, not a replacement.

- ▶ **12.** With the dematerialization of arbitral procedures affecting both ethical and technical aspects relative to justice, the CNIL will have to determine if it has competence in order to provide oversight to online arbitration centres, notably with regard to the protection of personal data. The safeguards surrounding the correct administration of justice relative to litigants should have precedence over the private nature of the justice offer in the form of arbitration.

LIST

- ▶ **Recommendation n° 1 :**
Dispute resolution processes that are not arbitration must no longer refer to themselves as such.
- ▶ **Recommendation n° 2 :**
Asserting a principle of the prevalence of human decisions over algorithmic decisions, such as to guarantee the existence of a right to recourse to a solution provided by human beings.
- ▶ **Recommendation n° 3 :**
Limiting the use of artificial intelligence in dispute resolution to the quantification of damages.
- ▶ **Recommendation n° 4 :**
Ensuring that the arbitrator and arbitration centre that make use of an algorithm when processing the dispute have an obligation to reveal this use.
- ▶ **Recommendation n° 5 :**
Ensuring a right of appeal before a human being, against a decision at least partially pronounced by algorithmic means. In this regard, the Court of Cassation could set up its own "Artificial Intelligence" cell in order to provide this oversight.
- ▶ **Recommendation n° 6 :**
Imposing an obligation of revelation on the designer of the algorithm, relative to the existence and provisions of the algorithm itself.
- ▶ **Recommendation n° 7 :**
Imposing a requirement whereby the use of Artificial Intelligence when processing an arbitral procedure cannot release the arbitral tribunal from its obligation to state the grounds of the award.

- ▶ **Recommendation n° 8:**
Ensuring that the electronic signature of the award by the online arbitral tribunal provides all necessary safeguards with regard to security, notably in terms of the authenticity of the signature and the award.
- ▶ **Recommendation n° 9:**
Modifying the Code of Civil Procedure so as to directly provide exequatur to an award pronounced online, while bypassing the traditional written procedure.
- ▶ **Recommendation n° 10:**
Using an external system for the labelling of the algorithm and platform, and making this labelling mandatory for small disputes and consumer disputes.
- ▶ **Recommendation n° 11:**
Applying an obligation to achieve a result to online arbitration programs regarding the security of the data transiting through them, notably in view of their sensitive nature.
- ▶ **Recommendation n° 12:**
Determining if the CNIL can provide oversight of online arbitration centres.

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