Towards the social acceptability of algorithms

Marina Teller
Professeure à Université Côte d'Azur – GREDEG, CNRS
3IA Côte d'azur[1]
Chaire Droit économique et Intelligence Artificielle

Summary: *Algorithms are deployed in all the interstices of our individual and collective activities. They are transforming our daily lives without the question of their social acceptability being raised in the legal field. Little by little, lawyers and regulators are shaping the legal framework of AI. More precisely, regulators, especially in Europe, considered AI systems from a business approach. The European Commission proposes a regulation for AI, with a risk-based approach. The goal of the current legal framework is to assess the risks generated by an AI system and then to process guidelines to prevent the risks, even by banning an AI system if the risk is considered too high.*

This approach is top down: the regulation is laying down on the relationship between AI businesses and public regulators. But one important dimension is unseen: that of the social acceptability of those systems. In other words, the involvement of consumers, individuals and citizens is totally ignored. They are kept out of the discussion about the relevance and adequacy of AI with the public good. This article aims to demonstrate the need to include citizens in the debate around AI.

Introduction: towards a world governed by algorithms – Law and computer science are two very close disciplines. First, law is a language that is embodied in lines of code, just like computer science. Second, the law expresses values as well as an underlying logic. Legal reasoning is the result of a syllogism that confronts factual situations with rules. This process is typically algorithmic. Law and algorithms are therefore closely related, both in form and substance. This proximity is such that it may have led to fears of a subversion of the legal field by algorithmic logic. Indeed, the introduction of algorithmic devices coupled with artificial intelligence systems leads to a form of digitization of law, whose deeper ambition would be to substitute a technological standard for a legal norm[2].

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[2] M. Teller, L'avènement de la Deep Law (vers une analyse numérique du droit ?), *Mélanges en l'honneur d'Alain Couret, Un juriste pluriel,* Coédition EFL-Dalloz, 2020

These debates are not just technical. They reveal another, even more profound confrontation that is ideological, even political. Indeed, the legal rule has an anthropological function: it enshrines values, reserving a privileged place to notions, such as fundamental rights, freedom, justice, free will, consent. The law is also the mirror of a society, and it embodies its essential values.

What is the effect of technology on the law? It is difficult to summarize these effects because they are numerous and diffuse. We can say, in summary, that the law is reduced to a rational approach, which reduces intrinsically human experiences to a processing of data. The law is assessed in the light of data processing: indeed, the person is assimilated to a *data subject*, according to the terminology of Article 4 of the GDPR, that is to say a data provider. The algorithmization of all our lived experiences gives rise to a particular regulation that academics have called "algorithmic governance"[3].

This governance model is based on technology and statistical power. It has the effect of disqualifying the subject of law as a person to see in him only a transmitter of data, a unit of account soluble in *big data*[4]. The management of people by data processing then transforms the regulation of social interactions and this is the whole anthropological dimension of the topic. Let us not be fooled by the technological aspect of algorithms: under the code, there are truly and essentially political questions[5].

What is "algocracy"? – The power of algorithms competes with that of traditional regulatory forces such as the market and bureaucracy[6]. Academics have focused on the institutional dimension of algorithmic power, which is analyzed as an unofficial counter-power guided by computer code[7].

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[3]T. Berns and A. Rouvroy, "Algorithmic governmentality and perspectives of emancipation. Disparate as a condition of individuation through relationship? ", *Réseaux*, vol. 177, n° 1, 2013, p. 163

[4] A. Rouvroy, « Homo juridicus est-il soluble dans les données ? » *in Law, norms and freedom in cyberspace : Droit, normes et libertés dans le cybermonde », Liber amicorum Yves Poullet,* Larcier, 2018, p. 417. *Adde:* V.-L. Benabou, « Un droit vivant. Manifeste pour des juristes incarnés et sensibles à l'heure de l'intelligence artificielle *», in Penser le droit de la pensée, Mélanges en l'honneur de Michel Vivant,* Dalloz, 2020, p.715

[5] P. Boddington, "Normative Modes: Codes and Standards", *in Markus D. Dubber, Frank Pasquale, and Sunit Das (eds), The Oxford Handbook of Ethics of AI*, 2020, p. 125: "As such, when it comes to AI, people need to be prepared for even larger shifts in how they think of value. *Moreover, given the power of AI to augment or replace human thought and human agency, people need to consider basic philosophical questions about human nature in order to assess how humans might fare in response to AI*."

[6] A. Aneesh, « Technologically Coded Authority: The Post-Industrial Decline in Bureaucratic Hierarchies », Stanford University, https://web.stanford.edu/class/sts175/NewFiles/Algocratic%20Governance.pdf

[7] R. Chrisley, "A human -centered approach to AI ethics : a perspective from cognitive science", *in Markus D. Dubber, Frank Pasquale, and Sunit Das (eds), The Oxford Handbook of Ethics of AI*, 2020, p. 463

This new power is called "algocracy"[8] and it transforms the relationship between law, enforcement, and free will. Indeed, rules are embedded within computer code, leading to a loss of understanding about what is at stake for citizens or subjects of rights[9]. What happens to the freedom and autonomy of individuals in ecosystems governed by algorithmic programming? What about the intention and willingness to comply – or not- with the rule? This "algocracy", seen as the omnipresence and omnipotence of algorithms, transforms the very idea of decision-making, which is based on conscious and voluntary deliberation. Free and informed decision-making would risk being called into question in its essence by these technological rules that have given rise to algorithmic law[10].The fear is that artificial intelligence tools go beyond their role as mere decision-making aids. They have the potential to gradually but most certainly become substitutes for decision-making[11].

Finally, the highly technical nature of the algorithmic rule makes it easier to escape the control of the rule of law. The legal system is undergoing an "algorithmic turn"[12] which therefore raises essential questions: is it compatible with the democratic model of the rule of law? Is algocracy part of the logical continuation of democracy and technocracy? Is it quite naturally the "*next step or the next move*"[13] ? Should we fear the slide from a "coup d'état" to a "*coup data*"[14] ?

These issues lead us to rethink the processes of promulgation of our legal rules to strengthen the conditions for the democratic debate that must preside over the development of any norm[15]. The ambition is therefore to move from algocracy to algorithmic democracy (I), which implies rethinking the conditions to guarantee a real social acceptability of algorithms (II).

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[8] J. Danaher, « The Threat of Algocracy: Reality, Resistance and Accommodation », *Philos. Technol.,* n° 29, 2016, p. 245

[9] R. Kitchin, "Thinking critically about and researching algorithms," Information, Communication & Society, 2017, vol. 20, p. 14

[10] F. G'sell, « Les décisions algorithmiques », *in Le Big Data et le Droit*, Dalloz, coll. Thèmes et commentaires, 2020, p. 86

[11] M. Teller, « Intelligence artificielle », *in Le droit économique au XXIème siècle,* dir. J.-B. Racine, LGDJ, nov. 2020, p. 461

[12] D. Restrepo Amariles, « Le droit algorithmique : sur l'effacement de la distinction entre la règle et sa mise en œuvre », *in Le Big Data et le Droit*, *op. cit.*, p. 133

[13] H. Bersini, *Big Brother is driving you. Brèves réflexions d'un informaticien obtus sur la société à venir*, Académie Royale de Belgique, coll. L'académie en poche, 2e édition, 2018.

[14] A. Basdevant, « Le « coup data » numérique », *L'ENA hors les murs*, 2020/3 (N° 499), p. 46

[15] M. Teller, « Vers l'acceptabilité sociale des algorithmes (ou comment passer de l'algocratie à la démocratie algorithmique », *Rev. pratique de la prospective et de l'innovation* n° 1, Lexis Nexis, 2022

I) From algocracy to algorithmic democracy

Algorithms have colonized every space of our daily lives: advertising, Iot, health, transport, education, public administrations, "smart cities", LegalTech, cryptoassets… Many professions as well as legal specialties are now confronted with algorithmic systems, which profoundly modifies the balance in terms of governance.

The legal framework has a particular role to play here: indeed, it is necessary to rethink the interactions between humans and algorithms from their design phase. This is an essential condition for ensuring a particular form of explainability, to open the "black box". Mandatory disclosure of computer code, as may be required in the context of algorithmic transparency, is not sufficient to account for algorithmic logic. Indeed, to understand the effects of an algorithmic system, it is necessary to have access to its internal logic (code and database), in order for example to detect possible biases. The legal framework is therefore essential because it also makes it possible to ensure upstream the possibility of human intervention. This is what gave birth to the concept of "human guarantee" or human in the loop.

Algorithmic governance thus requires a specific legal framework (A). Indeed, if the algorithm can indisputably claim efficiency, the debate must first focus on its legitimacy (B).

A) A specific legal framework

The challenge of complexity - In his *Traité d'algocracy*[16], computer scientist Hugues Bersini announces the increasing steering of public policies by algorithmic systems due to the complexity and multiplicity of crises to be managed: global warming, resources scarcity, migratory movements, economic inequalities, energy transition, distribution of commons, global pandemics, etc.[17].

Computer science would be the only truly effective response because there is a common point to all these crises: they make inevitable trade-offs in terms of selection and preferences (thus, selecting energy-intensive or frugal practices, virtuous or prohibited behaviors from an

[16] H. Bersini, *Algocratie*, Deboeck, 2023

[17] H. Bersini, *Big Brother is driving you. Brief reflections of an obtuse computer scientist on the society to come*, op. cit. *and loc. cit.* According to the author, « the *day after tomorrow, public transport that cannot be defrauded will optimize traffic at a minimum ecological cost, smart sensors will ensure sober energy consumption, financial and other contracts will not suffer from any possible defection and predictive algorithms will prevent criminal activity. Faced with the emergency, we will agree to entrust our society to the hands of a "benevolent" big brother. The forbidden will truly become forbidden and deprivation will replace punishment. But do we really want it?* »

ecological point of view, setting up the categories of population eligible for vaccination and according to what priority, etc.). These trade-offs are complex, and policymakers will be tempted to find help through a variety of algorithmic tools: algorithms that recommend, advise, select, or constrain, with a view to improving or optimization. These tools will select or a decide, based on pre-established criteria and instantaneously. Most certainly, this fully automated handling of public decisions will arouse resistance (which we want) and debates (which we also hope).

Thinking algorithmic governance - We note that in some legal fields, supervisory or regulatory authorities have already validated this "algorithmization" and are in favor of the use of algorithmic tools and artificial intelligence systems. However, the missing links in AI governance have been highlighted by academics[18] and the topic remains complicated or even subversive. Regulators have even begun to consider reforming some governance rules.

This is particularly visible in the banking and financial sector. Thus, public recommendations and white papers directly target the governance of algorithms[19] so that actors integrate new issues: new risks (cyber risks and risks related to the outsourcing of models, hosting or technical skills), new audit missions and revision of validation functions (to integrate compliance concerns "by design ", i.e. during the design of an algorithm, but also throughout the life cycle of the algorithmic system, in order to ensure continuous compliance with evaluation principles, such as adequate data processing, absence of instability, validity of explanations of system decisions).

More fundamentally, academics have clearly identified that the fundamental issues of algorithmic governance tackle with a new way of thinking about law with the appearance of a new writing that feeds a new myth, that of an organization of social relations without third parties and without law, by the sole set of algorithmic writings[20]. Let's say even more clearly the stakes: the algorithm is the modeling of a choice that pre-exists computer coding. This choice, which is a matter for political decision-making, must remain part of the public debate. A rule must be effective, but it must first be legitimate.

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[18] *Missing links in AI governance,* UNESO- MILA, 2023. The topics covered are wide ranging, including AI and Indigenous rights, Deepfakes, Third-Party Audits of AI Systems, AI alignment with SDGs, and the centralization of decision-making power AI allows.

[19] *Governance of artificial intelligence algorithms in the financial sector*, ACPR, June 2020

[20] A. Garapon, J. Lassègue, *Justice digitale. Révolution graphique et rupture anthropologique,* P.U.F., 2018

B) Effectiveness *versus* legitimacy

A legal framework focused on data and market - Algorithmic decisions are already well framed by law[21]. Important work has been carried out nationally and internationally to regulate artificial intelligence systems. Today, the risks associated with the "black box effect" are well identified and denounced: risk of bias[22] and discrimination[23], opacity of decision-making processes[24], difficulty in preventing the risk of collusion[25], risk of technological capture and infringement of sovereignty[26]. In European law, legislators have already built a strong legal framework around data, including the General Data Protection Regulation[27], the Regulation on the free flow of non-personal data[28], the Cybersecurity Regulation[29] and the Open Data Directive[30]. The construction of the European Digital *Single Market* (DSM) is carried out through a succession of texts or initiatives in progress: *Digital markets* act[31], *Digital service* act [32] and *Data Governance act*[33].

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[21]V. not. *How to allow Man to keep the hand? Report on the ethical issues of algorithms and artificial intelligence*, CNIL, 15 December 2017; *Fostering a European approach to Artificial Intelligence*, European Commission, 21 April 2021; *Artificial Intelligence - A European approach focused on excellence and trust*, European Commission, 19 February 2020

[22] P. Bertail, D. Boune, S. Clemençon, P. Waelbroeck, "Algorithms: bias, discrimination and equity", *Télécom ParisTech*, February 2019

[23] K. Crawford, « The hidden biases in big data », *Harvard Business Review*, 2013

[24] J. Burrell, « How the machine 'thinks': Understanding opacity in machine learning algorithms », *Big Data & Society*, 2016

[25]F. Marty, "Price algorithms, artificial intelligence and collusive balances", *Revue internationale de droit économique*, n°2, 2017, p. 83

[26] *Communication from the Commission establishing a European Declaration on Digital Rights and Principles for the Digital Decade,* Brussels, 26 January 2022, COM(2022) 27 final

[27]Regulation (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation)

[28]Regulation (EU) 2018/1807 of the European Parliament and of the Council of 14 November 2018 establishing a framework for the free flow of non-personal data within the European Union

[29]Regulation (EU) 2019/881 of the European Parliament and of the Council of 17 April 2019 on ENISA (European Union Agency for Cybersecurity) and on cybersecurity certification for information and communication technologies, and repealing Regulation (EU) No 526/2013 (Cybersecurity Regulation)

[30] Directive (EU) 2019/1024 of the European Parliament and of the Council of 20 June 2019 on open data and re-use of public sector information

[31] Proposal for a Regulation of the European Parliament and of the Council of 15 December 2020 on contestable and fair markets in the digital sector.

[32] Commission européenne, Proposal for a regulation on a Single Market For Digital Service, 15 décembre 2020, COM(2020) 825 final

[33]Proposal for a Regulation of the European Parliament and of the Council on European Data Governance (Data Governance Act), 25 November 2020. According to the explanatory memorandum, the proposal for a regulation aims to "promote the availability of data for use, by increasing trust in data intermediaries and strengthening data sharing mechanisms across the EU", in particular by providing a framework for the provision of public sector data whose use is subject to others, by encouraging the sharing of data between companies for remuneration, by promoting the emergence of new data-sharing intermediaries and by allowing the use of data for altruistic reasons.

Undoubtedly, the legislator has understood the need to regulate the effects of algorithms, more specifically regarding their impact on markets and personal data. Nevertheless, it seems to us that one dimension is still relatively little present in the European regulatory framework: that of fundamental rights and the procedural legitimacy of decisions based on algorithmic artificial intelligence systems.

The debate around processual legitimacy - The legitimacy of the choices that govern algorithmic systems is a very important issue that underpins the engagement and trust of the public in technology. The acceptance of those who must apply it is part of the legitimacy of the rule. As Habermas recalled, "the *more law is solicited as a means of political regulation and social structuring, the greater is* the *burden of legitimation that the democratic genesis of law must bear*." [34]

The rule must circulate between different places of dialogue and discussion forums. This will make it possible to postulate the rational and consented nature of the content of the norm[35]. The legitimacy of the norm therefore remains conditioned by a discussion process that guarantees its social acceptability. It is necessary that "*citizens can conceive themselves at any time as the authors of the law to which they are subject*"[36]. The challenge is therefore to build the formal processes to achieve a real social acceptability of algorithms. It is here that the law finds its rightful place.

[34]J. Habermas, *Droit et démocraties, entre faits et normes*, Gallimard, coll. Essais, 1997, p. 456. The legal norm must be elaborated according to a democratic procedure which, "*by guaranteeing the free play of themes and contributions, information and reasons, ensures that the formation of political will is in a debatable nature and thus justifies the fallibilistic assumption that the results obtained through this procedure are more or less reasonable*".

[35] J. Chevallier, « La gouvernance et le droit » *in Mélanges Paul Amselek*, Bruylant, p. 189

[36]J. Habermas, *op. cit.* , p. 479

II) Towards the social acceptability of algorithms

The role of law - Many ethical charters, declarations and other "hard law" texts have already been put in place to regulate algorithms. Our objective is not to make a review[37] but to question the place that is reserved, within these various texts, to the question of algorithmic legitimacy. This point is important, although often overlooked: we see that the debates rather crystallize questions of trust, ethics, or responsibility. Legitimacy is rarely mentioned. However, it is essential that the public debate also addresses AI systems from the perspective of their legitimacy because algocracy is a very real source of destabilization: European authorities consider the risk that the technology overrides fundamental rights because "*given the intrusive nature of some applications or uses* of *AI, it could happen that the current framework on human rights*, *democracy and the rule of law does not protect us enough, or not in time*"[38]. It is therefore necessary to open the public debate on algorithmic regulation if we want to place the citizen at the heart of the issues.

The social acceptability of algorithms can first be achieved by the rules of law. Several approaches can be proposed: conventionally, we can ensure rights downstream of the creation of algorithmic systems (A). We can also propose more innovative procedures to involve the citizen upstream, at the stage of algorithmic design (B).

A) From a risk-based approach to a rights-based approach

The limits of a "risk-based approach" - The regulation of artificial intelligence is being built before our eyes. The proposal for a Regulation of the European Parliament and of the Council laying down harmonized rules on AI[39] aims to regulate AI systems, based on a risk-based approach. This proposal is seen as a legal and symbolic advance to get algorithms out of "lawlessness". As innovative as it is, the text is far from perfect and raises concerns: indeed, the starting point of the proposal is AI systems, classified according to their risks and not people.

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[37]For a compilation, v.: *Towards a regulation* of AI systems - *International perspectives* on the development of *a legal framework for Artificial Intelligence (AI) systems based on* Council of *Europe standards in the field* of *human rights, democracy and* the *rule of law*, Compilation of contributions prepared by the CAHAI Secretariat, December 2020

[38]*Towards a regulation of AI systems. International perspectives on the development of a legal framework based on Council of Europe standards in the field of human rights, democracy and the rule of law,* Council of Europe Study DGI (2020)16

[39] COM(2021) 206 final, 21 april 2021

The personal dimension, in terms of rights and freedoms, is not the anchor of the text: whether it concerns end users, mere data subjects or other individuals affected by the AI system, the absence of any reference to the person affected by the AI system appears as a blind spot[40] in the proposal. The European Data Protection Board regretted this technological prism to the detriment of individuals[41].

Another way: the "rights-based approach"- A "rights-based" regulation[42] makes it possible to put the law back at the center of algocracy's issues. The aim is to highlight the risks that AI systems pose to fundamental rights, well beyond personal data breaches[43]. This topic is serious enough to justify the proposal of new rights and new methods of regulation, to guarantee the "contestability" of algorithmic systems. Several proposals have been made and we can mention some of them: set up national audit platforms to test the code, under the supervision of an independent public authority; use statistical tools that can allow counterfactual assessment; finally, generalize the mechanism of impact studies before any algorithmic process is put into circulation[44]. Other texts have enshrined specific rights, particularly regarding the processing of personal data, *via* the GDPR.

The proposal for digital principles – More recently, the European Commission has proposed a framework of digital principles[45]. This approach is interesting and reveals a change of direction: it is no longer the market or data that are targeted by the legislator, but the individuals. This would give citizens new rights, such as access to high-quality connectivity, sufficient digital skills, access to fair and non-discriminatory online services. These principles would be discussed in the context of a broad societal debate and could be enshrined in a solemn

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[40] V. M. Teller, « Les droits fondamentaux à l'ère des neurosciences », *Signatures internationales,* Bull. n°3, juillet 2021, p. 96

[41] European Data Protection Board, EDPB-EDPS, Joint Opinion 5/2021 on the *proposal for a Regulation of the European Parliament and of the Council laying down harmonised rules on artificial intelligence (Artificial Intelligence Act),* 18 June 2021: "*Indeed, the obligations imposed on actors vis-à-vis affected persons should emanate more concretely from the protection of the individual and his rights. Thus, the EDPS and the EDPS urge legislators to explicitly address in the proposal the rights and remedies available to persons subject to AI systems*."

[42] C. Castets-Renard, « Le Livre blanc de la Commission européenne sur l'intelligence artificielle : vers la confiance ? », *Dalloz,* 2020, n°15, p. 837.

[43]V. M. Kaminski and G. Malgieri, *Algorithmic Impact Assessments under the GDPR: Producing Multi-layered Explanations (September 18, 2019). U of Colorado Law Legal Studies Research Paper*, No. 19-28. Available on SSRN: https://ssrn.com/abstract=3456224.

[44] For a more detailed analysis of these proposals, see M. Teller, "Artificial Intelligence", *in Le droit économique au XXIème siècle, op. cit.*

[45] *Communication from the Commission establishing a European Declaration on Digital Rights and Principles for the Digital Decade,* Brussels, 26 January 2022, COM(2022) 27 final

interinstitutional declaration by the European Parliament, the Council, and the Commission[46]. The purpose is clear: in the digital world, citizens and companies should have no fewer rights or protection than in the offline world. These new digital principles are aimed directly at citizens, businesses, administrations, and legislators: they are the starting point for any discussion of algocracy.

Algorithmic explainability – The enforcement of rights requires an upstream understanding of algorithmic processes. That is why it seems to us that the rights-and-principles approach should be accompanied by a general principle of algorithmic explainability that integrates several dimensions, including interpretability and auditability. These concepts come from engineering[47] and they are not to be confused with transparency which is only a (very imperfect) way to give to understand algorithmic results by giving access to the source code of algorithms. Auditability characterizes the practical feasibility of an analytical and empirical evaluation of the algorithm, and aims more broadly to obtain not only explanations for its predictions, but also to evaluate it according to other criteria (performance, stability, data processing).
Experts still debate the distinction between "explainability" and "interpretability": the concept of "explainability" is often associated with a technical and objective understanding of how an algorithm works (and would therefore be appropriate for the perspective of an audit engagement), whereas the notion of "interpretability" seems more linked to a less technical discourse (and would therefore rather be addressed to a consumer or an individual). The quality of algorithmic explainability also depends on the context. Thus, to explain *how* an algorithm works and *why* it makes this or that decision, several levels of explanation can be considered to take into account the nature of the recipient (professional, customer, general public).[48]

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[46] Four proposals are made as follows:
1) Citizens with digital skills and highly qualified digital professionals
2) Secure, efficient and sustainable digital infrastructures
3) The digital transformation of companies
4) The digitalization of public services

[47] S. Desmoulin-Canselier, D. Le Métayer, *Deciding with algorithms – What place for Man, what place for law?*, Dalloz, Les Sens du Droit, February 2020

[48] This approach is proposed by the ACPR, in *Governance of artificial intelligence algorithms in the financial sector, ACPR, June 2020*. Depending on the audience, the explanation will be simple, functional or technical.

B) Procedures for citizen involvement

Proceduralize public debate - Can we go even further and go beyond the logic of subjective rights (conferring rights on...) to involve citizens in algorithmic governance? The proposal may come as a surprise, but the American academic[49] s reminds us that this approach can be fruitful: in the field of financial security, the legislator has put in place procedures governing whistleblowers by the Sarbanes-Oxley Act in 2002. The objective was to encourage private actors to ensure the proper application of the law, by providing support to the Public Prosecutor's Office by denouncing practices deemed illegal[50]. In the field of artificial intelligence, the proposal would consist of relying on algorithm users, not to denounce shortcomings, but to establish discussion procedures in which they would be involved[51].

Given their potentially major effect on society, algorithmic decisions must be part of the public debate. Academics initiate a reflection on the principles of good governance ensuring a quality debate: these discussion procedures must involve all stakeholders, including experts from all disciplines, policy makers, professionals, NGOs and the general public. They must be conducted rigorously by asking the preliminary question of the legitimacy of the use of an algorithmic solution.

In certain situations, a prohibition in principle could be envisaged, in cases of manifest infringement of fundamental rights[52] (such as fair trial and the presumption of innocence). These proposals sound interesting, but would they stand the test of practice? In this perspective, field observation is decisive and two ongoing projects deserve to be mentioned: the CITICODE project and the FARI institute, both laboratories for experimenting citizen involvement, on the initiative of Brussels computer scientist Hugues Bersini.

CITICODE and FARI, the laboratories of citizen involvement – "*Algorithms must remain open, entirely in the public domain such that ideally, everyone can keep their say and their line of code, even clumsy, to write"* [53]. Combining theory with practice, Professor Bersini launched

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[49]D. R. Desai, J. A. Kroll, "Trust But Verify: A Guide to Algorithms and the Law," *Harvard Journal of Law and Technology*, 2018, Vol. 31, p. 1

[50]D. R. Desai, J. A. Kroll, *ibid.*: "*In other words, the government needs private actors to aid in law enforcement, and there is a long history of private citizens aiding in law enforcement by providing support to public prosecution and through private enforcement and private evidence gathering*".

[51]C. Castelluccia, D. Le Métayer, *Understanding algorithmic decision-making: Opportunities and challenges*, Report for the European Parliament, March 2019, p. 72

[52]K. Hannah-Moffat, "Actuarial sentencing: an «unsettled" proposition", *Justice Quarterly*, 2013, vol. 30, n°2

[53] H. Bersini, *Algocratie*, Deboeck, 2023

the CITICOD project, which concretizes the massive participation of citizens in the development of software devices.

This experiment is interesting because it has made it possible to identify the governance rules applicable to citizen participation in the writing of algorithms. Three successive processes are considered: an elective process (who could contribute to the writing of this software and how?); a pedagogical process (how to train citizens both in the good mastery and detailed understanding of the issues and in the algorithmic approach?); a deliberative process (how to proceed with the development and maintenance of these codes when their updating and continuous improvement are essential?).

The second experiment is the FARI Institute[54], funded by the European recovery plans in response to the Covid crisis. Its aim is the development of AI algorithms for the management of Brussels public goods (such as access to employment, mobility, public health, energy transition, animal welfare, administrative simplification).

These projects have as a common denominator a reinvention of the workings of representative democracy where the three powers that define it must be rethought in the light of algocracy. This finally presages "*a new form of legislative power, by which ordinary citizens, accompanied by experts (including lawyers) and some elected officials, will question until their software incarnation the new coercive mechanisms allowing society to function more harmoniously*". It will be necessary to carefully follow the results of these ongoing experiments that open the prospect of a real transition from algocracy to algorithmic democracy[55].

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[54] https://fari.brussels/ FARI will soon elicit citizens' participation through Citizen Panels, a platform where citizens will not only be asked for their opinions but also their active and regular involvement in different AI projects.

[55]"*It* is *up to us to decide, think and write the lines of code known to all that will help us live better. This is why I propose and defend a new form of governance in which citizens must be involved from the outset and throughout the writing of codes that are supposed to constrain and circumscribe their behaviour. This is undoubtedly the only way to guarantee the legitimacy and acceptance of this increasingly invasive software in the organization and security of our mobility, the choice of our children's school, tax redistribution and crime prevention*", H. Bersini, *Algocratie*, op. and loc. *cit.*