

Bot-Legislator and AI-powered legislative processes

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While AI-assisted decision-making is increasingly familiar in certain sectors like healthcare or high-risk fields such as air traffic flow management, its application in the parliamentary context remains relatively unexplored[1]. What are the potential risks and opportunities that arise from utilizing AI-powered applications in Parliaments? Are decades-old legislative procedures ready to coexist with modern, powerful and efficient IT processes that may change the substance of rulemaking? Would the futuristic existence of “bot-legislators” pose a threat to democracy and constitutionalism?

Although these topics would require in-depth reflections, a few scattered remarks can open an interesting debate.

1. Technology and the Lesson from the Pandemic

According to a study conducted by the Inter-Parliamentary Union, artificial intelligence is a topical issue, targeted by Parliaments not only as a subject for new regulation but also as an infrastructure innovation to enhance parliamentary administrations[2]. While many parliaments are exploring digital strategies and increasing their investments in digital technologies[3], currently only 10 per cent of them have adopted AI-based applications.

The pandemic has presented a remarkable chance to revolutionize parliamentary procedures with a fearless approach, capitalizing on swift transformations in institutional culture[4]. Virtual sittings and remote voting have enthusiastically or inevitably been embraced as inescapable innovations. Cloud-based tools and digital solutions have increased reliance on information and communication technology, but also vulnerability to malicious interferences[5]. Overall, the manner in which parliaments function has undergone a significant makeover[6], although this has not impacted the rules of procedure to the same extent.

As of 2022, statistical data indicates that nearly half of the parliaments (47%) had proceeded to amend their internal rules, enabling the uninterrupted continuation of plenary meetings. Additionally, 51% of parliaments had implemented similar changes to facilitate the smooth conduction of committee meetings[7].

2. “Legimation”, or automated legislation

One particularly intriguing use of AI technologies in parliamentary activities is their application in legislative drafting and legislative document management. Existing figures show that approximately “six per cent have used some level of AI functionality to draft bills, and about a third are considering that option”[8].

Possible features of AI solutions for parliaments range from simple workflow systems that could ease collaborative processes in legislative drafting to more enhanced systems equipped with amendment management capabilities that would enormously expand the features of normal word processors. Similar innovations may be helpful both in committees and in plenary but may also prove fatal in case the internal rules of procedure are not adapted to the emergence of new technologies.

This hazard is not unknown, for instance as regards filibustering. A notable example can be found in the history of the Italian parliament, where nearly a decade ago a member of parliament used custom-made software to impede the discussion of a specific bill. This software enabled him to table over 82 millions amendments simultaneously[9], utilizing a simplistic algorithm capable of generating millions of modifications to a single amendment through the combination of a relatively limited set of basic patterns, alterations to punctuation, or substitution of words with synonyms. Following this precedent, commentators expressed deep concern regarding the potential for democratic processes to be victims of elementary electronic tools[10].

Advanced versions of these applications may be capable of drafting a whole legislative bill – hence the idea of a “bot-legislator” – by simply processing raw proposals of a political party or a congressman from plain linguistic input into legislative data. “Legimation” or automated legislation could be the next step, following the example of

automated journalism or machine-authored music and art, replacing human writing especially concerning routine or technical bills.

To be fully operational, efficient and precise, “bot-legislators” would require meeting at least two main technical conditions: on the one hand, all laws must adhere to established coding standards for legal syntax allowing to simplify the complexities of reality and shift from a polysemic language to a monosemic one[11]; on the other hand, the resulting text should be both machine-readable and machine-searchable. Only then can the advantages of “law as code” be fully exploitable[12], including the ability to compare different versions of a bill, integrate proposed legislation with the existing ones, and analyse various national approaches to specific issues through interoperable normative databases.

3. Risks Inherent in AI-powered Legislation

Techno-enthusiasts eagerly claim that these innovations have the potential to revolutionize legislative processes[13]. Nonetheless, it is essential to acknowledge not only the well-known risks associated with all AI-powered technologies but also unprecedented and specific risks tied to the unique role played by parliaments in democratic systems. Constitutionalist are expressing concerns regarding what they term the “constitutional neutrality of technology”, referring to the idea that technology should not interfere with the principles and values of liberal representative democracies[14].

One of the most alarming risks is the potential manipulation of representatives’ freedom of opinion, rather than the facilitation of legislative document management, as some may suggest. This could happen not only by oversimplifying the reality as a result of the adoption of syntax codes but also through the implementation of language recommender systems, based on prior human configuration of algorithms which, as many experts already have warned, can produce faulty and biased results.

The use of a standardized computable language for the law may introduce a level of rigidity that compromises one of the most crucial aspects of legal norms, such as their adaptability to a changing society. This has significant implications for the theory of interpretation. The inherent “elasticity” of the law stems from the ability of interpreters to adjust its written formulation to address emerging needs, without having to proceed with radical reform. However, since AI systems rely on historical data, AI programs designed for law editing would require constant maintenance and updates to incorporate new dynamics and emerging societal issues, ensuring a diverse range of semantic expressions. Nonetheless, a shift from polysemy to monosemy would deprive of any usefulness the activity of teleological interpretation, which is performed to add elements of rationality beyond literal interpretation. Likewise, a potentially awkward effect could be the introduction of an unprecedented factor in the mechanisms of interpretation of the law: courts and scholars would be compelled to consider whether a certain provision or expression used in a norm emanated from the drafter’s own intellectual capacity or was generated by an AI-based program, so that an unforeseen (and undesirable) *intentio machinae* would add to the *intentio legislatoris*.

Moreover, law encompasses more than just prescriptions that trigger automatic sanctions; it also includes principles and values that form an interconnected system. However, many of these principles and values ontologically resist being transcribed and codified into rigid computable codes. In any case, although recent advancements in deep neural networks for AI make them able to learn hierarchical representations from raw data, no machine intelligence could ever equal human intelligence as it lacks human judgment and expertise and may not grasp the multifaceted socioeconomic and political considerations that feed new legislation. This could result in the creation of discriminatory or simply unfair laws.

Even though we consider the chance that the use of AI may be limited to drafting simple technical or routine legislation, technical errors or vulnerabilities of the AI programs cannot be avoided. In other words, bugs or flaws in the algorithms could provoke drafting errors, contradictions between articles, or unintended consequences and this may lead to a loss of public trust in the democratic processes and undermine the legitimacy and credibility of representatives.

Finally, beyond the obvious challenges to cybersecurity in sensitive domains, a fact to be noted is that software developed for parliaments would not be built in-house but rather outsourced to external contractors, namely private companies which would own software patents and that unsurprisingly may be located in a foreign country. This would raise concerns about digital sovereignty and control over the technology. If AI algorithms are controlled by a particular group or organization, they could be used to influence or dominate the legislative

process and this could once again undermine the democratic principles of transparency, accountability and constitutional legitimacy.

Hence, it is reasonable to question whether the integration of artificial intelligence within parliaments, although it is an essential avenue for progress, can enhance the formal and substantive quality of legislation to the extent of replacing human legislators entirely.

[1] See Y.M. Citino, *L'intelligenza artificiale applicata ai processi decisionali parlamentari: una griglia di funzioni e una stima dei rischi per la neutralità delle tecnologie*, in *Rassegna Parlamentare*, 3/2022, 629-674 and the comprehensive study edited by F. Fitsilis – G. Mikros, *Smart-Parliaments. Data-Driven Democracy*, Cheshire, European Liberal Forum, 2022.

[2] IPU, World E-Parliament Report 2020, <www.ipu.org/file/12443/download>.

[3] According to the study, 45 per cent are considering adopting AI-based technologies in the next two years.

[4] See, for instance, I. Bar-Siman-Tov et al., *Measuring Legislative Activity during the Covid-19 Pandemic: Introducing the ParlAct and ParlTech Indexes*, in *International Journal of Parliamentary Studies*, 1/2021, 109-126.

[5] A. Mencarelli, *Parliaments Facing the Virtual Challenge: A Conceptual Approach for New Models of Representation*, in *Parliamentary Affairs*, 2021, 1-15.

[6] N. Lupo, *Il Parlamento e la rivoluzione digitale: gli effetti dell'accresciuta trasparenza derivante da Internet*, in C. Buzzacchi – M. Massa (a cura di), *Non abbiate paura delle autonomie: scritti per Enzo Balboni*, Milano, Vita e Pensiero, 2022, 219-238.

[7] IPU, World E-Parliament Report 2022, <www.ipu.org/file/15804/download>, p. 23.

[8] *Ibid.*, p. 35.

[9] In 2015, Member of Italian Parliament, Roberto Calderoli, attempted to block the debate on the ddl Boschi but eventually withdrew all the amendments. A. Sgherza, *Così si fabbricano 82 milioni di emendamenti: la democrazia ostaggio di un algoritmo*, in *La Repubblica*, 23 settembre 2015.

[10] See *ex multis* A. Cardone, *Algoritmi e ICT nel procedimento legislativo: quale sorte per la democrazia rappresentativa?*, in *Osservatoriosullefonti.it*, 2/2022, 357-382.

[11] The most used naming and vocabulary convention in legal bodies' applications is [Akoma Ntoso](#).

[12] See L. Lessig, *Code and other laws of cyberspace*, New York, Basic Books, 1999 and S. Hassan – P. De Filippi, *The Expansion of Algorithmic Governance: From Code is Law to Law is Code*, in *Field Actions Science Report*, 17/2017, 88-90.

[13] A. Santosuosso, *Intelligenza artificiale e diritto: perché le tecnologie di IA sono una grande opportunità per il diritto*, Milano, Mondadori, 2020.

[14] R. Ibrido, *Evoluzioni tecnologiche o involuzioni costituzionali: la "reingegnerizzazione" del processo di decisione parlamentare*, in *Osservatoriosullefonti.it*, 2/2022, 291-310: 298; A. Cardone, *Algoritmi e ICT nel procedimento legislativo: quale sorte per la democrazia rappresentativa?*, in *ivi*, 357-382.

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