DEMOCRATIC RESILIENCE THROUGH DIGITAL CONSTITUTIONALISM: ADDRESSING RISKS POSED BY GENERATIVE ARTIFICIAL INTELLIGENCE

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Summary: 1. Introduction; 2. The distinctive nature of generative artificial intelligence; 3. Uprising challenges of GenAI; 4. Sufficiency of European GenAI's regulatory framework in question; 5. GenAI's comprehensive understanding through digital constitutionalism; 6. Final Considerations; 7. Bibliographic References.

Abstract: Artificial intelligence (AI) has rapidly gained prominence, with the COVID-19 pandemic accelerating the demand for digitisation and integration of algorithms into our daily lives. This technological progress poses a significant challenge to traditional constitutionalism, as the digital world and the preponderance of algorithms require rethinking legal-constitutional frameworks. This study examines the challenges posed by generative artificial intelligence (GenAI) systems in democratic constitutionalism. This highlights the distinctive nature of GenAI compared to previous AI technologies, including widespread accessibility, mass user feedback enabling continuous refinement, and customisable agents allowing greater user autonomy. These features make the fluid and dynamic nature of GenAI systems incompatible with rigid traditional frameworks. This paper reviews the literature identifying key threats of GenAI to democracy and rights, including identity verification, privacy, information fragmentation, disinformation, deepfakes, and the concentration of power among technocrats. It analyses whether current regulatory frameworks, such as the European Union's Artificial Intelligence Act or Digital Services Act, adequately address these concerns and identify potential gaps and limitations. To comprehensively regulate GenAI's societal impacts, this paper proposes considering digital constitutionalism as a theoretical framework to uphold constitutional principles, such as rights protections and limits on private concentration of power in the online sphere and disruptive technology development.

Key-words: Algorithmic society; generative artificial intelligence; digital constitutionalism; democratic resilience

1. Introduction

Artificial intelligence (hereinafter AI) has gained enormous visibility not long ago, despite the fact that algorithms were already part of our lives. Undoubtedly, the accelerated

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demand for digitization required in the wake of the COVID-19 pandemic has placed algorithms and AI at the center of our current reality.

It may be too early to say that this century will be a turning point in the history of mankind in terms of technological progress, but there is no doubt, even if it is a more shocking statement, that we are witnessing a paradigm shift in the understanding and shaping of reality.

As BALAGUER CALLEJÓN warns, the vertiginous technological development and irruption of the digital world pose a profound challenge to traditional constitutionalism forged in an analogical paradigm. We are witnessing a radical transformation that calls into question the validity and effectiveness of the inherited legal-constitutional frameworks to control the new emerging factors and centers of power linked to the preponderance acquired by algorithms as instruments for the management of the physical and virtual spheres[2]. Such an integration between physical and virtual existence leads to the consideration of both dimensions as complementary and inseparable[3].

The visibility that AI has acquired has led to its study transcending the mere technological sphere to become a central research topic for almost all scientific disciplines and areas of knowledge.

While it is true that the widespread impact of algorithms has gone largely unnoticed until recently, this has not prevented some authors from paying attention to this issue from an analytical approach, even before the current rise of AI. SÁNCHEZ BARRILAO already warned that AI required rethinking the foundations of constitutional law and could not be limited to the mere provision of new limits and constitutional rights related to this technology[4].

These early analyses, while visionary, only managed to glimpse some aspects that the scientific community could pay attention to. After all, it was a phenomenon still unknown

[2] BALAGUER CALLEJÓN, Francisco. La Constitución del Algoritmo. *Fundación Manuel Giménez Abad, Zaragoza*, 2022; BALAGUER CALLEJÓN, Francisco. La constitución del algoritmo. El difícil encaje de la constitución analógica en el mundo digital. In: F. BALAGUER CALLEJÓN and L. COTINO HUESO, *Derecho Público de la Inteligencia Artificial*. Fundación Manuel Giménez Abad, 2023, pp. 29-56.

[3] CELESTE, Edoardo. Internet Bills of Rights: Generalisation and Re-specification Towards a Digital Constitution. *Indiana Journal of Global Legal Studies*, 2023, vol. 30, no. 25.

[4] SÁNCHEZ BARRILAO, Juan Francisco. El Derecho constitucional ante la era de Ultrón: la informática y la inteligencia artificial como objeto constitucional. *Estudios de Deusto*, 2016, vol. 64, no.2. DOI: 10.18543/ed-64(2)2016, pp. 225-258.

and, in its infancy, so many of its implications were not transcended until the practical implementation and use of intelligent systems by both public and private actors.

What has been described above regarding the rise of AI, its legal and constitutional implications, and its conversion into a central object of scientific study can be extrapolated to what is currently happening with generative artificial intelligence (GenAI) as a specific dimension of general AI which, although it shares much of the analysis provided by the academic literature, requires particular attention given the singularities that characterise it and give it its own status as a differentiated analytical category within the global phenomenon of AI.

In the following sections, we focus on an analysis of the specific risks posed by GenAIs to fundamental rights and democratic constitutionalism. Subsequently, we discuss how digital constitutionalism can be configured as a suitable conceptual framework for addressing and adequately framing this technological phenomenon.

2. The distinctive nature of generative artificial intelligence

The emergence of ChatGPT in November 2022 could be mistakenly considered the starting point for GenAIs. While there is some truth in this statement, it is necessary to qualify it to understand the evolutionary development of these technologies.

Prior to the emergence of ChatGPT, access to artificial intelligence tools capable of facilitating writing was limited to a small group of individuals with a specific interest in the subject or advanced technical knowledge.

Developers, contributors and users could access repositories on platforms such as

GitHub from where it was possible to download files associated with language models such as GPT-2, which allowed, through commands, the generation of texts based on certain indications provided by the user. However, this process required a considerably high level of computational resources and a significant investment of time to obtain a consistent result in textual products of questionable quality that could hardly match human production in terms of coherence and practical usefulness.

In general, these early models suffered from significant shortcomings that limited their applicability and reliability. These shortcomings included the low credibility perceived by users with respect to texts generated by GPT-2.

There was also a latent concern that these models could be subjected to malicious use through fine-tuning techniques, potentially used for the generation of synthetic propaganda.

Accurate detection of synthetic text generated by these systems is a considerable technical challenge, making it difficult to differentiate between human- and machine-produced content[5].

The rapid evolution of AI-based language models, evidenced by the transition from ChatGPT (based on GPT-3.5) to GPT-4, as well as the emergence of similar systems developed by large technology companies, raises questions about the factors that have driven this accelerated progress. This phenomenon, which occurred in a relatively short period of time, goes beyond simple collaboration and incremental development, suggesting the existence of other elements that have facilitated technological progress of such magnitude and speed.

A determining factor that can explain this phenomenon is undoubtedly widespread accessibility. The availability of these technologies to the public has led to an unprecedented phenomenon of massive feedback. This process has allowed current models to be fed by volumes of data of a previously unimaginable magnitude, coming from direct interactions with millions of users and the digital activity generated by them.

This dynamic of continuous and large-scale training has significant implications from technical, sociological, and legal perspectives.

From a technical perspective, the diversity and amount of input data have enabled substantial refinement of algorithms, improving their ability to understand and generate natural language across a wide range of contexts and domains, increasing their capacity to emulate human reasoning and produce more coherent and contextually appropriate results[6].

From a sociological perspective, to date, the development and application of algorithms have been mainly circumscribed to corporate and governmental entities, so that users are beneficiaries of both the positive and negative externalities derived from the resources and decision making of intelligent systems employed by these agents. However,

[5] OPENAI, OpenAI releases GPT-2 1.5B pretraining results [online]. 2019. [Accessed: 04 April 2024]. Available at: https://openai.com/index/gpt-2-1-5b-release/

[6] CALLISTER suggests that GenAIs capacity for analogical thinking is rooted in its ability to compute word vectors or embeddings, which allows it to identify similarities between words and topics based on their vector representations. Cfr. CALLISTER, Paul D. Generative AI and Finding the Law. *Law Library Journal,* 2023, vol. 116, no. 4. DOI: http://dx.doi.org/10.2139/ssrn.4608268

through access, users play an active role by employing interfaces and applications created by developers for massive content generation and become potential disruptive actors[7].

The introduction of customisable agents from user interfaces, a functionality that has been made available to subscribers of premium services offered by developers of these technologies, allows users to configure bots with specific instructions and objectives, endowing them with greater autonomy and the ability to adapt to specific tasks, reinforcing their active position.

Finally, from a legal perspective, this phenomenon has given rise to a multiplicity of issues that have been the subject of exhaustive scrutiny by specialised scholarly literature. While these systems share certain characteristics and effects with other previously studied artificial intelligence technologies, the inherent particularities of language models require a differentiated and detailed analysis for their proper understanding and legal approach.

Therefore, the following section presents an exhaustive review of the specialised literature with the purpose of identifying and analysing the emerging challenges posed by GenAI in the legal field.

3. Uprising challenges of GenAI

The widespread accessibility and mass feedback phenomena described above have amplified both the potential and risks associated with these systems, generating concerns in a variety of domains.

ALLEN and WEYL[8] assert that GenAI models pose threats of both “collapse” and "singularity" to plural societies. With respect to the collapse dimension, they argued that these technologies have the potential to undermine three essential pillars of democracy: authentication, privacy, and shared context.

[7] According to FERRARA, progress in deep learning algorithms and neural network architectures has enabled the development of more advanced and proficient GenAI models that are capable of comprehending and generating intricate data patterns. This advancement has been facilitated by the decline in computing expenses, dissemination of open-source platforms, as well as the availability of user-friendly interfaces and cloud services. The author asserts these innovations have democratised GenAI, making it accessible and usable for a diverse range of users and developers, including those without prior expertise. Cfr. FERRARA, Emilio. GenAI against humanity: Nefarious applications of generative artificial intelligence and large language models. *Journal of Computational Social Science*, 2024, p. 1-21.

[8] ALLEN, Danielle; WEYL, E. Glen. The real dangers of generative AI. *Journal of Democracy*, 2024, vol. 35, no 1, p. 147-162.

In particular, they cautioned that GenAI models could seriously compromise identity verification methods based on electronic documents, thereby jeopardising the integrity of democratic processes that depend on a unique and verifiable citizenry. Additionally, they noted that these technologies could make obtaining personal information so accessible and economical that current protections would become obsolete, thereby threatening both individual privacy and that of dissident groups necessary for civic action. Furthermore, the authors warn that this technology could fragment the information landscape to such an extent that it becomes impossible to establish a common ground for understanding among citizens, a crucial element for public debate and collective decision-making in a functional democracy[9].

These risks to democracy are intensified by additional threats that have been highlighted in the specialised literature. The issues of disinformation and deepfakes have received particular attention.

A comprehensive analysis of the current state of frontier AI, as outlined by SHOAIB et al.[10], highlights the dual role of GenAI. On the one hand, it exacerbates threats such as deepfakes. However, it simultaneously aids the development of innovative detection and defence mechanisms. The authors emphasised the social implications of deepfakes and AIgenerated disinformation, which have multiple interconnected dimensions. In the democratic sphere, these technologies threaten the integrity of the public discourse and electoral processes by manipulating public opinion and eroding trust in institutions.

The research conducted by JONES, LUGER and JONES[11] investigated the potential editorial, legal, and social risks arising from the integration of GenAI in journalism[12]. The authors express concern over the likelihood of copyright infringements, defamation, privacy violations, abusive contracts, and data leaks. Furthermore, they highlight the possible disruption of business models, contamination of the information ecosystem, erosion of

[9] ALLEN, Danielle; WEYL, E. Glen., op. cit., pp. 149-151.

[10] SHOAIB, Mohamed R., et al. Deepfakes, misinformation, and disinformation in the era of frontier AI, generative AI, and large AI models. In *2023 International Conference on Computer and Applications (ICCA)*. IEEE, 2023. p. 1-7.

[11] JONES, Bronwyn; LUGER, Ewa; JONES, Rhia. Generative AI & journalism: A rapid risk-based review. 2023.

[12] Other researchers in the same field have emphasised that automation has been utilised for a considerable period in news recommendations and distribution. However, media organisations are progressively exploring their applications in content creation. Cfr. ARGUEDAS, Amy Ross; SIMON, Felix M. Automating democracy: Generative AI, journalism, and the future of democracy, 2023. [13] SHOAIB, Mohamed R., et al., op. cit., p. 3.

trust, impact on employment, concentration of power, perpetuation of inequalities, and environmental degradation as social risks associated with its implementation.

In the field of journalism and media, verifying content authenticity poses significant challenges, contributing to growing public scepticism. As a general consequence, there is an erosion of social trust that can foster conspiracy theories and deepen polarisation[13].

Concerns have been raised regarding the privacy implications of large language models

(LLMs) and GenAI. KIROVA et al. have noted that these advanced technologies may pose potential risks to the protection of personal and sensitive data, both for individuals and [14]organisations, by processing such information without proper consent or awareness of the affected parties[15]. Furthermore, it has been argued that the capability of these systems to produce synthetic content presents additional privacy challenges as they can generate materials that mimic or disclose the identity, behaviour, or preferences of individuals or groups.[16]. Additionally, GenAI also enable non-consensual creation of false content that can be used to discredit or blackmail individuals[17].

From a cybersecurity standpoint, GenAI models have the potential to boost cybersecurity and perform cyberattacks. Cyber defenders can leverage these models to automate routine tasks, bolster threat detection capabilities, and generate more secure code. On the other hand, cybercriminals may exploit vulnerabilities within these same models to craft sophisticated social engineering attacks, create more convincing phishing schemes, and develop advanced malware[18]

The wide range and intricacy of the challenges that GenAI presents[19] underscores the necessity for a suitable regulatory framework. Nonetheless, as explored in the following

[13] SHOAIB, Mohamed R., et al., op. cit., p. 3.
[14] KIROVA, Vassilka D., et al. The ethics of artificial intelligence in the era of generative AI. *Journal of Systemics, Cybernetics and Informatics*, 2023, vol. 21, no 4, p. 42-50.
[15] We cannot dismiss the possibility that in the not-too-distant future, large platforms developing their LLMs, and generative interfaces will actively request data to train these models.
[16] KIROVA, Vassilka D., et al., op. cit., p. 46
[17] SHOAIB, Mohamed R., et al., op. cit., p. 3.
[18] GUPTA, Maanak, et al. From chatgpt to threatgpt: Impact of generative ai in cybersecurity and privacy. *IEEE Access*, 2023.
[19] One area that has garnered considerable attention in the scientific community, but has not been explored in this paper, is the implications of GenAI on copyright. Some notable studies addressing these issues include LUCCHI, Nicola. ChatGPT: a case study on copyright challenges for generative artificial intelligence systems. *European Journal of Risk Regulation*, 2023, p. 1-23; HAYES, Carol Mullins. Generative artificial intelligence and copyright: Both sides of the Black Box. *Available at SSRN 4517799*, 2023 or SHUMAKOVA, Natalia I.;

section, the suitability of prevailing regulations to tackle these novel challenges is open to debate.

4. Sufficiency of European GenAI's regulatory framework in question

Many of the challenges outlined in the previous section are similar to the current issues faced by contemporary constitutionalism, given the increasing presence of algorithms and artificial intelligence as determinants of organising and transforming society.

A portion of the academic literature considered in this research entailed examining the Union's proposed Artificial Intelligence Regulation, which has undergone considerable development during the legislative process[20] until its final endorsement within the framework of the Spanish presidency of the Council of the European Union[21], with the aim of swiftly adapting to the distinctive features of this technology.

ELGESEM[22] posits that the regulatory model outlined in the AI Act proposal, which focuses on mitigating risks in specific scenarios, is insufficient for overseeing GenAI applications, such as LLMs. This is because it is impossible to delineate all potential contexts of use and relevant stakeholders in such applications.

This contention resonates with the reservations expressed by other researchers, including BASSINI[23] who pointed out that the deficiencies detected were clearly reflected in the legislative process of the EU AI Act. The author highlights how the Council and European Parliament have attempted, perhaps too hastily, to rectify the lack of specific regulations for GenAI in the Commission's original proposal. According to the author, this improvised approach underscores the difficulty in adequately addressing the particularities of this emerging technology within the initially proposed legislative framework.

LLOYD, Jordan J.; TITOVA, Elena V. Towards Legal Regulations of Generative AI in the Creative Industry. *Journal of Digital Technologies and Law*, 2023, vol. 1, no 4, p. 880-908.

[20] DJEFFAL suggested that the original proposal by the European Commission for an AI Act did not explicitly address generative AI, but that it became an important focus in subsequent iterations of the legislative process due to the rapid growth in the adoption of ChatGPT by consumers. Cfr. DJEFFAL, Christian. The EU AI Act at a crossroads: generative AI as a challenge for regulation. *European Law Blog*, 2023.

[21] COUNCIL OF THE EUROPEAN UNION. Council and Parliament strike a deal on first-ever rules for Artificial Intelligence [online]. Spanish Presidency of the Council of the European Union, 9 December 2023 [viewed 20 April 2024]. Available from: https://spanish-presidency.consilium.europa.eu/en/news/council-andparliament-strike-a-deal-on-first-ever-rules-for-artificial-intelligence/

[22] ELGESEM, Dag. The AI Act and the Risks Posed by Generative AI Models. En *NAIS*. 2023.

[23] BASSINI, Marco. Intelligenza Artificiale generativa: alcune questioni problematiche: Generative Artificial Intelligence and law: a primer. *Media Laws*, 2023, no 2, p. 391.

It is not the intention of this study to conduct an in-depth analysis of the ultimately approved Artificial Intelligence Regulation[24], as it would require extensive research exceeding the scope and purpose of this work. However, one can observe the integration of GenAIs into text using the term *"general-purpose AI model"* [25]. The Artificial Intelligence Act underscores the importance of distinguishing between general-purpose AI models and AI systems, highlighting that the former are indispensable components of the latter, but they do not constitute AI systems in their own right[26]. Notwithstanding the apparent clarity of this distinction, it has been subject to criticism by scholars in the field. HACKER, ENGEL and MAUER[27] dispute the comprehensive nature of the definition of *"general-purpose AI"* as outlined in the AI Act. Moreover, they argue that the prescribed risk management obligations are practically unattainable when applied to large generative AI models owing to their inherent adaptability and diverse range of potential applications.

It is worth mentioning that a categorisation differentiated based on risk is still being implemented with a particular focus on the new category of systemic risk. Article 3, paragraph 65 of the AI Regulation explicitly defines systemic risk in relation to the specific dangers arising from the high-impact capabilities of general-purpose AI models, *"having a significant impact on the Union market due to their reach, or due to actual or reasonably foreseeable negative effects on public health, safety, public security, fundamental rights, or the society as a whole, that can be propagated at scale across the value chain"*[28].

NOVELLI et al.29 have recognized advancements in the AI Act revisions regarding risk assessments. Nevertheless, they voice concerns regarding the classification of risks

[24] At the time this scientific contribution is being drafted, the agreed text reached during the Spanish presidency of the Council of the European Union has yet to be formally adopted by the Council. We present the position of the Parliament recently approved. EUROPEAN PARLIAMENT, 2024. Legislative Resolution of the European Parliament of 13 March 2024 on the Proposal for a Regulation of the European Parliament and of the Council Laying Down Harmonised Rules on Artificial Intelligence (Artificial Intelligence Act) and Amending Certain Union Legislative Acts (COM (2021)0206 – C9-0146/2021 – 2021/0106(COD)). In: Official Journal of the European Union.

[25] Recital 99 establishes this conceptual relationship of GenAIs: *Large generative AI models are a typical example for a general-purpose AI model, given that they allow for flexible generation of content, such as in the form of text, audio, images or video, that can readily accommodate a wide range of distinctive tasks.*

[26] Cf. Recital 97.

[27] HACKER, Philipp; ENGEL, Andreas; MAUER, Marco. Regulating ChatGPT and other large generative AI models. In: *Proceedings of the 2023 ACM Conference on Fairness, Accountability, and Transparency*. 2023. p. 1112-1123.

[28] Recital 110 states that general-purpose AI models can produce systemic risks. It warns that this type of model can generate systemic dangers in various aspects: adverse consequences for public health and safety; disruptions to critical sectors, which could be derived from serious accidents or actual or foreseeable impacts on these areas; risks related to potential negative effects on democratic processes and economic and political stability; dangers linked to the replication or training of other models with harmful biases; and risks stemming from disinformation, privacy breaches, or chain reactions with wide-ranging negative consequences.

[29] NOVELLI, Claudio, et al. Generative AI in EU law: liability, privacy, intellectual property, and cybersecurity. *arXiv preprint arXiv:2401.07348*, 2024.

associated with general-purpose AI systems. They contended that the proposed framework may not accurately capture the unique risks posed by end applications, leading to the creation of imprecise risk categories. In particular, the authors challenge the concept of systemic risk by asserting the following: "*the trilogue's two-tier classification of standard and systemic risks for LLMs may be complex, particularly in its definition of systemic risk, which is primarily based on the computational resources used for training, measured in FLOPs"* (p. 4).

What is evident is that a thorough comprehension of the technological foundations of GenAI is indispensable before the implementation of legislation. Per GUALDI & CORDELLA[30], possessing such knowledge will empower regulators to draft informed and effective regulations for this rapidly progressing technology[31].

We have conducted a preliminary examination of the legislative process surrounding the incorporation of GenAI into the AI Act. This preliminary analysis does not encompass the entirety of the regulatory framework, which is subject to review.

Considering the considerable extent of GenAI's disruptive potential that is currently being realized on large online platforms, it is pertinent to explore other regulatory instruments that are expected to play a critical role in the context of evolving European digital constitutionalism[32].

Although Digital Services Act[33] (DSA) came into force on February 17, 2024 applying to all platforms, its applicability to GenAI systems remains a subject of debate. BASSINI analyzes this potential application, acknowledging that while the DSA was not

[30] GUALDI, Francesco; CORDELLA, Antonio. Theorizing the regulation of generative AI: lessons learned from Italy's ban on ChatGPT. In: Proceedings of the 57th Hawaii International Conference on System Sciences. 2024.

[31] The researchers assert that the prohibition imposed by the Italian data protection authority on ChatGPT was solely based on legal and ethical aspects related to privacy and personal data protection, without considering the specific technological features of the generative AI system. They believe the ban only addressed issues such as informed consent, data accuracy, and age restrictions, but it did not evaluate the linguistic processing of the training data by ChatGPT to produce human-like new text ignoring how the algorithm operates.

[32] DE GREGORIO proposes a new phase in the evolution of EU policy towards emerging technology: European digital constitutionalism. During its conceptualization, he asserts: *"Digital Services Act will play a critical role in articulating the next steps of European digital constitutionalism." (p.63).* Cfr. DE GREGORIO, Giovanni. The rise of digital constitutionalism in the European Union. *International Journal of Constitutional Law*, 2021, vol. 19, no 1, p. 63.

[33] EUROPEAN UNION. Regulation (EU) 2022/2065 of the European Parliament and of the Council of 19 October 2022 on a Single Market for Digital Services and amending Directive 2000/31/EC (Digital Services Act). Official Journal of the European Union [online]. 27 October 2022, L 277, p. 1-102 [viewed 20 april 2024]. Available from: http://data.europa.eu/eli/reg/2022/2065/oj.

originally conceived to regulate these systems, there exists a minority thesis suggesting a possible extensive interpretation based on the definition of online search engines[34].

VERMEULEN and LEMOINE[35] explored this issue in greater depth, emphasising that the applicability of DSA to GenAI systems significantly affects the product design and its connections to established platforms classified as very large platforms or search engines. The authors differentiate GenAI as a standalone entity and as an embedded service, suggesting that standalone applications could be classified as intermediaries under DSA if they are deemed "online search engines" or "hosting" services. However, the authors acknowledge the ambiguity surrounding this legal classification and suggest that regulators need to conduct a case-by-case analysis to determine the appropriate course of action[36].

This debate aligns with the observations made by NOVELLI et al., who emphasise the absence of EU regulations for misinformation produced by LLMs and point out that expanding the DSA could be the most effective solution, given the escalating incorporation of LLMs into online platforms. The authors contend that updating both the AI Act and DSA is crucial to effectively confront LLM-generated false information.[37].

Considering the preceding analysis of the legislative evolution of the AI Act and the considerations surrounding the potential applicability of DSA to GenAI systems, an inescapable reality in the European regulatory landscape becomes evident. The regulatory initiatives proposed at the EU level, while representing significant efforts to address the challenges posed by GenAI, reveal substantial limitations in the dynamic and multifaceted nature of these technologies. The rapidity of technological advancements, the breadth of GenAI systems' capabilities, their increasing accessibility, and their inherent adaptability present regulatory challenges that transcend the scope of the current normative frameworks.

5. GenAI's comprehensive understanding through digital constitutionalism

[34] BASSINI claims that despite potential benefits in extending the DSA to GenAI developers, such expansion would necessitate significant legislative reform, highlighting the complex challenge of adapting existing regulations to rapidly evolving AI technologies. BASSINI, Marco. op. cit., p. 4.

[35] VERMEULEN, Mathias; LEMOINE, Laureline. Assessing the extent to which Generative Artificial Intelligence (AI) falls within the scope of the EU's Digital Services Act: an initial analysis. *Available at SSRN*, 2023.

[36] Ibidem p.11.

[37] NOVELLI, Claudio, et al., op. cit., 25.

In the preceding section, the inherent tension between the fluid and the dynamic nature of GenAI systems and rigid traditional frameworks has been elucidated.

When ALLEN and WEYL[38] examined the "singularity" aspect as part of their research, they posited that the development of advanced AI systems, particularly LLMs, is resulting in an alarming concentration of power among a select group of technocrats and corporations. This concentration of power, however, is not occurring in isolation but rather as part of a broader shift in the distribution of responsibilities between public and private domains[39].

This poses considerable risks to democracy and pluralism, as these technologies possess the potential to significantly influence the economy and society, while decisions about their design and deployment remain in the hands of a few unelected individuals[40].

Although GURUMURTHY and CHAMI's[41] research primarily focuses on the role of major technology companies in shaping public discourse platforms, it is important to note that these platforms are inherently intertwined with algorithmic systems. Despite the central focus of their study, the presence and influence of algorithms on these platforms cannot be overlooked. This becomes particularly relevant when considering the potential impact of GenAI on spaces intended for public debate where some of the most significant negative effects are likely to manifest.

The issues highlighted are vividly depicted in FERRARA's[42] compelling scenario which serves as a potent extension of the challenges previously discussed. The author presents a vision of a world dominated by AI-powered botnets and blurred lines between reality and AIgenerated content:

Imagine a world where AI-powered botnets dominate social media, where harmful or radicalizing content is churned out by algorithms and where the lines between reality and AI-generated content blur. A world where the same technology that can be used to restore lost pieces of art or ancient documents, can also be used to fabricate evidence, craft alibis, and conceive the "perfect crime" (see Table 1B). Many of these scenarios that until recently

[38] ALLEN, Danielle; WEYL, E. Glen. op. cit., pp. 151-152

[39] This shift aligns with DE GREGORIO'S observation. He argues that in the algorithmic society, constitutional democracies confront significant threats primarily from private actors rather than exclusively from public

[40] ALLEN, Danielle; WEYL, E. Glen. op. cit., p. 152.

[41] GURUMURTHY, Anita; CHAMI, Nandini. Towards a global digital constitutionalism: A radical new agenda for UN75. *Development*, 2021, vol. 64, p. 29-38.

[42] FERRARA, E. op. cit., p.2.

we would have ascribed to futuristic science fiction are already enabled by GenAI and LLMs (p.2).

Considering the intricate relationship between GenAI and false information or misinformation, ZLATEVA et al.[43] have drawn attention to a number of ethical considerations. To address the multifaceted challenges that they present, the authors propose a theoretical structure as a potential solution. However, it is crucial to note that while this theoretical framework may serve as a valuable starting point for discussion, it primarily operates within the realm of ethics. Precisely, the consolidation of private power within an algorithmic society presents a significant threat to democracy, as it undermines democratic governance by enabling private entities to establish regulatory frameworks beyond traditional representative processes[44].

Therefore, beyond ethical considerations, it is essential to consider BALAGUER CALLEJÓN's[45] perspective on the tension between the public nature of digital spaces and the private interests of tech corporations, particularly when he argues that digital ecosystems cannot monopolistically occupy public space and communicative processes while simultaneously expecting their activities to be governed solely by private law.

We acknowledge the necessity of a theoretical framework that can offer a more extensive response to the challenges presented by GenAIs. However, due to the reasons outlined, we propose that this framework should stem from constitutionalism. This proposition is rooted in the classical perspective of constitutionalism, which fundamentally aims to restrict power to protect liberty even as the digital environment undergoes significant changes[46]. However, it is increasingly apparent that classical constitutionalism by itself is insufficient to discharge its historical function within the algorithmic society. This limitation has been acknowledged by BALAGUER CALLEJÓN[47], who posits that it is essential to

[43] The authors include issues related to authenticity and accuracy, fairness and bias, openness and clarity, responsibility, intellectual property rights, economic and social ramifications, privacy and safety, and erosion of human abilities. Cfr. ZLATEVA, Plamena, et al. A Conceptual Framework for Solving Ethical Issues in Generative Artificial Intelligence. In: Electronics, Communications and Networks. IOS Press, 2024. p. 110-119.

[44] DE GREGORIO, Giovanni. *Digital constitutionalism in Europe.* op. cit., pp. 19-20.

[45] BALAGUER CALLEJÓN, Francisco. Inteligencia artificial y cultura constitucional. In: F. BALAGUER CALLEJÓN et al. *Derechos fundamentales y democracia en el constitucionalismo digital*. Primera edición, 2023. Cizur Menor (Navarra): Aranzadi, 2023, p. 65

[46] SÁNCHEZ BARRILAO, Juan Francisco. Constitucionalismo digital: entre realidad digital, prospectiva tecnológica y mera distopía constitucional. In: F. BALAGUER CALLEJÓN et al., *Derechos fundamentales y democracia en el constitucionalismo digital*. Primera edición, 2023. Cizur Menor (Navarra): Aranzadi, 2023, p. 97 [47]

[47] BALAGUER CALLEJÓN, Francisco. La Constitución del Algoritmo. *Fundación Manuel Giménez Abad, Zaragoza*, 2022, op. cit., p. 30.

subject the digital world's new reality to constitutional principles and values (i.e., constitutionalising algorithms) while also adapting the constitution itself to the conditions of a world that can no longer be fully governed by the terms of an analogue constitution (i.e., digitalising the constitution).

According to SARLET and DE BITTENCOURT SIQUEIRA[48], the emergence of digital constitutionalism aims to apply classic constitutional principles to the online sphere with two goals: to ensure that rights are protected and promoted on the Internet, and to establish limits on the authority of those who set the rules for network usage. However, the crucial aspect of digital constitutionalism as a theoretical approach lies in the fact that its objective is not merely the application of traditional constitutionalism's principles to the digital realm but rather a careful adaptation that takes into account essential values[49]. Values are key, especially when disputed by large technological companies[50].

Limits and values to meet GenAI developers and platforms.

6. Final Considerations

Digital constitutionalism, as an evolving theoretical framework[51], lacks a unified perspective to approach emerging technologies such as GenAI precisely because of the different constitutional values rooted in constitutional traditions and cultures, internally and externally considered[52]. As we have addressed its treatment under the EU framework, a few considerations must be contemplated:

First, the EU's strategy to adopt a human-centric approach to regulating AI and GenAI includes the establishment of prohibitions on the introduction to the market, putting into service, and use of specific AI systems that are contrary to the values promoted by the EU and harmful to fundamental rights[53].

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48 SARLET, Ingo Wolfgang. and DE BITTENCOURT SIQUEIRA, Andressa. Los retos de la regulación de las plataformas de redes sociales: un análisis a la luz del constitucionalismo digital. In: F. BALAGUER CALLEJÓN et al., *Derechos fundamentales y democracia en el constitucionalismo digital*. Primera edición, 2023. Cizur Menor (Navarra): Aranzadi, 2023, p. 303.

49 CELESTE, Edoardo, Digital constitutionalism: how fundamental rights are turning digital. In: J.A. LEITE SAMPAIO, *A inteligência Artificial A (des)serviço Do estado de direito*. RTM, 2023, pp. 13-36. ISBN 978-65-5509-140-3.

50 AGUILAR CALAHORRO, Augusto. Valores constitucionales y sociedad digital. In: F. BALAGUER CALLEJÓN et al., *Derechos fundamentales y democracia en el constitucionalismo digital*. Primera edición, 2023. Cizur Menor (Navarra): Aranzadi, 2023, pp. 113-141. ISBN 978-84-11-25824-1.

51 CELESTE, Edoardo, Digital constitutionalism: how fundamental rights are turning digital. op. cit., p. 31.

52 DE GREGORIO, Giovanni. *Digital constitutionalism in Europe.* op. cit., p. 5

53 LAUKYTE argues that it is not possible to implement any digital technology in the EU public sector unless it complies with the fundamental values and rights of the EU *"established as core elements and nonnegotiable assets of*

Second, despite the observed inadequacies resulting from deficiencies detected in legislative processes, the lack of regulatory interconnection and understanding of the characteristics of generative AI, its regulatory activity, and political vocation in the context of what has been termed digital sovereignty is a sign of alignment with the state of development of digital constitutionalism as a stage. Specifically, a third phase where EU *"has complemented liberal goals with a new (digital) constitutional strategy"* [54], a *"third way"* that positions EU between the extremes of unrestrained digital capitalism and state-centric digital humanism[55].

Third, although evolutionary trends suggest global promotion of these values, the EU's efforts to establish a technological stance based on constitutional principles and values face a complex geopolitical landscape. This task is complicated by the diverse conceptions of AI development that compete in a global context. Nevertheless, from a teleological perspective, the EU is destined to pursue this objective, especially when recognizing that to prevent the "*hollowing out of democracy from within*", it is imperative to "*recover the constitutional role inherent to the public sphere*"[56]. This mission can only be conceived of within the framework of digital constitutionalism as a response to the ongoing digital revolution.

Finally, to complete this vision, it is essential to not overlook the aspects that derive from the democratisation of GenAI. Therefore, digital constitutionalism, according to GOLIA[57], should focus not only on threats from states and private platforms but also on the integrity risks that arise from depersonalised social processes of power accumulation.

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[54] DE GREGORIO, Giovanni. The rise of digital constitutionalism in the European Union, op. cit., p. 66.

[55] DE GREGORIO, Giovanni. *Digital constitutionalism in Europe*. op. cit., p. 284.

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[57] GOLIA, Angelo Jr. Critique of digital constitutionalism: Deconstruction and reconstruction from a societal perspective. *Global Constitutionalism*, 2023, p. 6.

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