FOUNDATION FOR PARLIAMENTARISM
AND PARTICIPATORY DEMOCRACY

The Impact of AI on Deliberative Democracy

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This book documents the proceedings of the conference co-organised by the Foundation for Parliamentarism and Participatory Democracy of the Cypriot House of Representatives, the Hellenic Parliament Foundation, the European Parliament, the Estonian Parliament, the Italian Chamber of Deputies, the Portuguese Assembly of the Republic, the Spanish Congress of Deputies and the Austrian Parliament.

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Full video here

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Opening Remarks by the President of the House of Representatives

H.E. Ms Annita Demetriou

Honourable colleagues,
Esteemed speakers,
Dear guests, Ladies and Gentlemen,
(Good morning to everyone!)
In my dual capacity as President of the House of Representatives of the Republic of Cyprus and Chair for the Board of Directors of the Foundation for Parliamentarism and Participatory Democracy, I would like to welcome you all and express my gratitude both for your presence and your subsequent contributions to this important, and may I add, timely event, which will focus on the impact of artificial intelligence on deliberative democracy.

Targeted-themed events of this spectrum are undeniably significant for us in Cyprus as hosts, since they not only foster collaboration between parliaments but also enhance knowledge and expertise through focused exchange of views and cutting-edge material; in short, the aspiration is that everyone will take back with them new information, innovative data and, hopefully, fond memories of their brief time in Cyprus, both in tangible and digital form!

Our valued guest speakers will seek to explore, inter alia, the impact of AI on human rights, democracy and the rule of law, delve into digital literacy in respect to our parliamentary work as well as its effect on parliamentary procedures, while contributing to our understanding on AI vis-a vis user interaction. Moreover, through their presentations and the ensuing debate, you will be encouraged to expand your knowledge on AI and data literacy, in addition to the hot topic of whether or not AI challenges current forms of governance.

In this respect, I feel proud that the Foundation of the House is set on a path of achieving the goals and purposes defined with its establishment and is now accomplishing thought-provoking work towards the study of aspects of parliamentarism, participatory democracy and digital citizenship. The aim is to cultivate solid interaction by encouraging public dialogue on a range of topics and promoting scientific research. At the same time, through the Foundation's activities, the objective is to further develop the cooperation between the House and the academic community, while practicing sustainable parliamentary diplomacy. We aim for this goal to be achieved through cooperation between corresponding parliamentary foundations or research institutions, in order to build on an

extrovert attitude via networking. Therefore, I am particularly pleased that we have managed to organise this event in collaboration with the parliaments and/or respective parliamentary foundations of Greece, Austria, Estonia, Italy, Portugal, Spain and, last but by no means least, the European Parliament.

As the pressures to deploy automated decision-making systems in the public sector become prevalent, we need to systematically examine how the use of AI in this context, in addition to existing data governance regimes and national regulatory practices, can exacerbate existing power asymmetries.

Thus, the specific effects of automated decision support systems on public procedures and services must be examined, in relation to the growing expectations for governments to play a more prevalent role in digital society and to ensure that the full potential of technology is being harnessed.

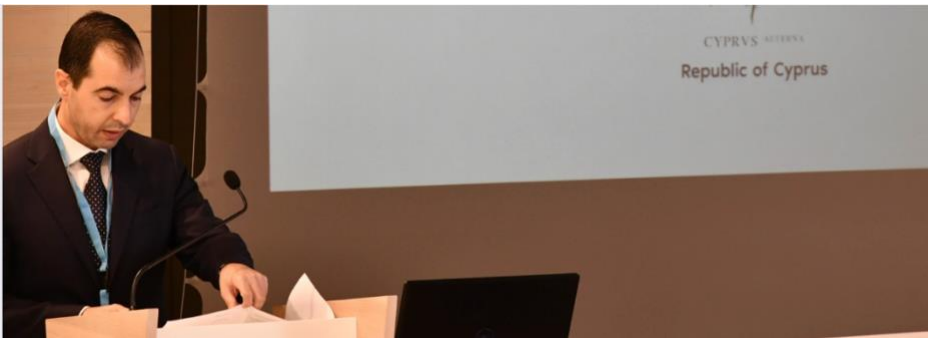
The regulatory framework for AI has become a crucial policy issue, as more and more innovations are based on large scale data collections from digital devices and the real-time accessibility of information and services, contact and associations between institutions and citizens could strengthen –or undermine- trust in governance systems and democracy.

Ladies and gentlemen,
Your input as experts in your respective fields and your thought-provoking attendance as participants, will contribute towards establishing a constructive informational basis with a user-friendly approach to the innovative yet controversial environment of AI, which parliaments are still familiarizing with.
To this end, let me express my very best wishes for successful and fruitful deliberations that will produce valuable outcomes, which can be constructively applied in our everyday parliamentary proceedings and practices.
Thank you for your time and valued participation.

Opening remarks by the Executive Director Foundation for Parliamentarism and Participatory Democracy House of Representatives

Dionysos Alexiou

Honourable colleagues,
Esteemed speakers,
Dear guests,
Ladies and Gentlemen,
Let me start by welcoming to Cyprus the participating speakers from the other collaborating European parliaments, especially the guest speaker Mr Kristian Bartholin, whose presence adds a significant hallmark to this conference, and, of course, all of you whose presence constitutes an honour both for the Foundation for Parliamentarism itself and for this initiative.
Today's conference marks the third iteration of an initiative that started in Greece and continued in Portugal during the past two years. The purpose of the previous, current, and upcoming conferences is to deeply explore issues related to technological literacy and the digitisation of citizen engagement within a framework of democratic coexistence.



The participation of civil society, as a changing and potentially adaptable entity, navigates through a technological corridor that often takes the form of emerging organisations and institutes, collectively addressing issues of ethics, freedom of expression, and respect for human rights in general.

Aspects such as the security of personal data, the prevention of cyberattacks, and the risks or opportunities presented by the technological revolution and digitisation have been themes for analysis by experts from various fields. Now traversing the intriguing "labyrinth" of artificial intelligence, this year's conference focuses on two significant aspects: the influence on the essential functioning of parliaments regarding internal processes, services, and committees, as well as the communication among elected members, and, secondly, the extent to which artificial intelligence can impact the governance of a democratic state.

Professor Sune Lehmann recently stated that "artificial intelligence can analyse data on people's residence, education, income, health and working conditions and predict life events with high accuracy".

From my point of view, we need to focus on the significant level of foresight regarding the future role of artificial intelligence itself. This non-human power in the past refers to the oracles, for instance in ancient Greece, or philosophers' explanations during the Middle Ages. What disrupts this apparent ambiguity regarding the issue of prediction is the future use of artificial intelligence. Artificial intelligence, through data analysis, brings forth an extremely dangerous possibility and creates engaging data aimed at achieving a trend that can be characterised ambiguously by suspicion and obscurantism.

What emerges as a question is whether we can predict future events based on conditions and events in our past. This could be a million-dollar question for the nearest future.

What I am sure about is that this model opens up important positive and negative perspectives to discuss and address politically. Similar technologies for predicting human behaviour are already used today inside tech companies, for example tracking our behaviour on social networks, profiling us extremely accurately, and using these profiles to predict our behaviour and control it. This discussion needs to be part of the democratic conversation so that we consider where technology is taking us and whether this is a development we want.

Allow me to conclude with a somewhat unconventional reference.

A neural network is a computer model inspired by the brain and the nervous system of humans and animals. Similarly to the brain, a neural network is made up of artificial neurons. Each neuron receives input from other neurons and then calculates an output. A network like this can learn to solve tasks, by training on large amounts of data.

These networks rely on training data to learn and improve their accuracy over time. But once these learning algorithms are finetuned for accuracy, they become potent tools in computer science and artificial intelligence that allow us to classify and group data at high speed. This could either be a creepy scenario or an undisputed beneficial tool for democracy and for humanity at large.

Address by the President of the Cyprus Academy of Sciences, Letters, and Arts

Achilles C. Emilianides

The initiative to foster increased co-operation amongst European parliaments on issues of digital technologies and how they affect our representative democracies originated with the Hellenic Parliament Foundation. A number of European national Parliaments, as well as the European Parliament itself, immediately joined the initiative, and started deliberating.

This led to a Conference held in Athens on 10-12 June 2022, hosted by Evanthis Hatzivassiliou and his associates, and co-organized by the Cypriot House of Representatives, the Estonian Parliament, the Italian Chamber of Deputies, the Portuguese Assembly, the Spanish Congress of Deputies, and the European Parliament. The topic of the Conference was "Digital Technologies and the Stakes for Parliamentary Democracy".

The subsequent year, this informal group of European Parliaments co-operated once again, and a second Conference was hosted in Portugal by the Portuguese Parliament on 16-17 June 2023, thanks to the initiative of Bruno Dias Pinheiro and his colleagues in Lisbon. The topic was "Digital Literacy: Why it Matters for Representative Democracy".

The proceedings of both the Athens and the Lisbon Conference have already been published and are available for all in e-book form, and have allowed for Parliaments to exchange good practices and ideas, together with scholars, practitioners, and the public, for the future of democracy.

Having participated in this process since the initial deliberations for the Athens Conference, and having participated in Lisbon, it is with great pleasure that I welcome all delegates in today's Conference in Nicosia. I consider that this informal increased co-operation amongst Parliaments constitutes an extremely good practice at a European level, and it is important that the Cypriot House of Representatives has embraced this initiative since the beginning.

The topic is a pressing issue of extreme importance. Recent years have been marked by an exponential growth of AI to an extent that it has entered all fields of life. It is telling that this year two AI specialists were amongst the recipients for Nobel Prizes

in the fields of Physics and Chemistry respectively. With the US and China being the leaders in AI development, the EU has just recently enacted the AI Act as a common regulatory and legal framework for AI. Artificial Intelligence is changing society as we know it, for better or worse. The Cyprus Academy for Sciences, Letters, and Arts, that I represent, i.e. the national Academy of Cyprus, has also unsurprisingly included AI and its effects in its primary topics of interests.

Today's panel is impressive, consisting of key stakeholders, scientists, and policymakers, and thus allow me to congratulate the organizers, and extend thanks in particular the President of the House of Representatives Annita Demetriou, and the Director-General Tasoula Ieronymidou. The recent establishment of the Foundation for Parliamentarism and Participatory Democracy of the House of Representatives provides a significant impetus in the House of Representatives tackling important issues like the one we are currently dealing with, and I am pleased that the House selected Dr Dionysos Alexiou as the Executive Director for the Foundation, who has worked hard for the preparations of today's Conference, which is hosted in this excellent venue.

Archimedes famously said "Give me a place to stand, and I will move the earth". With artificial intelligence this saying is more relevant than ever before. However, the need for a responsible use of AI so that the benefits for representative democracy and for societies outweigh the risks is more pertinent than ever. I am certain that our deliberations today will be fruitful. The proceedings of the Conference, once published, together with the Athens and Lisbon proceedings, can guide our further

collective actions for the benefit of our systems of representative democracy.

The Council of Europe Framework Convention on Artificial Intelligence and Human Rights, Democracy and the Rule of Law

Kristian Bartholin

Head of Digital Development Unit, Secretary to the Committee on Artificial Intelligence (CAI), Council of Europe

The last couple of years have witnessed a truly impressive increase in the capacities of artificial intelligence systems, and a just as impressive "democratisation" of the relevant technology. Anyone with access to a computer (or a smartphone) can make use of various forms of AI systems, such as large language models or other forms of generative AI and create content.

AI comes with great promise for innovation in science, in education, in health care, in business, in administration, and it is likely to revolutionise how we interact and communicate with each other.

Yet AI also comes with a darker side. It may be used to undermine democratic processes, including by spreading lies and fake news; it can be used for surveillance purposes –to control the population and marginalise any political protest; it may be biased in decision-making and lead to breaches of human rights. Activities throughout the lifecycle of an AI system may interfere with personal data protection rules.

Let me underline that it is not the technology per se that poses these problems: We should not fear the algorithms –but we

should be wary of how and in which contexts they are being developed and used.

Therefore, the Council of Europe, in close cooperation with its like-minded partners in Europe and beyond, has elaborated a new Framework Convention on Artificial Intelligence and Human Rights, Democracy and the Rule of Law.

In 2019, the Council of Europe set up a committee to examine the need and feasibility of regulating AI in international law. This committee (CAHAI) issued a feasibility study in 2020, concluding that such a need indeed existed. In 2021, the CAHAI also issued a document outlining the main elements that could be included in a legally binding treaty on AI and human rights, democracy and the rule of law.

In 2022, the CAHAI was replaced by a new committee on AI (CAI), which was entrusted by the Committee of Ministers with establishing an international negotiation process for the purpose of elaborating, inter alia, a legally binding treaty on AI.

On 14 March 2024, the CAI successfully finalised the negotiations of a draft Framework Convention on Artificial Intelligence and Human Rights, Democracy and the Rule of Law. In addition to the member states of the organisation, Argentina, Australia, Canada, Costa Rica, the Holy See, Israel, Japan, Mexico, Peru, the United States of America, and Uruguay participated in the negotiations. The European Union represented its member states. 68 representatives of civil society, industry, academia, and international and regional organisations also contributed to the shaping of this new treaty to make the process as participatory and inclusive as possible.

The treaty has been adopted by the Committee of Ministers on 17 May 2024 and will be opened for signature and ratification in

Vilnius, Lithuania, on 5 September 2024. It is our hope that this – the world's first international treaty on AI– will in due time become the global standard for regulating the development and use of AI systems in human rights, democracy and rule of law sensitive contexts.

The principles contained in the Framework Convention are applicable to both public and private sector AI systems. These principles include respect for human dignity and individual autonomy, transparency and oversight, accountability and responsibility, equality and non-discrimination, privacy and personal data protection, reliability, and safe innovation.

The Framework Convention does not create new human rights specific to AI, but ensures that all existing human rights, including those relating to the protection of personal data, will prevail also in situations where an AI system is involved in taking or informing decisions.

The challenges that the AI technology poses to society cannot be meaningfully addressed at domestic, or even regional, levels only. To be efficient, there must be a global legal framework, creating a level playing field for all relevant actors across regions and providing for international cooperation. This is exactly what the Council of Europe's Framework Convention offers.

It is often alleged that regulation constitutes a hindrance for technological innovation, and for the resulting economic growth. This is, however, manifestly not the case, if the regulation in question is sufficiently targeted and calibrated. On the contrary, such regulation may rather improve the chances of economic growth, because it favours responsible innovation and allows for societies to make use of the technology without

having to fear unintended consequences in the form of abuse and misuse by the state or by a private entity.

We are facing a digital divide globally –and the uneven access to AI technology across the world's various regions (as well as the uneven protection against abuse and misuse) makes this problem even more important to address now and in the future. It is our aim with the Framework Convention to contribute to the bridging of this divide.

Let me end this presentation by underlining my belief that new and emerging digital technologies, such as AI, will ultimately prove to be of benefit for humanity.

AI technology offers economic and scientific development to societies across the globe –but as humanity we must, at the same time, beware of the temptation to uncritically rely on the technology.

Above all, we must not let ourselves be seduced by the capacities offered by the technology. AI technology, if used responsibly, benefits us. Used irresponsibly, it may contribute to undermining our human rights, democratic processes, and the rule of law.

Digital Literacy and Representative Democracy: Key Findings from the Lisbon Conference,

Bruno Dias Pinheiro
Permanent Member of the COSAC Secretariat

In an era increasingly defined by digital transformation and artificial intelligence, democratic institutions face unprecedented challenges and offer new opportunities. Based on the proceedings of the Conference, published here, this article reflects on the outcomes of the second conference in the series Digital Literacy: Why It Matters for Representative Democracy, held in Lisbon in June 2023, and connects them with the ongoing discussions in Nicosia, where the third Conference took place. Drawing on the contributions from a diverse group of stakeholders, including parliamentarians, academics, and practitioners, the article outlines six key takeaways, explores future applications for legislators and parliamentary staff, and makes reference to the strategies for democratic resilience in the face of digital disruption, The role of digital literacy is emphasised as essential to democratic participation, transparency, and integrity.

1. Introduction

The ongoing series of conferences on digital literacy and representative democracy, inaugurated in Athens in 2022 and followed by a major event in Lisbon in 2023, has created a unique platform for interdisciplinary dialogue amongst Parliaments on the impact of digital technologies on

democratic systems. By the time of the most recent gathering in Nicosia, this initiative had grown to include a broader range of participants and had produced two significant publications. The conferences aim to foster informed discussion on how digital tools and artificial intelligence are reshaping the practice of democracy, and how parliaments can respond to these transformations.

2. The Lisbon Conference: Scope and Themes

Organised under the leadership of Professor Alexandre Quintanilha, Chair of the Committee on Education and Science of the Portuguese Assembleia da República, the Lisbon Conference in June 2023 focused on the theme Digital Literacy: Why It Matters for Representative Democracy. The event brought together a wide array of contributors from academia, politics, civil society, and the private sector (industry). Discussions addressed both the opportunities and the risks of the digital age for democratic governance. The outcomes were documented in a comprehensive e-book, which serves as a resource for further research and policy development, published here.

3. Key Findings

3.1 The Role of Parliaments in the Digital Transition

Parliaments are central to the generation and dissemination of political knowledge. Their involvement in shaping digital policy and fostering public engagement with digital tools is vital to ensuring transparency and inclusivity in governance.

3.2 Digital Tools for Civic Participation

Digital platforms such as e-voting and civic portals can enhance democratic engagement. However, their implementation must account for significant limitations, including methodological concerns related to data representativeness and the risk of bias or exclusion. Critical digital literacy is necessary to interpret and contextualise online information accurately.

3.3 Artificial Intelligence and Digital Governance

AI offers valuable tools for parliamentary processes, including text mining and sentiment analysis, which can inform decision-making. Nevertheless, these technologies also introduce challenges regarding transparency, ethical governance, and algorithmic bias.

3.4 Combating Disinformation

Disinformation poses a serious threat to democratic values. Addressing it requires cooperation among governments, digital platforms, and civil society. Promoting digital literacy is essential to empower citizens against manipulation.

3.5 Cybersecurity as a Democratic Concern

As democratic institutions increasingly depend on digital infrastructure, they become more vulnerable to cyberattacks. Robust cybersecurity strategies are required to protect the integrity of democratic systems.

3.6 Digital Literacy and Democratic Resilience

Digital literacy goes beyond technical proficiency. It entails the capacity to engage critically with digital environments, helping citizens resist manipulation and participate effectively in democratic life.

4. Applications for Parliamentary Work

4.1 For Elected Members

Advanced analytics offer significant benefits to elected members, supporting evidence-based decision-making and enhancing communication with constituents. Through tools such as data visualisation, trend identification, natural language processing, and sentiment analysis, members of parliament can gain deeper insights into public opinion, policy impacts, and emerging concerns. These capabilities contribute to improved responsiveness, transparency, and service delivery.

4.2 For Parliamentary Staff

Parliamentary administrations also stand to benefit from digital tools. Analytics can support IT system optimisation, enhance cybersecurity, and improve operational efficiency. Budgetary analysis and forecasting can be enhanced through financial data analytics, while chatbots and digital platforms can improve user support services by managing inquiries at scale and providing personalised responses.

5. Why Digital Literacy Matters for Representative Democracy

5.1 Ensuring Transparent Governance

Digital literacy enables citizens to critically assess political information, promoting transparency and holding governments

accountable. As legislative bodies increasingly rely on digital platforms for communication and decision-making, an informed public becomes an essential element of democratic oversight.

5.2 Strengthening Civic Participation

Access to digital tools alone does not guarantee democratic participation. Citizens must possess the digital skills necessary to navigate and utilise e-democracy platforms, such as online petitions and e-voting systems. Literacy in these tools fosters greater inclusion and democratic engagement.

5.3 Protecting Democracy from Manipulation

In the age of disinformation and algorithmic political messaging, digital literacy acts as a safeguard against manipulation. Educated citizens are better equipped to distinguish between credible sources and misleading content, thereby ensuring more informed participation in the democratic process.

6. Strategic Recommendations for Democratic Resilience

Invest in AI Literacy and Critical Thought

Parliaments should prioritise the development of AI literacy among both legislators and the public. This includes understanding AI's capabilities and limitations, and fostering critical engagement with AI systems.

Implement Ethical AI Guidelines

Developing and enforcing transparent and accountable AI governance frameworks is essential. This includes ethical principles for algorithmic decision-making and personal data usage.

Use AI to Enhance Participation and Decision-making

AI-driven tools can support participatory democracy and streamline legislative processes. They should be used to analyse public sentiment, automate data processing, and facilitate civic engagement.

Address Cybersecurity Threats Proactively

Legislative bodies must adopt proactive cybersecurity strategies to counter threats such as deepfakes, misinformation, and cyberattacks targeting electoral and parliamentary systems.

Leverage AI for Transparency and Accountability

AI can enhance transparency by providing real-time access to legislative data and enabling public oversight of government activities.

Monitor and Regulate AI Use in Political Campaigns

Regulation of AI in political advertising is necessary to prevent voter manipulation through micro-targeting and opaque data practices.

7. Conclusion

The Lisbon Conference reaffirmed the essential role of digital literacy in upholding the principles and practices of representative democracy. As digital technologies permeate political communication, public administration, and civic life, parliaments must evolve accordingly. They must act not only as regulators of digital transitions but also as active promoters of digital competencies across society.

The conference made it clear that digital literacy encompasses more than access to technology. It includes the ability to critically interpret digital content, to participate effectively in digital democratic processes, and to navigate emerging ethical

challenges posed by artificial intelligence and algorithmic governance.

Moreover, discussions in Lisbon underscored the value of collaboration across sectors. Democratic resilience will depend on parliaments working with academia, civil society, and technology providers to build inclusive and ethically sound digital ecosystems. As shown by the examples of the European and UK parliaments, proactive strategies and ethical frameworks can guide AI adoption in line with democratic values.

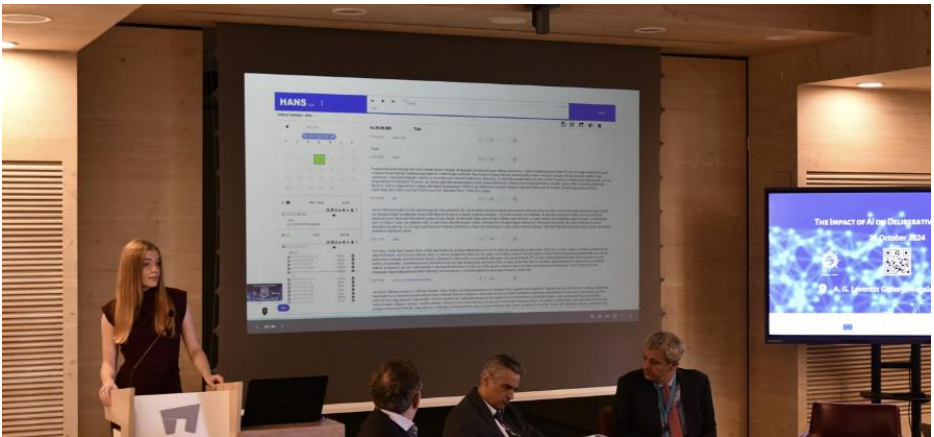
Looking forward, the path to a digitally literate democracy lies in sustained investment in education, transparent governance practices, and inclusive digital policy-making. Through such efforts, parliaments can help ensure that democratic systems remain robust, adaptive, and equitable in the face of technological change.

Estonia's AI-Powered Parliament: Harnessing AI for Effective Governance

Kristiina Krause

EU Affairs Committee adviser and specializes in digital topics, such as AI

As artificial intelligence continues to reshape various aspects of society, legislative institutions are increasingly faced with the challenge of adapting to rapid technological advancements. It has become fundamental to not only regulate AI, but also harness its potential to improve governance, transparency, and efficiency. Estonia, globally recognised as a digital pioneer, has embraced AI-driven solutions in its public sector processes, and its parliament has become one of the most forward-thinking legislative bodies in Europe. Studying Estonia's experience can provide a comprehensive understanding of how AI can be leveraged to enhance parliamentary efficiency, accessibility, and responsiveness. As digital transformation accelerates, Estonia's case serves as an important model for other legislatures navigating the complexities of AI adoption in the public sector.



Estonia, despite its small size, has built a global reputation of a true digital frontrunner. In 2025, Estonia has reached the remarkable milestone of providing 100% of public services online.

With 24/7 access, citizens can easily access all government services, for example declaring all taxes in under just two minutes. Estonia is also a leader in e-voting, having successfully conducted 13 elections online, with the percentage of online votes consistently increasing. A key element underpinning Estonia's digital success is the X-Road, a secure data exchange layer that enables seamless interoperability between various government and private sector databases. Unlike centralised systems, X-Road ensures that data remains dispersed across different institutions, ensuring security and minimising the risks associated with a single point of failure. The structured and standardised nature Estonian public sector data forms the foundation of developing digital services and serves as the base for emerging AI-driven solutions in governance. This strong digital infrastructure has facilitated the integration of AI tools into various governmental functions, including parliamentary operations.

Innovation in parliamentary work is essential for keeping legislative processes effective, transparent, and easily accessible to as many citizens as possible. As societies become more data-driven, parliaments must adapt by integrating technologies that streamline operations and enhance public engagement. In Estonia, the Riigikogu has embraced AI as an integral part of its daily functions. AI-based solutions, such as a speech-to-text recording system, live subtitle generation, and a custom RiigikoguGPT, to name but a few, are already in use. To

ensure that these tools are effectively utilised, the Riigikogu's IT department actively organises workshops and seminars to educate civil servants and MPs on the practical applications of the aforementioned solutions.

Looking more closely at the Riigikogu's innovative tools, one of the key solutions employed is HANS, an AI-powered speech-to-text system developed by the Estonian IT company Finestmedia in collaboration with the Tallinn University of Technology. Introduced in 2020, HANS facilitates the creation of word-for-word transcripts of parliamentary sittings, which increases efficiency, and, importantly, provides the public with a thorough and transparent overview of the parliament's work. The system operates by processing recordings through speech recognition technology and identifying speakers automatically. While the initial output may require some editorial adjustments, the final transcripts can be uploaded to the public parliamentary website with a single click. This system is daily used for plenary sessions and also for committee meetings, significantly reducing the workload of parliamentary staff. As a result, citizens can easily search all plenary transcripts based on specific dates, times, speakers, or keywords of interest, making parliamentary proceedings more transparent and accessible.

In addition, a more recent AI innovation in the Riigikogu is a generative AI-based chat portal, the so-called RiigikoguGPT. It is an advanced tool integrating the OpenAI GPT-4 model with various Estonian public data sets. Developed in just over six months and launched in mid-2024, this portal allows users to retrieve legislative information with ease, in a way similar to using OpenAI's public ChatGPT. The Riigikogu chat portal features multiple customisable parameters, including model

selection, search type (text, semantic, or hybrid), and specific legislative data sources, including the State Gazette. This tailored system enables MPs and civil servants to quickly access legislative documents, interpret and scrutinise laws, and analyse legislative processes. However, as with all AI models, limitations exist. For instance, inconsistencies in responses and occasional misinformation highlight the need for continuous refinement. Ensuring that AI-generated information is accurate requires both improved data integration and user awareness of how to verify the reliability of output provided by the portal.

While AI tools like HANS and RiigikoguGPT offer substantial benefits, they also present considerable challenges. One noteworthy issue is language-based limitations. Specifically, as Estonian only has one million speakers, Estonian-language models are less developed than their English counterparts, due to smaller training datasets. This can lead to transcription errors in HANS and incorrect or outdated responses in the RiigikoguGPT. However, Estonia is committed to strengthening its language technology, continuously supporting the development and improvement of Estonian language models. Additionally, it is paramount that AI solutions are integrated to public institutions responsibly, balancing technological efficiency with ethical considerations.

This ensures that digital governance remains transparent and trustworthy. Training and education are fundamental components of successful AI implementation, and in the case of the Riigikogu, MPs and civil servants must be equipped with the skills to use AI tools effectively, while also being able to critically evaluate AI-generated outputs. This approach can ensure that AI is used to enhance, rather than replace, human decision-making in parliamentary processes.

To conclude, the integration of AI in the Riigikogu illustrates how artificial intelligence can enhance parliamentary processes by increasing efficiency, accessibility, and transparency. As Estonia continues to advance in digital governance, the lessons gleaned from the adoption of various AI solutions offer valuable insights for other legislatures around the world that are seeking to modernise their operations.

However, the success of AI-driven parliamentary tools depends not only on technological advancements, but also on responsible implementation, comprehensive training, and, more generally, continuous investment in language-specific AI models. Estonia's commitment to developing high-quality Estonian-language AI solutions demonstrates its dedication to ensuring that digital governance remains inclusive and effective. Looking ahead, as AI continues to evolve, striking a balance between innovation and ethical AI governance will be essential in ensuring that AI remains a reliable and beneficial tool for states around the world.

The Challenges of AI for Representative Democracy. From digital to algorithmic governance

Yiannis Mastrogeorgiou

Special Secretary of strategic foresight, Presidency of the Greek government

Before I begin my speech, I would like to heartfully thank the Foundation of the Cyprus House of Representatives for the organisation and hospitality, the Foundation of the Hellenic Parliament for Parliamentarism and Democracy for the honourable invitation to add my thoughts to the debate, its President -my professor- Mr. Hadjivassiliou and especially all the participants from European Parliaments for the honour of joining us today.

It is my great pleasure to address you on a topic that could be the common ground for your collective actions. European integration is neither an abstract concept nor a mere wishful thinking.

It is implemented through actions such as today's and on subjects that may be far from the limelight, but which are of paramount importance for our democratic edifice. The Hellenic Parliament Foundation for Parliamentarism and Democracy and the bonded foundations you represent have a duty to support this effort, at all times and in all years, updating the needs of societies for high-quality democracy.

In this era of exponential change, it would be ostrich-like to claim that democracy and institutions are immune to social changes. The speed of the spread of new technologies, one of which is AI, is defining new situations. AI, either as a tool to strengthen democracy or as a threat, is the new holy grail of democratic societies.

Artificial intelligence presents a transformative opportunity for parliamentary processes by streamlining various functions such as debate transcription, document summarisation, legal drafting support, and communicating with citizens.

Forward-thinking parliaments are already experimenting with AI, revealing substantial benefits in enhancing transparency and informed decision-making. AI can analyse extensive legal documents to identify patterns and suggest improvements, while algorithms can summarise lengthy reports, making them more accessible. Additionally, AI chatbots can engage citizens by providing real-time information about parliamentary activities, fostering public participation and finally enhancing the quality of our democracies. Moreover, predictive AI models can forecast trends and policy impacts, allowing lawmakers to proactively address emerging issues and improve parliamentary effectiveness. This is undoubtedly an issue that your foundations should rely on.

Many countries, including some represented by our guests, have already adopted practical uses of AI in their legislative process. An example is Italy, which uses AI systems both to classify documents, create drafts, and targeted amendments to bills, but also to interact with citizens and promote more democratic functioning of its processes. Other countries such as Finland, Israel, Estonia, and the European Parliament itself, offer similar examples.

If we want to be a little bit more specific and especially more forward-looking, how would you consider an AI system creating the first draft of a bill according to the existing needs?

Language models are trained on historical data and are used for projecting trends into the future. These simulations (or projections) are designed to capture the dynamics of complex systems like the economy or social aspects. These models are good at capturing the "emergent properties" of complex systems where individual decisions add up in unusual ways. In 1964, economist George Stigler said: "We do not know the relationship between the public policies we adopt and the effects these policies were designed to achieve." Machine Learning (ML) models can help uncover just this. The main focus should be uncovering the drivers of a particular problem, understanding which interventions could be effective, and finally understanding the trade space of a given issue. This space can then be filled with the new legislation.

However, even sophisticated AI simulations cannot make value judgments or determine the best option; they can only evaluate the optimal choice based on the values and assumptions defined by humans at the outset. Nevertheless, by compelling the human component of the human-machine collaboration to

clearly specify these values and assumptions, AI simulations could potentially revolutionise legislative processes.

Human-machine teaming has the potential to bring significant benefits to the legislative process. Of course challenges exist in areas such as data quality, security, and managing the human component. By focusing on the tasks, risks can be controlled while still achieving transformational benefits. Different tasks require different controls, such as ensuring clean, accurate data for ML models.

Data and model governance are crucial, as AI outputs are only as reliable as the model and the data of the input. Frameworks like those from each country's National Institute of Standards and Technology provide guidance for managing risks in AI use and, of course, it is also worth mentioning the directives and action plans that the European AI Act could contribute to.

AI simulations are based on assumptions regarding how factors relate to each other, and transparency in these assumptions is key. ML models are vulnerable to data poisoning, while AI simulations require safeguards on variables, assumptions, and outputs to prevent manipulation. Security measures are essential to protect AI tools from manipulation by adversaries. Overall, careful consideration and governance are necessary to ensure the transparency, accuracy, and security of AI tools used in the legislative process.

New technologies are transforming legislative processes, requiring lawmakers to acquire new skills and adapt to innovative tools. AI models are offering insights that go beyond traditional data sources, such as geospatial data and statistical relationships, which necessitates the use of data visualisation and data science skills. Additionally, AI can provide real-time

decision support, enabling policymakers to adjust models and evaluate conclusions as new data emerges, potentially increasing the time spent advising decision-makers.

As might be expected, successfully integrating AI into the legislative process demands strong leadership, commitment, and investment in training and business practices. Insights from other industries highlight the need to focus on key problem aspects rather than attempting to model everything, advocating for the development of AI-enabled platforms over isolated solutions to maximise benefits without having to reinvent tools for each policy debate.

But all the above are of no value if reskilling and upskilling of the human resources handling them is not achieved. Lawmakers and MEPs need to become familiar with the new technologies in order to make the most of them.

Prioritising the human element in the human-machine partnership is vital for the long-term success of digital transformations and overall use. While AI excels at calculations and simulations, it cannot make value judgments, making human input crucial for legislative decision-making. Combining AI with the right personnel and processes can enhance legislative debates, promote consensus, and yield meaningful outcomes for the public, enabling legislators to effectively utilise AI as a tool for assessments and simulations.

I understand that there may be fear that AI will replace us. You know, many people ask me exactly this. Colleagues here today may be concerned about Artificial Intelligence one day drafting policy papers in their absence, and themselves losing their job.

But, ladies and gentlemen, there have been 24 other technological breakthroughs before AI and none have shaken

the foundations of Democracy. On the contrary, on every occasion humanity managed to find a way to tame them -as has happened with writing and printing- for humanity's benefit and for that of humanity's democratic values.
What makes us believe that we will not succeed with AI as well? After all, what is the point of democracy if it is not enjoyed by the people? All the efforts are made for humans, and tools like AI are here to support us humans in a parallel symbiotic evolution with them.
With these thoughts and the emphasis put on the human factor behind each technology, I will close my remarks here.
Thank you once more for the invitation, wishing all a very fruitful symposium.

AI and User Interaction

Yiorgos Chrysanthou

General Director-CYENS Centre of Excellence

It is truly a pleasure to be here with you today at this timely and highly relevant event. We gather at a pivotal moment in history, where the intersection of technology, democracy, and human behavior is increasingly shaping our societies' future. As technology is evolving rapidly, in many ways it is fundamentally altering how we interact with the world around us. However, as we celebrate the opportunities brought by technology, we must also remain vigilant and consider the potential risks and challenges that lie ahead. In my presentation today, I will not attempt to delve in any way into the legislative frameworks that govern democracy, rather I will concentrate mostly on the technology and its potential.

As someone working at a Center of Excellence in Cyprus, I have the privilege of being involved in a range of projects that employ cutting-edge technologies, particularly in the fields of Artificial Intelligence (AI) and machine learning. These fields are already making waves across industries, from healthcare to agriculture, from sports to environmental management.

They are at the heart of much of what we do in our daily lives, whether we realize it or not. But with these advancements come significant challenges, particularly in relation to the spread of misinformation, the rise of deep fakes, and the potential for these technologies to be misused in ways that could undermine democratic processes. As we embrace the immense potential of these technologies, we must also grapple with the ethical and societal questions they raise.

The Rise of Deepfakes and their Implications for Democracy

Let's start with one of the most discussed and controversial topics in the realm of AI today, deepfakes. A deepfake, as many of you may already know, is an AI-generated image, video, or audio that manipulates reality to make it appear as though someone has said or done something they never did. We've seen these technologies create video clips that can make a person appear to say things or behave in ways that are entirely fabricated. These technologies are powered by machine learning algorithms that can analyse and synthesise vast amounts of data, allowing them to generate highly convincing representations of real people and events. While this technology has many positive applications, its potential for harm is enormous, especially if used maliciously.

Imagine, for example, a video clip of a political leader who appears to endorse a controversial policy that they have never supported. Or think of a prominent activist who is shown in a deep fake video spreading falsehoods about a community or a group. The potential of these technologies to influence public opinion or destabilise political systems is deeply concerning. In the context of democratic societies, where public trust in institutions and leaders is paramount, deep fakes represent a

serious threat. They can be used to mislead voters, manipulate public sentiment, and sow discord in the public sphere. As such, deep fakes are often considered a dangerous weapon in the age of digital warfare and disinformation.

The challenge posed by deepfakes, however, is not just about identifying or combating them. It's also about understanding how this technology could be weaponised to undermine democratic principles, such as freedom of speech, transparency, and the integrity of elections. With the rise of AI-generated content, the line between fact and fiction becomes increasingly blurred, which creates fertile ground for misinformation to flourish. The repercussions of this on public trust and democratic engagement cannot be overstated. It is crucial that we, as a society, develop robust mechanisms to detect, manage, and prevent the malicious use of deepfake technologies.

However, despite these significant concerns, I want to emphasise that AI is not just about deepfakes or disinformation. It has a wide range of applications that extend far beyond these challenges. In fact, AI can be a force for good, helping to solve some of the most pressing issues we face in society today.

AI's Positive Impact

At CYENS Centre of Excellence, we focus on how we can use AI in a positive, transformative way. Let me share some examples of how AI is being applied to address societal challenges and improve our daily lives. One of the projects we are particularly proud of is the BEE-HIVE project. This initiative uses AI-assisted systems to monitor bee activity, a critical element in agriculture and environmental sustainability. As we know, bees play a vital

role in pollination, which supports ecosystems and food production. Unfortunately, bee populations around the world are under threat due to various factors, including climate change, pesticides, and habitat loss. Through AI, we have been able to monitor bee health and productivity more effectively, ensuring that these important creatures are protected and can continue to support our environment. This project is a powerful example of how AI can be harnessed for environmental sustainability, a key concern for both modern societies and future generations.

In the healthcare sector, AI is making groundbreaking contributions. In hospitals, particularly in ICU units, AI systems are being used to predict and monitor the onset of conditions like sepsis. Sepsis is a life-threatening condition that can occur when the body responds to infection in an extreme way. By analysing large datasets, AI can identify early warning signs of sepsis and help medical professionals take preventative action before the situation becomes critical. This type of AI-assisted healthcare could radically transform patient outcomes, enabling faster diagnoses and more effective treatment plans.

Similarly, computer vision techniques are being deployed to detect fires more rapidly, reducing response times and ultimately saving lives and property. These applications are showing how AI can assist in reducing disaster response times, whether for natural or man-made disasters. The ability of AI to identify or predict and mitigate emergencies before they escalate is a significant advancement for both public safety and emergency services.

In the agricultural sector, AI is revolutionising how we manage our farms. For example, AI-driven systems are being used to

monitor poultry farms, optimising conditions for the animals and improving productivity while reducing waste. AI is also being used to monitor water usage, ensuring that resources are managed more efficiently in agricultural practices. These advancements not only improve the sustainability of our food production systems, but also contribute to reducing our overall environmental footprint.

Beyond these fields, at CYENS we have several spin-outs that are utilizing AI to address everyday challenges. For example, one of our spin-outs is using AI to enhance cycling performance by integrating sensors that provide real-time posture feedback to cyclists, helping them optimise their training and improve performance. Another startup is using AI to help municipalities better manage illegal waste and ensure that garbage dumps are quickly located and more efficiently cleared. This is a significant step toward maintaining clean, sustainable environments and improving the quality of life for urban residents.

These are just a few examples of how AI is already being used for the betterment of society. Whether in healthcare, agriculture, or environmental management, AI is proving to be a powerful tool for enhancing productivity, improving efficiency, and creating sustainable solutions to some of the world's most pressing challenges.

Engaging the Public Through AI: Bringing History to Life

AI is also being used to engage the public in new and exciting ways. Let me share with you a few examples of how AI is being used in cultural and educational contexts. At CYENS, we have been working on innovative projects that bring history and

culture to life through AI-powered experiences. One such project involves animating statues using deep learning and AI techniques. Using ideas similar to the deepfakes mentioned above, but in 3D, we have taken statues and brought them to life, allowing them to speak and tell their stories in ways previously unimaginable. These statues, which represent important historical figures, now engage the audience in a more interactive and compelling way, creating a deeper connection with history.

In another project, we have used AI and virtual reality (VR) technologies to create an immersive experience that allows people to explore the buffer zone in Nicosia, a part of the city that has been inaccessible for decades. This area is rich in history, but its potential for future development has long been constrained. By leveraging AI and VR, we enable individuals to walk through the streets, interact with their surroundings, and even contribute their ideas for the restoration and future development of this area. This project not only educates the public on the history of Nicosia, but also empowers citizens to actively participate in the decision-making process regarding the future of their city.

Such technologies are not just about entertainment, they are useful tools for education, historical preservation, and civic engagement. By using AI to bring history to life, we can create deeper connections between individuals and their communities, fostering a sense of shared responsibility and participation in the future of our society.

Inclusive AI for All: Making Technology Accessible

One of the most important principles guiding our work is inclusivity. We believe that technology should not be a privilege reserved for a select few but should be accessible to all. This is particularly important when it comes to AI, as its applications can have far-reaching implications for society. If AI is to benefit everyone, it must be inclusive in its development and deployment.

One of the most exciting aspects of AI is its potential to help those with disabilities. For example, at CYENS we have developed projects that use AI to assist individuals with hearing impairments. By leveraging AI to translate spoken language into text or provide real-time sign language interpretation, we are helping to bridge the communication gap between the hearing and the deaf community. Our current work focuses particularly on the Cypriot dialect.

Furthermore, it is important to recognise that AI, like any other technology, must be developed with care and consideration for its social implications. For AI to truly benefit everyone, it must be inclusive not only in its applications but also in its development. This means ensuring diverse voices are heard in the design and deployment of AI systems. Without diversity, we risk reinforcing existing biases and inequalities, something that could exacerbate social divides rather than heal them.

Addressing the Challenge of Bias in AI

Bias is one of the most significant challenges facing the field of AI today. AI systems learn from vast amounts of data, and if that data is flawed or biased, the AI system will reflect those biases. This can lead to harmful and discriminatory outcomes,

particularly in sensitive areas like healthcare, hiring practices, and law enforcement. For example, facial recognition systems have been found to be less accurate at identifying people with darker skin tones, particularly women, compared to lighter-skinned individuals. Similarly, AI systems used in hiring and recruitment have been shown to favour male candidates over female candidates, even when their qualifications are identical. These biases can perpetuate inequalities and contribute to discrimination.

At CYENS, we are actively working on addressing these issues by developing AI models that are more transparent and fairer. In collaboration with the Open University of Cyprus, we have developed a tool that allows us to assess whether an AI model is biased and provide feedback to developers to improve the fairness of their algorithms. This is an important step toward ensuring that AI is used to promote equality and justice rather than reinforce existing prejudices. However, addressing bias in AI is not just about technology —it's also about confronting the cultural and societal biases that exist in the data we use to train AI systems. If we are to build truly equitable AI systems, we must ensure that the data we use is diverse, representative, and free from harmful stereotypes.

Conclusion: Embracing the Future with Caution and Hope

In conclusion, we are living at a moment of profound change. The technologies we are developing today —whether AI-augmented reality, or advanced data analytics— have the potential to transform every aspect of our lives. They offer us new ways to engage with the world, new tools to solve our most pressing challenges, and new opportunities to shape our future.

But as we embrace these new possibilities, we must also be mindful of the risks and challenges they present. We must remain vigilant as we navigate this brave new world, ensuring that these technologies are used ethically, responsibly, and transparently. Only then can we ensure that AI and other transformative technologies are used as a force for good, to build a more just, inclusive, and sustainable world for generations to come.

Thank you for your attention, and I look forward to the continued discussions and collaborations that will help us shape the future of technology and democracy together.

For more information about the projects at CYENS Centre of Excellence, please visit our website at https://cyens.org.cy/ .

The potential use of AI in parliamentary research services

Maria Niestadt

Policy Analyst, Digital Policies Unit, Members' Research Service of EPRS

I am Maria Niestadt and I work as a policy analyst in the digital policies unit of the European Parliamentary Research Service. Today, I would like to talk about EPRS experience in testing generative artificial intelligence tools. As you know, generative AI is capable of generating new content —be it text, data, or even images— based on user instructions, or "prompts".

This past spring we formed a working group within the EPRS to test various generative AI tools. Among the tools tested were the European Commission's eBriefing and eSummary, GPT@JRC and the European Parliament's GPTLab. Finally, we tested a few publicly available generative AI tools, including Microsoft's Copilot and Google's Gemini. Some of these tools have been put on hold in the meantime.

Generative AI tools have a wide range of potential use cases. We initially tested applications that align with the tasks typically performed by policy analysts and information specialists in EPRS. This included summarising reports and academic articles, generating text to answer research questions and creating bibliographies. We also explored additional use cases such as translation, style editing and brainstorming.

Our findings:

Our findings revealed both benefits and challenges associated with generative AI tools.

Benefits

On the positive side, we found that generative AI tools have a potential to substantially save time. They can facilitate desk research, gathering information for parliamentary member requests and summarising documents. They enable to access large volumes of information and translate texts from other languages. All this can improve staff productivity.

Challenges

However, we also encountered several challenges. At the time of testing, the tested tools remained limited in terms of the length of documents they could summarise and formats they could support. The quality of the response heavily depended on the prompt given. Usually, the answer is better with more detailed prompts, specifying the role and context.
Sometimes, the tools provided incomplete or incorrect information in a very convincing manner. They also did not give the most recent information.

In addition, we found that translations from rare languages (such as Estonian or Finnish) contained quite a lot of mistakes, especially in legal terms. We also assessed how each tool performed in correctly identifying the initial source and author. Results were mixed: some AI tools correctly identified authors/sources, other tools did not provide references at all, or provided unreliable bibliographical information (e.g. a list of non-existent academic papers) or random sources found on the Internet.

In conclusion, we found that, while generative AI tools help us save a lot of time, we must exercise caution when using them. These tools still have shortcomings in terms of accuracy, reliability and authorship, and it is essential to ensure personal data protection and copyright compliance. As a result, we found it important to raise staff's awareness about the responsible and lawful use of AI, and to implement adequate quality control mechanisms.

Moving forward, we are currently planning to organise information sessions for staff. We are also working on the wording of a disclaimer. (Draft disclaimer: This text does not contain any AI-generated content that has not been reviewed by EPRS. In preparing it, the author(s) used [name of AI model] AI model available in GPT@JRC in order to [the objective].)

The European Parliament has established guidelines for staff for the safe use of publicly available AI tools. They were drafted by the IT services at the Secretary-General's request.

Main message: We can use generative AI tools but they should only support us in performing our work, not do the work in our place.

Four principles:

1. Never share any European Parliament information that is not already publicly available. Never share any personal data (e.g. political opinions, religious or philosophical beliefs, or trade union membership). Reason: data might be further processed by the provider of the AI tool for other purposes over which the Parliament has no control.
2. Do not directly replicate generative AI results. You remain responsible for any material you produce.
3. Use the disclaimer "AI-assisted" when making substantial use of generative AI tools. Ensure that you are not violating intellectual property rights.
4. Never rely exclusively on online publicly available generative AI tools for mission-critical and time-sensitive processes.

Artificial Intelligence and Parliamentary Procedures

Luis Manuel Miranda López

Director of Human Resources and Internal Government

Do Androids Dream of Electric Sheep? Let me paraphrase the question that is posed in the title to Philip K. Dick's famous book to raise the actual question that has been hovering over the previous sessions and which has brought us here today: Do Parliaments dream of AI?

Parliaments are currently entering the AI dream. The important thing is to ensure that the dream does not turn into a nightmare. In April 2024, the IPU encouraged Parliaments to start experimenting with generative artificial intelligence on simple tasks and within a controlled environment. Drafting summaries, creating records of parliamentary debates, or even drafting the minutes of the sittings, seem like functions that can be performed by AI in an aseptic manner. This morning there has also been talk about its use in research and documentation.

However, when it comes to parliamentary procedures, and particularly the legislative procedure, this asepsis and simplicity may not be so easy to implement. And, indeed, risks increase dramatically.

I shall divide my presentation into two specific points: how generative AI may affect each stage of the legislative procedure, and which formulae can be used for a successful implementation. I must confess that I bear more doubts than certainties.

Let's start with the basics. Generative AI can be approached from two perspectives: as a means or as an end. If we devise it as a means, it shall be configured as a tool to support parliamentary work. But, if we devise it as an end, it may end up replacing parliamentary work itself. Let's look at some examples.

Undoubtedly, as a means it would certainly speed up the legislative procedure: processing and simplification of large volumes of information, systematisation, organisation and insertion of amendments, lexicographical corrections or refining of regulatory texts with high levels of regulatory quality, correct insertion of the provision in the legal system, refining of repealed regulatory provisions… and all this within the framework of a continuous and autonomous learning process as it is fed.

However, its use as an end, that is, as a tool to draft legislative texts, entails a certain risk. The complexity and scale of generative AI architectures makes it difficult to actually know how its results are obtained and explain why those results (and not others) are generated for a given input. This may lead to the "hallucinations" phenomenon, whereby incorrect, misleading or invented results, may appear.

From the perspective of legislative initiative, the drafting of the initial provision, AI may enable interaction with citizens deepening the notion of open parliament and enhancing relations between representatives and represented, in such a way that it could bind together and refine the draft legislative text in a coherent manner. However, in this first stage of the drafting of the text we must ask ourselves: Has AI an ideology? Can it be trained to have one? Should there be as many AIs in parliaments as there are ideologies?
AI creates content by feeding and training itself. If a given State has had more left-wing governments than right-wing ones, or vice-versa, most of its legislation will ideologically go in a certain direction, and it is to be expected that AI shall be prone to that ideology. Consequently, legislative proposals shall go in that direction as well. That, from the perspective or a pluralistic and democratic parliament, is something that cannot be tolerated, hence, one of the first risks posed by AI: ideological bias.
The central stage, that is the one that takes place within the parliament, is the most delicate one. This is where politics, agreement, compromise by means of the tabling of amendments, and, indeed, the public debate and final voting, come into play. Let's look at two specific examples.

We use AI as a voting tool with the possibility of predicting the sense of the vote on the basis of the parliamentary debate. What might happen if AI predicts an outcome or suggests an outcome according to the debate and then parliamentarians vote differently? This situation might generate embarrassment not only within the parliament but, much more importantly, outside the parliament. Citizens may question whether

parliamentarians are doing their job properly or, even, bestow more confidence on AI than on them. It would be difficult to explain the sense of the vote.
Here is a brief remark on the quality of the laws. For some decades already, there has been talk on the need to improve the technical quality of the laws to make them more accessible for citizens. AI may solve this problem by using a simpler but more precise language. But let's not forget that laws are not only the fruit of the jurists' special expertise, but, much more importantly, they are the fruit of political pact and agreement which, quite often, and for the benefit of this pact, relaxes or sacrifices technical perfection, adopting decisions which may seem non-rational or ambiguous as regards the drafting of the texts. AI couldn't possibly tolerate or put up with these incorrections, since its training is aimed, as is the case with all technologies, at perfection.
The third stage, that of its insertion in the legal order, also has its own challenges. Let's consider two very specific issues: the constitutionality of the law and the interpretation of judges as those responsible for enforcing the law.

As regards the first, will a law always comply with the Constitution if it has been drafted by AI? AI may synthesise and extract all the doctrine of a constitutional court and warn about its compliance or failure to comply with the Constitution. But, do we actually want this to happen?
Regarding the judge, the primary enforcer of the law: if the law is perfect, complete and coherent, will then Montesquieu's words that "the judge is the mute mouth that pronounces the words of the law" be finally fulfilled?

Let's not forget that the purpose of Law is to reflect the transformation of society, but also to transform it. If AI solely draws on past sources, it might not be the best tool to transform society. Here, the task of the constitutional judge and the ordinary judge is essential.

I'm finishing up. How do we mitigate all these risks?

The first aspect to be borne in mind is that we must distinguish AI from an institutional perspective as compared to a political perspective, although those of us who work as technical experts in parliaments know that this is not an easy task.

From an institutional perspective, which is the one I'm interested in at the moment, we must start by setting up a governance system within the parliament which clearly and precisely defines for what purpose AI is going to be used in a fully transparent manner and which allows decisions that might have been taken using AI to be explained at all times. "Explainability", namely, the ability to understand how and why generative AI systems deliver certain outcomes, is vital, since it guarantees transparency and accountability and that, in turn, builds trust among its members and the public.

Citizens have a right to know how parliamentary work is conducted and how decisions are adopted: just as there is full transparency in debates and votes, so too should be the case in the use of AI. We must bear in mind that its use for drafting laws has a huge impact on people's lives.

Secondly, AI feeding and training must be constantly supervised by persons, assessing, at every step, the possible risks or deviations that may occur, conducting to that end regular evaluations. Let's not forget that AI is the beginning, but not the end, in the use of this technology. Hence, as pointed out by

Stuart Russell, we must favour a safe AI versus an AI safe, that is, ensure its safe use from its inception.

My final point: if parliaments want to introduce generative AI in legislative procedures, they will require a high level of trust in technology and a robust governance system; both solidly built and developed and trained in simpler tasks. I believe that, just as in other parliamentary fields, its assistance may represent a great progress, however I do consider that at the moment it entails more risks than potential benefits. But... who knows?

AI and Parliamentary Work: The Role of the Committees for the Future

Ismini Kriari

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Artificial Intelligence (AI) is rapidly occupying an increasingly important part in our daily lives. As a result of the extremely rapid development and spread of generative AI technologies, it has evolved from a futuristic concept into a concrete and pervasive reality in our society. The increasing availability of data and exponential progress in processing capacity have made it possible to develop increasingly sophisticated and powerful algorithms.

These systems, based on machine learning and neural networks, have proven capable of reaching human-like levels in a whole range of tasks, from machine translation to industrial production. Artificial intelligence is not science fiction, but rather something that is profoundly human. Technology and the Internet are made by humans for humans (they are of no interest to animals, for example). Machines produced by technology may replace certain aspects of human work, but they can never take over or replace humans in what Soren Kierkegaard called the instant of madness, namely, taking decisions. Machines can do many things, but they are different from the human organism because they lack the urgency of metabolism and the awareness of limited time. An organism -once switched off- is dead forever; a machine has a switch and can be switched on again.

In the public arena and, specifically, in parliamentary work, AI offers unprecedented opportunities to improve the effectiveness and efficiency of everyday work.

The first step might be to integrate AI tools into the internal work of preparing parliamentary documentation for pre-legislative scrutiny and oversight of government policies.

The second step would be to use these tools to support the work of individual parliamentarians, enabling them to perform their work more effectively, for example by using systems to prepare legislative proposals or tools to issue instructions to or monitor government actions.

The last stage or scenario would be to design a tool available to the public, enabling citizens, using simple and natural language, to search and explore topics in which they are particularly

interested, and the activities of individual parliamentarians on specific issues, more quickly and intuitively.

In parliamentary work, too, the use of new-generation AI systems can therefore be a tool for improving the productivity and effectiveness of work as a whole and can make it possible to raise the level of public accountability and transparency. Governing AI is a massive task that must aim to prevent fear and to foster trust in democratic mechanisms, precisely because political decision-making cannot be delegated to machines. And the problem of the substitution effect on labour is an age-old phenomenon that requires us to produce fewer things and fewer goods, and more values, including the production of decisions regarding the value of things: moving on from homo faber to homo valens.

All this may be summarised in terms of the following demands in the sector of parliamentary work:

- Governing AI: rules and barriers must be introduced for the development and use of AI;
- Governing with AI: AI tools must be available to government functions without losing decision-making control;
- Governing through AI: the superhuman potential of AI system should also be capitalised.

In the Italian Parliament, AI is used for parliamentary reporting activity (using voice recognition systems), translation, managing amendments; the Senate is using a chatbot to facilitate and guide access to the wealth of information on the website, and is testing image recognition tools for conducting searches of the photo archives.

In conclusion, these initial experiences demonstrate the importance of digital sovereignty, in the sense of the ability to

establish Europe's strategic autonomy in developing and governing AI and in conducting digital diplomacy, in order to ensure that foreign (essentially American and Chinese) AI systems are not able to decisively condition European politics and democratic participation. In this case, the concept of transparency (that is to say, the visibility and traceability of AI products) is decisive.

Artificial intelligence and Generative AI is a technology to enhance human ingenuity and skills, not to replace them. Its function is therefore like a copilot or "navigator'' to assist the human being, who retains control. This is also the purpose with which Microsoft, in 2020, together with the Vatican, launched the "Rome Call for AI Ethics" initiative with the Muslim and Jewish religions to enshrine the fundamental principle that the human being must remain at the centre of technological development. The initiative was renewed in 2023.

Large Language Models (LLMs) are the tools behind generative AI technology such as ChatGPT. LLMs are able to analyse and understand written language; they can make summaries, extract information, modify text according to our instructions, they can generate translations from one language to another, from natural languages to synthetic (programming) languages. This means that the document base can be in one language, the question may be put in another language, and the answers received in the language chosen by the user.

Portugal's Ministry of Justice has published a section on its website to offer every citizen the full national legislation on family law, separations and divorces, giving citizens the possibility to question the site using natural language. It is interesting that these technologies do not answer the question

by issuing lists of answers with links to navigate the web, as has been the case until now, but they provide the answer directly by processing the contents, and providing a bibliography, or list of the sites from which they have extracted the answer's information.
The Agency for Administrative Modernisation, also in Portugal, has another very useful tool: for the launch of this new service, an avatar was created, a virtual character with human features, and speech-to-text technology was implemented, to enable the user to ask questions in natural language which are translated by the system into text, and then to receive the answers in natural language.

Parliamentary AI-based Application

The term artificial intelligence refers to a bundle of different technologies, learning methods, system architecture, algorithms, and approaches that use computer capacities to replicate the capabilities of human intelligence in order to perform certain tasks independently or with no command. They include: autonomous systems, machine learning, deep learning, neural networks, pattern recognition, natural language processing, real-time translations, chatbots, and robots.
The capabilities provided by AI are intended to support or automate human activities and processes. Pattern and text recognition, speech and speaker recognition, image and spatial recognition, and face and gesture recognition, open up a wide range of possible applications, AI-based systems for text, sound, speech, image, space, and video generation as well as programming expand the range of applications. All this leads to new systems, applications, and processes for AI-based

perception, notification, recommendation, prognosis, prevention, decision-making, and situational awareness in real time.

AI can be of importance in the following realms of parliamentary work:

1. The deputies may have real time subtitling of their speeches in parliament, reliable voting systems in plenary and committees, generation of content for speeches and written questions, support in information retrieval for the law-drafting work, examination of legislative proposals for interactions with other regulations, recommendations on legislation based on identified gaps problems, and other relevant laws, text drafts for further processing, better regulation and digital-ready policy implementation. An example: a Swiss MP with a speech impairment used speech synthesis to spread videos in which he presents his values and agenda. Another candidate for the 2023 elections set up a tailored chatbot that citizens could directly question about his politics.

2. In the field of analysis of the press and social media reports, AI may be of assistance in the following tasks: media analysis regarding parliamentary activities, social media data analysis regarding parliamentary activities, detection of information environment manipulation proposals for elimination.

3. In the field of civic education and national culture: transparency through (linked) open data, visualisation of arguments and discussions, facilitating public input to parliamentary proceedings, e-participation of the public in

plenary discussions, e-participations in parliamentary dialogue with the public.

4. In the parliamentary administration, in the management of parliament buildings, driving service, and police: virtual assistants for persons with disabilities, cybersecurity software, minute generation and translation services.

5. In the operation of parliamentary bureau, parliamentary directorates, and elections: detection of AI-generated fake content intended to manipulate the democratic process, process automation, project management.

Guidelines for AI in Parliaments

The Ethical Principles which should govern the use of AI in parliamentary work are the following:

1.1 Accountability and transparency: Ensuring accountability and transparency in the use and deployment of parliamentary AI systems is necessary to maintain the integrity of democratic processes and protect the rights and interests of citizens. Parliaments need to establish transparent data practices as well as algorithmic accountability and they should regularly report on system performance and algorithms.

1.2 Respect for human dignity, rights, and privacy: Parliaments should adopt strict data protection policies and conduct regular privacy impact assessments. In addition to the Data Protection Officer (DPO), foreseen by the General Data Protection Regulation (GDPR), a Code of Ethics specific to AI usage in parliaments should be considered, including principles related to privacy and human dignity.

1.3 Fairness, equity, and non-discrimination: In the deployment of AI systems, parliaments should ensure that these

technologies do not perpetuate biases or inequalities within the political or institutional processes. AI development teams should conduct bias audits and establish clear guidelines to mitigate bias in decision-making processes.

1.4 Addressing biases in data and algorithms: Parliaments should employ transparent data collection methods, ensure diverse and representative datasets and regularly evaluate the AI systems outputs to identify and rectify potential biases in both the data and algorithms used. Collaboration with universities and research institutions should be fostered, in order to obtain information on best practices in bias detection and mitigate undesirable results.

1.5 Preservation of human values and cultural diversity: Preserving human values and cultural diversity in parliamentary AI design involves the engagement of inclusive development teams, ensuring diverse perspectives and cultural sensitivity. Collaboration with cultural organisations and experts should provide insight into the cultural dimensions of AI design and deployment.

1.6 Evaluation and mitigation of unintended consequences: A comprehensive evaluation framework should be established, including regular impact assessments, complemented by third-party audits for impartial insights.

1.7 Public participation and engagement: Parliaments can establish dedicated platforms for public input, host public consultations or hearings on AI policies and even create advisory boards with citizen participation.

1.8 Respect for the rule of law and democratic values: Parliaments should ensure that AI systems comply with existing legal and constitutional frameworks and relevant guidelines,

including ethical ones. Transparent accountability mechanisms and legislative oversight should be introduced, in order to guarantee that AI aligns with democratic values, constitutional standards and citizens' rights.

1.9 Promotion of policy goals: AI developers and researchers should focus on creating AI solutions that directly address challenges related to the implementation of international agreements and treaties.

1.10. Security features and privacy-by design concepts in the development of parliamentary AI systems

Parliaments can ensure safety and security in AI systems by requiring rigorous testing, encryption and compliance with cybersecurity standards. The importance of human oversight should be emphasised: Parliaments should implement rules of procedures and protocols that mandate the escalation of security decisions to human operators.

Privacy protection in the design and deployment of parliamentary AI systems should safeguard sensitive information, ensure responsible AI use, respect individuals' privacy rights and comply with data protection laws.

A Glimpse into the Future

It is a well-known truth that members of parliament are mainly focusing on being re-elected. There are issues, however, which are beyond the re-election horizon, issues which cannot be confronted within the timeframe of the four-year legislative period. Members of parliament have to deal with many issues in any given week: housing legislation, draft laws on the establishment of new hospitals, reform of the education system etc. The impact of new technologies on economy, society and

politics require thorough study and research. One cannot evaluate the implications of new technologies for a given society without consulting with experts from many fields, without discussing with members of different state and private authorities, without questioning established beliefs.

Access to AI for a country is strategically important. Moving forward, such access will be required to ensure industrial competitiveness, scientific excellence and high-quality public services. To be competitive and of high quality, industry, science and public services will need stable access to AI infrastructure, including relevant data, computing power and tailored AI models. This also applies to public infrastructure systems such as energy, communications and water management infrastructure. If underpinned by AI, these will largely have to run on domestically developed, operated and controlled AI models for security reasons.

In the light of these necessities some parliaments have already begun to incorporate future-oriented strategies and procedures into their everyday normal legislative work and government control. The parliamentary Committees for the Future emerged out of this necessity.

Finland was the first country to establish a permanent parliamentary Committee for the Future (henceforth CF) in 1993, with 17 MPs, in order "to generate dialogue with the government on major future problems and opportunities. It serves as a Think Tank for futures, science and technology policies in Finland" (Official webpage of the Committee for the Future). The CF can shape its own agenda and decide what it does, a privilege considered to be one of the pillars of its strength. The primary task of the CF is to prepare the response of the Parliament to the

Government's Report on the Future, which is presented once per electoral term. This Report is dedicated to a specific yet broad issue, which is expected to have a significant influence on the Finnish society in the future. Some of the topics covered by the Report were: population development and work (2001), the challenges of an aging population (2004), carbon-neutral future (2009), sustainable growth (2013), the future of work (2017, 2018).

CF is also the body responsible for technology assessment and its societal consequences. It has drafted many studies ranging from gene- and nanotechnology to ICT ethics and municipal democracy.

The Parliament of Lithuania established a Committee for the Future in 2020, its main task being "to prepare and consider draft laws and other legal acts regulating the modelling of future development of society and the State, development of innovation and technological progress, emigration and re-emigration processes and their impact on the development of society, modernisation of the State and strategic reforms, as well as to submit and consider proposals on these issues (art. 1). Further it has to discuss and submit to the Parliament reports, conclusions and proposals on issues relating to strategic directions of Lithuania's development and projections for future developments and factors influencing future developments and development models of the State…" (art. 2). (official webpage for the Committee for the Future).

The Report on the Challenges to Foresight in Lithuania of 18 June 2021 identifies among the policy recommendations for the State, the need to draw up a program for increasing Lithuania's intellectual autonomy, which would encourage scientists to

engage in Lithuanian affairs, step up intellectual research into Lithuania's present challenges and stimulate the modelling of the country's future. The Resolution of the Committee for the Future of February 18, 2022, "On the Future of Demographic Policy and Social Development" calls on the Government of the Republic of Lithuania to modernise and develop, in parallel to developing the State Progress Strategy Lithuania 20250, an integrated strategic policy on demographic development and an integrated research-based demographic agenda underpinned by the country's multiannual demographic strategic guidelines based on the following pillars: a comprehensive birth promotion program, effective programs for health protection, for increasing life expectancy and improving mental health of the population and cross-cutting measures to reduce the demographic disadvantages in particularly sensitive segments of society, in particular in the less educated population groups, among the unemployed and single parents, and steps to reduce the regional impact of demographic inequalities. Further the Parliament's Committee for the Future has established the Working Group on Artificial Intelligence. Its tasks include highlighting shortcomings in existing legislation and assessing the need for AI guidelines in different sectors.

In Iceland the Prime Minister established, in 2018, the Committee for the Future, comprising 11 Members of Parliament. The Committee drafted the Report "Icelandic Society 2035 – 2040 – Economic, Environmental, Regional and Demographic Developments" in October 2019. The Report covers various issues, from education to labour market, to finance and

economy, to environment and society. It identifies the main drivers of development and the risks associated with them.
Other Committees for the Future have been established in Chile (Committee of the Future, Science, Technology, and Innovation, National Congress of Chile), Paraguay (ICT Committee and Future's Committee, Congress of Paraguay), Uruguay (The Special Futures Committee, General Assembly of Uruguay), the Philippines (Committee of Sustainable Development Goals, Innovation and Futures Thinking), Congress of the Philippines.
The Second World Summit of the Committees of the Future took place in Uruguay in 25 – 27 September 2023, on the topic: "Bringing the Future to the Present - The Democracy of the Future, Artificial Intelligence and Parliaments". In the Outcome Document the participating parties (over 300 parliamentarians, experts and practitioners representing 70 parliaments from around the world) underline their commitment to democracy in the age of AI through anticipatory governance and they suggest that a nuanced and multidimensional approach should respect both innovation and human rights. They propose further that anticipatory capacities should be integrated in parliaments for more effective decision-making.
As AI evolves, it could act autonomously to solve novel problems with novel strategies beyond human abilities (referred to as artificial general intelligence or Frontier AI) in the near future. The participants of the summit support the view that new initiatives should be implemented, such as: global harmonization of AI standards, anticipatory regulatory mechanisms, interdisciplinary collaboration, public involvement and literacy, sustained human rights–based approach, gender

mainstreaming and future generations, strengthening inter-parliamentary collaborations.

In the end they call upon the United Nations to spotlight the centrality of anticipation and foresight in parliaments through their main functions –accountability, oversight, legislative and representative– in addressing the multifaceted challenges and opportunities posed by AI. Parliaments' democratic mandate and future–oriented initiatives hold the key to sustainable solutions. They advocate the creation of a universally shared AI governance framework, considering the accelerated, powerful, uncertain and disruptive evolving nature of AI. This framework, which must take into account the interests of all nations, irrespective of their economic and social system, will have a dual focus: first, protecting human rights and humanity's interests, safety and security, and second, harnessing AI's positive evolution for the global good. An anticipatory AI global framework should address these challenges and a UN Convention on AI should be drafted, designing adequate global processes and structured to meet this objective and ensure its implementation.

Other state initiatives: In Poland a new parliamentary Subcommittee on AI and algorithmic transparency was established in 2023. It has discussed, among other topics, AI in judiciary, safeguarding privacy in the age of AI and AI ethics. France has appointed its first-ever dedicated Minister of AI. She will report to the Minister of Higher Education. Denmark and Norway have also appointed new ministers on digitalisation, although AI is not specifically part of their titles. In Greece the Ministry of Digital Governance is at the forefront of integrating AI into the public sector and it has been working on various AI

applications to improve government services and transparency. Some of Greece's initiatives to counter disinformation and misinformation, especially during the electoral campaigns are, among others: the elaboration of the National Digital Strategy, focusing on promoting media literacy and strengthening cybersecurity to reduce the spread of harmful content and the collaboration with EU's cybersecurity agency ENISA, in order to detect and address cyber threats related to disinformation, such as coordinated AI-based attacks on digital platforms.

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Digital Literacy in Parliaments: Designing a Practice-based Framework

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1 What makes us literate?

It has become common for many institutions to have digital literacy programs. The EU's widely recognised AI Act requires that providers and deployers of AI systems shall take measures to ensure sufficient level of AI literacy of their staff and other persons dealing with the operation and use of AI systems on their behalf. But digital literacy is often invoked as a generic concept and is not necessarily discussed and adapted to specific contexts and purposes. In this chapter, I want to ask two questions: What makes us digitally literate? And what does digital literacy mean for parliaments (and in combination with deliberative democracy)?

Literacy can be understood in a functional way and mean the skill to use a particular technology. But it also has a wider meaning that comprises the ability to understand, explain, contextualise and develop such skills. In what follows, I will focus on this wider meaning, and in particular on how we can learn to articulate the ways in which digitalisation is transforming our lifeworld, and thus become able to critically reflect on these developments, their impact on us, and how we act and react to them.

I will do this in terms of parliamentarism and deliberative democracy. My take on digital literacy is based not so much on competences to be acquired, but on a reflective practice in everyday life. In what follows, I would like to propose how this can be done. My point is that, in order to understand digitalisation and its impact on democracy and democratic institutions, we need a basic understanding of how -people in- institutions function and act that we can discuss and formulate in an explicit way (2). This may sound rather simple. But it is quite the opposite. The digitalisation of parliaments and administrative institutions entails that new technologies (and the aims and expectations that go with them) are introduced into old institutions with long-standing traditions, hierarchies and histories of conflict. On that basis, I will discuss an understanding of the purposes of these institutions that enables a reflective (rather than an additive) conception of digital literacy (3). I emphasise a reflective approach, because introducing or adapting a new technology is likely to change the logic of thinking in an organisation and can –in the best possible scenario– become instrumental for democratic futures (4).

2 Articulating experiences

There is an interesting parallel between the way in which scholars and practitioners talk about digital platforms and about deliberative democracy: it is taken for granted that there are people who build and maintain the technological, procedural and material infrastructure on which both depend. But the roles, attitudes, education and formation of these people are rarely considered. It is common to talk about the neutrality of technology as if technologies were developed and brought to market without any vested interests. It is common to talk about democratic deliberation and parliamentarism as if politicians and citizens could just sit down and start exchanging views, talking to each other and making decisions.

There is a second set of parallels that strikes me. it is taken for granted that both –digitalisation and democracy– shape our lifeworld and are forms of life. For many people it seems as if both have always been there and will, in some way or the other, remain. Even though there is a lot of talk about media literacy, digital literacy etc., it is more often than not assumed that people are able to use digital gadgets and tools and to use their democratic rights at a given age. In fact, both digital systems and democratic procedures are expected to be designed and to work in a way that can be grasped intuitively "by those who know". Literacy is, as the previous volume in this series shows, something that is thought of necessary for those who start to use technologies and who are expected to be active democratic citizens.

Such self-evidentness is important for any cooperation among humans and it is the backbone of social institutions. Taking it into account can be crucial for any organisation or institution

that is facing processes of transformation and change and whose members have to learn new things and acquire new competences. The ways in which people act and speak, the boundaries they accept and the possibilities which they perceive are always part of the lives they lead and the lifeworld they inhabit. We do neither learn to talk by starting with the rules of grammar nor do we learn to live or work together with other people by studying a book of ethical rules. In the same sense, most of us will acquire skills and use technological tools and devices by following the examples or imitate the behaviour of others.

My emphasis here is on doing, following and behaving. This is of particular importance in the context of the given volume and our discussions about deliberative democracy and digitalisation. In academia and among administrators and politicians, there is a still predominant conception of the public sphere in general and of democracy in particular that centres on the spoken or the written word. But people act and express themselves in many ways. The ways in which words are used, what is spoken and what is left unspoken, the ways in which something is said and who is addressed, the ways in which a given space can be used and occupied convey a myriad of meanings. Every one of us has learned and continues to learn how to "read" a room full of people or a workplace. We expect that others who are already there or who hold a specific position shape a specific space or context and expect that the others know.

There are two important points that we can mention here: (a) Not only do we learn and do many things implicitly, but we do so in contexts where we never learn to express and reflect on

these things explicitly. (b) The institutional context in which we operate is based on a set of assumptions about people, processes, spaces and technologies. They frame the way in which people are collaborating, exercising power and handling disagreements. If any of these change in a significant way, it may no longer be possible to communicate the established "background knowledge". If we want to stabilise the institutional context again, we will have to reconfigure it and thus confront the "background". In such a situation, it will probably not be enough to talk about "how things are done", as this will leave many questions and gaps open. Instead, we will need to talk about why things are done in that manner, what ideas guide our practices and how we can justify them in a reasonable way.

3 Designing for democracy

Thinking about the people and the way in which they act and communicate in institutions can –obviously– lead to a lot of insights. Still, they remain in the background at most times. Thinking about the people who design, promote, manage and change digital platforms, for example, can help us conceptualise their impact on society and assess the risks and opportunities of these technologies for democratic politics. Thinking about the people who maintain, interpret and apply the rules and practices of democratic institutions, and who tell their stories, can help us better understand what these institutions need in order to function and fulfil their roles and purposes in a rapidly changing environment.

A particular strength of talking about democracy as parliamentary democracy is that we can refer to iconic buildings, dedicated spaces, established rules and practices

and elections. Speaking of buildings reminds us that there have to be people who look after them, who see that everything functions properly and is there when needed. When visitors take a tour of a parliament or a parliamentarian takes them around, they will see and hear about the various rooms and services that are provided and they will see a lot of other people moving around. This can help in understanding how democracies work, how the built space enables politicians to resolve conflicts, to engage with citizens or to learn from experts (or fail to do so). Such an approach can lead to a very concrete and material understanding of democracy. It relates to particular practices and technologies and pays attention to the lifeworld of politicians, administrators and the public.

By contrast, more general discussions about democracy can lead to a much more limited understanding of it and culminate in misunderstandings or disappointments. When democracy is reduced to the will of the people or the decision of the majority, it can be difficult to understand why so many matters cannot be decided at once, why things need to be debated for weeks and months or why so many politicians are sceptical about referenda.

The same can apply to complex and elaborate conceptions of democracy like deliberative democracy, which is the main theme of this volume. In essence, deliberative democracy appeals to the ideal of public justification through reasoned debate among equals. This can be conceptualised as a "two-track" model in which public justification is achieved through institutionalised deliberative bodies like parliaments and informal, not centrally coordinated communication in the public sphere. Such a view has been advanced by the philosopher

Jürgen Habermas. It aims to overcome the limitations and failings of each sphere, but it can only work when a number of conditions are met. Therefore, Habermas pays much attention to demands of civic education and democratic media. He does, however, not talk much about the people in institutions that make deliberations possible and he is reluctant to discuss deep disagreements or the time that people in general can devote to democratic practices.

Furthermore, there are influential conceptions that emphasise the epistemic and problem-solving qualities of deliberative democracy. The political scientist Hélène Landemore, for example, points to the shortcomings of parliamentary democracy and elections, i.e. that the access to political and deliberative power remains limited to a few who can afford it. She holds that new democratic institutions like citizens' assemblies and selection of political representatives by lot lead to a more problem-orientated way of politics and offer the chance to find the best possible solutions. In doing so, she and others promote the use of digital participation tools that can scale-up democratic discourse in hitherto unknown ways.

These are, of course, only very rough sketches of the debates about the state of and the prospects for democracy today. But it is important to note that these three models –making (and thus constructing) majority decisions, earnest and well-intentioned political deliberation and democratic discourse as a means of problem-solving– dominate the current discourse on the threats and opportunities of digitalisation in general and AI in particular for democracy. The focus here is on the information environments, the influence of social media platforms and technology companies, the speed, multiplicity

and immediacy of information that impact the way in which politics and political actors are seen and discourses are led. The discourse is about what enables and what hinders democratic deliberation and decision making . These are questions about the conditions for autonomous action and cooperation in a democratic spirit. They are issues of access to knowledge and justice in digital contexts.

All three models have in common that they create spaces for public deliberation and decision-making and establish political communities. But they increasingly operate with infrastructures provided by private companies –energy, hardware and software, communication networks, cloud services etc. This is the second (and often overlooked) strand of discourse on democracy in the digital age that is ever more reliant on small and powerful companies that do not necessarily share democratic ideals.

These debates concern what I have described in my introduction as institutional backgrounds and assumptions. So far, however, institutionalised democratic bodies like parliaments and means of democratic communication and decision-making such as laws have remained at the margins of these discourses –if mentioned at all. Thus, the discourse about democracy and digitalisation can (a) offer insights into the transformation of democracies in general, but (b) it is concerned with many issues that lie outside of parliaments and is (c) led –again– without concrete people and institutions in mind. That discourse about digitalisation and democracy is, of course, of crucial importance for parliamentary democracy but it does not necessarily relate to parliamentary environments. It is not unlikely, that all this can be seen as "yet another

development" of democratic politics that needs to be "processed" in parliamentary practice and procedure. The IPU's latest "World e-Parliament Report" shows that many parliaments and their administrations seem to be taking such an approach, declaring that they are using new technologies to speed up processes and keep the pace with the dynamics of digital political communication.

However, such a view overlooks the fact that almost every institution today is operating in digital ways itself. In parliaments, politicians, staff, administrators, etc. will use digital devices in their personal lives, in their political work and in their official duties. The natural way in which they use them will merge and change the way they work, and they will determine the purpose of their actions, whether the institution encourages, restricts or consciously manages them. It should therefore be in the self-interest of the institution to understand how it is changing in the digital age through the practices of its members. Mere reference to the changing social context and background knowledge is unlikely to suffice.

Here, it can be interesting to look at political theorist Jennifer Forestal's approach to democracy and digitalisation. She starts from a wide conception of democracy as a collective activity of decision-making in common affairs which can extend to all areas of our lives. She then distinguishes between the effects of digital technologies on democracy and the intentional building of an environment for democracy –she does so regardless of whether we have a digital or a physical environment in mind. This is a seemingly simple distinction, but it can have far-reaching implications. Much of the debate, especially about the risks and destructive power of social media on democracy, is

about how to improve existing platforms -i.e. through mandatory fact-checking- and how to strengthen users' individual social capital -i.e. through media literacy programmes. Forestal, instead, asks how we have in the past tried to build environments for making democracy possible and how we can do so now. Such an approach can enable us to identify and explain the shift from the physical to the digital and the interaction between the two spheres. A democratic space, in Forestal's conception, must provide "three requisite democratic affordances" or civic practices. Citizens (understood in a broad sense) must be able to recognise themselves as members of communities (here, she thinks of Aristotle's idea of "political friendship"). They must be able to form attachments to those communities (here, she is inspired by Alexis de Tocqueville's description of democratic habits). And, finally, they must be able to work collaboratively to experiment with and improve those affordances (here, she recalls John Dewey's democratic experimentalism). This set of democratic affordances can, as Forestal points out, help us "to think about what we are doing" and "highlight what we are no not doing –what is missing from our current efforts". In addition, it can help identify negative and unintended consequences of interventions to "fix digital technologies for democracy" as they tend to focus more often than not on individual actions and isolate the technical elements from the political and systemic ones.

4 Learning for democracy

So far in this chapter, I have tried to approach digital literacy in parliaments and for deliberative democracy from an –as I

assume from other discussions on the subject– unusual angle. I have started with that what is self-evident or left unsaid. I have done this because the digital transformation of society that we are pursuing and that is gripping us takes much for granted, making it difficult for many people to articulate what they are experiencing or what makes them feel uneasy. For example, it is quite common to talk about ethical assessments of the use of AI systems in public administration and parliaments, but it remains unclear what the people concerned know about ethics and ethical reasoning.

I have continued with concepts of democracy and how democratic discourse in general and the discourse on digitalisation and democracy overlooks or presupposes well-functioning democratic institutions. By introducing the thinking of Jennifer Forestal, I presented a conception of democracy that can help us "understand what we are doing when we think about democracy and try to maintain it".

I have argued that we need to understand this particular setting when discussing the transformation of democracy in the digital age. There are three reasons for following such an approach: (1) Digitalisation is changing the social and institutional structures of our societies. We can only understand these changes if we have a clear idea of what is changing and how we are experiencing these changes. (2) Parliaments and parliamentary administrations are crucial to the functioning of modern democracies in general, and to any attempt to enable deliberative democracy in particular. (3) Any possibility of managing technological and social change in a sovereign and ethically responsible way depends on people able to

understand and reflect on technology, social and institutional relations and rules.

Such a broad approach involves a number of risks for any institution. It calls for the existing formal rules and hierarchies, informal practices and conventions and established narratives and explanations to be reviewed to determine whether they can also stabilise and control the institution under digital conditions. Recent research emphasises how public administrators are prone to deliberately avoid understanding the necessary conditions for digital transformation. Their "wilful ignorance" is guided by strategic motives that shall help them to maintain their established positions and avoid new responsibilities. In this context, a traditional approach that focuses on whether a particular technology can be used legally may be sufficient. From the viewpoint of the reluctant public administrator this kind of procedure has two advantages: it delegates decisions upwards and responsibility to the legal experts. From an organisational point of view, this is a risky strategy because it puts the burden of decision making on the two groups that are most likely to have the least knowledge of the technological issues and interests at stake, the least knowledge of the epistemological and practical issues at stake, and the least time to consider them all. In doing so, it is likely that long-standing concurrences, conflicts and ways of dealing with difficult situations in a given institution remain as they were (and they may become even more complicated due to an increasing number of "unknown" factors and time constraints). From a democratic point of view, it puts aside all considerations of the public purpose and responsibilities of any administrative body in general and parliaments in particular.

Jennifer Forestal's starts just here by defining three democratic affordances –boundaries, durability and flexibility. They can relate to three core elements of parliaments and to what people who work in parliaments do and care for. They can offer a way to connect to everyday experiences and thus enable people at all hierarchical levels to prepare informed decisions that take technological, organisational, political, legal and democratic questions into account. In that way, they are not "just administering", but conceiving their responsibility for the maintenance of parliamentary democracy under new circumstances.

A parliament is a built space. It is often perceived and presented as the built centre of a democratic state and political community. It can symbolise that community and it can stand for what the members of that community share, and provide models for political performance and discourse in that community. This creates a boundary in Forestal's sense, in that it becomes instrumental for defining a political community so that its members can reasonably expect with whom and why they form a particular community. A parliament forms a boundary in a second sense, too. It is a representative and an intermediary institution. It is representative not only in the classical sense of an assembly of elected representatives, but also because it must take into account the ideas and concerns of those who are not present at its seat. It is an intermediary or mediating institution, because a liberal democracy needs institutions that enable and support all its members in deliberating and decision-making, and that "mediate" between them, so that no group can exert pressure on others or abandon fair procedures. In her discussion of digital technologies and

democracy, Forestal has shown how easily such boundaries and intermediaries are neglected in digital environments.

Thinking and working in parliaments centres around built spaces –where to go, where to meet, where to sit. At the same time, people who work in parliaments are part of digital platforms. Parliamentarians and their parties create and use such platforms for their political activities. Their knowledge of acting in built spaces can be a starting point to think about their experience of digital spaces. Their knowledge of acting in a representative and intermediary institution, an institution that is used to taking into account those who are not present, can be a starting point for asking how digitalisation -and digital platforms in particular- can improve relations with members of the political community and at the same time be designed in such a way as to define clear boundaries, so that neither their physical nor their digital spaces are overwhelmed by the mass and speed of digital communication possibilities. This can include developing strategies for information, communication with citizens and education, the safeguarding of the institution's digital sovereignty and the designing of specific tools to engage with the institution, its members and the matters that are discussed there. The openness for citizens, their concerns and ideas about democracy and politics can also be a starting point to include the citizens' perspectives on digitalisation, automation and –for example– automated interactions. An approach that is still rather rare in administrative and state contexts in which digitalisation is most often perceived primary in terms of increasing work efficiency.

A parliament is meant to be a lasting and durable institution. It has fixed procedures and puts a lot of emphasis on the quality

of its operations and documentation. It operates on the basis of a stable calendar and rhythms of debates and exchanges. Members and staff usually know what is expected from them in terms of behaviour and decorum and they remind each other that their actions should serve as a model of democratic practices. Parliamentarism is also about information gathering, knowledge production and the conviction that we together can attain truth in a democratic and procedural manner. Parliamentarism, thus, relies on truthfulness, it shall prove that we as a society can rely on and trust each other. High-quality data, information access and the (im)possibility of attaining truth are core questions of the digital age. When parliamentary democracy is, as I have suggested before, truly about equal participation and burden sharing, it is necessary to discuss the groundwork so this can become possible. Today, data are social facts that make up our world. They relate to people, they are used to create relations in order to foster political, commercial and economic interests and they shape social relations. Political solidarity cannot be thought of without reference to data any more, justice cannot be thought of without reference to knowledge. There was a time when parliaments were seen as creators of knowledge. Now, they can ask themselves if they can become guardians of common –in the sense of democratically shared– data and knowledge that is not just out there for commercial exploitation.

Forestal's third affordance is flexibility or the experimental character of democracy that is open to new influences and changes. Despite their adherence to formal rules, parliamentary procedures are characterised by a great deal of flexibility. This is evident in the often broad wording of parliamentary rules of

procedure which leave much for political approaches to use in conflict resolution. Over the last decades, however, rules of procedure have become much more detailed in many parliaments. That happened in order to secure parliamentary minority rights and institutional resilience, on the one hand, and streamline parliamentary procedures on the other hand. In fact, process optimisation has become a driving force of many parliamentary reforms. Digitalisation supports such efforts as it promises efficient procedures and standardised workflows. Still, people who work and act in parliaments will often retain a familiarity with flexible approaches (within a constitutional and procedural framework, of course). When they are asked to explain the workings of a parliament they will most likely emphasise its ability to enable plural discourse and ambiguity that digitalisation can put at risk.

Each of these three affordances is connected to what people who work for a parliament do every day –maintaining a built space for democracy, welcoming visitors and students, informing the public, providing expertise and knowledge for politicians, documenting parliamentary procedures, ensuring rule-based discussions and decision-making, interpreting procedural and constitutional rules etc. Connecting and rethinking each of these in the light of technological developments can provide an opportunity not only to rethink parliamentary democracy and what it takes from each person who works for parliament to maintain it, but also to express these thoughts and bring others into the conversation.

But there is a fourth point, that I would like to add to Forestal's framework. Historically, the development of parliamentarism and democracy has always relied on physical spaces. It has

also always relied on material artefacts to support and facilitate debates, procedures, voting, etc. Modern parliamentarism and modern ideas of politics could not have emerged without things and technologies -the printing press, the modern encyclopaedia as a basis for shared knowledge, or the possibility of illustrating newspaper articles (without newspapers, the parliamentary spectacles of the 19th century would never have made sense). Shorthand made rapid reporting possible, and modern filing and archiving systems made it possible for experts to retrieve information needed for political strategy, and for important debates to be found quickly. The Morse alphabet and the railways made it possible to transport people, news and ideas over long distances. Democratic possibilities were shaped by the objects needed to make them happen. The point is, as the scholar of cultural studies and history Giovanni Rizzoni shows, that parliaments, their members and their administrators evolved in parallel with these technologies and they shaped and influenced them in many ways. This is radically different today, when parliaments, parliamentarians etc. apply technologies that have been developed by third parties which will usually have commercial interests. That creates situations in which it can be difficult to understand how a technology works, to assess its effects and to steer its influence on the operations and the way of thinking of a given institutional context.

Thus, any possibility of managing technological and social change in a sovereign and ethically responsible way depends on people who are able to understand and reflect on technology, the (wider) purpose of democratic institutions, social and institutional relations and rules.

There are three points that we can glean here: (1) The parliamentary environment holds a lot of opportunities to ask how we do things in digital and material or procedural contexts. (2) People who work and act in parliaments are used to routines and flexibility. This can be a starting point for establishing new routines of review and reflection of technology use and how it changes the institutional context. (3) A lot of things that are done in parliaments are based on formal rules. But at the same time, people who work and act in parliaments can develop a sense for the purpose and background of these rules. This can offer the possibility to start discussions about technology use and digitalisation right from there and integrate a broad view in any decision-making right from the beginning.

5 Democratic administration

Digital literacy for parliamentary and deliberative democracy can thus lead to the creation of transdisciplinary competences. It can prompt the discussion of how democracies are transforming in a digital age, and if and how parliaments (and other democratic institutions) can counter the perceived deterioration of democratic practices and contribute to democratic recovery. Parliaments can be of particular importance in such a process as they are in any case designed as plural entities where social conflicts are represented and fought out in a fair and transparent manner.

It is now a common demand that the responsible use of automated systems in public (state) institutions requires that there is always a "human in the loop". Parliaments and their administrations make explicit that humans will also be

embedded in (political) power structures and can be part of conflicts about power.

In that sense, a comprehensive approach to digital literacy in parliaments will also address the "human in the loop", namely how s/he is already part of the loop of parliamentary and administrative procedures and how s/he is in the loop of automated processes. From an institutional perspective, administrators fulfil an important role that gives them a great deal of discretion and a certain degree of independence. From a legal and political perspective, however, they are seen as a mere extension of the institution formed solely by parliamentarians, mechanically fulfilling the roles assigned to them. The institutional perspective hints to the crucial role that administrators can play in upholding the democratic processes. They fulfil a representative function in the sense that I have used in this chapter, namely taking into account the ideas and concerns of those who are not present and yet have a stake in maintaining lawful, responsible and transparent procedures. Legal scholar Katharine Jackson calls this a form of "trustee representation": She understands public administration –in general– as a representative institution of its own based on a trustee model. It has a duty to serve the public interest and can therefore stand firm in the face of both shifting popular opinion and pressure from political office holders or well-resourced minorities and –my addition– in the face of tech companies and digital pacemakers.

Digital literacy for parliaments understood in that way can be instrumental for creating a specific democratic ethos within parliaments.

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Conference Remarks

H.E. Ms Annita Demetriou opened by emphasizing the need for robust collaboration and regulatory frameworks to ensure that AI strengthens, rather than undermines, trust and democratic values. She called attention to the risks of power asymmetries amplified by automated decision-making.

Dr Dionysos Alexiou highlighted the necessity of public debate about the foresight and predictive capabilities of AI. He urged that the path technology takes should be shaped by democratic conversation, noting both the positive and negative potentials of algorithmic influence on human behavior.

Prof Achilles C. Emilianides noted this conference as the continuation of a productive Europe-wide cooperation on the intersection of technology and democracy, underscoring that responsible AI adoption, guided by collective academic and institutional expertise, is essential for future resilience.

Mr Bruno Dias Pinheiro summarized key lessons from the Lisbon conference, including the centrality of digital literacy for representative democracy, the risks and opportunities of digital platforms for civic engagement, and the need for cross-sector collaboration in fostering democratic resilience.

The Estonian experience (Ms Kristiina Krause) provided a model for effective AI implementation in parliamentary work, demonstrating improvements in efficiency and accessibility, but also highlighted the ongoing need for responsible integration, language equity, and user training.

Mr Yiannis Mastrogeorgiou discussed the transformative but double-edged role of AI in legislative processes—from drafting

bills to predictive analytics—while stressing the irreplaceable importance of the human element in upholding democratic judgment and values.

Mr Yiorgos Chrysanthou (CYENS) illustrated both the societal promise and peril of AI, from combating misinformation and deepfakes to supporting inclusivity and public participation. He cautioned on technological bias and the ethical imperative of transparency and accountability.

Ms Maria Niestadt (European Parliamentary Research Service) shared practical insights on generative AI tools for parliamentary research, noting real-time productivity benefits but also accuracy, reliability, and data protection challenges, reinforcing that AI should remain an assistive—not substitutive—tool.

Mr Luis Manuel Miranda warned of the need for robust governance and explainability in using AI for legislative procedures, drawing attention to potential risks like ideological bias, reduced transparency, and the possibility of AI-generated "hallucinations." He stressed continual human oversight and the institutional clarity in AI deployment.

Across contributions, there was broad consensus that digital and AI literacy must be fostered among both legislators and the public to uphold transparency and deliberative participation, as echoed by several speakers.

The necessity of ethical AI governance frameworks and continual oversight was underscored repeatedly (Pinheiro, Chrysanthou, Miranda), with an emphasis on proactive strategies to address bias, manipulation, and cybersecurity threats.

Several interventions championed AI as an enabler for inclusion—from language accessibility in Estonia to tools for persons with disabilities (CYENS)—provided that diversity and representation are built into design and deployment.

There remains a persistent tension identified between innovation and democratic control—while AI can enhance responsiveness and efficiency, unchecked adoption could risk eroding core democratic practices (Miranda, Niestadt).

The conference reaffirmed the importance of parliaments taking a leadership role: not only as regulators of technological transitions but as active proponents of ethical and inclusive AI, working in collaboration with academia, industry, and civil society (Emilianides, Pinheiro).

In summary, the proceedings urge a path forward grounded in responsible experimentation, collective vigilance, and continuous education, so that AI can truly become a force for democratic strengthening—rather than democratic diminishment.

Let us move ahead, inspired by the achievements and cautions shared here, committed to shaping a future where AI and democracy not only coexist, but co-evolve for the greater public good.

CYPRVS AETERNA