Global synthesis of NHNAI societal discussions (2023-2025)

Global-Democracy analysis

In 2023 and 2024, discussions on what it means to be human in the time of neuroscience (NS) and AI have been facilitated by NHNAI partners in 9 different countries. In each country, 3 lines of discussions have been opened to explore this question in the **3 thematic fields of education, health, and democracy**. Each partner then produced 3 **local syntheses** reporting on the content of discussions in these 3 fields in the corresponding countries.[1] On this ground, the coordination team proposed 3 **global thematic syntheses** (one per field explored, education, health and democracy). Finally, ideas of these 3 global thematic syntheses have been grouped to generate one **global-transversal synthesis**, gathering ideas that were more general and have been expressed in different thematic fields.

This document presents the **ideas of the global-Democracy synthesis**, together with nexuses in which some ideas emerging from discussions enter in conflict and tension, manifesting possible complexities and delicate points of questions related to the topic of democracy.

[1] For an exact total of 8*3 + 2 local syntheses. In Canada (Québec), Cégep Sainte-Foy organized discussions focused on Democracy and Education, but not on Health.

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Part 1: Global-Democracy ideas

Being human in the time of NS and AI means …

Preserving the specificity of human beings (compared to machines)

Although AI and robots can imitate humans more and more closely, participants to collective discussions highlight that imitating does not mean reproducing in all important dimensions. Certain values and features are unique to human beings, such as embodiment, spirituality, wisdom, emotionality, creativity, autonomy, critical thinking, imagination, consciousness, empathy… Unlike machines, humans, who have a palpable experience of the world through their bodies, are also endowed with the ability to manage uncertainty. Some of these abilities are needed in democratic and legal systems and cannot be deployed by machines. In addition, through its ability to imitate more and more human traits and capacities, AI may induce a kind of uniformization across individuals, threatening the specificity of human beings constituted by the uniqueness of every person.

Involvement in nexuses of complexity (see below Part 2: Global-Democracy nexuses of complexities):

- Defending human uniqueness in the age of human-mimicking machines

Corresponding ideas from local thematic syntheses of the 1rst wave:

3 countries (FR, PT, US) 15 ideas
1rst wave / 2nd wave

- (France – Democracy) Participants express worries about the prospect of being able to create a duplicate or an improved version of themselves
- (France – Democracy) In matters of justice, the decision belongs to the human being
- (France – Democracy) Humans possess unique abilities essential to the field of justice
- (France – Democracy) Preserving the time needed to decision-making and reflection
- (France – Democracy) AI's and moral frontier of humanity
- (France – Democracy) Preserving and cultivating difference and uniqueness in the face of the risk of standardization with AI
- (Portugal – Democracy) The ability to manage unpredictability is exclusive to humans
- (Portugal – Democracy) Humans' approach to tasks is unique
- (Portugal – Democracy) Having a body is integral to the human experience
- (Portugal – Democracy) Artificial intelligence will tend to mimic human abilities
- (Portugal – Democracy) Values are essential to humans' decision-making
- (Portugal – Democracy) Humans do not always act in accordance with their values
- (Portugal – Democracy) Desirable: A bill of human characteristics should be developed
- (US – Democracy) Embodiment & Emotion
- (US – Democracy) Human Uniqueness

Preserving empathy, human contact and relationships

Participants point out that humans are social beings who can only flourish in relationship with their fellow human beings. Unlike machines, they have the indispensable social ability to put themselves in other people's shoes and form strong emotional bonds (importance of feeling

and dialogue to do so). AI is not able to replace human interaction, especially in fields like political decision-making. Trust and representativeness are built through human dialogue.

Involvement in nexuses of complexity (see below Part 2 : Global-Democracy nexuses of complexities):

- AI and digital technologies for public services and democratic life
- AI at the service of human collective intelligence

Corresponding ideas from local thematic syntheses:

2 countries (CH, PT) 4 ideas
1rst wave / 2nd wave

- (Chile – Democracy) Humanization of Politics and democracy
- (Portugal – Democracy) Interpersonal relationships are essential to humans
- (Portugal – Democracy) Interpersonal attachment is exclusive to humans
- (Portugal – Democracy) Human fulfillment comes from performing different social roles

Preserving human responsibility on ethical choices/decision-making

Discussions largely converge on the idea that only human beings, thanks to their awareness and critical thinking, are able to make ethical choices and responsible decision-making. Humans are therefore the only ones responsible for technological orientations and the consequences of AI uses. This human responsibility is ethical, legal and political and must not be delegated to machines.

Involvement in nexuses of complexity (see below Part 2: Global-Democracy nexuses of complexities):

- AI and digital technologies for public services and democratic life
- AI at the service of human collective intelligence

Corresponding ideas from local thematic syntheses:

4 countries (BE, CA, FR, IT) 7 ideas
1rst wave / 2nd wave

- (Belgium – Democracy) Technology without ethical responsibility is detrimental
- (Canada – Democracy) Desirable: A human must be kept in the loop
- (France – Democracy) The complex question of the legal status of artificial intelligence is widely debated
- (France – Democracy) Undesirable: The recognition of a legal personality for AIs is not desirable
- (France – Democracy) Reflection on the use of algorithms emphasizes that it's the human application compromising our critical sense, rather than the algorithms themselves
- (France – Democracy) Desirable: Algorithms remain tools
- (Italia– Democracy) AI and Ethical Decision-Making

Recognizing that human persons exceed the sole measurable dimensions

For many participants, although one can get a lot of information about someone else through objective and empirical observation (e.g. with video surveillance or lie detection technologies), the latter does not exhaust what a human person is and what can be meaningfully said about her.

Involvement in nexuses of complexity (see below Part 2: Global-Democracy nexuses of complexities):

- AI and digital technologies for public services and democratic life
- Ensuring safety and security without undermining fundamental rights

Corresponding ideas from local thematic syntheses:

3 countries (CA, PT, US) 3 ideas
1rst wave / 2nd wave

- (Canada – Democracy) Taking care of not reducing persons to their actions
- (Portugal – Democracy) Desirable: Neuroimaging should not be used for lie detection
- (US – Democracy) Embodiment & Emotion

Finding the right balance between human labor and AI task automation

Participants widely acknowledge that AI has the potential to deeply transform the manner humans work, presenting both harmful and positive consequences. On the one hand, it can lead to (partially) automating not only painful or boring tasks nobody wants to do, but also jobs people like doing. It may increase social inequalities by leading to mass unemployment, especially among the most vulnerable persons. On top of that, automation presents the risk of deskilling, in case of task automation or overdependence on AI support. Even more, through the uniformization AI tends to encourage, individuals may lose the specificities that allow them to differentiate from others on the job market. Fundamental values such as those linked to meritocracy could be threatened.

On the other hand, AI might create new jobs (prompt engineering…) and bring more efficiency and help in certain tasks. In any case, the possibility for people to adapt to such changes is a matter of concern. It is suggested to offer professionals protection and support, and to develop digital literacy to "reskill" people.

Involvement in nexuses of complexity (see below Part 2: Global-Democracy nexuses of complexities):

- AI and work automation

Corresponding ideas from local thematic syntheses:

7 countries (BE, FR, IT, KE, PT, TW, US) 14 ideas
1rst wave / 2nd wave

- (Belgium – Democracy) The possible effects of AI on the job market
- (France – Democracy) Undesirable: Ethical and Social Challenges of Artificial Intelligence: Fears, Inequalities and Questioning Fundamental Values
- (Italia – Democracy) AI's impact on Employment and Society
- (Kenya – Democracy) Undesirable: Automation of tasks or process
- (Portugal – Democracy) Artificial intelligence will impact the labor market
- (Portugal – Democracy) Undesirable: The industrial revolution is used as a basis to estimate the social impact of artificial intelligence
- (Portugal – Democracy) Undesirable: Job loss will bring multiple costs
- (Portugal – Democracy) Desirable: Humans should be protected as the labor market changes
- (Taiwan – Democracy) Undesirable: Potential misuse of AI
- (Taiwan – Democracy) There are many concerns about the deployment of AI for public use

- (US – Democracy) The economic conditions created by AI with respect to work and human purpose will influence democracy
- (US – Democracy) Skills, Deskilling, Reskilling
- (US – Democracy) Work, employment, jobs, economy
- (US – Democracy) Human Uniqueness

Assessing the economic model behind AI and its societal impacts

Participants question the cost-free business model that became a widespread norm for digital services. Free services have deleterious consequences for employment. One the one hand, people who lived from providing similar services cannot sell them anymore. On the other hand, the cost-free model is based on data collection and leads to skills and intelligence exfiltration (allowing for task automation). In addition, participants question the legitimacy of training AIs free of charge on publicly accessible data, even if the authors or producers of this data had not envisaged this type of use and had not given their direct consent (should they be remunerated? By whom? …).

Finally, participants worry about the fact that such socio-economic settings favor the concentration of data (and thereby of power) within the hands of a few giant companies, raising the question of techno-colonialism.

Involvement in nexuses of complexity (see below Part 2: Global-Democracy nexuses of complexities):

- AI and work automation
- The democratic challenge of regulation
- The stake of sovereign AI capabilities (for economic development)

Corresponding ideas from local thematic syntheses:

1 country (FR) 2 ideas
1rst wave / 2nd wave

- (France – Democracy) Desirable: Authors of information used by AI services must be paid
- (France – Democracy) Undesirable: The free model leads to techno-colonialism

The efficiency of technology should not lead to an increase in pressure

As technology goes faster than humans in completing tasks, some participants express the worry that we may be forced to be more productive and more rapidly. In addition, automation can lead to saving time, but this time may be used to produce more, leading to increase the pressure to produce. This would be detrimental to the well-being of humans.

Involvement in nexuses of complexity (see below Part 2: Global-Democracy nexuses of complexities):

- AI and work automation

Corresponding ideas from local thematic syntheses:

2 countries (FR, PT) 2 ideas

1rst wave / 2nd wave

- (France – Democracy) Undesirable: Time saved through automation leads to increased productivity
- (Portugal – Democracy) Humans are increasingly pressured to produce

Preventing AI from undermining humans' critical thinking, decision-making abilities, and collective intelligence

Participants in discussions largely acknowledge that AI becomes pervasive and sometimes indispensable in many aspects of our lives, especially to manage large amounts of data (e.g. in public administrations or for online voting) or to editorialize information and contents available on internet and social networks.

This pervasiveness raises the question of overdependence on AI and deskilling (also rendering our societies highly vulnerable in case technology becomes suddenly unavailable).

Moreover, reliance on digital technologies may trigger trust issues, especially in relation to the state. Fairness, transparency and absence of biases thus become key. Biased and/or unfair algorithms may automatically and silently propagate discriminations, create information or cognitive bubbles isolating individuals in uniform informational landscapes. (Generative) AI can facilitate and foster the production and dissemination of (deep) fake news. AI can damage our ability to find accurate, trusted and sourced **information**, introducing **mistrust** among uninformed citizens, compromising good democratic choices and pluralism.

AI technologies can even be used to exert a form of control over citizens, undermining their freedom of choice, of expression and of thought.

To avoid such risks (including a compromission of the democratic process), it is therefore of primary importance to protect humans' critical thinking, decision-making abilities, and collective intelligence (by ensuring fair and unbiased AI algorithms as well as by putting AI at play to reinforce democratic processes, but also by devoting time to human decision-making and reflection).

Involvement in nexuses of complexity (see below Part 2: Global-Democracy nexuses of complexities):

- AI and digital technologies for public services and democratic life
- AI at the service of human collective intelligence

Corresponding ideas from local thematic syntheses:

9 countries (BE, CA, CH, FR, IT, KE, PT, TW, US) 39 ideas
1rst wave / 2nd wave

- (Belgium – Democracy) Humanity risks becoming dependent on AI
- (Belgium – Democracy) Undesirable: We should avoid thinking only in the short term
- (Belgium – Democracy) Undesirable: We must avoid becoming overly dependent on AI
- (Canada – Democracy) New opportunities for human manipulation and deception made possible by AI and social networks
- (Chile – Democracy) Impact of AI in democracy
- (Chile – Democracy) Challenges of Truthfulness and Information Manipulation
- (Chile – Democracy) Value of traditional voting
- (Chile – Democracy) Disinformation and fake news as risks of AI in democracy
- (Chile – Democracy) Distrust in AI in relation to the state

- (France – Democracy) AI and social media underscore the need to make recommendation algorithms more transparent to foster critical thinking
- (France – Democracy) Desirable: Transparency of recommendation algorithms
- (France – Democracy) Preserving the time needed to decision-making and reflection
- (France – Democracy) Desirable: AI system's actions should remain transparent
- (France – Democracy) AI's and moral frontier of humanity
- (France – Democracy) Individual liberty and democracy
- (Italia – Democracy) Fair and Non-biased AI
- (Italia – Democracy) Ethical Boundaries in Neuroscience-AI Integration
- (Kenya – Democracy) Desirable: Transparency in decision making, processes and governance
- (Kenya – Democracy) Government
- (Kenya – Democracy) Complexity
- (Kenya – Democracy) Undesirable: Degradation
- (Portugal – Democracy) Undesirable: Humans may become unable to establish the reliability of a given information
- (Portugal – Democracy) Undesirable: Humans may cease to be exposed to (and grow with) pluralism
- (Portugal – Democracy) Undesirable: Access to personal data may threaten the common good
- (Portugal – Democracy) Desirable: Artificial intelligence may compensate humans' limitations
- (Portugal – Democracy) Undesirable: Humans may become more prone to believe false information
- (Portugal – Democracy) Desirable: Artificial intelligence should be used to manage fake news
- (Taiwan – Democracy) AI can shape human mind
- (Taiwan – Democracy) There are many concerns about the deployment of AI for public use
- (Taiwan – Democracy) Undesirable: Potential misuse of AI
- (US – Democracy) AI, particularly generative AI, will influence democracy and democratic debate
- (US – Democracy) AI, the information environment, and democracy
- (US – Democracy) AI puts at risk trust in government
- (US – Democracy) Undesirable: AI damaging democracy
- (US – Democracy) Undesirable: Media sensationalism and extremes regarding AI
- (US – Democracy) Skills, Deskilling, Reskilling
- (US – Democracy) Democracy
- (US – Democracy) Diversity, Inclusion, Bias
- (US – Democracy) Transparency and Explainability

Privileging AI cooperation and support instead of human replacement

For participants, AI and technology should contribute to a more humanized society. AI can be a useful tool to help humans save time on certain tasks. For example, fake news and deepfakes will be increasingly common and humans will have increasing difficulty in fact-checking. Artificial intelligence may be a helpful tool for distinguishing between reliable and unreliable sources. But machines should not replace humans. So democracy is one aspect of society that could be assisted by AI, by providing more accurate information to voters, tallying public opinion in more detail, improving human cognitive capacities and reducing human cognitive limits thus helping human agency and choice, etc. If this works, it may improve trust in government and society. But machines should not replace humans.

Involvement in nexuses of complexity (see below Part 2: Global-Democracy nexuses of complexities):

- AI and digital technologies for public services and democratic life
- AI at the service of human collective intelligence

Corresponding ideas from local thematic syntheses:

7 countries (CH, FR, IT, KE, PT, TW, USA) 7 ideas
1rst wave / 2nd wave

- (Chile – Democracy) Use of AI as an information assistant
- (France – Democracy) Desirable: automation of procedures to save time
- (Italy – Democracy) Humanism and human-centric approach to AI development
- (Kenya – Democracy) Undesirable: Automation of tasks or process
- (Kenya – Democracy) Desirable: social debates
- (Portugal – Democracy) Desirable: Artificial intelligence should be used to help, not replace, humans
- (Portugal – Democracy) Desirable: Neuroimaging could be used for lie detection
- (Portugal – Democracy) Desirable: Artificial intelligence may compensate humans' limitations
- (Portugal – Democracy) Desirable: Artificial intelligence should be used to manage fake news
- (Taiwan – Democracy) Desirable: AI as a tool in assisting humans
- (US – Democracy) AI may be able to assist democracy and human agency by improving human capacities

Acknowledging the positive (potential) impact of AI on human life while asking the right questions

Participants in discussions point out that, depending on the use that humans make of it, AI can be a danger or an opportunity to humans in general and particularly to democracy. AI can be used to foster fact-checking and critical thinking or to facilitate the production and dissemination of fake news. Asking the right questions can encourage positive uses and outcomes. How can AI help humans and help the common good? Can AI help to connect regions and people? Can AI and NS help improve democracy by assisting humans, for instance, to make informed decision-making? What type of task should we delegate to AIs? How using AI in a given context will transform us? What is the society project that guides our choices? Is there one?

For instance, social networks can enhance peoples' social life without threatening privacy if one adopts rigorous security practices, such as controlling privacy settings and limiting the sharing of personal information. Similarly, while it can be very useful to rely on AI for repetitive or dangerous tasks, one should refrain from deploying automated systems where relationships are central.

Involvement in nexuses of complexity (see below Part 2: Global-Democracy nexuses of complexities):

- AI and digital technologies for public services and democratic life
- AI at the service of human collective intelligence

Corresponding ideas from local thematic syntheses:

6 countries (BE, CA, FR, KE, PT, US) 14 ideas
1rst wave / 2nd wave

- (Belgium – Democracy) Is technological progress a danger or is it an opportunity?
- (Canada – Democracy) Participating in social and professional life via social networks is possible without compromising our privacy
- (France – Democracy) Artificial Intelligence (AI) is currently perceived as a powerful tool, although it remains, for the moment, limited compared to the complexity and diversity of human brain capabilities
- (France – Democracy) AIs are for services to humans
- (France – Democracy) Desirable: automation of procedures to save time and avoid human errors
- (France – Democracy) Compromises for AIs benefits
- (France – Democracy) Desirable: The use of AI should be accompanied of a society-project
- (Kenya – Democracy) Enhancing governance in a continent with multiple diversity
- (Kenya – Democracy) Enhancing efficiency
- (Kenya – Democracy) Desirable: tracking development

- (Kenya – Democracy) Government
- (Portugal – Democracy) Humans and machines may bond
- (Portugal – Democracy) Artificial intelligence is not a threat by itself
- (US – Democracy) Agency, Choice, and Responsibility

Fostering literacy and critical thinking to preserve and strengthen democracy

Discussions converge on the fact that every citizen should be aware of the nature, limits and risks of technologies they're using or they are confronted with. Fostering awareness about AI issues concerning democracy and digital literacy is key to preserve and strengthen democracy. It is more broadly essential to preserve and develop ethical literacy and critical thinking, by fostering social debates about the ethical and political issues of AI.

Involvement in nexuses of complexity (see below Part 2: Global-Democracy nexuses of complexities):

- AI at the service of human collective intelligence

Corresponding ideas from local thematic syntheses:

6 countries (CA, FR, IT, PT, TW, US) 14 ideas
1rst wave / 2nd wave

- (Canada – Democracy) Desirable: It is important to educate and protect citizens against the new privacy risks posed by AI technologies
- (Canada – Democracy) Desirable: It is important to educate and protect citizens against the new possibilities for human manipulation and the risks of deception made possible by AI technologies and social networks
- (France – Democracy) Desirable: Need for regulation, education and critical awareness
- (France – Democracy) Being aware of the limits of AI
- (France – Democracy) Responsibility: a difficult frontier
- (Italy – Democracy) Ethical Literacy
- (Portugal – Democracy) Undesirable: Humans are ill-prepared to prevent the potential negative impact of artificial intelligence and neurosciences
- (Portugal – Democracy) Desirable: It is possible and relevant to increase humans' preparedness to manage scientific and technological advancements
- (Portugal – Democracy) Desirable: Social debates on the ethics of artificial intelligence should be fostered
- (Portugal – Democracy) Desirable: Digital literacy should be fostered throughout life
- (Taiwan – Democracy) AI-literacy is needed for the appropriate use of AI
- (Taiwan – Democracy) Desirable: Proper adaptation of AI
- (Taiwan – Democracy) There is a need for a proper balance between the benefits and risks of AI
- (US – Democracy) Definition and Linguistic Problems

Setting limits, control and regulation of AI to preserve democracy

For most participants, a world without human control of technology is a dystopic world where democracy can be harmed. Then encouraging a reasoned use of AI technology (including video surveillance, AI algorithms, big data, social media, generative AI), always under human control, is an important concern to preserve democracy. Setting limits, control and regulation for example means: to implement updated normative tools and juridical rights for citizen (which is a multidisciplinary concern); to develop and implement ethical codes for professional groups (e.g., web developers); to take specially care about vulnerable groups; to identify responsible

parties for a given harmful outcome (e.g., disinformation or manipulation); to apply penalties for entities and/or individuals that break the law…

Involvement in nexuses of complexity (see below Part 2: Global-Democracy nexuses of complexities):

- The democratic challenge of regulation

Corresponding ideas from local thematic syntheses:

9 countries (BE, CA, CH, FR, IT, KE, PT, TW, US) 29 ideas

- (Belgium – Democracy) Undesirable: the positive impact of technologies on society is questionable
- (Belgium – Democracy) Desirable: digitalization should serve human civilization
- (Belgium – Democracy) Desirable: the advantages of regulating digitalization
- (Belgium – Democracy) Desirable: Regulations for generative AI
- (Canada – Democracy) Preserving democratic life
- (Canada – Democracy) Desirable: It is important to educate and protect citizens against the new privacy risks posed by AI technologies
- (Chile – Democracy) Technology regulation: need to establish standards and limits to ensure its ethical and responsible use
- (France – Democracy) Responsibility: a difficult frontier
- (France – Democracy) Between freedom and security: the challenges of data collection and AI in a digital world
- (France – Democracy) Desirable: Need for regulation, education and critical awareness
- (France – Democracy) Artificial intelligence: between ethical limits, rights and human control
- (Italia – Democracy) Ethics of AI in Democracy
- (Italia – Democracy) Ensuring Human Control
- (Italia – Democracy) Ethics at the Crossroads of AI, Democracy, Education, and Neuroscience
- (Italia – Democracy) Call to action
- (Kenya – Democracy) AI is complex in decision making
- (Kenya – Democracy) Undesirable: unethical practices
- (Kenya – Democracy) The ethics surrounding use of AI and NS
- (Kenya – Democracy) Desirable: Ethical and legal guidelines
- (Kenya – Democracy) Desirable: Data Protection policy
- (Kenya – Democracy) Transparence
- (Portugal – Democracy) Desirable: Regulation should be updated to minimize risks and maximize benefits of the use of artificial intelligence and neurosciences
- (Portugal – Democracy) Desirable: Regulation is needed to ensure the safe use of artificial intelligence
- (Taiwan – Democracy) AI can disrupt human society without strong regulations
- (Taiwan – Democracy) There is a need for a proper balance between the benefits and risks of AI
- (Taiwan – Democracy) Desirable: Proper adaptation of AI
- (US – Democracy) AI will require governance by those in power
- (US – Democracy) Machines are to serve humanity, therefore humanity must maintain appropriate control of AI
- (US – Democracy) Regulation

Taking into account vulnerable people and contributing to human rights, social and political inclusion

Many participants highlight that vulnerable people (poor, children, seniors, migrants…) has to be considered when using AI in social and political fields as the digital gap (which has to be filled in) widens inequalities and harm social justice and democracy. It is important to consider access inequalities as well as (at the level of nations) inequalities in the ability to develop sovereign AI systems. One must also consider the problem of possible automation of discrimination and biases. If correctly employed, AI and digital technologies can enhance social justice and human rights defense. It is important to ensure that they genuinely help organizations and citizens by meeting the objectives they are designed to address.

Technologies should not serve imposing universalized "tech values" at the detriment of local values upheld by users and impacted communities.

Involvement in nexuses of complexity (see below Part 2: Global-Democracy nexuses of complexities):

- AI and digital technologies for public services and democratic life
- Ensuring safety and security with undermining fundamental rights
- The stake of sovereign AI capabilities (for economic development)

Corresponding ideas from local thematic syntheses:

6 countries (BE, FR, IT, KE, PT, US) 30 ideas
1rst wave / 2nd wave

- (Belgium – Democracy) Digitalization is not always the best option
- (Belgium – Democracy) Automation and social rights
- (Belgium – Democracy) Digitalization and migration
- (Belgium – Democracy) Undesirable: mechanisms of social exclusion should be countered
- (Belgium – Democracy) Desirable: automation should enable citizens to access to basic services
- (Belgium – Democracy) Desirable: the duties of administrative bureaus
- (Belgium – Democracy) Desirable: technological progress should not leave behind social inclusion
- (Belgium – Democracy) Desirable: a transparent normative framework for an inclusive digitalization
- (Belgium – Democracy) Desirable: AI must become a cooperative tool
- (France – Democracy) There is concern about the risk of targeting and oppression by authoritarian regimes through algorithms
- (France – Democracy) Desirable: AI should remain accessible to all
- (France – Democracy) Ethical challenge for AIs: risks, inequality and human nature
- (France – Democracy) Desirable: Free access to information
- (Italia – Democracy) Humanism: Human Rights and Ethical Standards
- (Italia – Democracy) Fair and Non-biased AI
- (Italia – Democracy) Humanism: AI and Human Values
- (Kenya – Democracy) AI promotes human rights
- (Kenya – Democracy) Discrimination and Non-inclusivity
- (Kenya – Democracy) Vulnerable persons and Refugees
- (Kenya – Democracy) AI and NS is undeveloped
- (Kenya – Democracy) Desirable: Inclusion of Persons With Disabilities, Refugees and Pastoral Groups
- (Kenya – Democracy) Desirable: Refugees
- (Kenya – Democracy) Undesirable: Discrimination
- (Kenya – Democracy) Undesirable: Exclusion
- (Kenya – Democracy) Challenges in implementing AI in Africa
- (Kenya – Democracy) Undesirable: AI bias / non inclusivity
- (Kenya – Democracy) Undesirable: Underdeveloped AI infrastructure and financial costs
- (Portugal – Democracy) Undesirable: The use of digital tools may increase social inequalities
- (Portugal – Democracy) Desirable: Artificial intelligence should be used to support vulnerable groups
- (US – Democracy) Universal or Local, AI as Liberator or Oppressor

Ensuring privacy protection

The rise of AI raises concerns among participants in discussions about privacy. Indeed, private and public entities have massive access to all kinds of personal data (about health, opinions, choices, habits and customs…) putting a strain on privacy and, by going deeper, on inner life privacy (especially if we add to the top of that emerging neurotechnology and issues they raise regarding brain privacy). To protect democracy and ensure individual freedom, it is imperative to strengthen privacy and data protection regulations (insisting for instance on the right to be forgotten). It is very important to clearly distinguish between private and public life not only

online (public opinions and online anonymity) but also on public space (the use of data obtained from video surveillance and facial recognition must be restricted to certain places, and their use should be justified). Is it possible to combine citizen privacy and safety?

Involvement in nexuses of complexity (see below Part 2: Global-Democracy nexuses of complexities):

- Ensuring safety and security without undermining fundamental rights

Corresponding ideas from local thematic syntheses:

7 countries (BE, CA, FR, IT, KE, PT, TW) 23 ideas
1rst wave / 2nd wave

- (Belgium – Democracy) Undesirable: the positive impact of technologies on society is questionable
- (Canada – Democracy) Preserving a living space for human beings away from the gaze of others
- (Canada – Democracy) Preserving democratic life
- (Canada – Democracy) Desirable: The use of video surveillance with AI technologies must be restricted to certain places and justified
- (Canada – Democracy) Desirable: The use of data obtained from video surveillance and AI technologies must be carefully controlled
- (Canada – Democracy) Preserving privacy is an important condition for human development
- (Canada – Democracy) Accessing the human being's inner self through AI technologies
- (Canada – Democracy) Desirable: It is important to educate and protect citizens against the new privacy risks posed by AI technologies
- (Canada – Democracy) Desirable: The right to be forgotten must be preserved
- (France – Democracy) The rise of artificial intelligence raises concerns about privacy, illustrated by massive access to personal data by private and public entities
- (France – Democracy) The complexity of privacy in the digital age is a crucial issue
- (France – Democracy) Desirable: Preserve boundary between the private and public spheres
- (France – Democracy) Between freedom and security: the challenges of data collection and AI in a digital world
- (France – Democracy) Dual use of technology: Benefits and dangers for freedom and privacy
- (France – Democracy) For a real informed consent
- (France – Democracy) Undesirable: The risks of surveillance and loss of personal freedom
- (France – Democracy) Desirable: Restrict AI's use of personal and sensitive data
- (France – Democracy) Being more vulnerable to potential security and privacy risks
- (Italia – Democracy) Ethical Boundaries in Neuroscience-AI Integration
- (Kenya – Democracy) Desirable: Data Protection policy
- (Kenya – Democracy) Personal data: between commercial exploitation, surveillance and necessary regulation
- (Portugal – Democracy) Desirable: Humans should change the way they use digital tools
- (Taiwan – Democracy) Human privacy should be respected

Being aware of challenges regulation raises

A clear consensus emerges from collective discussions on the fact that powerful new technologies such as require governance and regulation. However, it is also acknowledged that regulation raises many acute issues making it a very difficult challenge. There is first the general question of determining who is legitimate to carry out regulations and arbitrate dilemmas or difficult cases. One can for instance mention the topic of social media moderation: who is the right actor? AI technologies may contribute but what is the place of humans? Such a topic reveals very fundamental questions about truth, democracy, and legitimacy. Regulation of AI is also challenging for several other reasons: the pace of technological development, the obfuscation of patterns of responsibility (with digital technologies in general and more specifically with machine learning), the often "easy" access to powerful tools (in the hand of badly intentioned actors, technology such as image / facial recognition can become extremely

harmful), the global scale of research and development (with diversity of value systems around the world as well as constellations of conflicts of interest), the difficulty to predict long term consequences…

Involvement in nexuses of complexity (see below Part 2: Global-Democracy nexuses of complexities):

- The democratic challenge of regulation

Corresponding ideas from local thematic syntheses:

5 countries (BE, CH, FR, PT, US) 8 ideas
1rst wave / 2nd wave

- (Belgium – Democracy) The need for transparency in the field of AI
- (Chile – Democracy) Ethical challenges and regulation of AI
- (France – Democracy) The challenges and dilemmas surrounding the use of artificial intelligence (AI) in social media moderation are perceived as significant issues
- (Portugal – Democracy) Undesirable: It is difficult to minimize the potential negative impact of artificial intelligence and neurosciences through regulation
- (Portugal – Democracy) The artificial intelligence revolution is unstoppable
- (Portugal – Democracy) It is the first time that humans are faced with such complex changes
- (US – Democracy) AI regulation is difficult due to values diversity and conflicts of interest
- (US – Democracy) Transparency and Explainability

Using AI to ensure safety and security

Participants highlight the benefice of using AI to fight against various threats and difficulties, thus ensuring better security and safety for human societies. For instance, AI could contribute to fight disinformation and fake news. It could help detect frauds or corruption. Video surveillance or facial recognition might help to identify people in fault in public space, so potentially leading to more security. AI may also help anticipate the vagaries of the weather and climate change, thus improving food and water safety of communities, especially in poor areas.

Involvement in nexuses of complexity (see below Part 2: Global-Democracy nexuses of complexities):

- Ensuring safety and security without undermining fundamental rights

Corresponding ideas from local thematic syntheses:

4 countries (CA, FR, KE, PT) 8 ideas
1rst wave / 2nd wave

- (Canada – Democracy) Ensuring the safety of people in society
- (France – Democracy) AIs are for services to humans
- (France – Democracy) Between freedom and security: the challenges of data collection and AI in a digital world
- (France – Democracy) Dual use of technology: Benefits and dangers for freedom and privacy
- (France – Democracy) Desirable: AI: between the challenges of interaction and the promise of innovation
- (Kenya – Democracy) Desirable: Climate change mitigation
- (Kenya – Democracy) Desirable: Automation
- (Portugal – Democracy) Desirable: Artificial intelligence should be used to manage fake news

The (difficult) future challenge of distinguishing between AI and humans

As AI systems progress, their ability to mimic and simulate human behavior will develop. Some participants point out that it will become more and more difficult to distinguish between machines and humans, as well as between something real and unreal (like a picture generated by AI). Regulation should emphasize the need to inform citizens whether they are interacting with humans or AI systems (and whether products or services they receive are human made or not). In addition, it is suggested to establish a bill of human characteristics that should be recognized as specific to humans.

Involvement in nexuses of complexity (see below Part 2: Global-Democracy nexuses of complexities):

- Defending human uniqueness in the age of human-mimicking machines

Corresponding ideas from local thematic syntheses:

3 countries (BE, FR, PT) 5 ideas
1rst wave / 2nd wave

- (Belgium – Democracy) How can one distinguish a machine from a human being?
- (France – Democracy) Participants express worries about the prospect of being able to create a duplicate or an improved version of themselves
- (Portugal – Democracy) Artificial intelligence will tend to mimic human abilities
- (Portugal – Democracy) Undesirable: As artificial intelligence develops, its associated dangers may increase
- (Portugal – Democracy) Desirable: Humans have a right to know whenever they are interacting with artificial intelligence

AI use should be banned from politics

Risks such as disinformation, deepfakes, manipulation and propaganda, lead some participant to suggest that AI should not be used in politics to preserve democracy and the smooth running of political events (e.g., political campaigns…).

Involvement in nexuses of complexity (see below Part 2: Global-Democracy nexuses of complexities):

- The democratic challenge of regulation

Corresponding ideas from local thematic syntheses:

2 countries (KE, PT) 2 ideas
1rst wave / 2nd wave

- (Kenya – Democracy) Suspicion
- (Portugal – Democracy) Desirable: Artificial intelligence should not be used in politics

Acknowledging human free-will and the citizen power of influencing regulation and political choices

As citizens, we can feel powerless in the face of the ethical stakes raised by AI and technology. However, some participants claim that individual and collective actions are still possible in society to try to best influence the political and technological choices, notably through legal

regulation or consumer choices (for instance, we can choose to privilege local and specialized AI tools, or more frugal AI models, rather than the generic AI tools developed by tech giants).

Involvement in nexuses of complexity (see below Part 2: Global-Democracy nexuses of complexities):

- The democratic challenge of regulation

Corresponding ideas from local thematic syntheses:

1 country (FR) 1 idea
1rst wave / 2nd wave

- (France – Democracy) Possessing free-will and the ability to act collectively

Part 2: Global-Democracy nexuses of complexities

Being human in the time of NS and AI implies carefully exploring nexuses of complexities where valid ideas are nonetheless in tension, manifesting subtleties and challenges one should not overlook. Here are below some examples of **nexuses of complexities** in the field of **democracy**, identified in NHNAI discussions based on **local and global syntheses**.

The democratic challenge of regulation

A clear consensus emerges on the fact that powerful new technologies such as AI require governance and regulation. It is crucial to encourage a reasoned use of AI technology (including video surveillance, algorithms, big data, social media), always under human control. We need to implement updated normative tools and juridical rights for citizens (which is a multidisciplinary concern), to develop and implement ethical codes for professional groups (e.g., web developers), and to take special care about vulnerable groups (preventing for instance the automation of discrimination).

However, part of the exchanges also highlights that regulation raises many acute issues making it a very difficult challenge. One can for instance mention the topic of social media moderation: who is the right actor? AI technologies may contribute but what is the place of humans? Such a topic reveals very fundamental questions about truth, democracy, and legitimacy. More broadly, regulation of AI is challenging for several reasons: the pace of technological development, the obfuscation of patterns of responsibility (with digital technologies in general and more specifically with machine learning), the often "easy" access to powerful tools (in the hand of badly intentioned actors, technology such as image / facial recognition can become extremely harmful), the global scale of research and development (with diversity of value systems around the world as well as constellations of conflicts of interest), … . One should also take into consideration the economic or business model associated with digital technologies (cost-free models based on users' engagement and data collection might make it difficult to align with human-flourishing objectives).

To cope with the challenge of AI regulation, many participants insist on the importance of digital literacy and critical thinking that should be fostered. Very importantly, some participants highlight the pressing need to fight against the feeling of powerlessness citizens may experience when confronted with such regulation challenges.

Ideas from local and global synthesis mobilized in this nexus of complexity:

- (Global – Democracy) Setting limits, control and regulation of AI to preserve democracy
- (Global – Democracy) Taking into account vulnerable people and contributing to human rights, social and political inclusion
- (Global – Democracy) Being aware of challenges regulation raises
- (Global – Democracy) Fostering literacy and critical thinking to preserve and strengthen democracy
- (Global – Democracy) Assessing the economic model behind AI and its societal impacts

- (Global – Democracy) Acknowledging human free-will and the citizen power of influencing regulation and political choices
- (Global – Democracy) AI use should be banned from politics

Expertise input:

A. From the lawyer's point of view

Yves Poullet[2]

In light of the depth of the challenge of AI regulation, we might recall some basic principles of law, notably with the importance of the rule of law, as a fundamental principle to ensure vivid democracy. The rule of law principle means that for limiting our liberties or to prevent the risk of doing it, it is necessary to go through legislative measures, expressed clearly and in a comprehensive manner, published, having strictly proportionate content according to its purpose and acceptable within a democratic society.

In terms of the content of AI regulation, the transparency about the functioning and the purposes pursued by the data controller should be reinforced, together with the right to contest the use of one's data (notably to protect persons' autonomy). In the same vein, we must assert the accountability of the AI developers. This accountability principle leads to impose to them a multidisciplinary and multistakeholder assessment of the applications they are developing and the risks linked.

Furthermore, it is the responsibility of the States to set up a forum where society might openly discuss the ethical aspects of certain large public innovations.

B. Open societal discussions on ethical questions

Based on insights from Brian P. Green,[3] *and Mathieu Guillermin*[4]

This resonates with the question of where the intervention to "protect" people from AI should occur. Should we rely on individuals to be educated enough to protect themselves? Or on politicians to be educated enough to protect citizens? Or on businesses to know enough? Or on the engineers making the product? All involved stakeholders need a say in their own realms of action. No one group can be responsible for all because the problem of AI literacy and control is too complex and needs to have many points of intervention to direct it towards good.

Some things should be automated and others not; how do we know which is which, and what is our rationale for making this distinction? We need a "why" for determining what is legitimately automatable and what not. Collectively exploring this "why" question, the question of our needs, may prove extremely tricky. As our civilization rapidifies there would seem to be no opposing the force of delegation through AI automation because humans simply cannot be fast enough. We already see this in areas of high-frequency trading and cyber offense and defense. When we ask: what can be delegated and what not? This is not only a question about what is technically feasible. It also means wondering WHY?

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[3] Professor in AI Ethics, Director of technology ethics at the Markkula Center for Applied Ethics (Santa Clara University, USA)
[4] Associate professor in ethics of new technologies (UCLy (Lyon Catholic University), UR CONFLUENCE : Sciences et Humanités (EA 1598), Lyon, France)

This question about the "why" pushes us in the domain of evaluative reflection, of values and interests. As mentioned by some participants in the discussions, this reflection may prove difficult as values and interests can be highly divergent. However, it may be interesting to adopt a nuanced approach. Although there can clearly be strong disagreements in moral and ethical matters, this does not necessarily mean that common ground is impossible. As a first approximation, there seems to be some foundational values to build from. Some authors suggest 5 values that could be universal: survive, reproduce, live in society, educate young, seek the truth.[5] These values could be said *objective* as they are reasonable to a wide variety of people because they exist by logic, in this case proof by contradiction / *reductio ad absurdum*.

In addition, the existence of strong disagreements does not in itself mean that there are strong divergences between values people uphold. Very often, values are shared but can enter in tension and then people disagree about priority to be given to some over others (security versus privacy protection, individual freedom versus common good, etc.). It thus means that we should always reflect on our disagreements and what they bear upon (there may be more agreement than we believe at first sight, more ground for constructive divergences).

This allows us to highlight the importance of reinforcing the capabilities of all actors to participate societal open discussions. As we just saw, it demands fostering critical thinking. It also necessitates to cultivate tech and digital literacy to warrant as informed as possible discussions.

You can also find this complexity on the NHNAI website: https://nhnai.org/focus-on-nexuses-of-complexity-democracy-6/

AI and digital technologies for public services and democratic life

The content of the discussions shows that many participants recognize the interest of AI technologies in increasing the efficiency of public services by making them more accessible (through digitization) and more efficient (thanks to the automation of certain tasks, e.g. administrative). AI and digital technologies also seem to be seen as interesting for facilitating democratic life and political decision-making (notably with data analysis to better understand currents within public opinion).

Nevertheless, many participants also point to the importance of not pushing humans into the background, and of subjecting people entirely to algorithms. There was a lot of discussion about the importance of leaving algorithms in their place, as tools to serve and cooperate with humans (but not to replace them entirely). Collective (democratic) life necessitates to preserve (or even increase) empathy and relationships between humans. The automation and digitization of public services is not necessarily, in itself, beneficial for everyone. Some populations may find it difficult to access digital tools, and algorithms may contain biases and automate certain forms of discrimination. Reliance on digital technologies may also trigger trust issues in relation to the states. AI technologies can even be used to exert a form of control

[5] https://arxiv.org/pdf/2311.17017

over citizens, undermining their freedom of choice, of expression and of thought. It is therefore important for participants that decision-making (at political or public service level) remains under human control.

Automation and the use of data in the conduct of public affairs can therefore be a source of great progress but must not be to the detriment of humans (or certain more vulnerable groups). Mobilized AI technologies must be reliable (deceiving hopes triggered by announcement of digitalization may undermine even more trust in governments), and display strong levels of fairness, accountability and transparency (to ensure trust-building and social acceptance).

On a more fundamental level, many participants claim a kind of right not to be reduced to their digital data.

Ideas from local and global synthesis mobilized in this nexus of complexity:

- AI and digital technologies can improve public services and democratic processes, but only if used correctly:
  - (Global – Democracy) Acknowledging the positive (potential) impact of AI on human life while asking the right questions
  - (Global – Democracy) Privileging AI cooperation and support instead of human replacement
- Decision-making must remain under human control: (Global – Democracy) Preserving human responsibility on ethical choices/decision-making
- (Global – Democracy) Taking into account vulnerable people and contributing to human rights, social and political inclusion
- (Global – Democracy) Preserving empathy, human contact and relationships
- Right to not being reduced to one's data: (Global – Democracy) Recognizing that human persons exceed the sole measurable dimensions
- Risk of undermining trust in case of low reliability, unfairness or lack of transparency and accountability: (Global – Democracy) Preventing AI from undermining humans' critical thinking, decision-making abilities, and collective intelligence

Expertise input:

Based on insights from Brian P. Green, Mathieu Guillermin, Nathanaël Laurent,[6] and Yves Poullet

A. Improving efficiency of democratic processes without undermining persons' singularity

AI may help us in many domains. We want to use AI to become more efficient at good things and at the same time use AI to make bad things less efficient. Can AI help to make it easier to help people? Can AI be used to catch corruption? What other good things can AI help with and what bad things can AI help to stop? The use of AI to reinforce democratic processes is an interesting one, also likely fraught with controversy, but perhaps capable of doing things never before possible with democracy, like giving surveys to entire populations and finding what "the people" really think about many political issues, with uncertainty bars around them, and so on. A new form of democracy might be possible. That does not mean it will be any better, but it might be worth doing a pilot study and experimenting with it.

Any effort in this sense should nonetheless never undermine the centrality of the human person (and of other living beings). A first fundamental principle that we should assert is the right for everyone to participate in the information society. This right must be progressively enlarged since the use of the infrastructure and certain digital services are today more and more

[6] Associate professor in philosophy of biology (Université de Namur, ESPHIN, Belgium)

becoming essential for the development of our personality. This right implies a right to education to digital literacy[7] and as well as the right to the 'core platform services' such as communications' social networks and search engines.

Preserving the centrality of the human person also means respecting the principle of human oversight (the control by human people of the functioning of AI systems). Moreover, people should never be integrally subject to decisions taken by automated systems. Explanations of decisions must be furnished by human people and a right of recourse must be warranted.

This respect for the centrality of the human person ties in with one of the strong axes of Pope Francis' positioning on AI in connection with resistance against what he calls the "technocratic paradigm": "Fundamental respect for human dignity means refusing to allow the uniqueness of the person to be identified by a set of data. Algorithms must not be allowed to determine how we understand human rights, to set aside the essential values of compassion, mercy and

An analysis from the Kenyan perspective: How Artificial Intelligence is Shaping Governance in Africa?

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Artificial Intelligence (AI) is transforming governance in Africa by improving efficiency, transparency, and service delivery. It enhances electoral systems through better voter registration and verification, supports policy communication via digital tools like audio conferencing, and bolsters national security by tracking illicit activities. AI also reduces prison overcrowding through alternative monitoring methods, boosts revenue collection by reducing corruption, and promotes rural development by exposing communities to urban innovations. Furthermore, it improves healthcare, strengthens engagement with vulnerable groups such as refugees and pastoralists, and supports environmental monitoring and digital micro-economies. Despite these benefits, AI poses significant threats that must be addressed. These include algorithmic bias, especially in facial recognition; risks to data privacy and transparency; and potential misuse in elections and cybersecurity breaches. AI adoption also raises concerns about job displacement, erosion of cultural values, overreliance on foreign technologies, and weakened human-centered governance. Technical vulnerabilities such as power outages and increased financial crimes like money laundering further complicate its use. To mitigate these risks, Africa must adopt context-specific AI policies, invest in infrastructure and public education, integrate AI into the school curriculum, and collaborate with traditional and religious leaders to build trust. Emphasizing African values like Ubuntu, promoting inclusive design, and demystifying AI are crucial for public acceptance. Ultimately, AI should enhance not replace human empathy, dialogue, and community-centered leadership in governance.

[7] As a striking illustration of this issue of inequalities of access to basic digital services, a recent Belgian survey pointed out that, in 2023, "40% of Belgians remain in a situation of digital vulnerability, due to poor digital skills or non-use of the internet. The acceleration in the digitization of our society is therefore not leading to a proportional increase in digital skills" (https://kbs-frb.be/fr/quatre-belges-sur-dix-toujours-risque-dexclusion-numerique).

forgiveness, or to eliminate the possibility of an individual changing and leaving behind the past."[8]

B. Are algorithms more neutral than humans?

With this in mind, it is important to solidify our collective acculturation to digital technology. Indeed, the notion of algorithm can easily convey the idea of an absence of bias and, the idea of enhanced rationality or objectivity by comparison to human judgment (after all, algorithms are logical-mathematical procedures that leave no room for arbitrariness or human subjectivity). Yet this connotation masks a much more contrasting reality.

The basic intuition is valid: if a discrimination is explicitly programmed, it will "show up" in the program and the programmer can be called to account. However, this transparency is not necessarily the case with AI programs obtained through so-called machine learning. Without wishing to join the ranks of commentators who present these programs as black boxes (we can watch the calculations being made, nothing is hidden or invisible on principle), it is important to understand that they can very easily include biases and lead to discrimination that is difficult to detect by looking directly at the program's content.

Indeed, the general idea behind machine learning is to attempt to bypass limitations in our ability to explicitly write programs for complex tasks. For example, we can easily write a program to distinguish between black and white monochrome images ... all it takes is a few simple calculations on the numbers encoding the color of the pixels in such images ... but what calculations can we make on these same numbers to obtain a program to distinguish between multiple images of everyday objects? At this stage, we can try to go a step further by writing a program with "holes", or rather "free parameters", i.e. an outline of a program capable of performing many different logical-mathematical operations (multiplication by coefficients, additions, other more complex operations) and chaining them together in a multitude of ways. The details of the operations will be determined by setting the parameters to a certain value. The idea of machine learning is to say that, with a bit of luck (and above all a lot of skill and astuteness from the behalf of developers), there is a set of parameters that will produce an efficient program for the task that was resisting until now (e.g. classifying images of everyday objects). Then, we'll try to find this famous set of parameters (or at least a satisfying set of parameters) automatically, with another program that will test a large number of parameter-setting possibilities by comparing their performance at completing the intended task. A very effective way of guiding this automatic parameter-setting program is to give it numerous examples of the task at hand (i.e. numerous examples of images already classified according to what they picture). If all goes well, the result is a correctly parameterized program that reproduces the examples (we say we've learned a model or trained an algorithm... but it's still automatic parameterization).

C. Algorithms embed humans' (intended and unintended) objectives and tendencies

With this basic understanding of machine learning, it's easier to see how "successful" learning process can still lead to a highly problematic program. If we guide an automatic

[8] Message of his Holiness Pope Francis for the 57th World Day of Peace, 1st january 2024, https://www.vatican.va/content/francesco/en/messages/peace/documents/20231208-messaggio-57giornatamondiale-pace2024.html

parameterization with biased data at the outset (reflecting sexist or racial discrimination, for example), successful learning will lead to a program that reproduces these biases or discriminations.[9] Similarly, if we "train" a program on non-representative example bases (for example, because groups or minorities are not represented in the data), it is very possible that the program will not work as well for all the persons who will use it or be subjected to it.

In general, it is very important to debunk the illusion of digital technology as mere neutral tools humans create, store aside, and mobilize only when needed. Rather, digital technology, as any technology, is better conceived as networks of interrelated human actors (computer scientists, designers, programmers, engineers, users, etc.) and non-human components (servers, rare earths and lithium mines, water resources mobilized for data centers cooling, etc.). Accordingly, the behavior and outcomes of AI systems (and, more broadly, of digital technologies) will always result from (and reflect) what humans willingly or unwillingly made them with (programming, examples in training datasets, socio-ecological impacts, etc.).

In particular, AI will reflect, propagate and possibly reinforce power asymmetries in society. Because AI is a centralizing technology (centralizing data, computing power, and human talent), it disempowers those excluded from the center. In this way, AI is antidemocratic. But democratic societies can control antidemocratic influences if they are smart enough to detect them and determine how to keep them on the democratic "leash." Those with control over AI (whether they are businesspeople, government officials, engineers, and so on) need to be responsive to those who are subject to their power..

This means that delegating some tasks of governance to (machine learning) algorithms and AI systems can prove beneficial only if conducted with extreme caution. The point of view of Antoinette Rouvroy (Belgian philosopher and lawyer) is particularly enlightening in this respect:[10]

> *Machine learning and, more generally, the ability of machines to make us aware of the regularities in the world that can only be detected in large numbers, is intended to increase our individual and collective intelligence by giving us access to a 'stereo-reality' that is both analogue and digital, and that can improve the way we govern ourselves and coordinate our behavior in a sustainable way (provided, however, that we recognize that algorithms are, just as much as human decision-makers, always 'biased' in their own way, even if these 'biases' are not easy to detect because they seem to be 'reabsorbed' in the hidden layers of neural networks).*

In her criticism of "algorithmic governmentality", Antoinette Rouvroy warns against the risk of a too large and undiscriminated delegation of decision-making to machines that would lead

[9] One example among many others (here with generative AI): https://restofworld.org/2023/ai-image-stereotypes/

[10] Interview of Antoinette Rouvroy on the topic of "algorithmic governmentality" (2 December 2019 by Catherine De Poortere) (our translation): https://www.pointculture.be/articles/focus/gouvernementalite-algorithmique-3-questions-antoinette-rouvroy-et-hugues-bersini/.

to replace our human and living ways of enunciating, verifying and justifying our convictions by "a regime of optimization and pre-emption":[11]

> *The categories or forms (ideologically contestable, subjectively biased, always a little 'inadequate', etc.) through which we are socially, culturally, politically or ideologically predisposed to perceive and evaluate the events of the world and its inhabitants are thus replaced by the detection of signals in 'real time' and an anticipatory evaluation not of what people or events 'are', but, in the mode of 'credit', of the opportunities, propensities, risks, etc. that their forms of life 'carry'. The aim of algorithmic modelling is no longer to produce 'knowledge', but to provide operational information that is neither true nor false, but sufficiently reliable to justify pre-emptive action strategies.*

Moreover, as already evoked, algorithms must not be understood as neutrally processing facts. Facts themselves are never neutral. Humans are always endowed with the responsibility of establishing the facts, interpreting, making sense of reality. This is of course a fallible endeavor that can be perverted. But algorithms do less (and not more) than this:[12]

> *For algorithms, the only 'facts' are the data, rendered amnesiac of the conditions under which they were produced. Yet facts, or data, are never more than the reflection or effects of power relations, domination, discriminatory practices or the stigmatization with which social reality is riddled.*

You can also find this complexity on the NHNAI website: https://nhnai.org/focus-on-nexuses-of-complexity-democracy/

AI at the service of human collective intelligence

Many participants point out that policy and decision making must remain based on human interaction and collective reflection and deliberation. There is a large consensus against government by machines (technocracy), a large consensus on the fact that AI should not replace humans in decision making, in particular in the key field of collective political decisions (see the related nexus of complexity). Indeed, human relationships and empathy are key for collective decision making and should be preserved and reinforced.

With respect to collective intelligence and decision making, digital tools already have deep positive as well as negative impacts. Participants recognize that they provide tremendous possibilities for information exchange and collective debates at unprecedent geographic scales and temporal pace. With internet and social networks, information sharing has become extremely liberalized. Nevertheless, this liberalization of our collective information landscape also triggered the problem of having too much information available and the need to

[11] Ibid. (our translation).
[12] Ibid. (our translation).

editorialize it more efficiently. In this respect, discussions reflect serious worries about recommendation algorithms that can reinforce biases and isolation of given groups by creating echo chambers and information bubbles. They also highlight the rapid increase of production of deep fake news with generative AI. These processes can even be exploited for voluntary manipulation. In any case, this leads to the weakening of our collective relationship to truthfulness in policy and societal debates, thus diminishing instead of enhancing our collective intelligence capacities, our ability to be genuine persons in our citizen life with autonomy.

Some participants highlight in this respect the problem of mediatic hypes and the tendency to fall for sensationalism (including hypes and sensationalism about AI itself) which reinforces the problem of information editorialization while more responsible journalism is more necessary than ever.

In general, participants insist upon the need for fostering critical thinking to better navigate our information landscapes and to support our collective intelligence and policy- and decision-making abilities. Again, at that global level, AI can both undermine and foster human flourishing. AI systems may encourage uniformization. Thus, by delegating too much to AI systems, people may see their uniqueness undermined. The pervasiveness of AI also raises the question of overdependence on AI and deskilling (also rendering our societies highly vulnerable in case technology becomes suddenly unavailable). At the same time, AI could be of great help, for instance by contributing to improve the quality of information or by supporting the fight against (deep) fakes news and their dissemination (social networks moderation).

Ideas from local and global synthesis mobilized in this nexus of complexity:

- Governance should remain a human activity, with decision-making based on human interaction:
  - (Global – Democracy) Privileging AI cooperation and support instead of human replacement
  - (Global – Democracy) Preserving empathy, human contact and relationships
  - (Global – Democracy) Preserving human responsibility on ethical choices/decision-making
- AI put our collective intelligence and decision-making capabilities at risk:
  - (Global – Democracy) Preventing AI from undermining humans' critical thinking, decision-making abilities, and collective intelligence
- AI threatening the uniqueness of persons: Preserving the specificity of human beings (compared to machines)
- Need to foster critical thinking: (Global – Democracy) Fostering literacy and critical thinking to preserve and strengthen democracy
- AI supporting our collective intelligence and decision-making processes:
  - Privileging AI cooperation and support instead of human replacement
  - Acknowledging the positive (potential) impact of AI on human life while asking the right questions

Expertise input:

Based on insights from Brian P. Green, Mathieu Guillermin, Nathanaël Laurent and Yves Poullet

The health of our democratic societies partly rests upon the quality of the information landscape and of citizens' collective intelligence. The latter are deeply impacted by digital and AI technology.

A. AI, information landscape and collective intelligence

Given the enormous amount of content available on the internet (even restricted to digital platforms), (at least) partly automated editorialization of information is inevitable. AI tools for

profiling users and recommending them some content are thus key pieces of technology. However, we must wonder about the criteria and purposes of these operations of profiling and recommendations. As Gerald Bronner explains,[13] the liberalization of our information landscapes associated with an economic model based on gratuity leads to fierce competition for catching as much as possible users' attention. Recommendation algorithms are designed to push forward contents that will lead users to stay connected (thereby ensuring maximal exposure to personalized advertising and most efficient data collection). This is very different from recommendation systems that would promote flourishing-conducive contents (which can often be less attractive at first sight).

Profiling and recommendation systems can in particular lead to (unintended or intended) deleterious effects in the political domain. Echo chambers can lead to strong polarization of public opinion. Digital content can be tailored to exploit recommendation systems and echo chambers. It is in particular true of deep fake news produced more and more easily with generative AI tools. Furthermore, the concentration of revenues and economic power in the hands of large platforms might lead to concentration of political power, especially in terms of influence upon public opinion. This can deeply weaken the ground and basic conditions of possibility of democratic societies, for instance threatening the organization of free and transparent elections. Echo chambers and (deep) fake news can even serve as weapons of political destabilization in geostrategic conflicts. Recommendation and profiling systems could also be used by authoritarian regimes to reinforce their control over populations. At the same time, AI technology may help fighting against these threats. We could talk about a kind of AI war,[14] defensive systems combating offensive ones with the information landscape as a battleground. AI system can be trained to detect deep fake images or videos. It could be possible to develop recommendation and editorialization systems that limit the virality of fake news.

Globally speaking, we can expect from AI that it helps us improving our information landscape and our collective intelligence (recommendations of more flourishing-conducive content, fight against fake news, …), but it will largely depend on our ability to encourage the development of the right technology and the adoption of the most positive uses. This in particular means fostering digital and ethical literacy to enable concerned actors (from developers to users) to establish adequate conditions. We could for instance mention the necessary reflection on the economic model behind digital technologies and the issues raised by the mirage of gratuity).

More fundamentally, we may also fruitfully reflect upon the meaning of expressions such as "right technology" and "positive uses". Using AI to support human intelligence or flourishing and not stifle them is another version of the "balancing" question, which runs through several themes of discussions. If we want AI to support humans being "adults" and oppose the use of AI to turns us into dependent "infants" with AI as our "parent," there is a lot more to say here about what sorts of support are good and which are bad. A part of the question touches upon refining our understanding of what this collective or human intelligence is we expect AI to improve.

[13] Gérald Bronner (2012), *Apocalypse cognitive*, Presses Universitaires de France

[14] https://www.latribune.fr/opinions/tribunes/lutte-contre-la-desinformation-la-guerre-des-intelligences-artificielles-997066.html

B. What does it mean to foster human collective intelligence?

It can prove fruitful to question our preconceived ideas about what it means to be rational or intelligent, about how we can/should go about developing ideas that deserve to be called **knowledge**, that deserve to be **held as true**. It's certainly tempting to think that we gain in rationality or intelligence by purging our inference procedures of subjective judgments, choices, trade-offs, questions of value, etc. ... This vision certainly encourages the idea that algorithms and learning machines have a head start, since they are ultimately based solely on logical-mathematical computations on data. Endowed with superior neutrality, algorithms thus could support humans in purging the pollution of their subjectivity to improve their rationality. This view may also lead to grant strong credit to algorithmic governmentality we evoked in another nexus of complexity.[15]

However, recent history and philosophy of science (since at least the second half of the 20th century) has shown us the limits of such a purely algorithmic or procedural conception of rationality and intelligence. Any scientific approach, even the most experimental, inevitably relies on human judgments and arbitrations (concerning the basic vocabulary to be used, the major methodological orientations, the objectives to be achieved... but also concerning fundamental intuitions such as the idea that empirical observation does not systematically deceive us).[16] Computer programs are no exception to this indispensability of human judgment. Even in the case of machine learning, humans must for instance arbitrate about the quality of corpuses of examples, about the type of program with free-parameters that we will try to automatically tune, or about the automatic parameterization procedure itself.[17] These kinds of judgments or arbitrations are not made "arbitrarily" (in the sense that everyone could do as they please in their own corner). A great deal of skill and experience is required, and it will never only be a matter of applying criteria or procedures in a purely neutral or objective way.

To be intelligent or rational is, of course, to be able to correctly (objectively or neutrally) apply criteria, procedures or algorithms, but it is also, and perhaps above all, to be able to judge the quality of criteria and procedures, to have a reflexive and critical attitude towards what we are doing... and therefore to be able to judge and arbitrate fallibly, to make mistakes sometimes, to correct oneself, to evolve (and to help each other in this respect, to collaborate with good will)... Being intelligent in this sense is something fundamentally alive, something that each of us can only undertake rooted in our own lived experience (with all the richness but also the limits that this entails)[18] and in healthy collaboration with others.

This collective and relational dimension of human intelligence is of paramount importance and leads us back to the topic of democracy as relying on a robust intersubjective space for

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[15] See: AI and digital technologies for public services and democratic life.

[16] Philip Kitcher, *Science, Truth and Democracy*, New York, NY: Oxford University Press, 2001, ISBN: 0-19-514583-6. Mathieu Guillermin, «Non-neutralité sans relativisme ? Le rôle crucial de la rationalité évaluative». In: Laurence Brière, Mélissa Lieutenant-Gosselin, Florence Piron (dir.), *Et si la recherche scientifique ne pouvait pas être neutre ?* Éditions Science et bien commun, 2019, 315-338. https://scienceetbiencommun.pressbooks.pub/neutralite/chapter/guillermin/

[17] For more details, see the expertise input in the nexus of complexity entitled: AI and digital technologies for public services and democratic life, especially section B. Are algorithms more neutral than humans?

[18] See for instance: François Laplantine, *The Life of the Senses: Introduction to a Modal Anthropology*, Routledge (Sensory Studies), 2020, 176 p., ISBN 9781472531964

deliberation. I become more intelligent when I interact with other people, for instance because they use different categorizations (or use mine differently). Democracy and collective deliberation are more than just the blind concatenation of individual opinions, with predominance granted to ones accepted by the majority. It is first and foremost a way of living and flourishing altogether. AI systems, as smart or "intelligent" they may be, cannot be expected to replace or automate this form of deep collective human intelligence. This would in no way be a support to humans but rather a kind of obliteration of their life and intelligence. The key question we should thus wonder about then is: how can machines help us to be more intelligent? As more and more pervasive actors of our social environment (we may say that we form techno-social or hybrid systems), digital technologies (including AI) not only inform us, but also transform us. We must reflect upon this transformation and where we would like it to lead us. How can digital technologies contribute to deepening our life experiences that make us wiser and more experienced? What type of AI systems and digital services will genuinely foster our collective and human intelligence?

You can also find this complexity on the NHNAI website: https://nhnai.org/focus-on-nexuses-of-complexity-democracy-2/

Ensuring safety and security without undermining fundamental rights

Participants in the discussions acknowledge the interest of using AI technologies in many aspects of our lives, in particular to better live together in our democratic societies. In addition to the possible support AI may bring to collective political decision-making or to collective intelligence (which is discussed in dedicated nexuses of complexity[19]), some participants highlight the fact that AI could help improving security, for instance with enhanced video surveillance capabilities. Others point out the benefits of AI in terms of safety, with increased ability to forecast and manage crisis such as epidemics or natural disasters.

At the same time, discussions clearly manifest concerns about fundamental rights and privacy protection, especially mind privacy (already with profiling algorithms, and even more when neuroscience is added to the picture). Participants notably worry about private and public entities having massive access to all kinds of personal data (about health, opinions, choices, habits and customs…), thus putting a strain on privacy.

Weakening privacy and blurring the limits between public and private spheres may notably impede freedom of thought and expression as well as democratic and social life. In addition, participants insist upon the fact that improvements in security and safety should not be achieved at the expense of the most vulnerable, who may encounter more difficulties in asserting their rights. In general, persons should never be reduced to their data.

[19] See the following nexuses of complexity: AI and digital technologies for public services and democratic life and AI at the service of human collective intelligence.

Ideas from local and global synthesis mobilized in this nexus of complexity:

- (Global – Democracy) Using AI to ensure safety and security
- (Global – Democracy) Ensuring Privacy protection
- (Global – Democracy) Acknowledging the positive (potential) impact of AI on human life while asking the right questions
- (Global – Democracy) Taking into account vulnerable people and contributing to human rights, social and political inclusion
- (Global – Democracy) Recognizing that human persons exceed the sole measurable dimensions

Expertise input:

Based on insights from Federico Giorgi,[20] Brian P. Green, Nathanaël Laurent, and Yves Poullet

A. Privacy, a cornerstone of democracy

Privacy protection is a key component of collective life, especially in democratic societies. The right to keep some things secret, to keep them outside of the public sphere is extremely fundamental. As recalled by the Belgian philosopher Corentin de Salle, privacy is extremely important for several basic reasons:[21]

> *First, to preserve people's **dignity**. Out of decency, you might say. Secondly, because revealing things that should remain secret **makes people vulnerable**. It can undermine their authority if they have responsibilities. It makes it more difficult for them to assume the social role they must play in their professional lives. It can also lead to their weaknesses being revealed, enabling unscrupulous people to exploit them to manipulate, defraud, steal their identity or do them harm. Finally, protecting privacy is important because everyone needs a **refuge**, a place where they can recharge their batteries without worrying about what they say, do or think. (…)*

Moreover, privacy "is not a fundamental freedom alongside other freedoms, but a condition of other freedoms. In particular, freedom of expression and freedom of movement. (…) if I know (…) that I am constantly being spied on, I will no longer dare to express myself as I wish, even in more intimate and private settings. If I feel controlled at all times, how can I move around as I wish?"[22] With emerging neurotechnology providing new powers of analysis and manipulation of brain functioning, privacy issues may become even more acute, with the possibility to undermine our mental integrity and psychological identity. It may be time to recognize 'neuro-rights' as certain countries have already done.

Another way of looking at the foundation of the right to privacy is the issue of the power differential between the individual and the state. Because knowledge is power, and the state has vastly more knowledge and power than the individual, the state must be made more transparent to the individual (freedom of information about the government, narrowly scoped government secrecy), and the individual opaquer to the state (right to privacy). Digital technology and AI systems somehow extend this problem of power asymmetry as AI is a power that can be controlled by states but also by other organizations, and these organizations should

[20] Post-doctoral researcher in philosophy (Université de Namur, ESPHIN, Belgium)
[21] De Salle C., Tellier S., De Cooman J., Petit N., Duquenne E., Lombardo A., Hublet L. & Leduc P. (2018) *La vie privée à l'ère des big data*, Les Études du Centre Jean Gol, p. 9. https://www.cjg.be/les-etudes-du-cjg-la-vie-privee-a-lere-des-big-data/
[22] Ibid.

likewise be made more transparent to the public and the public likewise protected from these organizations through privacy rights.

The desire for public safety via surveillance is, of course, in tension with the right to privacy noted above. The balance between safety and privacy is extremely contextual and so will vary from place to place, but, in general, the transparency on the government side (or powerful organization) of the equation can be similarly enhanced in order to still protect individuals even if they are being more surveilled. It is also important to mention that privacy should never be considered from a pure individualistic approach. For instance, with profiling and recommendation technology: we must consider the fact that our profiles are deduced not only from our data but from big data where our data are mixed with data about other people. This means that our individual decision to allow the collection and processing of our data by AI applications also somehow engage other people. Our data might be used for profiling other people who refused the collection and processing of their own data. In fact, behind the exploitation of people (personal) data there is a global question about the type of social and economic model we want to live in, a question that goes beyond the sole question of states' surveillance of their citizens.

B. Surveillance capitalism

In this respect we could evoke Zuboff's book *The Age of Surveillance Capitalism* (2018). Zuboff, an emerita professor at Harvard Business School known for her research on technology in the workplace, has taken on a big task: to create a set of terms that capture the excitement around modern tech companies. She argues that surveillance capitalism makes money by collecting, processing, and analyzing people's behavior data using methods that encourage "radical indifference," a way of observing without any witnesses. This sets it apart from industrial capitalism, which profits from exploiting natural resources and labor. Surveillance companies have found a wealth of information from the data they gather for their own use, and they realized they could sell this "data exhaust" to advertisers. For them, the people behind the data are just accessories.

Zuboff sees the resulting economic structures as completely new: a rogue form of capitalism. While previous companies relied on "primitive accumulation," surveillance companies like Facebook and Google depend on ongoing "digital dispossession," a concept she has taken from David Harvey. Each of us is constantly made understandable and profitable for these companies. More than just government surveillance that aims to limit free will, Zuboff worries that these companies will use human free will to achieve their goals, relying on the predictable outcomes we provide.

For Zuboff, this creates a troubling situation with respect to the core idea of modern liberalism: the individual. She views surveillance capitalism as an extension of B.F. Skinner's research in psychology, where people are seen as nothing more than their behaviors and reflexes. Skinner wanted to improve social unity and workplace efficiency, regardless of individual choice. Zuboff highlights examples that show how surveillance capitalism relates to this kind of behaviorism, such as the development of biometrics and Rosalind Picard's research on affective computing for autistic users, which was later taken up by surveillance startups. All of this shows that surveillance capitalism is gradually undermining our essential right to personal freedom.

You can also find this complexity on the NHNAI website: https://nhnai.org/focus-on-nexuses-of-complexity-democracy-3/

AI and work automation

Participants pointed out the need to find a balance between automation of tasks at work and human labor and dignity. Although it is undeniable that AI technologies will trigger enormous gains in efficiency and productivity, participants worry about the manner the benefits will be shared (especially within the framework of a "cost-free" business model where services are provided "for fee" In exchange of data). Will possible gain in efficiency trigger additional pressure to produce? Possible impacts on employment and people's financial resources could threaten democracies themselves. Beyond the financial dimension, some participants highlight the fact that human flourishing comes from performing given social roles and from having a purpose. Some wonders about issues linked to assessing and rewarding merit. Other participants also express concerns about the prospect of being forced to create a duplicate or an improved version of themselves at the risk of losing their own identity.

Ideas from local and global synthesis mobilized in this nexus of complexity:

- (Global – Democracy) Finding the right balance between human labor and AI task automation
- (Global – Democracy) Assessing the economic model behind AI and its societal impacts
- Global – Democracy) The efficiency of technology should not lead to increase pressure to produce
- (France – Democracy) Participants express worries about the prospect of being able to create a duplicate or an improved version of themselves
- (Portugal – Democracy) Human fulfillment comes from performing different social roles

Expertise input:

Nathanaël Laurent

In recent study on AI impact on employment by the Belgian bank ING, one can find an interesting survey reflecting "a paradoxical perception of AI":[23]

> *The ING study was accompanied by a representative survey of a thousand Belgians on the impact of AI on employment and society (conducted at the end of 2023). The most striking result is that 42% of Belgians believe that AI will lead to job losses, but only 3% fear for their own jobs. What's more, 15% think that AI will have a major impact on their work (...). This is true across all age groups, genders and professions.*
>
> *Belgians therefore believe that AI will have a negative impact on the global labour market, but not on their own jobs. This apparent contradiction often emerges from surveys: citizens tend to have a negative perception of the impact of AI on society in general, while a positive feeling often prevails about what (gen)AI can mean for them in concrete terms. The paradox can probably be explained by the many negative communications about the dangers of AI,*

[23] (Our translation) https://www.agoria.be/fr/services/expertise/digitisation/intelligence-artificielle/impact-de-lia-sur-le-marche-du-travail-belge-des-bouleversements-mais-sans-augmentation-du-chomage-etude-ing

> *whereas the positive impact of a new technology should come mainly from practice and personal experience. Many workers using GenAI report a positive experience and make good use of the time freed up.*

You can also find this complexity on the NHNAI website: https://nhnai.org/focus-on-nexuses-of-complexity-democracy-4/

The stake of sovereign AI capabilities (for economic development)

Participants from Kenya express their strong hope that AI can better the condition of the most vulnerable and excluded. However, they also worry about the lack of sovereign resources and capabilities, as well as vulnerabilities in terms of literacy and access to technologies. They point a risk of technological dependence and colonization, also implying that AI development in their country may not lead to local economic development.

This problem of techno-colonization can be extended to any countries with the question of benefit sharing within the framework of a "cost-free" business model where services are provided "for fee" in exchange of data.

Ideas from local and global synthesis mobilized in this nexus of complexity:

- (Global – Democracy) Taking into account vulnerable people and contributing to human rights, social and political inclusion
- (Global – Democracy) Assessing the economic model behind AI and its societal impacts
- AI and support to the post vulnerable:
  - (Kenya – Democracy) AI promotes human rights
  - (Kenya – Democracy) Vulnerable persons and Refugees
- AI can foster economic development: (Kenya – Democracy) Desirable: tracking development
- Lack of AI sovereign development: (Kenya – Democracy) AI and NS is undeveloped
- For acknowledgement of AI huge potential for vulnerable persons and for problems of access and literacy, see also: (Global – Health) Using health technologies to better the conditions of life of the most vulnerable persons

Expertise input:

Nathanaël Laurent

The dominant discourse is, of course, that which encourages technological development in Africa and thus leads the continent along the path we have mapped out of a mathesis universalis. As Franck Kié, General Commissioner of the Cyber Africa Forum, explains:[24]

> *It is by answering these key questions that Africa and its 54 States will be able to rise to the challenge of making their digital transformation and the full adoption of artificial intelligence a real lever for growth, to become the digital continent of the decades to come. Some countries are already in the vanguard on this issue, and the others must follow. We have the means, we have the will: let's get to work!* Cyber Africanum est*!*

[24] (Our translation) https://www.jean-jaures.org/publication/cyber-africanum-est-les-enjeux-de-lintelligence-artificielle-et-de-la-cybersecurite-en-afrique/

More critical are the words of Senegalese expert Seydina Moussa Ndiaye:[25]

> *The biggest threat for me is colonization. We may end up with large multinationals in AI that will impose their solutions throughout the continent, leaving no room for creating local solutions. Most of the data currently generated in Africa is owned by multinationals whose infrastructure is developed outside the continent, where most African AI experts also operate. It's a loss of African talent.*
>
> *The other important element to consider is in the context of the fourth industrial revolution. The power of AI combined with advances in biotechnology or technology could be used, and Africa could be the place where all these new solutions are actually being tested. If it's not supervised, we could end up with tests that would take place on humans with chips or even integrated biotechnology elements that we improve. These are technologies that we don't really master well. In regulatory terms, there are certain aspects that have not been considered. The very framework for the application of ideas and existing regulations is not effective.*
>
> *In concrete terms, and when you don't control these things, it could happen without anyone knowing. We could have Africa being used as a Guinea pig to test new solutions, and this could be a great, great threat for the continent.*

Additional interesting resources:

- An interesting report on this subject from an optimistic (non-critical) point of view: https://cpccaf.org/ia-quel-impact-sur-lafrique/
- For a more nuanced and critical account, see: Kouassi Touffouo Frederic PIRA, « Vulgarisation des théories d'adoption et d'appropriation des innovations technologiques pour une intelligence artificielle africaine », *Communication, technologies et développement* [online], 11 (2022), http://journals.openedition.org/ctd/6809

You can also find this complexity on the NHNAI website: https://nhnai.org/focus-on-nexuses-of-complexity-democracy-5/

Defending human uniqueness in the age of human-mimicking machines

Participants highlight the importance of preserving certain values and features that are unique to humanness, like spirituality, wisdom, emotionality, creativity, autonomy, critical thinking,

[25] https://africarenewal.un.org/en/magazine/ai-expert-warns-digital-colonization-africa

imagination, consciousness, empathy… and others. Some of these abilities are key within our democratic and legal systems and cannot be genuinely reproduced by machines. It is for instance the case of empathy and listening when difficulties and complexity appear during a court or in a difficult legal situation.

Nevertheless, participants worry about the growing challenge of distinguishing between humans and machines, as well as between real and fake digital content (such including AI generated content presented as human made). Even if legal regulation would impose to inform citizens when they interact with AI systems or AI generated content, it might become difficult to preserve and defend our human uniqueness if the human-mimicking abilities of machines continue to grow. The problem seems already there concerning creativity.

Ideas from local and global synthesis mobilized in this nexus of complexity:

- (Global – Democracy): Preserving the specificity of human beings (compared to machines)
- (Global – Democracy): The (difficult) future challenge of distinguishing between AI and humans

Expertise input:

Federico Giorgi and Nathanaël Laurent

Philosophical literature has often focused on the issue of the supposed similarities between human beings and machines. In fact, one of the reasons why Artificial Intelligence was first invented and then developed was precisely the curiosity and ambition to find out whether it was possible to create an algorithm capable of answering a series of questions as a human would — and in such a realistic way that it could even deceive a human examiner. This was the question that prompted Alan Turing to conceive his famous Imitation Game (Turing, 1950).

On the other hand, even if we assume — without conceding — that an algorithm is capable of passing the Turing test, which, as is well known, requires very specific experimental conditions (such as the machine being placed in a room separate from the examiner), this does not mean that a machine can be substituted for a human being without anyone noticing. As the biologist Giuseppe Longo observes, there is an irreducible gap between an imitation and the phenomenon it imitates — between a machine and a living being (Longo, 2021).

Even the most sophisticated image recognition algorithm must perform a complex classification process before learning to recognize a cat, whereas a child is able to do so after seeing one just once. That experience (seeing a cat for the first time) generates emotions in the child — such as curiosity or fear — which a machine cannot feel.

Longo's account of the difference between human beings and machines corroborates the above thesis, formulated by the participants in the debate, according to which there are features that are unique to humans.