

Global synthesis of 1st wave discussions

Global-Democracy analysis

In 2023, discussions on what it means to be human in the time of neuroscience (NS) and AI have been facilitated by NHHAI 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 field.

This document presents **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 health.



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)

Certain values and features are unique to human beings, as 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.

Corresponding ideas from local thematic syntheses:

2 countries (FR, PT) 7 ideas

- (France – Democracy) Participants express worries about the prospect of being able to create a duplicate or an improved version of themselves
- (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

Preserving empathy, human contact and relationships

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

- (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

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

- (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

Although one can get a lot of information of 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:

2 countries (CA, PT) 2 ideas

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

Finding the right balance between human labor and AI task automation

AI may deeply transform the manner humans work. It may lead to mass unemployment, especially among the most vulnerable persons. Such major economic shifts have the potential to deeply affect democracy.

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

- [AI and work automation](#)

Corresponding ideas from local thematic syntheses:

3 countries (IT, KE, USA) 3 ideas

- (Italia – Democracy) AI's impact on Employment and Society
- (Kenya – Democracy) Undesirable: Automation of tasks or process
- (USA – Democracy) The economic conditions created by AI with respect to work and human purpose will influence democracy

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

AI becomes pervasive and sometimes indispensable in many aspects of our lives, especially to editorialize information and contents available on internet and social networks. 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.

In sum, AI can damage our ability to find accurate, trusted and sourced **information**, introducing **mistrust** among uninformed citizens, compromising good democratic choices and pluralism. To avoid such a compromise 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).

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) 18 ideas

- (Chile – Democracy) Impact of AI in democracy
- (Chile – Democracy) Challenges of Truthfulness and Information Manipulation
- (Chile – Democracy) Value of traditional voting
- (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
- (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
- (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
- (Taiwan – Democracy) AI can shape human mind
- (USA – Democracy) AI, particularly generative AI, will influence democracy and democratic debate
- (USA – Democracy) AI, the information environment, and democracy
- (USA – Democracy) AI puts at risk trust in government
- (USA – Democracy) Undesirable: AI damaging democracy
- (USA – Democracy) Undesirable: Media sensationalism and extremes regarding AI

Privileging AI cooperation and support instead of human replacement

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 human.

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:

5 countries (IT, KE, PT, TW, USA) 7 ideas

- (Italia – Democracy) IT-LUMSA: Humanism and human-centric approach to AI development
- (Kenya – Democracy) Undesirable: Automation of tasks or process
- (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
- (Taiwan – Democracy) Desirable: AI as a tool in assisting humans
- (USA – 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

Depending on the use that human makes of it, AI can be a danger or an opportunity to human in general and to democracy particularly. Can AI help human and help 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?

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, FR, KE, PT) 6 ideas

- (Belgium – Democracy) Is technological progress a danger or is it an opportunity?
- (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
- (Kenya – Democracy) Enhancing governance in a continent with multiple diversity
- (Kenya – Democracy) Enhancing efficiency

- (Kenya – Democracy) Desirable: tracking development
- (Portugal – Democracy) Humans and machines may bond

Fostering literacy and critical thinking to preserve and strengthen democracy

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.

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:

3 countries (IT, PT, TW) 4 ideas

- (Italia – 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
- (Taiwan – Democracy) AI-literacy is needed for the appropriate use of AI

Setting limits, control and regulation of AI to preserve democracy

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, algorithms, big data, social media), always under human control, is an important concern to preserve democracy. Setting limits, control and regulation means, for example: 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); to apply penalties for entities and/or individuals that break the law...

Corresponding ideas from local thematic syntheses:

8 countries (BE, CA, CH, IT, KE, PT, TW, USA) 16 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
- (Canada – Democracy) Preserving democratic life
- (Chile – Democracy) Technology regulation: need to establish standards and limits to ensure its ethical and responsible use
- (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
- (Portugal – Democracy) Desirable: Regulation should be updated to minimize risks and maximize benefits of the use of artificial intelligence and neurosciences
- (Taiwan – Democracy) AI can disrupt human society without strong regulations
- (USA – Democracy) AI will require governance by those in power
- (USA – Democracy) Machines are to serve humanity, therefore humanity must maintain appropriate control of AI

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

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.

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:

5 countries (BE, FR, IT, KE, PT) 17 ideas

- (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
- (France – Democracy) There is concern about the risk of targeting and oppression by authoritarian regimes through algorithms
- (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
- (Portugal – Democracy) Undesirable: The use of digital tools may increase social inequalities

Ensuring Privacy protection

The rise of AI raises concerns about privacy. For example, 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 (one should add to the top of that emerging problems

concerning neurotechnology and brain privacy). To protect democracy and ensure individual freedom, it is imperative to strengthen privacy protection laws and 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 videosurveillance as facial recognition must be restricted to certain places, and their use should be justified). Do citizen privacy and safety clash?

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

- [Ensuring safety and security with undermining fundamental rights](#)

Corresponding ideas from local thematic syntheses:

6 countries (BE, CA, FR, IT, PT, TW) 11 ideas

- (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
- (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
- (Italia – Democracy) Ethical Boundaries in Neuroscience-AI Integration
- (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 on the fact that powerful new technologies such as require governance and regulation. However, 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), ...

Corresponding ideas from local thematic syntheses:

3 countries (FR, PT, USA) 3 ideas

- (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
- (USA – Democracy) AI regulation is difficult due to values diversity and conflicts of interest

Using AI to ensure safety and security

This point includes 2 different ideas: 1) security in public space: AI (videosurveillance and facial recognition for ex.) can be a helpful tool to identify people in fault in public space, so potentially leading to more security in society. 2) AI could help ensuring food and water safety of communities by anticipating, for example, the vagaries of the weather and climate change.

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

- [Ensuring safety and security with undermining fundamental rights](#)

Corresponding ideas from local thematic syntheses:

2 countries (CA, KE) 2 ideas

- (Canada – Democracy) Ensuring the safety of people in society
- (Kenya – Democracy) Desirable: Climate change mitigation

Part 2: Global-Democracy nexuses of complexities

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

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. It is therefore important 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:

(Mathieu Guillermin) This nexus of complexity, particularly with its focus on the intelligent use of data while resisting any data fetishism and any reduction of people to digital data 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 forgiveness, or to eliminate the possibility of an individual changing and leaving behind the past."²

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 bias or 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.

² 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>

The idea of machine learning is to say that, with a bit of luck (and above all a lot of skill and astuteness), 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). Next, 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 grouping around more or less efficiently. A very effective way of guiding this automatic parameter-setting program is to give it numerous examples of the task in 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).

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 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.³ 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.

To go even further, we could 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. 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).⁴ Computer programs are no exception to this indispensability of human judgment (which corpus of examples? which type of program with free-parameters? which automatic parameterization procedure?...). 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 apply criteria, procedures or algorithms correctly (objectively or neutrally), but it is also, and perhaps above all, to be able to judge the

³ One example among many others (here with generative AI): <https://restofworld.org/2023/ai-image-stereotypes/>

⁴ 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». Dans : 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/>

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)⁵ and in healthy collaboration with others. An intelligent machine can't replace this (what could such a replacement mean if not an obliteration of intelligence?). The better question would be: how can the machine help us to be more intelligent, to deepen our life experiences that make us wiser and more experienced?

AI at the service of human collective intelligence

Many participants point 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. On the contrary, human relationships and empathy are key for collective decision making and should be preserve and reinforced.

In this respect, digital tools already provided tremendous possibilities for information exchange and collective debates at unprecedented geographic scales and temporal pace. With internet and social networks, information sharing became extremely liberalized.

Nevertheless, this liberalization of our collective information landscape also triggered the problem of having too much information available and the need to editorialize it more efficiently. In this respect, discussions reflect serious worries about recommendation algorithm that can reinforce biases and isolation of given groups by creating echo chambers and information bubbles. These processes can even be exploited for voluntary manipulation. In any case, this leads to 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. AI could be of great help in this respect, 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).

⁵ See for instance: François Laplantine, *The Life of the Senses: Introduction to a Modal Anthropology*, Routledge (Sensory Studies), 2020, 176 p., ISBN 9781472531964

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

- Governing 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](#)
- 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:

(Mathieu Guillermin) Ideas for expertise input: on a complexity approach, sharing a common ground ... Rationality based on judgments (collective ones if possible) and their quality, ultimately informally assessed. But uncriterial or unformal does not mean irrational or post-truth. Criticism of the idea that in democracy, number and followers are the goal or the sole marker of truth? With Gerald Bronner and the idea that information self-organizes for individualized attention catching (because of the economic model). Also about the technology for detecting deepfakes, and for moderating, predicting the reach of a news ... Which can be weaponized.

Ensuring safety and security without undermining fundamental rights

Some participants acknowledge the interest of using AI technologies to improve safety and security (enhanced video surveillance capabilities, increased ability to forecast and manage crisis such as epidemics or natural disaster).

At the same time, discussions clearly manifest worries about fundamental rights and privacy protection, especially mind privacy (already with profiling algorithms, and even more when neuroscience is added to the picture). 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.

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) [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:

AI and work automation

Participants point 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. Possible impacts on employment and persons 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. 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](#)
- (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:

The stake of sovereign AI capabilities (for economic development)

Participants from Kenya expressed 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.

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](#)
- 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: