

# Local synthesis of 1<sup>st</sup> and 2<sup>nd</sup> waves of societal discussions

---

## *France - Health*

---

In 2023, 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.\*

This document presents **ideas of the local synthesis in France**, about discussions on **health**, organized by Lille Catholic University.



---

\* 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.

# Table of contents

## **Part 1: Salient ideas of 2023 ..... 3**

The subject of human enhancement raises complex ethical considerations (5 extracts).....	3
Some participants explore the notion of human vulnerability and the implications of technological enhancement (5 extracts) .....	3
Social inequalities arising from access to technological improvements on human beings through AIs and neurotechnologies (5 extracts) .....	4
Participants explore the complex relationship between artificial intelligence, neuroscience and human nature (5 extracts).....	5
The debate on the integration of cyborgs into society raises ethical, legal and philosophical questions (5 extracts).....	5
The debate about increasing human capacity through technology raises profound concerns (5 extracts) .....	6
Democratic issues are also shifting to health (5 extracts) .....	7
Undesirable: Some enhancement abilities are desirable (3 extracts).....	8
Undesirable: Technological domination (2 extracts) .....	8

## **Part 2 : Salient ideas of 2024 ..... 10**

Risks of AI development (6 extracts) .....	10
Health data protection: challenges and necessary regulations (5 extracts) .....	10
Health data management: between privacy protection and AI opportunities. (5 extracts)...	11
AI complexity: transparency and accountability (7 extracts) .....	12
Strict, ethical regulation of Artificial Intelligence: issues of responsibility and transparency (5 extracts) .....	12
AI and neuroscience : just for therapeutic solutions (5 extracts).....	13
Artificial intelligence and employment: benefits and risks ( 3 extracts).....	14
Why the AI development in health? (5 extracts) .....	14
Enhancement: between benefits and inequality (5 extracts).....	15
About some ethical issues (4 extracts).....	15
Desirable: Potential of AI to improve disease diagnosis and treatment (2 extracts) .....	17
Desirable: A certain human enhancement could be a positive potential (2 extracts) .....	17
Undesirable: Ethical and social risks associated with AI and technology (2 extracts).....	18
Undesirable: Preventing aberrations and preserving human autonomy (2 extracts) .....	18

## **Part 1: Salient ideas of 2023**

### **The subject of human enhancement raises complex ethical considerations (5 extracts)**

Description of the idea: Participants commented on the subject of human enhancement, pointing out that it raises complex ethical considerations. The use of drugs to health is already seen by some as a form of enhancement. But while addressing cognitive abilities in a curative context is applauded as a significant advance, ethical concerns emerge when considering the use of AI to transform soldiers into fully-fledged weapons. On the one hand, enhancement to struggle vulnerabilities is envisaged; on the other, a cautious approach is advocated when it comes to improve humans outside a strictly medical context. For many, the use of AIs and neurotechnologies should be limited to experimentation with human enhancment for disabled people, particularly those with motor disabilities. Finally, the need to strictly control the use of AI to avoid unethical optimizations of brain capacity underlines the crucial role of human control in these technological advances.

*Corresponding extracts (click on the arrow on the left to unfold/fold)*

1. Quand on prend des médicaments pour se guérir, c'est déjà de l'amélioration."
2. Utiliser l'augmentation humaine à des fins curatives pour les personnes en situation de vulnérabilité, telles que celles avec un handicap moteur, ou atteintes de maladies dégénératives comme vous l'avez mentionné peut être considérée comme éthique.
3. améliorer les capacités cognitives dans un but curatif pour des personnes atteintes de maladies dégénératives serait une grande avancée à tout point de vue
4. En revanche la question éthique se pose lorsque l'on envisage d'utiliser l'IA afin d'augmenter les capacités cognitives de soldats pour en faire de véritable armes a part entière.
5. Les perspectives d'augmentation humaine peuvent-être éthique si ces dernières sont appliquées uniquement a des fins curatives pour les personnes en situation de vulnérabilités ,

### **Some participants explore the notion of human vulnerability and the implications of technological enhancement (5 extracts)**

Description of the idea: Some participants explore the notion of human vulnerability and the implications of technological improvement. Some participants highlight the natural desire to deal with vulnerabilities, while others warn against the temptation to deny vulnerability altogether. The experience of vulnerability can reveal unexpected strengths in some people. In this sense, it is not intrinsically negative. Social debates about the definition of vulnerability and the ethical limits of using AI for human enhancement are also addressed. Finally, reflections on the aspiration to immortality raise questions about the legitimacy of such ambitions, highlighting ethical and existential concerns linked to the radical modification of human nature. Taken together, the quotations highlight the complexity of

the ethical and social dilemmas surrounding human augmentation, and the desire to determine ethical thresholds beyond which human beings should not venture.

In tension with:

- Salient idea: Not all vulnerabilities need to be removed.

Corresponding extracts (click on the arrow on the left to unfold/fold)

1. Et parce que la différence rend le monde plus beau et plus particulier! Et que sans ces dernières, nous serions bien trop ignorants.
2. La vulnérabilité ne doit pas entraîner automatiquement du rejet et du négatif.
3. Bien entendu, il semble logique de chercher à éviter et "soigner" nos vulnérabilités. Je suis donc d'accord avec vous et spontanément nous ne souhaitons pas chercher un handicap et le maintenir si nous pouvons y remédier ou l'éviter.
4. Le projet Neuralink est le parfait exemple de neurosciences aux services de la lutte contre les vulnérabilités.
5. Du coup utiliser l'IA ou les neurosciences pour "lutter contre", n'est ce pas un risque de rentrer dans une croyance qu'il faut ne plus avoir de vulnérabilité?

### Social inequalities arising from access to technological improvements on human beings through AIs and neurotechnologies (5 extracts)

Description of the idea: Participants raised deep concerns about social inequalities arising from access to technological improvements on human beings through AIs and neurotechnologies. Ethical concerns relate to the possibility of an exponential increase in inequalities, particularly in the context of a failing and/or fallible healthcare system. There are therefore fears about fierce rivalry between social classes, based on emerging technological advantages, for example, with the possibility of cognitive enhancement. The participants also questioned a certain vision of the human being, considered as a biological system to be improved, and raising ethical and environmental questions. The need for regulations and controls to avoid harmful consequences and to reinforce social equity seemed obvious to participants.

Corresponding extracts (click on the arrow on the left to unfold/fold)

1. La question n'est pas de dire que c'est mal mais de réfléchir à une solution pour éviter une inégalité qui pourrait s'accroître de façon exponentielle
2. En prenant soin de ne pas créer d'inégalités d'accès, il est possible de garantir que seules les personnes qui en ont réellement besoin bénéficient de ces améliorations, évitant ainsi les disparités sociales et économiques.
3. Dans un système de santé en perdition ou même se faire soigner une dent relève du parcours du combattant, comment imaginer des pauvres pouvoir bénéficier de cette technologie.
4. Serait-ce le début d'une nouvelle guerre morale ou d'une énième guerre de classe sur fond économique ?
5. Notre corps est en effet un « vaisseau » et, comme vous le mentionnez, seuls les plus fortunés ont l'opportunité de faire durer leur voyage plus longtemps.

## Participants explore the complex relationship between artificial intelligence, neuroscience and human nature (5 extracts)

Description of the idea: Participants explore the complex relationship between artificial intelligence, neuroscience and human nature. Some warn against the belief that AI and neuroscience alone can understand human nature, a belief that could have an impact on our social perception in many areas. The human body is seen as "plastic", allowing for naturally occurring augmentations, but also opening up the possibility of artificially produced augmentations that raise questions. But participants felt that reducing human nature to its biological dimension (the body), particularly in the quest for immortality, could lead to a loss of human relationships. The debate on the hyper-development of human capacities, the modification of nature by AIs, and the ethical implications of possible dehumanization were also addressed.

In tension with:

- **Salient idea: Some artificial modifications could be accepted.**

*Corresponding extracts* (click on the arrow on the left to unfold/fold)

1. Le risque est de croire que l'IA et les neurosciences permettent de comprendre, à elles seules, la nature humaine.
2. Cette plasticité représente l'augmentation naturelle et nécessaire de l'homme. envisager une augmentation artificielle pourrait être contre-productif.
3. Si cela est masqué par le rêve d'une immortalité, d'une invulnérabilité, nous allons devenir aveugles sur notre nature humaine et nous laisser réduire à une permanence biologique, à dataification de mes connexions neuronales qui oublie la dimension relationnelle de notre nature.
4. La nature humaine ne peut pas être réduite à sa dimension biologique.
5. Augmenter la longévité de la vie humaine consiste à modifier la nature de l'être humain, non ? L'amélioration de la médecine que nous avons connu tout au long de ces dernières années à contribuer à augmenter notre longévité certes, mais parce que de plus en plus de solutions scientifiques sont trouvées pour nous soigner. L'IA, qui ne contribuerait juste à augmenter notre durée de vie, modifierait sans aucun doute la nature même de l'être humain. Ces 2 concepts n'ont rien à voir !

## The debate on the integration of cyborgs into society raises ethical, legal and philosophical questions (5 extracts)

Description of the idea: The debate on the integration of cyborgs into society raises ethical, legal and philosophical questions. Participants raised the possibility of discrimination against cyborgs, likening it to racism and highlighting the need to revise legal statutes to ensure equal rights. Neuroprostheses and other implantation brain-computer interfaces in the human body, although technologically advanced, do not appear to them to alter human nature, illustrating the individual's capacity for social acceptance. Despite medical progress and increased life expectancy, human nature remains unchanged. However, the prospect of becoming cyborgs does raise concerns, particularly with regard to alleged immortality and the creation of jobs reserved for cyborgs.

*Corresponding extracts* (click on the arrow on the left to unfold/fold)

1. L'être humain est aussi voué à évoluer. Et ne pas inclure les cyborg dans notre société est proche de la discrimination. Etes-vous raciste ?
2. Quel statut juridique doit-on donner aux cyborgs ?
3. Cependant les avancées technologiques fusionnées à la neuroscience ont notamment créer les jambes et les bras connectés aux courants électriques du corps humain. Avoir ces prothèses améliorées pour remplacer une partie humaine disparue ne change pas l'humanisme de la personne qui a reçu cette prothèse améliorée.
4. En s'intéressant au sujet, on remarque que les évolutions scientifiques n'ont in fine pas changé la nature humaine ,simplement allongé l'espérance de vie au fur et à mesure des siècles ainsi que la compréhension du corps humain par la recherche, l'expérimentation, les défaites et les réussites au niveau médical.
5. Le fait que l'IA puisse accompagner l'humain au niveau médical ici, en neuroscience, ne peut affecter la nature humaine.

### **The debate about increasing human capacity through technology raises profound concerns (5 extracts)**

Description of the idea: The debate about increasing human capacity through technology raises profound concerns. Some fear that the use of AIs, in particular by merging them into the human body, will diminish our cognitive capacities and lead to mental laziness, thereby losing sight of the very essence of humanity. The idea of a never-ending quest for improvement risks creating greater inequalities and compromising our understanding of the natural limits of the human being. Furthermore, the prospect of immortality and invulnerability could lead to a reduction of our existence to biological permanence, neglecting the social dimension. There are also concerns about the potential transformation of a human world into a robotic environment, severely limiting the place and role of emotions. Finally, these technologies raise concerns about excessive human dependence, raising questions about individual autonomy and the capacity for resilience in the event of the loss of these technologies.

**In tension with:**

- Undesirable: create a strong dependance for technology advanced.
- Undesirable: transform human world into robot world.

*Corresponding extracts* (click on the arrow on the left to unfold/fold)

1. C'est le piège de l'utilisation de ces outils, qui risquent d'amoindrir nos capacités cognitives plutôt que les augmenter : notre cerveau va devenir paresseux et ne plus se développer, puisqu'il n'aura plus à chercher, à choisir et à trouver les réponses souhaitées, comme c'est déjà le cas par exemple avec le GPS qui prend en charge nos itinéraires et qui réduit notre propre initiative.
2. Si cela est masqué par le rêve d'une immortalité, d'une invulnérabilité, nous allons devenir aveugles sur notre nature humaine et nous laisser réduire à une permanence biologique, à dataification de mes connexions neuronales qui oublie la dimension relationnelle de notre nature.
3. Ça deviendrait vite la course à qui « s'améliore » le plus. On perdrait de vue ce qu'est l'essence même d'être humain. De plus, tout le monde n'aurait pas accès à ces outils-là ce qui créerait des inégalités encore plus marquées qu'aujourd'hui.

4. Oui la nature humaine semble être affecter par l'hyperdéveloppement des capacités humaines. Seront nous capable de reconnaître les limites de capacités naturelles à l'avenir dans une société qui pousse l'humanité vers la progression constante et le dépassement de soi.
5. On prend alors le risque par l'augmentation des capacités cognitive de l'Homme de transformer un monde humanisé en un monde robotisé où les émotions, difficilement explicable de manière cartésienne, auront surement de moins en moins leurs place

### Democratic issues are also shifting to health (5 extracts)

Description of the idea: Democratic issues are also shifting to health. The rapid development of artificial intelligence (AI) is raising significant concerns, particularly in the field of healthcare, where the importance of social links and human contact between carers and patients is being emphasised. There are concerns about the possible dehumanization of care through the replacement of healthcare professionals by robots, driven also by cost-cutting considerations, and highlighting the primacy of access to care and the social sphere over profitability, the latter being enabled by "intelligent" technologies. Although AI is recognised as being useful for repetitive tasks, the need to preserve human expertise and complex thinking is emphasised, particularly in fields such as medicine and engineering. Concerns are also shared about the increasing dependence of humans on AI, highlighting the risk of over-reliance and the loss of individual skills. In addition, the possibility that AI and neuroscience, while increasing cognitive capabilities, could lead to a wider dehumanization leading to human actions being dictated by technologies, highlights the need to strike a balance between technological benefits and maintaining human aspects in various sectors of society.

*Corresponding extracts (click on the arrow on the left to unfold/fold)*

1. Il ne faut pas donc pas oublier au temps du développement de l'IA que dans le secteur du soin notamment dans le publique le cœur du fonctionnement de l'hôpital est le lien social et le contact humain entre le soignant et le malade.
2. Je prends pour exemple le remplacement des humains au sein de l'hôpital par des robots ce qui pousse la déshumanisation du secteur, en effet, ce point parmi tant d'autres à pour but de réduire les couts de fonctionnement des hôpitaux publiques alors l'accès au soin et le domaine social n'est pas, dans mon idée, un secteur ou la rentabilité est la priorité.
3. L'IA est très utile dans les tâches répétitives et basic, mais dès qu'il y a besoin de réflexion plus poussée, je pense qu'il faut savoir contrôler sois même et avoir l'expertise humaine et professionnelle. Par exemple, les médecins ont besoin de la pratique pour continuer à être bon dans leurs domaines, de même pour les ingénieurs ou encore à plein de corps de métier qui sortent de la neuroscience.
4. Nous ne sommes pas contre cette technologie très prometteuse, elle pourra être fort utile dans certaines tâches précises, mais nous pensons qu'à long terme cette technologie va amener l'homme à trop lui faire confiance et ne plus pratiquer lui-même. Nous pouvons donc mentionner la question de la dépendance de l'homme à ces technologies, que va-t-il se passer s'il enlève sa "puce" un jour ?
5. Nous vous rejoignons sur cette idée de déshumanisation. Si les avancées en IA et neuroscience peuvent réellement augmenter les capacités cognitives de l'humain et lui apprendre à mieux gérer ses émotions, la technologie pourra prendre le dessus sur l'humain et lui dicter les choses à faire.

# Desirable / Undesirable

## Undesirable: Some enhancement abilities are desirable (3 extracts)

Description of the idea: The use of human enhancement for curative purposes, particularly for people with disabilities and/or suffering from illnesses such as degenerative diseases, is considered desirable. The enhancement of cognitive abilities using brain technologies, even if invasive, represents a major advance in all aspects of healthcare, offering promising prospects for many individuals. However, this desired technological direction is being challenged by the constant evolution in our understanding of human nature through discoveries in artificial intelligence and neuroscience. Our way of representing the human being is keeping pace with advances in scientific knowledge. It's not out of the question that the direction of research could be influenced in this way, leading us to use artificial intelligence tools for longevity purposes, raising ethical questions about the modification of human nature.

In tension with:

- Salient idea: The evolution in the human understanding could influence to accept technological action for a strong increased longevity.

Corresponding extracts (click on the arrow on the left to unfold/fold)

- Utiliser l'augmentation humaine à des fins curatives pour les personnes en situation de vulnérabilité, telles que celles avec un handicap moteur, ou atteintes de maladies dégénératives comme vous l'avez mentionné peut-être considérée comme éthique.
- améliorer les capacités cognitives dans un but curatif pour des personnes atteintes de maladies dégénératives serait une grande avancée à tout point de vue
- La compréhension de la nature humaine est en constante évolution au fil des découvertes, le fait que ce développement passe par des travaux sur l'IA et les neurosciences modifiera certaine la direction que prendra la recherche. On sera amené à utiliser certains outils d'intelligence artificielle à des fins de longévité.

## Undesirable: Technological domination (2 extracts)

Description of the idea: The representation of the human being as a simple biological system to be improved or repaired is criticized for being reductive, and raises ethical concerns linked to unequal financial access to technologies and their ecological impact. In addition, concerns about dehumanization are emerging, with fears that advances in AI and neuroscience will lead to technological domination, dictating human actions and compromising the autonomous management of emotions.



*Corresponding extracts* (click on the arrow on the left to unfold/fold)

1. Cette vision est assez réductrice de l'humain, en le considérant uniquement comme un système biologique à améliorer ou à réparer. De plus, cela soulève des questions éthiques sur qui aurait les moyens financiers d'accéder à ce genre de technologies, et aussi l'impact écologique que cela aurait.
2. Nous vous rejoignons sur cette idée de déshumanisation. Si les avancées en IA et neuroscience peuvent réellement augmenter les capacités cognitives de l'humain et lui apprendre à mieux gérer ses émotions, la technologie pourra prendre le dessus sur l'humain et lui dicter les choses à faire.

## Part 2 : Salient ideas of 2024

### Risks of AI development (6 extracts)

Description of the idea: Emerging technologies such as artificial intelligence and neurotechnologies raise major concerns about privacy, security and social inequalities. The management of personal data, particularly health data, exposes individuals to risks of discrimination and breaches of confidentiality, while the use of AI in areas such as surveillance or automated decision-making can dehumanize social interactions and reduce individuals' ability to exercise free will. What's more, unequal access to technologies could exacerbate social divides, creating a hierarchy between those who can afford human enhancements and those who cannot. These ethical and social issues call for strict regulations governing the use of these technologies, although their rapid evolution could render existing laws obsolete. Finally, human enhancement, while potentially beneficial, must be carefully defined and supervised to avoid abuses, and some devices risk being perceived as useless or costly, undermining values such as equality and social unity.

In tension with:

- Salient idea: Distrust of regulation.

*Corresponding extracts* (click on the arrow on the left to unfold/fold)

- "I do not think there is any need to reveal all our health data, just to say, here we are, there is such and such a disability, which is done a lot now, in job applications I know anyway; then the company adapts, and so on.
- "Security breaches or abuse can lead to violations of data confidentiality and breaches of individual privacy."
- "AI can contribute to discrimination if it is trained on data that reflects existing prejudices in society. This can manifest itself in areas such as hiring, credit, criminal justice..."
- "AI systems can be vulnerable to attack, and if malicious actors manage to manipulate AI models, this could have serious consequences".
- "The aim is to improve human productivity, which seems to run counter to virtue and the collective interest, given the long time it takes for innovations to spread, risking undermining the ideal of unity and equality in society"
- "We have laws, we should be checking every time, as soon as someone does something, and it's not... it's humanly impossible. And for me, that's the biggest risk »

### Health data protection: challenges and necessary regulations (5 extracts)

Description of the idea: The issue of confidentiality of personal data, particularly health data, is a sensitive and complex one. Many participants feel that it is crucial to protect this intimate information, stressing that medical data should only be shared in strictly necessary contexts, such as in the workplace, where only relevant information (for example, a disability impacting work) should be disclosed. Employers, for example, should not know the full extent of their employees' health problems, unless this affects their performance. Similarly, occupational medicine only needs relevant information to assess fitness for work.

Technologies such as AI, which collect and process large quantities of sensitive data, raise concerns about privacy and information security, particularly through risks of data breaches and abuse. Flaws in these systems could threaten the confidentiality of individuals, raising the need for strict regulations to safeguard privacy in this context.

In tension with:

- **Salient idea: The protection of health data comes into tension with the need to share certain information for workplace adaptation.**

*Corresponding extracts* (click on the arrow on the left to unfold/fold)

- I don't think there's any need to reveal all our health data, just to say, here we are, there's such and such a disability, which is done a lot now, in job applications I know anyway; then the company adapts, and so on.
- In France, we have occupational medicine, which could have access to all this data if we could recover the data, the DNA and all that. I don't think this type of information is useful for the employer or even for occupational medicine, because it's only supposed to tell us whether or not we're fit to work at that moment in time.
- Security breaches or abuse can lead to violations of data confidentiality and breaches of individual privacy.
- Security risks and limits, privacy. Defining crucial limits.
- I agree. Medical data remains within the medical framework, and therefore medical secrecy...

### **Health data management: between privacy protection and AI opportunities. (5 extracts)**

Description of the idea: Here, the analysis focuses more strongly on the notion of health data, although there are undoubtedly points in common with the previous analysis. However, the issue of health data management raises a number of concerns, not least the protection of privacy, with the idea that this information is among the most sensitive and must remain confidential, particularly with regard to employers. While occupational medicine or other institutions may have access to certain data to assess fitness for work, it is crucial that this information is not used for commercial or marketing purposes. The use of AI in this field can offer significant advantages in terms of data collection, analysis and security, but it also entails risks, not least human bias in the algorithms. In short, while the technology offers opportunities for improvement, it needs to be framed by strict regulations to preserve the confidentiality and integrity of personal data, while minimizing the risks of abuse.

In tension with:

- **Undesirable: e-marketing from health data.**

*Corresponding extracts* (click on the arrow on the left to unfold/fold)

- So that's good, but I don't think there's any point in revealing any more health data about it. It can be damaging.

- I think that health data, well afterwards, because I've given some courses on the RGPD, is data that is even more, well considered even more sensitive than personal data.
- Personally, speaking of healthcare, I don't think they're necessary for anyone else.
- These technologies can improve the efficiency of healthcare institutions by automating certain tasks, helping to manage resources and optimizing decision-making processes.
- For me, AI involves statistics that shouldn't come from commercial applications, but from research.

## AI complexity: transparency and accountability (7 extracts)

Description of the idea: Artificial intelligence (AI) systems raise complex issues, particularly in terms of regulation, transparency and ethics. It is crucial to properly regulate their use, and to ensure clear communication on what is and is not being done. AI decision-making, particularly in ethically complex situations (such as autonomous car dilemmas), poses significant challenges, as these systems can be difficult to understand and explain. Advanced AI models, such as deep neural networks, make assigning responsibility even more complex, underlining the need for good analysis and increased vigilance in their deployment.

In tension with:

- Salient idea: difficulty in attributing responsibility to an individual in this complex situation.

Corresponding extracts (click on the arrow on the left to unfold/fold)

- It's also a matter of good communication, knowing how things are framed, knowing what will and won't be done.
- It's also a matter of good communication, of knowing how things are framed, of knowing what will be done and what won't be done. There's a lot at stake
- For me, in the beginning at least, it's going to be very difficult to get the right analysis, the right follow-up, to be sure that it's really, in quotation marks, the right well optimized.
- Maybe not necessarily case by case because it's going to be complex and it takes time
- Ethics and decision-making: AI systems can face complex ethical dilemmas, especially when they have to make decisions that directly affect people's lives (e.g. autonomous cars that have to choose between different actions in dangerous situations)
- Responsibility and transparency: Complex AI systems, such as deep neural networks, can be difficult to understand and explain
- Complex AI models can be difficult to understand, making it hard to understand how they make decisions.

## Strict, ethical regulation of Artificial Intelligence: issues of responsibility and transparency (5 extracts)

Description of the idea: Participants stressed the urgent need for strict, ethical regulation of artificial intelligence (AI) to avoid potential abuses. Although laws exist, it is impossible to verify every human action, which exposes us to great risks. AI systems, especially complex ones such as neural networks, need to be transparent and comprehensible to avoid unclear liability in the event of errors. The prudent approach, defined by clear ethical standards, should include specialized supervision (particularly psychological or medical) and regular monitoring. A legislative framework is needed to

limit abuse and protect privacy, but it must be applied flexibly on a case-by-case basis to take account of the specificities of each situation, particularly for therapeutic applications. Clear communication and patient consent are also essential for successful regulation. However, although principles exist, the lack of transparency and the difficulty of understanding complex AIs raise major concerns about their moral responsibility and the possibility of drift, even with a strict framework.

In tension with:

- **Salient idea: A strong regulation is very complex to realize.**

Corresponding extracts (click on the arrow on the left to unfold/fold)

- I don't know how much further to go, but for me it's a very sensitive thing, which has the potential to be very powerful and to work very well, but as if it's, in quotation marks, badly supervised, can very quickly go for something that doesn't work and has a lot of drifts.
- We have laws, we should be checking every time someone does something, and it's not... it's not humanly possible. And for me, that's the biggest risk.
- And the first rule is the patient's agreement too.
- This raises questions of liability when errors or damage occur.
- It's important to develop methods to make AI systems more transparent and understandable.

## AI and neuroscience : just for therapeutic solutions (5 extracts)

Description of the idea: The participants highlight the potential of **artificial intelligence (AI)** to offer tailored **therapeutic solutions**, particularly for people suffering from diseases such as Alzheimer's, disabilities or cognitive disorders. AI could, for example, help compensate for physical or mental deficits, or even understand the underlying causes of certain pathologies to facilitate the search for treatments. However, this use must be strictly framed and limited to therapeutic objectives, with clear ethical standards, to avoid any excesses. AI technologies must deliver tangible benefits without seeking to "augment" humans beyond what is necessary, while respecting patients' **dignity** and **consent**. There are also concerns about the excessive use of personal data, particularly when AI collects health information without real transparency.

In tension with:

- **Salient idea: Potential for abuse.**

Corresponding extracts (click on the arrow on the left to unfold/fold)

- AI should help us research diseases, understand how they work and see if there's a possibility of finding a drug or a cure, or if it's not cured, to alleviate the problem.
- Today, diseases continue to increase, and it is essential to explore the underlying causes in order to exploit the full potential of these technological advances.
- It would be such a shame to prevent AI from making life easier for people deprived of certain functionalities essential to human dignity under the pretext of fear of such tools.
- I agree, because AI was created to help humans in the sense that it can improve certain processes, but not to make humans immortal.
- The use of AI and neuroscience, in my opinion, should help us make progress in research to help find cures for the diseases that torment so many people.

## Artificial intelligence and employment: benefits and risks ( 3 extracts)

Description of the idea: Participants highlight the tension between the collection and use of health data in the field of employment. On the one hand, some people feel that the disclosure of detailed medical data, particularly regarding personal health problems, can be harmful and lead to discrimination or discriminatory practices in recruitment. Employers do not need exhaustive knowledge of an individual's health, unless it directly affects their ability to perform their job. On the other hand, there is potential for AI to create new professional opportunities, although it is recognized that particular care is needed in the management of personal data to avoid any ethical and legal risks.

In tension with:

- Salient idea: Risk of discrimination in hiring.

*Corresponding extracts* (click on the arrow on the left to unfold/fold)

- There is this kind of implementation which, potentially, will lead to the refusal to employ this or that person, or possibly to employment discrimination which can be quite problematic.
- The employer isn't supposed to... know about every problem you have, except if it affects your work, of course, but otherwise, he's not supposed to know if you have this or that health problem.
- However, it's also possible that new jobs and opportunities will emerge as AI progresses.

## Why the AI development in health? (5 extracts)

Description of the idea: Participants discuss the immense potential of artificial intelligence (AI) in the medical field, in particular to improve diagnoses, personalize treatments and manage healthcare data with greater precision. AI, when used ethically, could revolutionize medicine by enabling more appropriate treatments, optimized management of healthcare resources, and even bringing advances in complex fields such as justice or neuroscience. However, this use must be framed by clear ethical standards to avoid abuses, such as over-reliance on AI for decision-making, the quest for immortality or systemic errors. The protection of personal data is also essential, as is the need for human discernment in the use of these powerful technologies.

In tension with:

- Salient idea: Risk of over-reliance on AI.
- Salient idea: Loss of human control.

*Corresponding extracts* (click on the arrow on the left to unfold/fold)

- For me, what's most important is the analysis, in quotation marks, the analysis of mass data, to aggregate as much data as possible and produce a synthesis for diagnosis or decision-making.
- If this can be done without error and with exemplary impartiality, the services that ia could provide to the justice system could indeed be useful, whether for post-mortem brain diagnostics or crime scene analysis.

- And we're only at the beginning of the use of AI in our society. The field of possibilities seems almost limitless, and I'm curious to see what will come of exploring and exploiting AI in the service of mankind.
- Ethics and decision-making: AI systems can face complex ethical dilemmas, especially when they have to make decisions that directly affect people's lives (e.g. autonomous cars that have to choose between different actions in dangerous situations).
- If individuals start delegating too many decisions and thoughts to AI, this could lead to over-dependence.

### Enhancement: between benefits and inequality (5 extracts)

Description of the idea: Participants discuss the ethical, social and philosophical debates surrounding human enhancement. On the one hand, the idea of improving human beings, whether through technologies designed to increase productivity, intelligence or longevity, raises concerns, notably about the risks of social inequality, loss of humanity or alteration of individual experience. The quest for immortality or increased longevity is seen as a drift, risking overloading the planet with human resources and affecting the natural balance. On the other hand, certain applications of human augmentation, such as those used to treat disabilities or improve quality of life, may be deemed acceptable provided clear ethical limits are defined. However, the line between what is therapeutic and what is augmentation is blurred, and some wonder whether the devices risk becoming mere ineffective gadgets. The use of AI for these purposes also raises questions about respect for human nature, and the danger of a machine taking up too much room in human decisions.

#### In tension with:

- Salient idea: The idea of immortality is a problematic quest.
- Undesirable: Reducing happiness to immortality.

*Corresponding extracts* (click on the arrow on the left to unfold/fold)

- The goal is no longer to heal, but to enhance
- Inequality could be increased by separating those who can afford the devices (the wealthy majority) from those who cannot.
- With this in mind, I think it's necessary not to aim for infinite life, but rather to enjoy life infinitely
- Humans are by definition ephemeral beings. If we were to create an immortal human, by means of some technology... this would be tantamount to creating a paradox in which humans lose their humanity
- The number of human beings in the world is growing, and there are far more people than resources available on our planet, and thinking about increasing human longevity will only make the situation worse on every level

### About some ethical issues (4 extracts)

Description of the idea: Participants highlight the ethical and social concerns associated with the use of personal data, including health, and artificial intelligence (AI). The monetization of data, the possibility of discrimination in employment and justice, and the reproduction of social biases by AI, raise major risks for equity and social justice. Some people believe that access to this personal data by employers or other entities could lead to discrimination

or abuse. AI systems, if not properly supervised or regulated, could amplify existing inequalities and exclude certain populations, particularly on the basis of socio-economic status. On the other hand, strict regulation and supervision of the use of AI technologies could ensure greater fairness and responsible use of data, while offering services such as forensic analysis or medical diagnosis.

**In tension with:**

- **Salient idea: The idea of data monetization**

*Corresponding extracts (click on the arrow on the left to unfold/fold)*

- If we start monetizing this data, it's going to be problematic
- Bias and discrimination: AI systems can reproduce and amplify existing biases in the data they are trained on.
- AI can contribute to discrimination if it is trained on data that reflects existing prejudices in society. This can manifest itself in areas such as hiring, credit, criminal justice, etc
- Because it would take years and there would be a lot of people who wouldn't be entitled to it even though they needed it.



## Desirable / Undesirable

### **Desirable: Potential of AI to improve disease diagnosis and treatment (2 extracts)**

Description of the idea: AI and neuroscience represent immense potential for medicine, enabling significant advances in the diagnosis and treatment of disease. For example, AI could help to personalize treatments according to the specifics of each patient, particularly in fields such as personalized medicine. By studying biological processes at a deep level, AI would also enable a better understanding of the underlying causes of disease, paving the way for more targeted and effective therapeutic solutions. In particular, this could have a major impact in areas such as Alzheimer's research, by enabling treatments adapted to early forms of the disease.

In tension with:

- Salient idea: The blind trust in AI raises concerns about transparency and accountability, which may limit acceptance of its integration into medical care.

*Corresponding extracts (click on the arrow on the left to unfold/fold)*

- Les progrès par exemple dans la lutte contre la maladie d'Alzheimer, ce serait bien pour les personnes où ça arrive tôt, parce que ça leur permettrait d'avoir un bénéfice.
- A cautious approach in line with our principles is essential

### **Desirable: A certain human enhancement could be a positive potential (2 extracts)**

Description of the idea: Human augmentation, particularly through technologies such as prostheses and implants, can offer solutions for people with disabilities and improve quality of life. However, the idea also raises numerous ethical questions. While some forms of augmentation, such as those designed to correct a disability, may be justified, others could lead to abuses. Unequal access to these technologies could, for example, exacerbate social divisions. It is therefore essential to define clear ethical limits and ensure strict regulation of these innovations to prevent their use becoming a source of discrimination.

In tension with:

- Salient idea: The idea of improving humans through technologies raises ethical concerns that may conflict with the therapeutic benefits they bring, particularly in terms of accessibility and equity

*Corresponding extracts* (click on the arrow on the left to unfold/fold)

- Neuromodulation techniques have been developed for the treatment of Alzheimer's disease. These techniques are producing encouraging results
- Ethically desirable in certain fields, such as health, human augmentation may be acceptable to treat disabilities or improve quality of life, but ethical limits must be defined

### Undesirable: Ethical and social risks associated with AI and technology (2 extracts)

Description of the idea: Technological advances, particularly those linked to AI, raise major ethical concerns, particularly in terms of discrimination, social inequality and dehumanization. For example, AI could reinforce existing biases in decision-making systems, notably in the fields of employment, criminal justice and finance. These biases can lead to discrimination, excluding individuals from certain opportunities on the basis of their origin, gender or other criteria. What's more, the massive collection of personal data raises concerns about privacy and security, and could turn crucial decisions into dehumanized processes where humans lose control.

*Corresponding extracts* (click on the arrow on the left to unfold/fold)

- I think AI can do a good job of unpacking human nature and understanding how genes work etc., but I'm against this direction of research!
- There's a risk of inequality between classes: those who don't have money won't have access to it, and they'll be "inferior"

### Undesirable: Preventing aberrations and preserving human autonomy (2 extracts)

Description of the idea: Although AI can offer considerable benefits, strict regulation and a cautious approach are needed to avoid potential abuses. AI must be used in a controlled way, respecting clear ethical principles, to ensure that its applications do not lead to unforeseen negative consequences. Examples include the risk of over-dependence on AI and the loss of free will. It is essential that AI is used for beneficial applications, such as in healthcare or education, without replacing human reflection or independent decision-making.

*Corresponding extracts* (click on the arrow on the left to unfold/fold)

- The use of AI in various fields, such as surveillance, automated decision-making and robotics, may raise concerns about the dehumanization of certain social interactions
- AI-based technologies can collect and analyze huge amounts of data, raising questions about individual privacy and how this information can be used.