Parliamentary Assembly
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COUNCIL OF EUROPE
CONSEIL DE L'EUROPE

Resolution 2344 (2020)[1]

The brain-computer interface: new rights or new threats to fundamental freedoms?

Parliamentary Assembly

1. The Parliamentary Assembly notes the rapid progress made in neurotechnology in recent years, including the ability to record and directly stimulate neural activity, with the potential to create increasingly effective brain–computer interfaces (BCIs). This progress has been driven by a combination of improved understanding of the functioning of the brain, technical developments and the growing power of artificial intelligence systems. The ability to create a fully symbiotic connection between the human brain and digital computing systems, including the internet and artificial intelligence systems, remains a distant aspiration. Nevertheless, it is a goal that researchers and entrepreneurs are already pursuing and which many believe may eventually be achieved.

2. Neurotechnology, including BCIs, is currently being developed and applied with a range of uses in mind. Amongst other things, huge sums are being invested in research to create new medical treatments for neurological and psychiatric disorders, such as direct control of robotic limbs, synthetic speech production, or the treatment of intractable mood disorders or post-traumatic stress disorder. Military and security establishments are researching neurotechnology for use in intelligence, propaganda, interrogation, surveillance and combatants' performance enhancement. Private companies are researching the possible use of consumer devices to transform thoughts directly into typewritten characters; providing commercial lie-detection services based on brain scans; and selling direct-to-consumer neurotechnology devices, for example as computer gaming or wellness products. Researchers are exploring the development of "neuromarketing" campaigns that would exploit subconscious preferences and examining whether patterns of neural activity may be predictive of criminal recidivism.

3. Access to the neural processes that underlie conscious thought implies access to a level of the self that by definition cannot be consciously concealed or filtered. This risks profound violation of individual privacy and dignity, with the potential to subvert free will and breach the ultimate refuge of human freedom – the mind. Cognitive and sensory enhancement through BCIs could create separate categories of human beings, the enhanced and the unenhanced, with enhancement available only to those with the necessary wealth and privilege, or used for repressive purposes. Individual identity, agency and moral responsibility may be diminished through the merger of neurological and digital sensory experience and decision-making processes. Such outcomes could change the very nature of humanity and human societies.

4. Even if the more spectacular hypothetical applications of BCIs remain speculative, the advances already made, and the resources being devoted to further research imply an urgent need for anticipation and precautionary regulation now. Democratic societies should ensure that basic ethical principles are respected. The huge potential benefits of neurotechnology, especially in the medical field, are such that progress and innovation should not be stifled. Nevertheless, research should be steered away from foreseeably harmful or dangerous areas and towards positive applications that do not threaten individual dignity, equality and liberty, which are also the foundations of democracy.

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1. *Text adopted by the Standing Committee*, acting on behalf of the Assembly, on 22 October 2020 (see Doc. 15147, report of the Committee on Legal Affairs and Human Rights, rapporteur: Mr Olivier Becht).
See also Recommendation 2184 (2020).

5. The Assembly considers that a sensitive, calibrated approach to the regulation of emerging neurotechnology, including BCI technology, is needed, encompassing both ethical frameworks and binding legal regulation. It notes the similarities and connections between "neuroethics" and bioethics, and the significance of artificial intelligence to the operation of BCI technology. It therefore welcomes the work already underway within the Council of Europe by the Committee on Bioethics (DH-BIO) and the Ad hoc Committee on Artificial Intelligence (CAHAI). It further welcomes the work of other international organisations, notably the Organisation for Economic Co-operation and Development (OECD), which recently adopted the Recommendation on Responsible Innovation in Neurotechnology. The Assembly notes with interest developments such as those in Chile, where consideration is being given to constitutional amendment, legislation and other measures intended to protect human society from possible adverse consequences of neurotechnology.

6. The Assembly considers that the following ethical principles must be applied to the development and application of neurotechnology in general and BCI technology in particular:

6.1. beneficence and prevention of malign use. This technology should be developed and applied only for purposes that are consistent with respect for human rights and dignity. Research aimed at incompatible purposes should be prohibited. Special attention should be given to dual-use technology and technology developed for military or security purposes. New neurotechnology should be subjected to a human rights impact assessment before being put into use;

6.2. safety and precaution. This technology, and its intended or unintended consequences, should be safe for both the user and society in general. Safety must be ensured before any new applications are put into use;

6.3. privacy and confidentiality. At a minimum, information gathered by neurotechnological and BCI devices must be protected according to general principles of data protection. Consideration should also be given to protecting "neurodata" as a special category, for example by analogy to prohibitions on commerce in human organs;

6.4. capacity and autonomy. This technology should not be used against a subject's will or in a way that prevents the subject from freely taking further decisions about their continued use. Special care will be needed where such technology is used to treat chronic pain, drug dependency or other conditions where interruption of treatment could lead to discomfort or distress;

6.5. human agency and responsibility. This technology should not prevent an individual from acting freely and being responsible for their actions. Human beings, acting freely according to their natural (as opposed to enhanced or symbiotic) consciousness, must remain the only decision-makers and the primary actors in society, especially in matters that may impact human rights and democratic processes;

6.6. equity, integrity and inclusiveness. This technology should not create any form of privileged or superior status for its users; it should be implemented with respect for human equality and dignity, including of members of marginalised or vulnerable groups; and it should be made available as widely as possible, especially insofar as it is applied for medical purposes;

6.7. ensuring public trust through transparency, consultation and education/awareness raising. The implementation of new technologies, such as neurotechnology intended for use by individuals, will be most likely to be taken up and accepted if the public has confidence in it, with awareness of the benefits as well as the potential dangers.

7. The extent to which BCI technology may have the potential to change fundamentally the relationship between the individual's internal and subconscious self and the outside world implies unique and unprecedented threats to fundamental values of human rights and dignity. The Assembly notes with particular interest proposals to establish and provide legal protection for new human rights, sometimes referred to as "neurorights". These proposals are intended to fill the gaps in the existing human rights framework through which BCI technology might threaten enjoyment of currently protected rights and, beyond that, respect for fundamental human dignity. The rights in question have been expressed as cognitive liberty, mental privacy, mental integrity and psychological continuity.

8. The Assembly therefore calls on Council of Europe member States to:

8.1. establish ethical frameworks for research, development and application of neurotechnology, including BCI technology, taking into account the principles set out in paragraph 6 of this Resolution;

8.2. clearly define the limits of research, development and application of neurotechnology, including BCI technology, through specific legal frameworks that ensure effective respect for and protection of human rights;

8.3. ensure that appropriate bodies exist for the oversight and regulation of research, development and application of neurotechnology, including BCI technology, so as to ensure effective implementation of the applicable ethical and legal frameworks;

8.4. consider the establishment and legal protection of new “neurorights” as a particularly effective protection against possible risks posed by BCI technology.

9. As regards relevant work already underway within the Council of Europe, the Assembly:

9.1. encourages the DH-BIO to take an open and constructive approach to the question of new “neurorights”, including the possibility of assuring their protection under international law through an additional protocol to the Convention for the Protection of Human Rights and Fundamental Freedoms (ETS No. 5);

9.2. encourages the CAHAI to take account of the potential risks and opportunities arising from the application of artificial intelligence in the context of BCI systems and its particularly serious impact on human rights.