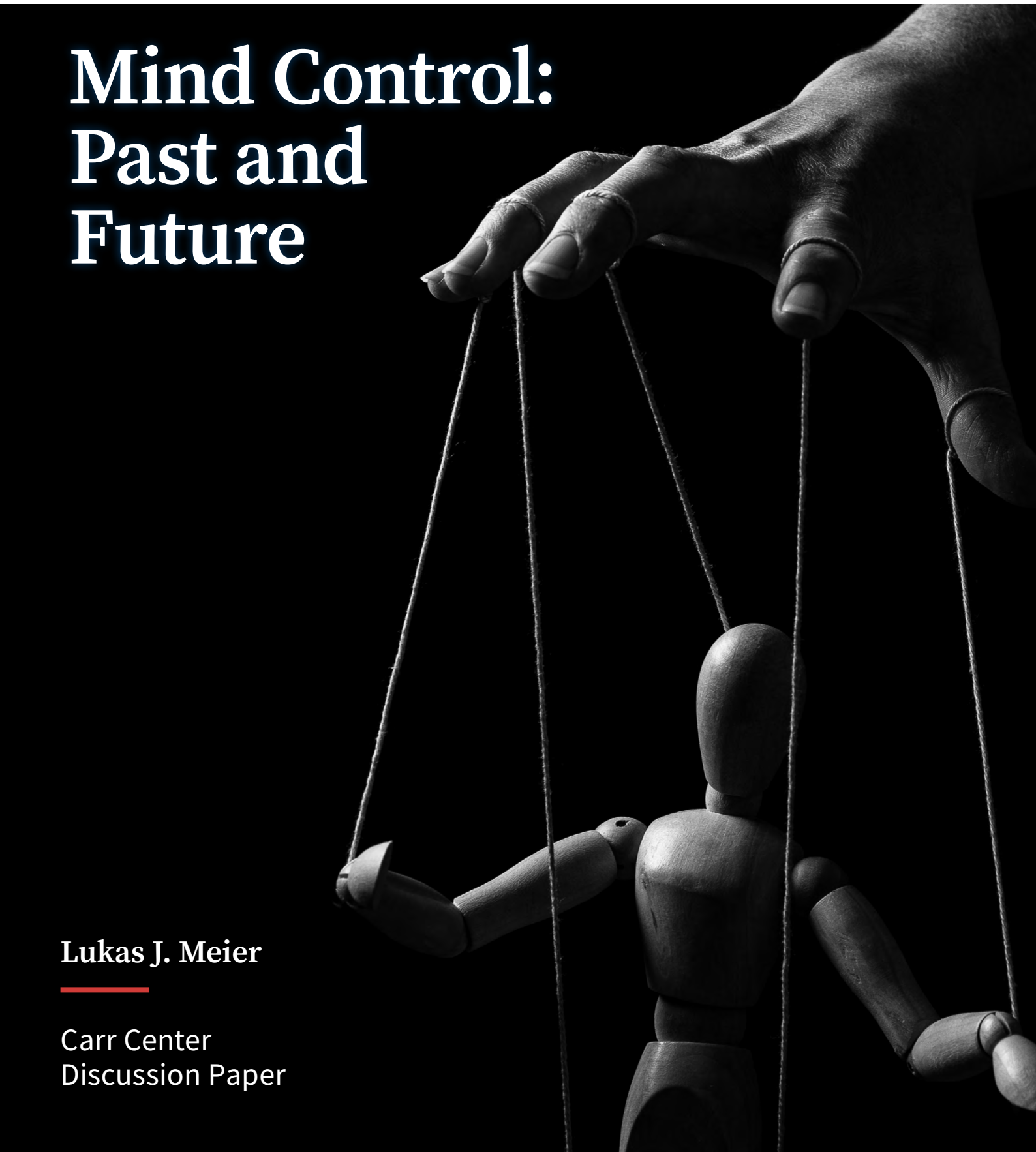
HARVARD Kennedy School
CARR CENTER
for Human Rights Policy

SPRING 2025
ISSUE 2025-01

CARR CENTER FOR HUMAN RIGHTS POLICY
HARVARD KENNEDY SCHOOL

# Mind Control: Past and Future



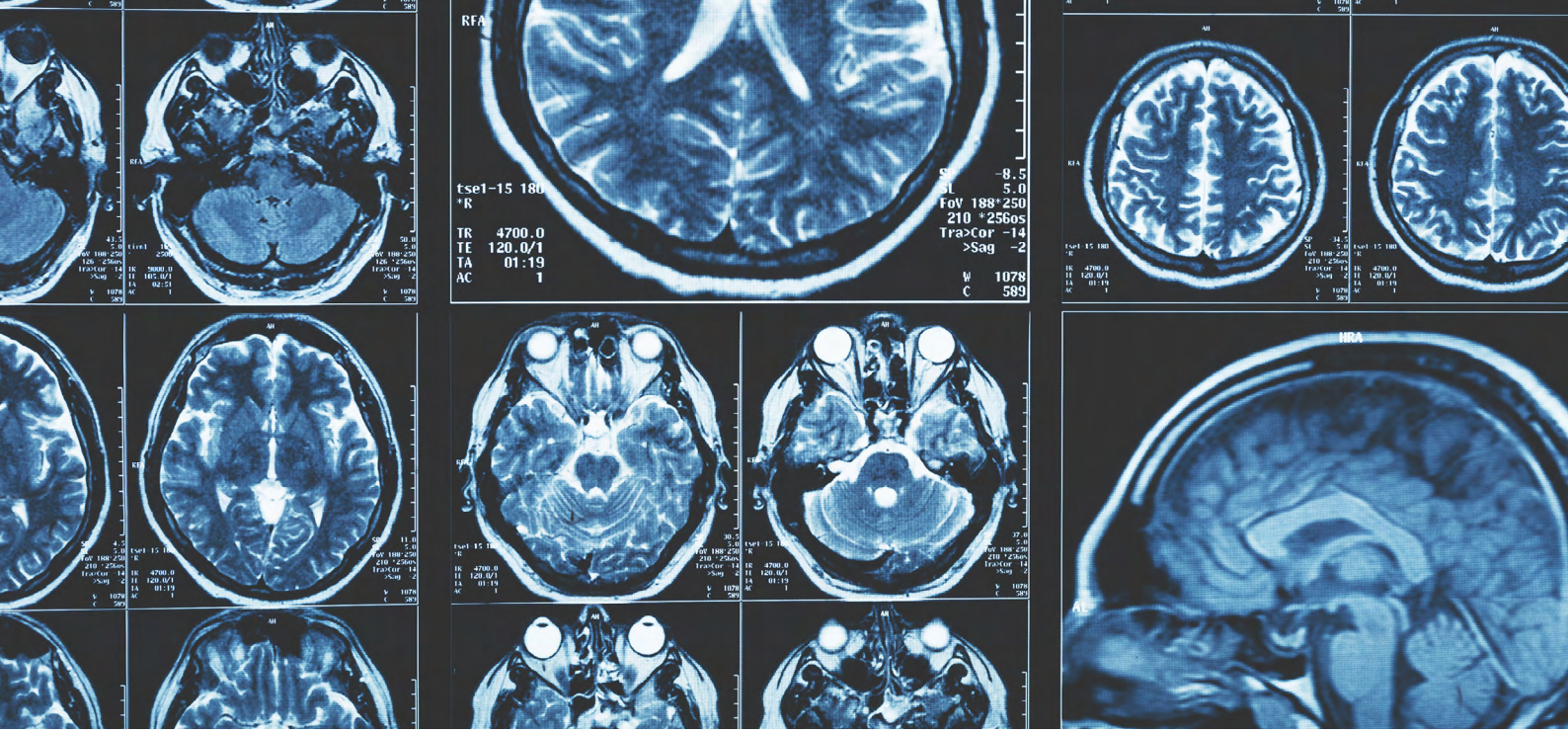
**Lukas J. Meier**

Carr Center
Discussion Paper

# Mind Control: Past and Future

Carr Center for Human Rights Policy
Harvard Kennedy School, Harvard University
January 13, 2025 | Issue 2025-01
Publication design by Kyle Faneuff

Lukas J. Meier
Technology and Human Rights Fellow, Carr Center for Human Rights Policy,
Harvard Kennedy School, Harvard University
Junior Research Fellow, Churchill College, University of Cambridge





## ABSTRACT

During the Cold-War-era, intelligence agencies in both the Eastern and Western blocs set up secret experiments to devise methods of mind control and brainwashing in order to gain an advantage over the enemy. The most notorious of these endeavours was the Central Intelligence Agency's (CIA) illegal MKUltra program, which ran from 1953 to 1973. In its quest for a truth serum that could be employed to force confessions from subjects who are not cooperating and the desire to be able to manipulate people's behaviour, the CIA experimented on thousands of subjects – partly without their knowledge or consent, and often with disastrous consequences. In this paper, I will first scrutinize the MKUltra program, investigating some of the experiments that it comprised. I shall then map the program's aims onto the latest technology available for interfering with the brain – so-called "brain-computer interfaces" – to determine whether one could, in principle, use these novel devices for the purpose of mind control. Finally, I will be looking for indications that stakeholders may actually plan to employ the technology to achieve what had been beyond technological reach during the Cold War. I conclude that brain-computer interfaces could indeed be used to realize some of the original goals and that an interest in mind control still prevails.

## I. INTRODUCTION

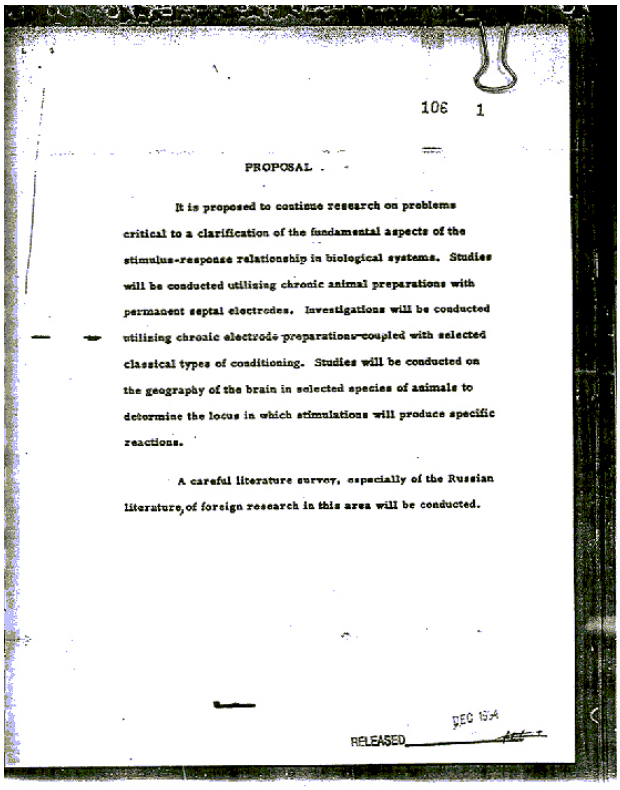
Are there ways to modify people's minds and control their behaviour against their will? How could one elicit information from subjects who are not cooperating? Is it possible to erase an individual's memories and to implant false ones?

During the Cold War, intelligence agencies around the world were asking these questions. At the time, knowledge about neurophysiology was limited and technology for interfering with the brain was still in its infancy. Therefore, governments set up various research programs to explore how the human mind could be controlled. Many of these programs were conducted in secret, used unwitting subjects as participants, and involved severe violations of basic human rights.

The most notorious of these and, to all appearances, the largest systematic attempt at mind control ever conducted, was the U.S. Central Intelligence Agency's (CIA) so-called MKUltra program. Motivated largely by the belief that Chinese, North Korean, and Soviet authorities had successfully subjected political prisoners and American soldiers captured during the Korean war to brainwashing, the Director of Central Intelligence, Allen W. Dulles, authorised the clandestine program in 1953. In a speech delivered the same year at Princeton University's National Alumni Conference, Dulles remarked about understanding alleged Soviet mind-control techniques: "We, in the West, are somewhat handicapped in getting all the details. (…) [W]e have no human guinea pigs, ourselves, on which to try out these extraordinary techniques."[1]

The MKUltra program was meant to provide both: the human guinea pigs and the scientific insights. In an internal memorandum, the project's aims were described as "research and development of chemical, biological, and radioactive materials, and of techniques for the employment of electro-shock, capable of producing human behavioral or physiological change."[2]

In this paper, I will draw on – partly redacted – intelligence documents, originally released in response to a Freedom of Information Act request, as well as on academic articles published by involved researchers, to paint a picture of the methods and consequences of attempted mind control in the MKUltra program. While the program was halted in the 1970s, technological developments, of course, did not stop. The past two decades saw massive advances in brain decoding and stimulation technology: so-called "brain-computer interfaces." In the second part of the paper, I shall therefore investigate the transformative potential of these new devices vis-à-vis the original goals of programs like MKUltra: is there any indication that the novel, more precise means for interfering with human brains could, in the future, be used to achieve the goals that the illegal intelligence activities of the Cold-War-era were not yet able to reach?



106 1

PROPOSAL

It is proposed to continue research on problems critical to a clarification of the fundamental aspects of the stimulus-response relationship in biological systems. Studies will be conducted utilising chronic animal preparations with permanent septal electrodes. Investigations will be conducted utilising chronic electrode preparations coupled with selected classical types of conditioning. Studies will be conducted on the geography of the brain in selected species of animals to determine the locus in which stimulations will produce specific reactions.

A careful literature survey, especially of the Russian literature, of foreign research in this area will be conducted.

DEC 19[illegible]

RELEASED

Declassified MKUltra documents.

## II. MKUltra

More than eighty universities and other institutions were involved in activities related to MKUltra.[3] The program comprised around 150 subprojects with various aims.[4] Sub-project 7, for instance, explored how an individual's memory could be disturbed, how one could discredit him or her by inducing aberrant

[1] Allen W. Dulles, "Summary of Remarks at the National Alumni Conference of the Graduate Council of Princeton University," April 10, 1953, 9, CIA-RDP80R01731R001700030015-9, https://www.cia.gov/readingroom/docs/CIA-RDP80R01731R001700030015-9.pdf.

[2] Central Intelligence Agency, "Memorandum for: Director of Central Intelligence. Subject: Report of Inspection of MKUltra," July 26, 1963, C06767515, 24, https://www.cia.gov/readingroom/docs/REPORT%20OF%20INSPECTION%20OF%20M%5B15603475%5D.pdf.

[3] United States Senate Select Committee on Intelligence, Project MKULTRA, the CIA's Program of Research in Behavioral Modification: Joint Hearing before the Select Committee on Intelligence and the Subcommittee on Health and Scientific Research of the Committee on Human Resources, United States Senate, Ninety-Fifth Congress, First Session, August 3, 1977 (Washington: Government Printing Office, 1977), 3.

[4] Central Intelligence Agency, "MKULTRA Briefing Book: Containing Brief Summaries of Each of the 149 MKULTRA Subprojects," January 1, 1976, https://archive.org/download/mkultra-overview-of-each-project/MKULTRA%20Overview%20of%20each%20project.pdf.

behaviour, and how information could be elicited.[5] Dosing subjects with LSD appears to have been the main method designated for this purpose. Another sub-project – number 39 – studied the effects of several drugs and hypnosis during interrogation. It took place between 1954 and 1959.[6] The CIA was trying to find a "truth serum," that is, a substance that could be administered to extract information from an uncooperative source.[7]

While some of the experiments were carried out on subjects who participated voluntarily, it was decided that "the capabilities of MKULTRA substances to produce disabling or discrediting effects or to increase the effectiveness of interrogation of hostile subjects cannot be established solely through testing on volunteer populations."[8] The above-mentioned sub-project 39, for instance, exploited "the research potential represented by a group of 142 criminal-sexual psychopaths confined at the Ionia State Hospital."[9] However, as experiments were to include "individuals at all social levels, high and low, native American and foreign,"[10] CIA operatives resorted to the covert cultivation of targets and established safehouses for "the observation of effects of substances on selected test individuals."[11] Many of the people experimented upon were unaware of what was happening to them and suffered catastrophic, sometimes lifelong, consequences.

"Many of the people experimented upon were unaware of what was happening to them and suffered catastrophic, sometimes lifelong, consequences."

In 1973, twenty years after its inception, MKUltra was abruptly stopped for fears that it might be exposed in the wake of the Watergate scandal. When investigative journalist Seymour Hersh made public the illegal activities in a New York Times article,[12] the Director of Central Intelligence had already ordered all records destroyed.[13] A misfiled batch of documents survived the purge, and it is only those sparse records on which subsequent investigations could rely. The true extent of the human experiments and the full scale of the damage, physical and psychological, inflicted on the test subjects may therefore never be known.

Given this lack of internal documentation, it is worth scrutinizing also the academic output of scientists who were involved in the experiments. The most notorious researcher was Donald Ewen Cameron, president of the World Psychiatric Association and psychiatrist at McGill University's Allan Memorial Institute. Setting up a front organisation, the CIA covertly financed Cameron's studies on human subjects. Whether Cameron had been aware of the fact that he had actually been conducting experiments for the CIA was never conclusively established because he had died before MKUltra was finally exposed.[14]

Cameron lead MKUltra sub-project 68. He developed two main methods: "psychic driving" and "depatterning." For psychic driving, Cameron subjected patients to spoken messages on looped tapes with the aim of reprogramming their personalities. For up to twenty hours a day, including during drug-induced prolonged sleep, patients would be forced to listen to the same sentence over and over. Speakers were even placed under patients' pillows. Cameron used short spoken messages, such as "it is the

[5] Ibid., 26.

[6] Ibid., 118.

[7] United States Senate Select Committee on Intelligence, Project MKULTRA, the CIA's Program of Research in Behavioral Modification, 25–33.

[8] Central Intelligence Agency, "Memorandum for: Director of Central Intelligence. Subject: Report of Inspection of MKUltra," 10.

[9] Central Intelligence Agency, "MKULTRA Briefing Book," 118.

[10] Ibid., 12.

[11] Ibid., 11.

[12] Seymour Hersh, "Huge C.I.A. Operation Reported in U.S. Against Antiwar Forces, Other Dissidents in Nixon Years," The New York Times, December 22, 1974, https://www.nytimes.com/1974/12/22/archives/huge-cia-operation-reported-in-u-s-against-antiwar-forces-other.html.

[13] United States Senate Select Committee on Intelligence, Project MKULTRA, the CIA's Program of Research in Behavioral Modification, 3.

[14] Jordan Torbay, "The Work of Donald Ewen Cameron: From Psychic Driving to MK Ultra," History of Psychiatry 34, no. 3 (2023): 320–30, 328, https://doi.org/10.1177/0957154X231163763.

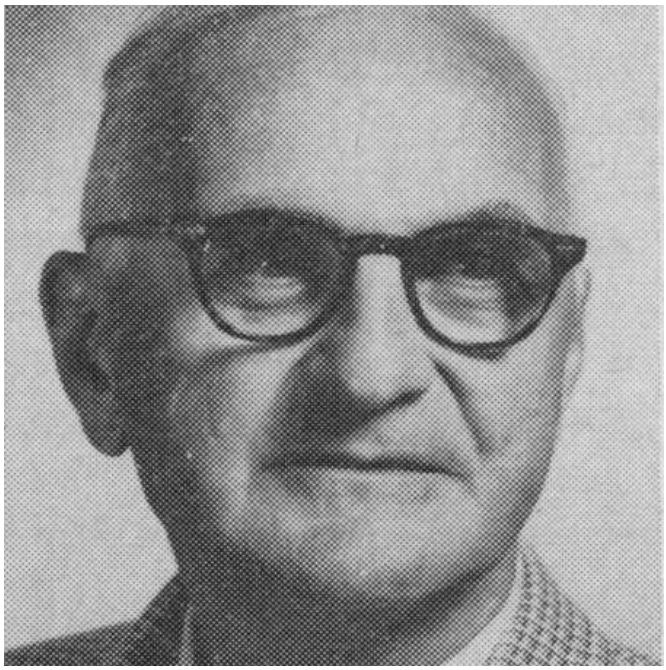
"Even if one leaves aside the unparalleled violations of basic human rights and the systematic absence of informed consent to the often debilitating procedures, the damage inflicted on victims' minds and brains was too great for the desired psychological and behavioral modifications to be of much value for the purposes envisaged by the intelligence agencies."

—

Lukas J. Meier
Technology and Human Rights Fellow, Carr Center for Human Rights Policy, Harvard Kennedy School

truth" or "stop it – it makes me weak."[15] Playback sessions could last over the course of more than a week.[16]

While the messages were being played, Cameron administered paralytic and sedative drugs to "disinhibit" the patients. Sodium amytal, for example, was used on a subject "so that his defenses might be reduced."[17] Particularly frightening was the use of LSD on unwitting individuals. At the time, the psychedelic drug was not known to the general public, and patients – kept ignorant of their being dosed, let alone having consented to being subjected to any of these procedures – were uprooted by the hallucinogen's overwhelming effects.



Donald Ewen Cameron, psychiatrist who led MKUltra sub-project 68.

In addition to the administration of psychotropic substances during the repeated playback of taped messages, Cameron's team also experimented with hypnosis and sensory isolation – the latter already being widely known as a torture technique in the 1950s. Cameron describes one such experiment:

The individual was isolated not only from incoming stimuli by putting him in a dark room, covering his eyes with goggles, reducing auditory intake, and preventing him from touching his body – thus interfering with his self image, but also attempts were made to cut down on his expressive outflow.[18]

The final paragraph of Cameron's 1956 paper on psychic driving reveals why his highly questionable methods could have been of value to the CIA. As a future research aim Cameron identifies:

> "The actual "wearing down" of defenses in the sense that defenses are maintained only by means of continual effort and if they are continuously overloaded their breakdown is to be expected. Analogous to this is the breakdown of the individual under continuous interrogation."[19]

The second technique that Cameron developed was called depatterning. Officially, depatterning was intended as a treatment for schizophrenia.[20] While, from today's perspective, it seems abhorrent that the methods about to be described were even considered for this aim, it is crucial to remind oneself that in the 1950s and 1960s medicine was still very limited in the range of psychiatric interventions that it had to offer. Chlorpromazine, the first ever antipsychotic, was only just becoming available.[21] Consequently, psychosurgery was still a common form of treatment for various conditions, despite its often severely debilitating effects. While Cameron's experiments must be understood in this historical context, there cannot be any doubt that curing the individual patient was not his predominant aim. Many of the interventions that he carried out were not only in violation of the Nuremberg Code but also utterly disproportionate to the underlying illness.

Depatterning proceeded as follows. By injecting barbiturates, Cameron held his patients in continuous sleep for several days or even weeks, which served to ensure that they were "drowsy and under control before intensive shock therapy [was] started."[22] Six strong electric shocks were then given, twice a day,

[15] D. Ewen Cameron, "Psychic Driving," The American Journal of Psychiatry 112, no. 7 (1956): 502–509, 502, https://doi.org/10.1176/ajp.112.7.502.

[16] Ibid., 503.

[17] Ibid., 503.

[18] Ibid., 504.

[19] Ibid., 508.

[20] Donald E. Cameron, John G. Lohrenz, and K. A. Handcock, "The Depatterning Treatment of Schizophrenia," Comprehensive Psychiatry 3, no. 2 (1962): 65–76, https://doi.org/10.1016/s0010-440x(62)80015-7.

[21] Francisco López-Muñoz et al., "History of the Discovery and Clinical Introduction of Chlorpromazine," Annals of Clinical Psychiatry 17, no. 3 (2005): 113–35, https://doi.org/10.1080/10401230591002002.

[22] Donald E. Cameron, John G. Lohrenz, and K. A. Handcock, "The Depatterning Treatment of Schizophrenia," 67.

over the course of at least a month.[23] Psychoactive substances were sometimes used concomitantly.

The electric shocks resulted in massive memory disturbances. Cameron described three stages that his patients underwent. In the final stage, not only was any space-time image entirely distorted, but the patients also experienced the loss of their second language and of key information about their lives. A typical patient would:

"Be unable to walk without support, to feed himself, and he may show double incontinence. (…) He lives, as it were, in a very narrow segment of time and space. (…) He cannot well record what is going on around him. He cannot retrieve data from the past."[24]

Cameron was apparently convinced that his treatments would reduce or even eliminate the symptoms of mental illnesses. However, they also eliminated patients' personalities. The Canadian Broadcasting Corporation's investigative programme The Fifth Estate scrutinized Cameron's experiments in several episodes. Among the victims interviewed is Bob Logie, who was admitted to Allan Memorial Institute for a pain in his leg that was deemed psychosomatic. Bob was kept asleep for twenty-three days, dosed with LSD, and subjected to the recurrent messages played from looped tapes. Decades later, he still suffers from insomnia and severe depression induced by the experimental treatments. He comments: "I dream about it; all my waking hours I think about it. It's eating me up." [25]

Harvey Weinstein, son of another one of Cameron's patients, recalls on The Fifth Estate how his father's life was destroyed at the Allan Memorial Institute:

"He went in one Winter evening and was put to sleep for approximately two months. He was given shock treatments of various kinds (…). He was given a whole slew of drugs (…). He was then forced to listen to recorded messages. (…) At the end of that time, my father was someone who was unrecognisable to me or anyone else in the family, or his friends. He was someone who could not function in this world, whose perspective did not extend beyond the next five minutes, who had no recollection of the past, and almost no recognition of the present."[26]

**"The mere fact that more powerful technology for interfering with the mind now exists does not necessarily entail that it will also be employed for malicious purposes."**

## III. MODERN TECHNOLOGY AND CURRENT RESEARCH AIMS

The methods and the technology that MKUltra and similar Cold-War-era programs had at their disposal were – judging from today's perspective – relatively crude. Even if one leaves aside the unparalleled violations of basic human rights and the systematic absence of informed consent to the often debilitating procedures, the damage inflicted on victims' minds and brains was too great for the desired psychological and behavioral modifications to be of much value for the purposes envisaged by the intelligence agencies.

Now, fifty years after MKUltra was terminated, much more fine-grained methods have become available to alter the workings of an organ as complex and delicate as the human brain. The second half of the 20th century was still dominated by the development and subsequent refinement of psychopharmacology, so that psychotropic drugs now successfully target a wide range of mental disorders and have largely replaced psychosurgery and other more invasive and destructive approaches.

The past two decades, finally, saw the advancement of a novel class of device: brain-computer interfaces. Brain-computer interfaces are apparatuses that rely on electrodes or other technological means to bypass our peripheral nervous systems and access our brains directly. They can read and interpret their users' cerebral activity to generate commands that instruct machines to perform various tasks. And they are also able to modify brain activity via the stimulation of neuronal tissue. Today, brain-computer interfaces are employed for the neuroprosthetic control of robot arms and of virtual objects,[27] for motor

[23] Ibid., 68.

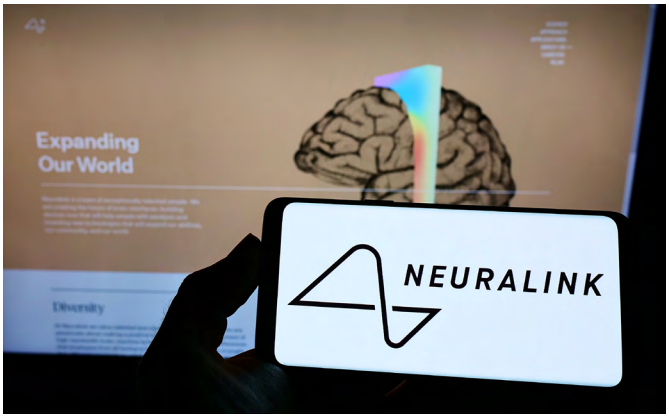
[24] Ibid., 67.

[25] "MKUltra," The Fifth Estate, Canada: CBC Television, 1980, sc. 20:44, https://www.youtube.com/watch?v=990k-5Jm5aA.

[26] "MKUltra Brainwashing Program: Former Patients Fight for Settlement," The Fifth Estate, Canada: CBC Television, 1985, sc. 01:36, https://www.youtube.com/watch?v=kNPTLKzqjuM.

[27] Sharlene N. Flesher et al., "A Brain-Computer Interface that Evokes Tactile Sensations Improves Robotic Arm Control," Science 372, no. 6544 (2021): 831–36, https://doi.org/10.1126/science.abd0380.

rehabilitation following strokes,[28] and to restore communication in individuals with impaired means of expressing themselves.[29] Brain-computer interfaces are constantly evolving, being equipped with ever greater numbers of communication channels and more effective decoding algorithms. Elon Musk's company Neuralink, for example, has just implanted their interface into the first human patient. Paralyzed from a prior accident, the patient can now employ the device to control his computer and play online chess.[30]




Neuralink is a company that's developing a brain-computer interface (BCI) that will allow people to control devices with their brain activity.

Thus, brain-computer interfaces promise to deliver great therapeutic benefits. However, motor intent – the thinking about executing a certain movement – is not the only type of data that the devices can decode from brain activity. Certain interfaces are, for instance, able to detect their users' emotional or cognitive states with good accuracy.[31] It is not difficult to see why such a technology opens the door to misuse. In 2019, photos of pupils at Jiangnan Experimental School wearing brain-computer-interface headbands in the classroom hit the headlines. The devices monitored the children's attention levels and reported them to the teacher's display in real-time.[32] Similar reports have emerged also from other schools in China.

Moreover, brain-computer interfaces are becoming increasingly effective at decoding the sensory perceptions of their wearers. While researchers were initially able only to extract features like contours or colours from the neural responses evoked by perceived visual stimuli,[33] more recent devices can even reconstruct perceived faces.[34] The next step will be the decoding of mental imagery, that is, of scenes not actually seen but merely imagined.[35]

With these technological capabilities, we move dangerously close to inadvertently enabling one of the main goals of Cold-War intelligence programs: the eliciting of information from subjects who are not wilfully cooperating – such as MKUltra sub-project 86, carried out between 1958 and 1959 at Stanford University Medical School, which was concerned with the design of miniature polygraph machines to use on unwitting individuals.[36]

But brain-computer interfaces not only decode cerebral activity; they may also be employed to stimulate the brain, thereby modifying some of our psychological properties. Could they, consequently, be used to control behavior in the ways that the CIA originally imagined?

Currently, if employed for stimulatory purposes, brain-computer interfaces typically target the sensory cortices. One could, however, extend them to reach subcortical areas. From deep brain stimulation, which some patients receive to treat their motor disorders, it is known that rather drastic behavioral

[28] Felix Putze et al., "Editorial: Brain-Computer Interfaces and Augmented/Virtual Reality," Frontiers in Human Neuroscience 14 (2020): 144, https://doi.org/10.3389/fnhum.2020.00144.

[29] Guillermo Gallegos-Ayala et al., "Brain Communication in a Completely Locked-in Patient Using Bedside Near-Infrared Spectroscopy," Neurology 82, no. 21 (2014): 1930–32, https://doi.org/10.1212/wnl.0000000000000449.

[30] Neuralink, "PRIME Study Progress Update," April 12, 2024, https://neuralink.com/blog/prime-study-progress-update.

[31] Stefan Ehrlich, Cuntai Guan, and Gordon Cheng, "A Closed-Loop Brain-Computer Music Interface for Continuous Affective Interaction," in 2017 International Conference on Orange Technologies, Singapore, IEEE, 2017, 176–79, https://doi.org/10.1109/ICOT.2017.8336116.

[32] Dale Harris, "Chinese Parents Want Students to Wear Dystopian Brainwave-Detecting Headbands," The China Project, April 5, 2019, https://thechinaproject.com/2019/04/05/chinese-parents-want-students-to-wear-dystopian-brainwave-detecting-headbands.

[33] Garrett B. Stanley, Fei F. Li, and Yang Dan, "Reconstruction of Natural Scenes from Ensemble Responses in the Lateral Geniculate Nucleus," The Journal of Neuroscience 19, no. 18 (1999): 8036–42, https://doi.org/10.1523/JNEUROSCI.19-18-08036.1999.

[34] Xiaoyuan Hou, Jing Zhao, and Hui Zhang, "Reconstruction of Perceived Face Images from Brain Activities Based on Multi-Attribute Constraints," Frontiers in Neuroscience 16 (2022): 1015752, https://doi.org/10.3389/fnins.2022.1015752.

[35] Bertrand Thirion et al., "Inverse Retinotopy: Inferring the Visual Content of Images from Brain Activation Patterns," NeuroImage 33, no. 4 (2006): 1104–16, https://doi.org/10.1016/j.neuroimage.2006.06.062.

[36] Central Intelligence Agency, "MKULTRA Briefing Book," 245.

changes can be induced by delivering electric current to certain subcortical structures. Mandat et al., for instance, describe how their forty-five-year-old patient, who was given subthalamic stimulation for his Parkinson's disease, suddenly broke into a parked car once the stimulator had been activated. He did not have any history of criminal behaviour or psychiatric disorders and was unable to explain his actions. When the stimulation was stopped, his conduct reverted to normal.[37] In this case, changes in mood and behavior appeared only as side-effects of an unrelated treatment; [38] but one can also implant electrodes to induce them deliberately as is already being envisioned for the future treatment of mental disorders.[39]

Unsurprisingly, MKUltra scientists were also already realizing the potential of electric brain stimulation – albeit, of course, not for therapeutic aims. They noted that "deep lying structures in the brain could serve as an instrumental reinforcer, i.e., a reward in the sense that an organism would perform some specific behavior which produced or was followed by such stimulation."[40] Their goal, therefore, was the remote control of behavior. For the CIA, researchers at the University of Maryland carried out the respective tests on dogs. Electrodes were surgically placed into dogs' brains and connected to a portable stimulator. According to their report, the experimenters were indeed able to remotely elicit the desired locomotion from the animals.[41]

Expanding this research to humans was also planned, as now declassified documents reveal. Sub-project 119 explicitly aimed at collecting information regarding "the recording, analysis and interpretation of bioelectric signal from the human organism and activation of human behavior by remote means."[42]

While the experimenters of the Cold-War-era still encountered problems when attempting to miniaturize their neurostimulators to the required size,[43] modern manufacturers of brain-computer interfaces, like the aforementioned Neuralink, have achieved full integration of the device into subjects' skulls. In Musk's first patient, the implant is entirely invisible, except for a small scar left by the craniotomy. The device also communicates wirelessly – which means that the technology would lend itself well to relaying remotely transmitted instructions.

Chronic subcortical electrode implant in a laboratory rat used to deliver electrical stimulation to the brain.

The mere fact that more powerful technology for interfering with the mind now exists does not necessarily entail that it will also be employed for malicious purposes. There are many innocuous yet highly therapeutically beneficial use cases for brain-computer interfaces. Would it not be odd to assume that fifty years after MKUltra was terminated, and long after the Cold War has ended, technology of this kind could, again, be used to control people's minds? Might anyone still pursue such a goal?

As early as in 2008, the Committee on Military and Intelligence Methodology for Emergent Neurophysiological and Cognitive Science Research, on request of the U.S. Defense Intelligence Agency (DIA), reviewed the latest neurotechnology to "select the manners in which this work could be of interest to national security professionals, and (…) for future warfighting applications."[44] The Committee asked:

[37] T. S. Mandat, T. Hurwitz, and C. R. Honey, "Hypomania as an Adverse Effect of Subthalamic Nucleus Stimulation: Report of Two Cases," Acta Neurochirurgica 148, no. 8 (2006): 895–98, https://doi.org/10.1007/s00701-006-0795-4.

[38] Lukas J. Meier, "Changes in Personality, Mood, and Behavior Following Deep Brain Stimulation: No Progress Without Concepts," AJOB Neuroscience 14, no. 3 (2023): 312–14, https://doi.org/10.1080/21507740.2023.2243883.

[39] Yuri B. Saalmann et al., "Microscale Multicircuit Brain Stimulation: Achieving Real-Time Brain State Control for Novel Applications," Current Research in Neurobiology 4 (2023): 100071, https://doi.org/10.1016/j.crneur.2022.100071.

[40] Stanley S. Pliskoff and T. Daryl Hawking, "Remote Control Behavior with Rewarding Electrical Stimulation of the Brain," University of Maryland, September 30, 1965, 1.

[41] Ibid., 10–12.

[42] Central Intelligence Agency, "MKULTRA Briefing Book," 312.

[43] Stanley S. Pliskoff and T. Daryl Hawking, "Remote Control Behavior with Rewarding Electrical Stimulation of the Brain," 7.

[44] Committee on Military and Intelligence Methodology for Emergent Neurophysiological and Cognitive/Neural Science Research in the Next Two Decades, Emerging Cognitive Neuroscience and Related Technologies (Washington: National Academies Press, 2008), 1, https://doi.

**"The two dangerous ingredients are recurring: a resurgence of bloc confrontation and the availability of innovations employable for interfering with the human brain. We may not be able to rely on technological limitations thwarting efforts at mind control a second time."**

"Can cognitive states and intentions of persons of interest be read? (…) Can cognitive states and intentions be controlled? (…) How can we disrupt the enemy's motivation to fight? (…) Is there a way to make the enemy obey our commands?"[45]

More recently, in 2011, the Defense Advanced Research Projects Agency (DARPA), a research body of the U.S. Department of Defense (DoD) tasked with the development of military technologies, subcontracted researchers at Arizona State University to carry out a project with the aim of exploring the neuropsychology of narrative and persuasion. The project's findings were to help "the United States government to convince world populations of its good intentions, and to dissuade key constituencies from the powerful narratives told by violent extremists."[46] To this end, scientists were supposed to "generate the knowledge to effectively understand, model, and disrupt narratives (…) on a neurological level, and the capability to induce powerful narrative phenomena (…) with certainty."[47] The researchers planned to use Transcranial Magnetic Stimulation – a non-invasive method of brain stimulation based on electromagnetic induction – to "selectively alter aspects of narrative structure and brain functioning (…) to induce or disrupt selective features of narrative processing."[48]

Although apparently not carried out on unwitting or non-consenting human subjects, and thus differing in an important aspect from much of the Cold-War practices described above, the research aims of these projects bear a striking resemblance to the ones originally put forward for the MKUltra program seventy years prior. Similarly, developments like those reported from Chinese schools should worry us. Systematic use of interface wearables, in this case of headbands for the decoding of cognitive states, may be the precursor to even greater infringements on mental privacy. The non-therapeutic deployment of brain-computer interfaces, one may conclude, need not be for military purposes or in the context of intelligence analyses to be potentially dangerous; there are a multitude of civil use cases for the technology that could compromise human rights in unprecedented ways – and we are only at the very beginning of the technology's evolution.

## IV. CONCLUSION

MKUltra ran from 1953 to 1973. It was – at least if publicly made statements can be trusted – ultimately considered a failure. Psychoactive drugs, electric shocks, hypnosis, and sensory deprivation may have been successful in destroying subjects' personalities, but they seem to have done little to get the CIA any closer to actually controlling people's minds.

Fifty years later, one may ask: would similar attempts also fail with the technology available today? I detailed how some of MKUltra's original goals could now be carried out with the help of modern brain-computer interfaces – in a more subtle and, as far as the global integrity of the brain is concerned, potentially less destructive way. That influences can be exerted on the mind in less invasive ways does not render them any less dangerous, however. In a sense, inconspicuous manipulations are even more concerning as they are harder to detect.

Worryingly, it appears that an interest in techniques for reading thoughts and controlling minds still persists. History has shown that it is not solely the inherent characteristics of a particular technology that determine if it will become a major threat to our individual lives or to society as a whole; of equal importance can be the political climate into which

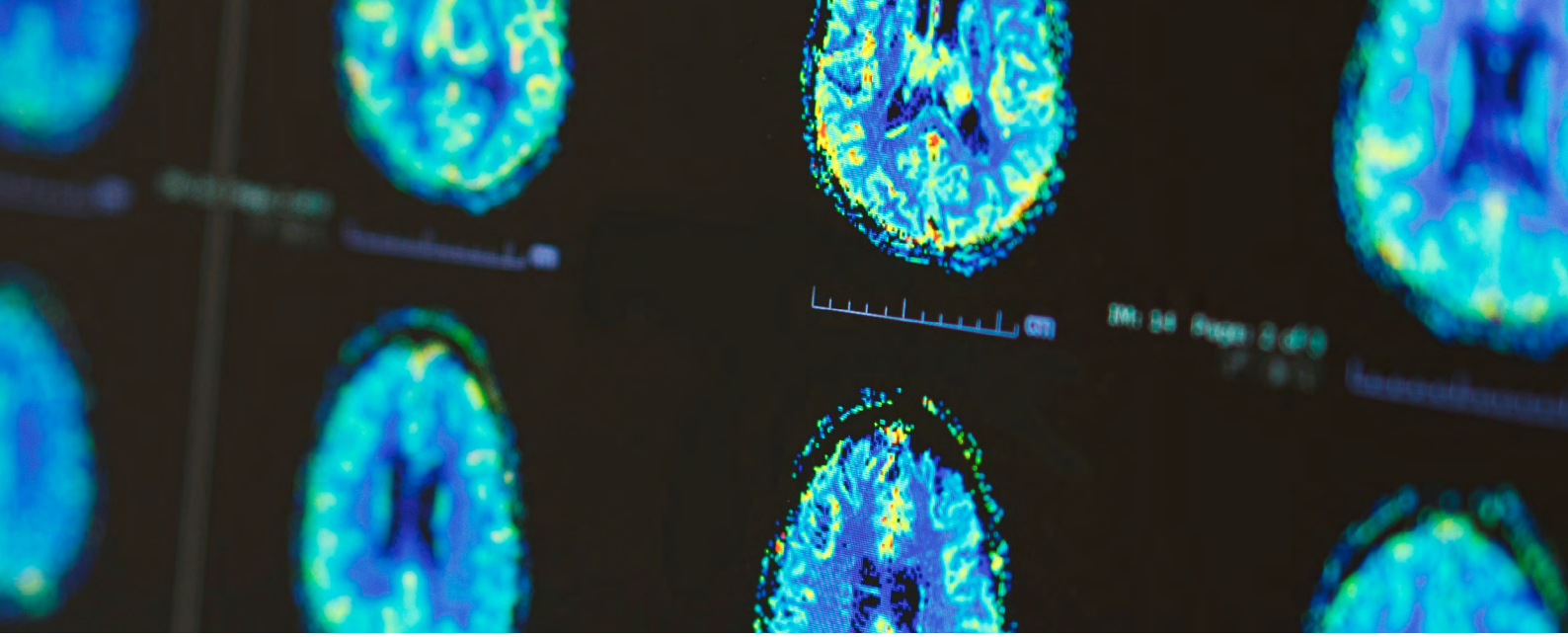
org/10.17226/12177.

[45] Ibid., 16.

[46] Arizona State University, "Subcontracting Plan: Toward Narrative Disruptors and Inductors: Mapping the Narrative Comprehension Network and its Persuasive Effects," November 22, 2011, 1, http://www.mediafire.com/view/oy4uu85ctkd70bd/156562352-Toward-Narrative-Disruptors-and-Inductors-Mapping-the-Narrative-Comprehension-Network-and-its-Persuasive-Effects.pdf.

[47] Ibid., 1.

[48] Ibid., 4.



the technology is being introduced. After a period of relative stability following the fall of the Iron Curtain, the world has now – once again – entered times of heightened geopolitical tensions. In October 2022, shortly after Russia had launched an invasion of Ukraine, the U.S. administration declared that "the post-Cold War era is definitively over."[49] It is during times like these, in particular, that technological innovations which are becoming available to the opposing parties are at high risk of being misused in order to gain an advantage. The dire consequences of the manifold attempts at developing techniques for mind control during the Cold War should act as a warning. The two dangerous ingredients are recurring: a resurgence of bloc confrontation and the availability of innovations employable for interfering with the human brain. We may not be able to rely on technological limitations thwarting efforts at mind control a second time.

[49] The White House, "National Security Strategy," October 12, 2022, 6, https://www.whitehouse.gov/wp-content/uploads/2022/10/Biden-Harris-Administrations-National-Security-Strategy-10.2022.pdf.

**Carr Center for Human Rights Policy**
**Harvard Kennedy School**
**79 JFK Street**
**Cambridge, MA 02138**

**This publication was published by the Carr Center for Human Rights Policy at the John F. Kennedy School of Government at Harvard University**




**carrcenter.hks.harvard.edu**

79 JFK Street | Cambridge, MA 02138
carrcenter@hks.harvard.edu