Cerebro: Rethinking the Future

Sophia Stockner

250956560

Sociology 3362

December 5, 2019

Part. 1:

The Cerebro was an “integrated brain-machine interface” (Musk, 2019, p. 1). It was originally developed by the BrAIn institute in California, based on previous Neuralink technologies developed by Elon Musk (2019). The Cerebro was initially used as a tool for those with various motor and neurological disorders, allowing them to connect to the internet solely with their minds (Musk, 2019). To enable this, the Cerebro was comprised of a series of long and extremely thin threads that were intertwined with various neural networks, through the use of micro-robotics (Musk, 2019). This allowed the user to access sections of the brain and make neural connections, not typically used (TEDx Talk, 2016), as well as the ability to connect to any smart device (Musk, 2019). By 2054 (Kaplan, 2016), advances in Cerebro technology allowed for the human-machine integration theorized by many scholars in past centuries before. It was the singularity (Kaplan, 2016).

The Cerebro was an immediate hit throughout the medical community, as it furthered the already-popular brain integrative technologies (BMI)’s of the time (Musk, 2019). The Cerebro focused more attention on the mind’s ability than prior BMIs, allowing individuals with sufficient training, to use alternative connections in the brain (TEDx Talks, 2016). This, in turn, made extreme advances in the medical and scientific community, as individuals with neural and motor function disorders had the ability to connect to computers (Musk, 2019), as well as re-wire sections of their neural networks. The Cerebro first gained popularity when a quadriplegic man, previously injured in a car crash, regained the ability to walk. Shortly after, news articles exploded with headlines stating the miraculous properties of the Cerebro. This led to thousands of people worldwide with a large spectrum of neural and motor dysfunctions signing for its implementation. The popularity of the Cerebro only increased as more individuals with different

conditions, ranging from blindness to a variety of mental disorders, recounted stories of its success. It was described as a miracle, some even comparing it to the healing powers of God (John, 9: 1-41; John, 5: 1-18; Matthew, 9: 1-18).

With its widespread success in the medical community, BrAIn began to promote the product onto the professional market (Dyer-Witheford. Kjøsen, and Steinhoff, 2019) by emphasizing its machine-human integrative functions. The Cerebro was targeted at elite occupations in the technological sector, which would benefit from having an unlimited amount of information and the ability to integrate with technology. For these reasons, it soon became extremely popular throughout Silicon Valley and other prominent technological centres around the world (Dyer-Witheford. Kjøsen, and Steinhoff, 2019). The Cerebro required sufficient training to be used, as users had to learn its basic functions, such as the ability to call up and coordinate information from any smart device. In 2098, the first Cerebro training institution opened in southern San Francisco Bay. It offered mandatory introductory classes, as well as more advanced and specific courses, catered towards its technological functions. Tech-enthusiasts from around the world flocked to the institution, eventually leading to the establishment of training centres throughout the globe. With an increase in individuals attending the Cerebro training centres, more complex courses were soon established focusing on the cognitive features of the Cerebro device.

Soon after, gated communities catered to those with the Cerebro were formed throughout the world. They were technologically based and contained a variety of devices used to emphasize and assist Cerebro users. The gated communities provided a research-hub of technology where new Cerebro devices, functions, and updates were continually invented. Multiple and diverse aspects of the Cerebro were discovered throughout these communities, ranging from virtual

reality spaces to neural pathway training centres. Apart from this, elementary and secondary schools were also opened in these communities to assist in developing future Cerebro users, as the minimum age of Cerebro implementation was between 18-21.

Since the industrial revolution, the world experienced rapid advances in computerization and technology that allowed for widespread automation in nearly all economic sectors (Frase, 2016). It was coined the "second machine age" and it quickly led to the computerization of over 80% of employment in the United States (Frase, 2016, p. 5). Employers soon found that employees with the Cerebro could work alongside the automated machines. For example, the profession of lawyers had been increasingly declining as new methods of automation and computerization were replacing the need for human work. This was led by the creation of new technologies, such as computational law, which transcribed all national laws into computer code, limiting the biases and interpretations present in language (Kaplan, 2016). With the rise of Cerebro technology, lawyers could now work in unison with the automated programs, aiding in the transcription process and regulating the computer's role. This, in turn, created an increase in leisure time, as workers with the Cerebro had fewer work demands but also provided beneficial skills in working alongside the machines. This increase in leisure time and the way in which workers performed their jobs synonymously with the machines, allowed many to develop new methods of production, which led to a further rise in automation (Smith, 2009). This pattern was quickly seen throughout the majority of industries ranging from cooks to fashion designers (Kaplan, 2016).

A decrease in wages and working time, coupled with an increase in technological innovation, led many employers to encourage the implementation of the Cerebro among their workers. Vast sums of money were given to the BrAIn institute by major corporations, leading to

the creation of slightly cheaper models that could be issued to a wider consumer public. With this, employers from across all sectors began to issue the Cerebro to their top-level employees, along with various courses to aid in its use. Due to this, more Cerebro training centres opened around the world and colleges began to implement courses with Cerebro use.

A huge digital divide (Haight, Quan-Haase, and Corbett, 2014) (Cotton and Jelenewicz, 2006) soon became apparent as individuals with a Cerebro, mainly members of the wealthier social classes, had broader access to information, heightened motor and neural skills, and an increase in creativity. In Canada, the digital divide between individuals with the Cerebro and those without, became extremely prominent as its low population density made it harder for large corporations to have the incentive of giving workers in remote regions the device (Haight, Quan-Haase, and Corbett, 2014). This became especially prominent in areas such as Northern Canada, where the means of surgically implementing the Cerebro were harder to access (Haight, Quan-Haase, and Corbett, 2014). With this, widespread automation led to further increases in social inequality, as lower-paying jobs not requiring the Cerebro, were quickly displaced (Kaplan, 2016). Top positions in government and business were soon restricted, and universities also began to demonstrate a preference towards Cerebro users. With continual advances in Cerebro technology, individuals without the Cerebro were soon left unable to enter into the labour force. Societies around the world experienced rapid rates of unemployment and poverty, as the majority of workers no longer had jobs (Frase, 2016).

Social welfare programs were implemented to help those without work, but they led to a variety of negative effects, due to the state's reliance on the economy and the persistent social stigma associated with unemployment. The majority of citizens were still unable to afford a Cerebro and so, faced with massive rates of inequality, various social movements protesting the

Cerebro began to form. Their members called for a universal basic income to aid those without employment, as well as the de-privatization of the Cerebro, making it freely available for all. Since displaced workers and those without the Cerebro had little to no power, the movements were quickly shut down (Chibber, n.d). Regardless, larger groups of non-Cerebro using citizens were formed, which slowly began to resort to military and violent means in an effort of gaining influence and power. Physical attacks on Cerebro-users and public property became common, leading to rapid increases in government militarization and surveillance (Frase, 2016). In Canada, huge protests broke out in large cities, where unemployment had become rampant. Cerebro users were encouraged to employ various methods of protection, as anti-Cerebro terrorist groups were rumoured to have formed. Many Cerebro users flocked to gated communities and other havens with military-style forms of security. A worldwide group known as Cebnet was formed, led by hacker activists. It advocated a strategy of violence to instil social change. To demonstrate their power, Cebnet began to implement various digital attacks throughout the main technological centres. Media reports fueled worldwide terror, stating that "Cebnet will lead to the destruction of society itself". With a surge in fear among Cerebro-users, governments employed harsh, military-style methods of maintaining order. Prison rates in Canada began to surge, leading to an overabundance of inmates, as non-Cerebro using citizens were arrested with little to no evidence. The president of the United States made a speech, outlining the worldwide threat of Cebnet. She outlined how the ideals of a universal basic income and the de-privatization of the Cerebro would lead to "an almost inconceivable disorder in economic affairs" and the destruction of American society itself (Nixon, 1960). With the continuation of digital attacks, now targeted towards Cerebro-focused gated communities, leaders around the world joined the United States in declaring war against Cebnet, stating that "a

policy of appeasement could bring destruction of a kind never before seen on this earth" (Bush, 2003). Due to the anonymity of Cebnet, nations took military action through randomly targeted strikes against perceived Cebnet members, within their countries (Frase, 2016). Police and military forces began to raid areas with the highest levels of social welfare, imprisoning and often shooting any perceived suspects (Frase, 2016). With prisons overflowing, military and police, resort to means of execution (Frase, 2016). Millions of citizens without the Cerebro were attacked, including young children. With this, Cebnet surrendered through a viral message and all digital attacks against the Cerebro came to a halt. Cerebro users around the world rejoiced and the government use of military force slowly subsided.

One week after the perceived end of Cebnet, a top-level executive of BrAIn was admitted to a hospital with an unknown case of psychosis-like symptoms. Suddenly, increased numbers of BrAIn and government employees began to showcase similar symptoms of psychosis, paranoia, and hallucinations (Halpern and Corey, 2017). Cebnet re-emerged after a week of silence, announcing that they had successfully hacked the Cerebro implementations of all users, re-routing the networks of some, to create states of fear and altered reality. Cebnet proposed an ultimatum to all members of government and the BrAIn corporation, promising to end the attacks only after the Cerebro was made public. The negative effects of the Cerebro, dubbed Cremania, were produced by shutting down the typically used pathways in the brain, known as the default mode network (TEDx Talk, 2016). Once the mind's default mode network was shut down, alternative neural connections were formed, leading to a variety of effects, such as increased emotions and dissociation with the self (Halpern and Corey, 2017) (TEDx Talk, 2016). Due to the number of neurons Cebnet set off and the fact that targeted users were unaware of the attack, the majority experienced negative symptoms, characterized as a similar state to an

extreme hallucinogen intoxication, or a “bad trip” (Halpern and Corey, 2017). Citizens with Cerebro implementations were randomly targeted, leading to widespread fear among users throughout the world. Increased cases of Cremania accelerated, leading to the over-filling of hospitals and medical centres, all of which were unsure how to re-connect the default mode network. Many citizens were left to suffer in their homes, while others were found ravaging the streets in hysteria. Some users experienced extremely intense symptoms resulting in acts such as self-harm and even suicide (Halpern and Corey, 2017). A pandemic was declared by the World Health Organization, as increased numbers of Cerebro-users around the world had become affected. Cerebro users soon began to panic further, resulting in pushes against government military action, advocating in favour of Cebnet’s ideals.

Faced with the previously outlined concerns, governments coupled with BrAIn, heeded to the hacker's demands by instilling public usage of Cerebro devices and a universal basic income. With this, they formed an agreement with Cebnet, which outlined various conditions to their demands. Firstly, allocations of the Cerebro would be provided by the state and enemy groups, primarily Cebnet, would be disbanded although its members could join positions of government. New developments and technological innovations regarding the use of the Cerebro would be controlled by the BrAIn corporation, and all citizens were required to give up any form of privacy in exchange for the public use of Cerebro technology and a digital commons.

Part.2:

The nation-wide implementation of Cerebro technologies and a universal basic income in Canada was instilled on December 13, 2139. With the de-privatization of Cerebro technology, all Canadian citizens were given the option of implementing the Cerebro after completing secondary

school. After the negative effects experienced by many before its implementation, the Cerebro was advertised as a social necessity, through the common myth that humans only use 10% of their brains (Hammond, 2012). With this and a new national system of education, the majority of individuals began to receive Cerebro implementations, paralleling the rise in smartphone use at the beginning of the twenty-first century (Pew Research Centre, 2019). By 2150, over 91% (Pew Research Center, 2019) of individuals had a Cerebro implemented and most of society was catered towards its use.

A universal basic income was also put into effect, giving each Canadian citizen what would be considered $14 000 per month in our current economy (Calnitsky, 2017). The implementation of a universal basic income had a variety of effects on society, as individuals no longer needed to work (Calnitsky, 2017). The majority of jobs were now automated except for limited government and top-level executive jobs. Cities, no longer necessary due to the lack of work, had been restructured into large communities, interconnected with speed rails throughout the country (Frase, 2016). This allowed for a more efficient allocation of resources, as well as a more sustainable way of living (Frase, 2016). Each community had various manufacturing and design labs, where citizens made and bought the majority of their resources. The labs also harvested the communities' solar energy, which had become the most widely used source of energy throughout the world. Resources created in the design labs ranged from food to bedframes, all which were made through artificial and technological means. With this, a participation income was also implemented, which allocated small amounts of capital for citizens who contributed to making resources in the labs (Calnitsky, Latner, and Forget, 2019).

The Cerebro's nation-wide implementation also led to an unlimited amount of information for all its users in the form of digital commons (Springer, 2009). With this, all

information and methods of gathering it were now accessible to each Cerebro user. The result of a public sector of knowledge had many benefits throughout society, as it led to a decrease in information inequality (Springer, 2009). Now, all individuals who had completed secondary school could have access to virtually any information from the Cerebro database. Citizens were encouraged to contribute to the database of public knowledge through educational and research-based pursuits. Information, coupled with technology, came to be seen as a major alleviator of social ills. The abundance of digital information also led to new methods of gathering, coordinating, and using data; which increased individual abilities in decision making (Condit, 2003). The previous digital divide between citizens was nearly eradicated, as all individuals had equal opportunities to use the Cerebro and its abundant range of information (Cotten and Jelenwicz, 2006).

The public availability of information and the implementation of a universal basic income also led to changes in the social views around time and non-work-related activities. The world underwent a shift into hyper-technological determinism, as individuals were continually encouraged to think and innovate, rather than work. Through society's emphasis on technological determinism, the creation of new forms of technology and information was seen as the solution to all social problems, ranging from scarcity to disease. With this, citizens were continually motivated to spend their time on academic pursuits and learning, aiding in the process of innovation and information accumulation (Calnitsky, Latner, and Forget, 2019). Hyper-consumption was widely discouraged through the implementation of many public commodities, such as community resource labs (Fromm, 1965). Consumer mentality was also distilled through the significant lack of jobs and allocation of a universal basic income. Ideologies around the negative aspects of free time were also diminished, replaced with a

positive view of leisure, as a means of self- recognition and improvement (Fromm, 1965). Individuals not interested in pursuing further academic or technological pursuits were encouraged to expand their minds and understand themselves. They were motivated to do so through meditation, virtual reality, and alternative states of consciousness, all which could be achieved through Cerebro use. A counterculture, similar to the hippie movement of the 1960s, arose encouraging the use of the Cerebro and other forms of technology as a means of "turning on, tuning in, and dropping out". Various communities and new religious groups were also formed, based on these principles of self-discovery.

Although widely discouraged, citizens also had the option of declining the use of the Cerebro altogether. With the surveillance issues associated with the Cerebro, some groups of citizens chose to decline its implementation. Similar to past green intentional communities, the Cerebro-free intentional communities largely focused on the environment and alternative ways of structuring society (Sargisson, 2012). Most arose from a rejection of technological determinism and the idea that an abundance of information is the solution. Instead, they focused on re-instigating a connection with the little that is left of nature, living in the forests and other natural areas still found throughout the country (Sargisson, 2012). Despite their rejection of technological determinism, the majority of these communities still relied on technological means, but more as a way to foster a connection with nature, rather than as a solution (Sargisson, 2012). Citizens in these communities often had co-housing and rellied on alternative forms of leisure, such as planting trees and other nature-based activities (Sargisson, 2012). Cerebro-free intentional communities were also comprised of individuals without the means of obtaining the Cerebro, such as those unable to complete secondary education. Apart from this, citizens once

charged with a criminal offence commonly joined these communities as well, to free themselves from the hyper-surveillance that followed after one went to prison.

National education, including post-secondary, was free for all citizens. Elementary and secondary schools focused on the future implementation of Cerebro users, similar to the schools found in the past Cerebro gated communities. At these schools, children were taught from a young age various techniques and alternative forms of education to assist in future, Cerebro-type thought. Once completing secondary school, individuals with a newly implemented device were required to attend free, mandatory classes at the community Cerebro training institutions. Here, individuals were trained on the basic functions of the Cerebro and were encouraged to take further, more specified classes at partner universities.

For those interested in further academic pursuits, universities working alongside BrAIn created programs and classes coupled with the Cerebro's use. With this, new ways of thinking about the world with the Cerebro quickly emerged. Fueled by positive ideas about technology, many individuals began to advocate for the dissolution of arbitrary social categories like gender and race, previously backed by natural arguments (Hester, 2018). This, in turn, resulted in freeing many individuals from the constraints of previous social norms, imposed among a hierarchal and patriarchal society (Hester, 2018). Technology was seen as the most important factor coupled with information, any other aspects, such as gender roles or one's sexual preferences, were regarded as unnecessary and inhibitors of innovation. These views, in turn, led to increased equality and rapid changes in social relations and structure (Hester, 2018).

With the encouragement of technological innovations, advances in a variety of different fields became quickly apparent. Disastrous effects of climate change had been continually rising, leading to a variety of negative effects throughout the world, such as increases in species

depletion and rising levels of water (Frase, 2016). Coupled with the Cerebro, researchers were soon able to create various successful climate change eradicating technologies, similar to the ones previously attempted by the Desertec Foundation (Sargisson, 2012). These included new methods of generating solar energy, the eradication of meat-eating through new meat alternatives, and the creation of various robo-species as a replacement for ones gone extinct (Frase, 2016). Apart from this, the majority of sickness and health problems were also largely eradicated due to increases in motor and neural Cerebro-based research. This in-turn led to an overall higher standard of living throughout Canada, and around the world.

To allow users access to the Cerebro, the digital commons, and all technological innovations that came with it, all users were required to give up any form of mental privacy. Citizens had a chip surgically inserted into them at birth, which was later synched with the Cerebro upon its implementation. The chip was a tool for datafication, used to track an individual's location and their chemical bodily states (Hu, 2017). It was also primarily used to track non-Cerebro users and children. Cerebro users were further surveilled, as their thoughts were kept in a community database, where they would be screened for suspicious information (Hu, 2017). If an individual was signalled as suspicious, their thoughts would be further scrutinized by higher officials and screening bots. The system of hyper-security was initially made to prevent against future hacker attacks, as well as a method of imposing order, should any threat emerge. Following a panopticon-like method of surveillance, crime rates began to steadily decrease, as citizens were constantly aware of being tracked (Foucault, 1977). There were fewer to no unsolved crimes as everyone, even those without the Cerebro, were under surveillance. This aspect of constant surveillance was generally accepted by most citizens, as it ensured the public use of the Cerebro; and how else would society be without it?

Bibliography:

Bush, G. W. (2003, March 18). Full text: Bush's speech. Retrieved from https://www.theguardian.com/world/2003/mar/18/usa.iraq.

Calnitsky, D. (2017). Debating Basic Income. Retrieved from https://catalyst-journal.com/vol1/no3/debating-basic-income.

Calnitsky, D., Latner, J. P., and Forget, E. L. (2019). Life after Work: The Impact of Basic Income on Nonemployment Activities. *Social Science History*, *43*(4), 657–677. doi: 10.1017/ssh.2019.35

Chibber, V. (n.d.). Capitalism and Class Struggle. *The ABCs of Capitalism*. Catalyst.

Condit, P. (2003). Navigating the Future. *Vital Speeches of the Day,* 180-182, https://www-lib-uwo-ca.proxy1.lib.uwo.ca/cgi-bin/ezpauthn.cgi?url=http://search.proquest.com.proxy1.lib.uwo.ca/docview/221521813?accountid=15115

Cotten, S.R. and Jelenewicz, S. M. (2006). A Disappearing Digital Divide among College Students? Peeling Away the Layers of the Digital Divide. *Social Science Computer Review, 24*(4), 497-506. doi: http://dx.doi.org.proxy1.lib.uwo.ca/10.1177/0894439306286852.

Demographics of Mobile Device Ownership and Adoption in the United States. (2019). Pew Research Center: Internet, Science & Tech. Retrieved from https://www.pewinternet.org/fact-sheet/mobile/.

Dyer-Witheford, N., Kjøsen, A. M., and Steinhoff, J. (2019). *Inhuman power: Artificial intelligence and the future of capitalism*. Retrieved from https://ebookcentral-proquest-com.proxy1.lib.uwo.ca

Frase, P. (2016). *Four Futures: Life After Capitalism*. London: New York.

Foucault, M. (1977). *Discipline and Punish: the birth of the prison* (1st ed.). New York: Pantheon Books.

Fromm. E. (1965). The Psychology of Basic Income. *The Nation,* 439-442

Haight, M., Quan-Haase, A., and Corbett, B. A. (2014). Revisiting the Digital Divide in Canada: the Impact of Demographic Factors on Access to the Internet, Level of Online Activity, and Social Networking Site Usage. *Information, Communication & Society 17*(4), 503–19. doi: https://doi.org/10.1080/1369118x.2014.891633.

Halpern, J. and Corey, V. (2017). Hallucinogen intoxication. In A. Wenzel (Ed.), *The sage encyclopedia of abnormal and clinical psychology* Vol. 1, pp. 1593-1594. Thousand Oaks,, CA: SAGE Publications, Inc. doi: 10.4135/9781483365817.n648

Hammond, C. (2012, November 13). Do we only use 10% of our brains? Retrieved from https://www.bbc.com/future/article/20121112-do-we-only-use-10-of-our-brains.

Hester, H. (2018). *Xenofeminism*. Cambridge, UK: Polity Press.

Hu, M. (2017). From the National Surveillance State to the Cybersurveillance State. *Annual Review of Law and Social Science*, *13*(1), 161–180. doi: 10.1146/annurev-lawsocsci-110316-113701

Kaplan, J. (2016). *Artificial Intelligence: what everyone needs to know*. New York, NY: Oxford University Press.

Musk, E. (2019). An Integrated Brain-Machine Interface Platform with Thousands of Channels. 1–12. doi: https://doi.org/10.1101/703801.

Nixon, R. (1960, August 21). Nixon: The Meaning Of Communism To Americans. Retrieved from https://watergate.info/1960/08/21/nixon-the-meaning-of-communism-to-americans.html.

Sargisson, L. (2012). *Fools Gold?: Utopianism in the Twenty-First Century*. Palgrave Macmillan.

Smith, A. (2009). The Division of Labour. In Hechter, M & Horne, C. (Eds.). Theories of Social Order: a reader (2nd ed.). Standford Social Sciences; pp. 166-174 (Original work published 1776)

Springer, C. D. (2009) Avoiding a tragedy: information literacy and the tragedy of the digital commons." *Library Philosophy and Practice*. https://link-gale-com.proxy1.lib.uwo.ca/apps/doc/A207392509/AONE?u=lond95336&sid=AONE&xid=e43558e2

TEDx Talks. (2016, December 21). *Psychedelics: effects on the human brain and physiology* [Video file]. Retrieved from https://www.youtube.com/watch?v=FyAgx_tzh80