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ETHICAL REVIEW ON THE PROBLEM OF ANIMAL RIGHTS: THE NEUROLINK CASE

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Abstract: The rapid development of neurotechnologies raises new bioethical challenges that were difficult to anticipate a decade ago. This article presents an ethical analysis of Neuralink's animal experimentation practices through the lenses of utilitarianism and absolute pacifism. The study examines documented cases of animal welfare violations and evaluates them against established ethical frameworks. The authors identify three key issues: pressure-induced research errors, questionable cost-benefit ratios, and violations of the 3R principles (Replacement, Reduction, Refinement). Using utilitarianism and absolute pacifism, it was wanted to look at what

happened from different angles. To understand how and why the company decided to pursue such a policy with experiments on animals, to draw a general conclusion about the ethics of such actions in modern times. Proposed solutions include implementing alternative testing methods, improving animal welfare protocols, and restructuring corporate governance to reduce harmful acceleration of research timelines.

Keywords: Animal Testing, Bioethics, Utilitarianism, Absolute Pacifism, Suffering.

Introduction

Neurolink, a company engaged in the development of neural interfaces, faced a federal investigation in connection with violations of standards for the treatment of laboratory animals after a complaint from PCRM in February 2022. According to Reuters, about 1,500 animals died during the tests (The Guardian 2022). It is reported that the reason for the investigation was the massive reaction of employees to the mass death of animals.

Initially focusing on aiding individuals with severe paralysis, the Neuralink chip aims to restore personal control over limbs, prosthetics, or communication devices. By recording and decoding neural signals from individual neurons and then transmitting them back to the brain using electrical stimulation, the chip enables users to control devices solely through thought. According to representatives of Neuralink, the developed neurochips are potentially able to restore vision in patients with congenital blindness, as well as motor and speech functions in people with spinal cord injuries. In September 2023, the company received approval to recruit participants for human trials (Reuters 2024). In January 2024, Neuralink successfully performed the first operation to implant its device into the human brain. The first patient was Noland Arbag, who agreed to participate in this historic experiment.

What ethical and operational compromises is the corporation prepared to justify in pursuit of its objectives?

Background of Elon Musk

To fully understand the case it is important to get to know the owner of the company better and try to estimate whether the company CEO influence the company or not (Khan and Ismail 2024):

Elon Musk is an entrepreneur, engineer, founder and owner of many companies and the richest person in the world. His first big project «Tesla» became a pioneer in mass car production, «Neurolink» is developing brain implants that would help to control some devices by the power of your thoughts, «SpaceX» tries to create devices for space exploration. Also, in 2022 an entrepreneur bought the social network «Twitter». Unfortunately, there are several difficulties about the personality of Elon Musk in management and the business sphere. His political and general statements often cause public disapproval, which causes company shares to fall and leads to a boycott by customers.

For example, Musk has more than 119 million followers on Twitter. In fact, he had previously agreed to pay a \$20 million fine for tweeting that he had «secured financing» for the purchase of Tesla, which raised the stock price — but this never happened, and the American business regulator was unhappy. Part of the agreement included imposing restrictions on what Musk could tweet about Tesla (BBC News, 2022).

The management style of E. Musk is characterized by a high degree of authoritarianism and a tendency to impulsive decisions. It makes the companies unstable, because behavior of the owner impacts on the large number of employees. For example, because of DODGE's leadership and Elon Musk's support of Donald Trump in the election, Tesla has taken on many protests in the United States and Europe (including vandalism in car dealerships, boycotts, etc.)

Thus, Musk's personal influence on business has become a problem: his public scandals and controversial statements alienate some of the audience, which is especially noticeable in the decline in sales and the reputation of companies.

For example, in the summer of 2018, a group of schoolchildren disappeared in northern Thailand after going for a walk in a cave. It so happened that the cave was flooded — the children were trapped.

Elon Musk volunteered to help. He said he would create a small submarine to rescue the children. However, it turned out to be easier to

conduct rescue operations with the help of divers, and by the time Musk completed his submarine, almost everyone was already safe.

One of the divers, Vernon Unsworth, said that the submarine was useless, and Musk simply decided to take advantage of someone else's misfortune and play the hero. Musk took offense and called Anscourt a «pedo guy» on Twitter. The society didn't like this gesture very much. Musk's excuses only made the situation worse: «I bet a dollar with my autograph that everything is true» Vernon Unsworth sued Musk for defamation, demanding \$190 million (Hi-Tech Mail.ru 2024).

It was revealed in court that Musk hired a private investigator to compile a dossier on Unsworth. It turned out that Unsworth entered into a relationship with his future wife when she was only 12 years old. This, according to Musk, was enough to compare Unsworth with Jeffrey Epstein, an American philanthropist and pedophile. In December 2019, the trial ended with Musk's victory.

Neuralink case

Neuralink says it is developing brain-chip interfaces that could restore a person's vision, even in those who were born blind, and restore «full body functionality», including movement and verbal communication, for people with severed spinal cords, reported CNBC.

The federal investigation was opened in recent months by the US Department of Agriculture's inspector general at the request of a federal prosecutor, according to two sources with knowledge of the investigation. The inquiry, one of the sources said, focuses on violations of the Animal Welfare Act, which governs how researchers treat and test some animals (Hern, 2022).

1) Current and former Neuralink employees say the number of animal deaths is higher than it needs to be for reasons related to Musk's demands to speed research. For example, one of the employees, in a message seen by Reuters, wrote an angry message to colleagues earlier this year about

the need to review the organization of operations for animals in the company in order to prevent «hack work» The rushed schedule, the employee wrote, led to unprepared and overly stressed employees having difficulty meeting deadlines and making last-minute changes before operations, which increased the risks to animals (Levy, 2022). Through company discussions and documents spanning several years, along with employee interviews, Reuters identified four experiments involving 86 pigs and two monkeys that were marred in recent years by human errors. The mistakes weakened the experiments' research value and required the tests to be repeated, leading to more animals being killed, three of the current and former staffers said. The three people attributed the mistakes to a lack of preparation by a testing staff working in a pressure-cooker environment.

2) The mistakes leading to unnecessary animal deaths included one instance in 2021 when 25 out of 60 pigs in a study had devices that were the wrong size implanted in their heads, an error that could have been avoided with more preparation, according to a person with knowledge of the situation and company documents and communications reviewed by Reuters.

3) On another occasion, staff accidentally implanted Neuralink's device on the wrong vertebra of two different pigs during two separate surgeries. The incident frustrated several employees who said the mistakes «on two separate occasions» could have easily been avoided by carefully counting the vertebrae before inserting the device (Levy, 2022).

The company veterinarian Sam Baker advised his colleagues to immediately kill one of the pigs to end her suffering.

«Based on low chance of full recovery... and her current poor psychological wellbeing, it was decided that euthanasia was the only appropriate course of action» Baker wrote colleagues about one of the pigs a day after the surgery, adding a broken heart emoji (Hern, 2022).

4) In some ways, Neuralink treats animals quite well compared with other research facilities, employees said in interviews, echoing public statements by Musk and other executives. Company leaders have boasted internally of building a «Monkey Disneyland» in the company's Austin, Texas, facility

where lab animals can roam, a former employee said. In the company's early years, Musk told employees he wanted the monkeys at his San Francisco Bay Area operation to live in a «monkey Taj Mahal», said a former employee who heard the comment. Another former employee recalled Musk saying he disliked using animals for research but wanted to make sure they were «the happiest animals» while alive (Hern, 2022).

5) Neuralink employees have repeatedly expressed disagreement with Musk's demands to speed up research, pointing out the risks to animals. In a company discussion several months ago, some Neuralink employees protested after a manager said that Musk had encouraged them to do a complex surgery on pigs soon. The employees resisted on the grounds that the surgery's complexity would lengthen the amount of time the pigs would be under anesthesia, risking their health and recovery (Hern, 2022). They argued they should first figure out how to cut down the time it would take to do the surgery.mim

Ethical analysis

Let's identify the stakeholders in this situation before considering the consequences.

In our case, the stakeholders are:

1. The animals being experimented on (pigs, monkeys, etc.)
2. Potential patients with neurological diseases who can benefit from Neuralink technology (It is estimated that in 2021, the number of people suffering from spinal cord injury worldwide was about 15.4 million (World Health Organization, 2023). At least 2.2 billion people in the world have problems with near or far vision (World Health Organization, 2023). More than 5% of the world's population — or 430 million people — need rehabilitation to address disabling hearing loss (World Health Organization, 2023). There are about 20 million patients in total).

3. Scientists and staff of Neuralink(Who, according to Robert Merton, belong to a «scientific ethnos» and should not deviate from the principles

of Communalism, Universalism, Disinterestedness and Organized Skepticism in their work. Often, the employee community had to come into conflict with their superiors in order to continue following these principles.)

4. Society as a whole (interested in medical progress).

Why do we count animals contractors?

Having studied approaches of Albert Schweitzer and Peter Singer, we relied on the following thoughts:

— The ability to suffer makes animals objects of moral responsibility, and if a creature can suffer, and its interests must be respected and taken into account.

— Animals are not just objects, but subjects of moral dialogue. We must take into account their interests, as well as the interests of other people.

— The exploitation of animals can not be justified if their suffering can be avoided.

— The view that human interests are always more important than the interests of animals is a prejudice similar to racism or sexism.

Utilitarian approach

Utilitarianism, formulated by John Stuart Mill, is a doctrine that asserts happiness as the main value, and the main goal of action is to achieve «the greatest happiness for the greatest number of people» According to representatives of classical utilitarianism, at the heart of all human actions lies the desire of people for happiness, understood as «an existence as free from suffering as possible and as rich in pleasure as possible» Only happiness is valuable in itself. Everything else is valuable only because it contributes to the realization of happiness.

Now let's analyze the situation using the utilitarian approach. To do this, we will consider the pros and cons of the situation for interested individuals.

Pros:

1. Revolutionary treatment of neurological diseases

The most significant advantage is the potential to develop chips that could help people with paralysis, blindness, epilepsy and other diseases. If

these technologies will become truly successful, they can dramatically improve the quality of life of millions of people, relieve them of suffering, restore lost functions and enable them to lead a fulfilling life.

2. Scientific progress and technological development

The development of chips can lead to breakthroughs in neuroscience, computer technology, and other related fields. Scientific progress leads to new knowledge, economic growth and a better life for all, which is a positive consequence for society. Moreover, investments in research in this area can create new jobs, which is also a pros for society.

3. Potential for human empowerment in the future

Specifics: In the long term, chips could be used to expand human capabilities (improve memory, cognitive functions). If these technologies become available, they can enhance the overall level of intelligence, potentially benefiting all of humanity.

Cons:

1. The suffering of animals:

Painful surgical procedures, complications after operations, stress, pain, isolation, limited movement and death — all this is one of the biggest problems of this case. The level of suffering of an animal is difficult to measure, but the very fact of suffering does not carry anything good.

2. The probability of failure and inefficiency:

The Guardian article suggests that Neuralink uses rushed procedures and substandard animal care, which increases the likelihood of experiment failures and ineffectiveness. If the experiments do not bring results, the suffering of animals is in vain, and the potential benefits for humans are not realized. Ineffective research is a waste of resources, time, and, most importantly, animal life.

3. The risk of unintended consequences:

Any new technology, especially in the field of neuroscience, can have unforeseen side effects (for example, dependence on technology, unwanted behavioral changes, cyber threats), what reduces the usefulness to society.

Conclusion:

Considering the information obtained from the article, from the point of view of utilitarianism, actions to kill and suffer animals during scientific experiments could be considered ethically justified, since general suffering of animals is less than the expected benefit to humans, from our point of view.

Absolute pacifism approach.

Erasmus of Rotterdam, an outstanding Renaissance humanist, was one of the first and most influential proponents of pacifism. The main points characterizing the pacifism of Erasmus of Rotterdam were: the condemnation of wars, the priority of reason and education, peaceful coexistence of peoples, universal nonviolence. In this article, we will rely on the doctrine of absolute pacifism. It evaluates the morality of any act solely through the lens of nonviolence, rejecting any justification — whether practical, ideological, or consequential — for the use of force, coercion, or harm against sentient beings.

Now let's analyze the situation using the absolute pacifism approach. To do this, we will consider what did Neurolink make wrong and can the company find excuses for its actions.

Unethical actions of Neurolink due to absolute pacifism:

1. Taking death for granted

The use of animals, many of which died due to mistakes, directly contradicts the idea of nonviolence. In addition, the repetition of failed tests has increased the number of victims, which is unjustified abuse.

2. A rush that caused agony

Elon Musk's pressure on employees led to the formation of stressful conditions in which medical and other mistakes were made, exposing animals to additional risks. Complex operations were performed in an accelerated mode, which increased the suffering of the animals (for example, prolonged anesthesia, the risk of complications).

3. Instrumentalization of living beings

For Neuro-link, animals were only a means to an end (the development of technology), and not as creatures with their own value. Even statements that animals should be «the happiest» do not negate the fact that they are being used and killed.

4. Ethical blindness in the pursuit of progress

Justifying experiments with potential benefits for humans (treating paralysis) does not negate the moral problem of animal abuse from the standpoint of absolute pacifism.

Can absolute pacifism justify Neurolink?

There are ideas that, when viewed from a different perspective, could justify the company wasting lives. Among the excuses are possible benefits to humanity, ethical doubts within the company, and the welfare of animals before conducting experiments. However, all these facts do not play a role in absolute pacifism. From the standpoint of absolute pacifism, any forcible deprivation of life is unacceptable, regardless of the potential benefit to society.

Conclusion

The situation with Neurolink is unacceptable from the point of view of pacifism, as animals are systematically subjected to prolonged suffering, experiments often end in death, and pressure on employees and haste exacerbate the harm. This makes it clear that Neurolink puts the progress of science above the moral principles of nonviolence.

Settlements:

Counting all up above, Neurolink can take several steps...

Minimizing animal suffering. In order to minimize the suffering of animals in research, a versatile approach is very important. Animal welfare should begin with the introduction of the highest standards of care and the improvement of living conditions. Moreover, optimal anesthesia and pain relief should be introduced. Careful compliance with the requirements of qualified veterinary care and active monitoring of behavior are necessary to identify and eliminate any signs of trouble. By applying these measures, Neuralink can minimize the pain and suffering of animals.

Prioritizing alternatives to animal experimentation and minimizing animal use. The basis lies in the active search for alternative research methods not related to animals and using them wherever possible. These include models such as *in vitro* (a technique for performing experiments when they are conducted «*in vitro*» — in artificial conditions, outside the body or the natural environment) that allow researchers to study biological processes at the cellular level without using animals.

In addition, sophisticated computer developments are increasingly being used to predict the consequences of interventions in the body of a living person or animal. One example is *in silico* methods (a term denoting computer simulation of an experiment, more often biological. The phrase was created by analogy with the phrases *in vivo* (in a living organism) and *in vitro* (in vitro), which are often used in biology). The use of such technologies could significantly reduce the need for animal testing.

Adopting research protocols. The introduction of a more gentle policy of interaction with employees and the separation of Elon Musk from projects related to biological experiments. Due to pressure from the owner, employees were forced to conduct operations and research without sufficient prior training. Elon Musk also often made his employees feel constant stress in the workplace, which negatively affected their performance and concentration, increasing the chances of mistakes. Compliance with the principles of 3R (Replacement, Reduction, Refinement) and optimization of experimental conditions will minimize the use of animals and reduce their suffering.

Afterword

Scientific research and the development of scientific progress are certainly important, but modern humanity is interested not only in the truth, but also in what ways we come to receive it, at what price we get it and what means we use. Modern businessmen in offices and laboratories should take this into account exactly as much as scientists in research centers. Humanity should never forget the principles of humanity, nonviolence and virtue. We

are not for progress at any cost. We are for helping those in need without multiplying unhappy beings multiple times.

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