

STFX POKEMON COUNCIL

Topic: Bioethics

Genetic Modifications

The genetic modification of animals first began at the beginning of human civilization through the selective breeding of animals in order to create animals with desirable traits. However, modern scientists first began experimentations with genetically modified organisms using a novel technology- CRISPR-Cas9.

CRISPR-Cas9 is a gene editing tool that allows scientists to insert genetic material – usually DNA – into a cell or embryo in order to create a genetically modified organism. While at first genetic engineering was limited to plants, it slowly expanded into domesticated animals, as cows, pigs, and sheep all were engineered with various modifications to boost their use for farmers. However, it was Professor Ralph Sampson of the Sakuragi Institute for Pokemon Genetics who first began to apply the technology to Pokemon ten years prior to writing. Particularly, Professor Sampson experimented by modifying a Bulbasaur egg to produce a baby Pokemon that was twice its expected weight. Unfortunately, the experimental Bulbasaur did not live for long, but Professor Sampson continued his experiments, producing a breadth of research on how to successfully engineer Pokemon with unnatural characteristics.

Professor Sampson's experiments with genetically altered Pokemon attracted him many enemies. Pokemon rights advocates argued what he was doing was unethical, cruel, and ought to be banned. In a different vein, many criminals – including Kanto's most-wanted criminal and Pokemon battle gambling ring leader Giovanni Sakaki – sought to take Professor Sampson's research for their own nefarious purposes. Genetically engineered Pokemon designed for battling were highly prized, as modifications to their weight and strength made them easier to train and physically larger – giving them a competitive edge in battles over naturally-born Pokemon. Despite the Kanto Association of Pokemon Trainers (KAPT) issuing a ban on genetically engineered Pokemon, many trainers still attempted to procure them and use them to compete. Criminals like Giovanni

could also sell these Pokemon to trainers on the black market for a heavy price, and to this day identifying illegally modified Pokemon has been a major challenge for KAPT.

For Professor Sampson, though, his research ultimately put a target on his back in what would go on to be one of the most notable scandals to ever rock the world of Pokemon trainers. Given the clear and present danger to his life, Professor Sampson soon left the Sakuragi Institute to found his own, more secure facility on the largely abandoned Cinnabar Island. Sampson's experiments continued on Cinnabar Island, but he quickly grew more destitute and withdrawn from society, and few heard much of him until his body was found washed ashore near Pallet Town showing clear signs of strangulation and bearing a large, red "R" branded into his chest.

Following the discovery of Sampson's body, the media immediately burst into a storm, fixated on the mysterious murder of the controversial researcher. Pokemon rights advocates spun it into a story of a cruel man meeting his cruel fate, arguing that those who chose to dabble in the genetic engineering of Pokemon deserved whatever happened to them. Meanwhile, Officer Jenny of the Kanto Regional Police Department searched in vain for any perpetrators, but their top suspect, Giovanni Sakaki was nowhere to be found, and has remained in hiding for the past 10 years. Ultimately, the Council of Mayors of Kanto agreed to ban the genetic engineering of Pokemon in response to the death of Professor Sampson, effectively extending the ban to all aspects of Pokemon interaction, including pageants and for the use of Pokemon in the workplace. They argued that genetic engineering of Pokemon had no scientific merit, major ethical ramifications, and invited far too much intrigue from the criminal underworld.

Today, genetically engineered Pokemon remain illegal to much controversy. While Pokemon rights advocates and governing organizations continue to oppose it for the aforescribed reasons, many trainers and breeders are eager to see the bans lifted. They tend to argue that the genetic engineering of Pokemon is harmless, and allows for better battles, more useful Pokemon, and can benefit society. Given their dissenting voices, it is wholly possible for the ban on genetically engineered Pokemon to one-day be overturned if enough advocacy for the policy is conducted.

Forced Evolution

It is a well-known fact that the key to success for any Pokemon trainer is to spur their Pokemon to evolve – a complex, scientific chemical reaction that occurs within the Pokemon following exposure to a triggering stimulus. For decades, though, no one was quite sure what those triggering stimuli were. Many assumed it to be somehow related to a heightened level of hormones within the body of the Pokemon that were released in response to stress, and many trainers attempted to push their Pokemon to their limits in order to spur evolution. This of course triggered massive resistance from Pokemon Rights Activists, who argued against the practice and would attempt to expose trainers who engaged in the practice.

It would be Professor Cerise, an academic who worked under Professor Sampson and then took over the Sakuragi Institute of Pokemon Genetics following his departure, who would come up with the first major breakthrough on Pokemon evolution. His invention, dubbed “evolution stones,” were electrically charged devices that would effectively put Pokemon under so much stress that they release enough hormones to trigger evolution. It would be an extremely painful experience for the Pokemon, but for a Pokemon trainer seeking to quickly turn their Charmander into a Charizard, it could be a means of winning major prize money.

However, in order to commercialize the evolution stones, Cerise agreed to an investment from Daedalus Silph, President of SilphCo, that had hidden contract provisions which shifted the ownership of the intellectual property from Cerise to Silph. SilphCo quickly began to mass produce and sell the evolution stones, popularizing them among trainers and infuriating Pokemon rights advocates who recognized the immeasurable amounts of pain that coerced evolution could cause a Pokemon.

Tensions culminated between SilphCo and Pokemon activists a year prior to writing when a major protest erupted outside the headquarters of SilphCo at the culmination of a rally held by People for the Ethical Treatment of Pokemon (PETP). Then-President Daedalus Silph’s limousine was attacked by a mob of angry activists, who threw molotov cocktails at the car in what they viewed as just retribution for the facilitation of mass

Pokemon torture. Ultimately, Silph escaped unscathed and over 5,000 officers of the Kanto Regional Police were needed to squash the protest, which has since been referred to as “Bloody Monday,” and resulted in 15 deaths, 128 injuries, and billions of dollars worth of property damage. PETP Chairman Robert Psychic was prosecuted for inciting a riot, but was only sentenced to three months in prison for unlawful assembly. While Psychic and most leaders in the Pokemon rights movement publicly regret what occurred on Bloody Monday, a portion of activists would certainly rise up in protest again if called.

Following the event, however, the SilphCo board of directors voted for Daedalus Silph to resign for the sake of public appearances, letting him appoint his own successor as a courtesy. SilphCo then increased the price of evolution stones by over one hundred times what they had originally been sold for – effectively making them unaffordable for all but the most elite Pokemon trainers.

Still, despite the price increase blocking most people’s access to evolution stones, it’s worth emphasizing that they are still being produced and marketed. Some rumors have also emerged about black market evolution stones being produced – and there has been at least one case of a Pokemon dying following the use of a counterfeit evolution stone. Pokemon rights advocates continue to seek to ban the sale of these devices because of the immense pain they cause.

Performance enhancing medications

Pokemon potions have been widespread for as long as Pokemon training has existed. Potions can have a multitude of effects: they can heal an injured Pokemon, and many are specialized to treat certain injuries. In recent years, however, there has been a growing trend of Pokemon medicines being produced that can do more than heal. These medicines have the potential to increase a Pokemon’s strength temporarily, allowing them to function at an unnatural ability.

Naturally, these medicines have attracted major controversy for Pokemon trainers, and organizations like KAPT have struggled with how to regulate their use. Many in KAPT believe that medicines, vitamins, and elixirs with the potential to buff a Pokemon give it an unfair edge in competition, allowing them to exert levels of strength with ease

that a trainer would have had to once spent years cultivating in their Pokemon. By contrast, many trainers support these medicines, and many are willing to buy experimental cures in hopes of winning.

Unfortunately, there is no standardized anti-doping agency for Pokemon in Kanto, though many ethicists have called for one. There is also no formal review process for Pokemon medicines, and while some are made by trusted companies like SilphCo and the PokeMart Company, other medicines are produced by individuals, or sometimes even trainers following do-it-yourself recipes. These often have the risk of backfiring and harming a Pokemon, even potentially killing them. This has become a major problem, so much so that the Nurse Joy Union has demanded action be taken to regulate the Pokemon medicine market and protect the health of Pokemon.

Regardless of whether or not that call is heeded, it is clear that Pokemon trainers face a challenge in navigating how to maintain a level playing field for competition. Many have argued that a free-for-all approach with medicines, where all trainers would have access to use them, would allow for better competition where all Pokemon have access to the same enhancements. But others feel that the only way to keep things fair is for all Pokemon to be completely natural – and still others seek to find some type of middle ground. How to address this ethical dilemma will certainly be a pressing challenge for many in the Pokemon space.

Analysis- Rogue genetic experimenters and reckless experimentation

Given that so much of the research produced on Pokemon genetics has been released, there runs the real risk that a rogue genetic experimenter could attempt some type of reckless experimentation with Pokemon genomics. The case of Professor Sampson clearly illustrated the worries of many of an unaffiliated experimenter fleeing to a remote location with zero accountability over their work. His untimely demise also illustrates that illicit criminal groups are wholly willing to engage with genetic modification for their own gain.

Criminal gangs are potentially looking into getting involved in their own experiments as well – either by funding an academic under the table, or flat-out

employing one for a contract. Most universities in Kanto are publicly run institutions, and salaries for professors and researchers are quite low. This creates a major incentive for corruption in academics that needs to be addressed.

There's also an issue with biohackers – small-scale people with some knowledge of genomics and access to experimental materials. CRISPR-Cas9 kits are sold to the public and are actually quite cheap, and so it's not impossible for someone to purchase a kit and begin DIY experiments on their Pokemon. Practices like this are extremely hard to regulate and pose major issues as people with minimal knowledge of scientific procedure conducting genetic experiments poses a risk of unintended consequences: particularly that of harm to the Pokemon. Pokemon rights advocates are extremely adamant about stopping these biohackers from continuing to conduct experiments, but outside of banning the commercial sale of CRISPR-Cas9 kits it's hard to imagine a way to clamp down on the issue.

Most troubling when it comes to these biohackers is the community mentality of “do it because you can.” As a community built around independent experimentation, many biohackers approach their work with a sense of doing something for curiosity's sake. This has caused many to worry that one may do something with grave social ramifications without thinking through about obvious consequences. It's not hard to imagine something going wrong. What if a Pokemon gets loose in the wild that poses a threat to the safety of the people of Kanto? What if Pokemon are harmed physically by the experimentation?

This also presents a major security issue, as the potential for rogue actors to engage in experiments for criminal purposes with no accountability could have unintended consequences that most in government will want to avoid. Most genetic experimentation with Pokemon so far has been relatively minor – enhanced muscles, longer arms, better perception, and other things of that nature. But one has to be afraid that something could happen that would have major repercussions. This is certainly something to avoid, and it will be up to this committee to figure out a solution to this potential threat.

Questions to Consider

1. Should performance-enhancing medications be permitted in Pokemon battles?
2. Should it be legal to genetically engineer a Pokemon?
3. Is it morally right to cause Pokemon pain by forcing them to evolve with an evolution stone?
4. How can these scientific tools be regulated to ensure safety and ethical best behavior?
5. What means of activism are justified and what should be off-limits for an activist group seeking to change policy, even if they have good intentions?

Positions

Ash Ketchum

Ash Ketchum is the main character of the Pokémon anime from the original series to Pokémon Journeys: The Series. He is a Pokémon Trainer from Pallet Town whose goal is to become a Pokémon Master. His starter Pokémon was a Pikachu that he received from Professor Oak after arriving late at his laboratory. On his journeys around the Pokémon world, he's been accompanied by a multitude of close friends. In Pokémon the Series: Sun & Moon, he becomes the first Champion of the Alola region's Pokémon League. In Pokémon Journeys: The Series, he becomes the new Monarch of the Pokémon World Coronation Series.

Professor Oak

Professor Samuel Oak is a Pokémon Professor who lives and works at his research lab in Pallet Town of the Kanto region. According to Professor Elm, Oak concentrates on Pokémon and human relationships as a profession.

Meowth (Team Rocket)

Meowth is a member of Team Rocket, more specifically part of a trio with Jessie and James, that follows Ash Ketchum and his friends around in the Pokémon anime, usually trying to steal Ash's Pikachu or other Pokemon. His major difference from other Meowth, and nearly all other Pokémon, is that he can talk and seems to share human characteristics. He is bent on helping Team Rocket collect other

Pokemon.

Giovanni

Giovanni is the former head of Team Rocket, who served as the secretive Gym Leader of Viridian City's Gym, known officially as the Viridian Gym. He handed out the Earth Badge to Trainers who defeated him. As a Gym Leader, he specialized in Ground-type Pokémon, but his master plan includes collecting rare Pokémon of all types.

Cynthia

Cynthia is a recurring character who appeared in the Pokémon anime and games. Cynthia is the current Champion of the Sinnoh region and has helped deal with several crises, particularly those involving Team Galactic and Team Rocket.

MewTwo

Mewtwo is an artificial Pokémon. It is a bipedal, humanoid Pokémon with some feline features. Mewtwo was created after years of horrific gene splicing and DNA engineering experiments based on Mew. It is widely known as one of the most powerful Pokémon in existence and is said to have the most savage heart among all Pokémon, lacking compassion and striking fear into its enemy with cold, glowing eyes. Because it was engineered to be the ultimate opponent in battle, it can only think of defeating its foes.

Arceus

According to legend, it shaped the Pokémon universe using its 1,000 arms. Arceus has been referred to as The Original One in myths and legends, and is generally considered to be one of the strongest Pokémon. Arceus is thought to have created the Sinnoh region and possibly the entire Pokémon world, the lake guardians Uxie, Azelf, and Mesprit; and the creation trio Dialga, Palkia, and Giratina. Because of this, Arceus is thought to be one of the most long-lived of all Pokémon species.

Lysandre

Lysandre is the boss of Team Flare and the primary antagonist of Pokémon X and Y. He plans to use the combined power of the Kalos Power Plant, and legendary Pokemon Xerneas and Yveltal, to power the Ultimate Weapon to destroy everyone unworthy of what he deems “beautiful.” He is also the owner of Lysandre Labs, the company that created the Holo Caster.

N

N is a character in Black, White, Black 2, and White 2. In Pokémon Black and White, he is one of the

player's rivals, the puppet leader of Team Plasma, and aspires to create separate worlds for humans and Pokémon.

Maxie

Maxie is the head of Team Magma whose goal is to awaken the ancient Pokemon Groudon and harness its power for world domination.

Colress

Colress is a Pokémon researcher and the second boss of Team Plasma, appointed by Ghetsis. His goal is to discover the true way to draw out the strength of Pokémon.

Goh

Goh is an aspiring Pokemon researcher and trainer, who journeys with Ash protecting Pokemon and learning more about them.

Professor Kukui

Professor Kukui is a Pokémon Professor from the Alola region, as well as the founder of Alola's Pokémon League. He also teaches at a Pokemon school to help people be more aware of the creatures and show how to live with them.

Ghetsis

Ghetsis Harmonia Gropius is one of the Seven Sages and the true mastermind behind Team Plasma. Ghetsis seeks to manipulate his son in order to obtain supremacy as the only person in the world wielding Pokémon and plans to freeze the Unova region.

Lusamine

The true villain of Generation VII, Lusamine serves as the president of the Aether Foundation, seeking to preserve Pokémon. She becomes blinded by the urge to collect and utilize the power of Ultra Beasts, dangerous and chaotic Pokemon from different dimensions. Lusamine is ultimately possessed by the powers she seeks to contain, losing all sense of self. Lusamine's goals endanger those close to her, as well as all in the Alola region.

Cyrus

The first leader of Team Galactic, Cyrus' main goal is to destroy the universe and rebuild it in a version without emotion. Through his orders, Team Galactic does some of the worst things any evil team has

done. They let off multiple bombs in locations where Pokemon were thriving. Torture the trio of Lake Guardians to create the Red Chain and then use it to control Dialga and Palkia.

Saturn

Saturn is the second leader of Team Galactic. He plans to elicit money from the people of Sinnoh in a plot that threatens to make Stark Mountain explode and bring the team back to domination.

Archie

Archie is the head of Team Aqua who plans on awakening the ancient Pokemon Kyogre and harnessing its power for world domination.

Leon

Leon is the Champion of the Galar region's Pokémon League and is the strongest Pokemon trainer in the world behind Ash. He is a global icon with large influence.

Chairman Rose

Leader of the Pokemon League, Chairman Rose is a famous figure in the Galar region. However, in attempts to stop the impending energy crisis, he becomes corrupt and abuses his position, ultimately torturing Pokemon and endangering citizens through the forces Gigantamax practices on different Pokemon.

Professor Elm

Professor Elm is the resident Pokémon Professor of New Bark Town in the Johto region. He specializes in Pokémon breeding, and is credited with the discovery of Pokémon Eggs. According to Professor Oak, Professor Elm "is the best when it comes to the research of Pokémon evolution."

Necrozma

Necrozma is a dangerous Pokemon from Ultra Space, a separate dimension, who has no control. It is chaotic and violent and even ends up possessing other Pokemon to become more powerful.

Brock

Brock is an aspiring Pokémon Doctor from Pewter City and a traveling partner of Ash. He used to be the Gym Leader of the Pewter Gym, handing out the Boulder Badge to Trainers who defeated him. Brock journeyed with Ash through the Kanto, Johto, Hoenn, and Sinnoh regions in his pursuit of improving his skills as a Pokémon Breeder. Eventually, he decided to return home and study to become a Pokémon

Doctor.

Iris

Iris is an aspiring Dragon Master and a former traveling companion. She eventually becomes the Champion of Unova and becomes one of the eight best Trainers in the world within the World Coronation Series.

Professor Rowan

Professor Rowan is the main professor of the Sinnoh region who specializes in evolution. Rowan's research paved the way for tons of different means of evolution as well as various form changes. Both are still explored through various mechanics to this day.

Professor Sycamore

Professor Sycamore is the main professor of the Kalos region having been taught by Professor Rowan. Similar to him, he focuses on evolution, but more specifically mega-evolution through the use of mega-evolution stones that periodically enable Pokemon to evolve into greater forms.

Serena

Serena is a Pokémon Performer and a former traveling companion of Ash in the Kalos region. She later becomes a successful Pokémon Coordinator who specializes in creating bonds between humans and Pokemon.

Resources

https://bulbapedia.bulbagarden.net/wiki/Main_Page

<https://gamerant.com/>

<https://www.thegamer.com/>