Force Fields

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Overview

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Plan and Implementation

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Cons

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Opinion

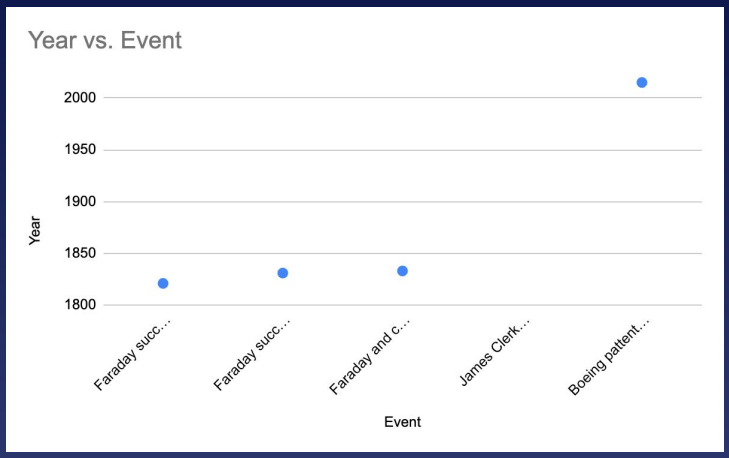
History

- Michael Faraday coined the term “field”
- Faraday could not express theories as equations
- Used in science fiction since 1900s
- Used in many movies

Michael Faraday in his lab

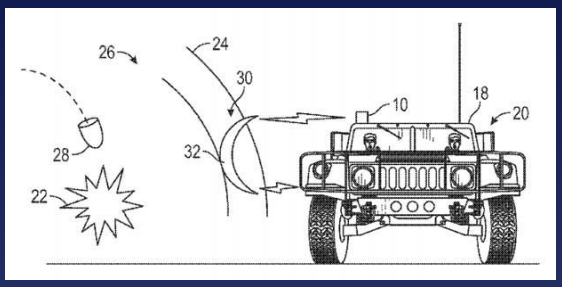
The history of the concept of force fields dates back to the 1900s. It was first used in science fiction stories where force fields could be used by the characters to protect themselves. Michael Faraday was the first person to use the term “field” in an electromagnetic perspective. Although he didn’t have the idea of force fields, his work on electricity and electrochemistry provided a crucial background on the development of the idea for force fields. Faraday, however, was not able to express his theories in mathematical terms. His inability to prove his theories in mathematical terms shows how difficult it would be to do the same for a force field. This means that creating a force field would be immensely difficult. Nowadays, force fields are used in many movies and books such as Star Wars and Harry Potter.

Timeline


Year vs. Event
2000
1950
1900
1850
1800
Year
Faraday succ...
Faraday succ...
Faraday and c...
James Clerk...
Boeing patent...
Event

Plan

- Use lasers, electricity, and microwaves
- Heat up the air to create plasma shield
- Shield will be denser than surrounding air
- Deflect or absorb energy



Boeing has proposed a system that uses a combination of lasers, electricity, and microwaves to create a plasma shield. This shield will be denser than the surrounding air and will be able to deflect or absorb energy from shockwaves.

Implementation

- Designed to protect a target
  - Protect military vehicles
  - Buildings
- Deflect certain objects
  - Missiles
  - Explosive devices
- Build bridges and barriers

There are many possible implementations of force fields. Force fields could be used to protect people/things from explosions, debris, and other threats. Hospitals and schools could be protected from missiles dropped down on them. They could also be used to make bridges, barriers, and many other solid things out of thin air. Instead of spending months or years of construction on a bridge, a force field could be put in place to create a bridge almost instantly. Creating force fields that have all of these uses has proven to be difficult. However, Boeing has a developed a force field that can protect things (designed for protecting military equipment) from the shockwaves following explosions. They are not meant to prevent direct impact. Although these force fields do not do what most people would envision them to, they are still a step forward to having the force fields that can do much more.

Who/what it will Impact

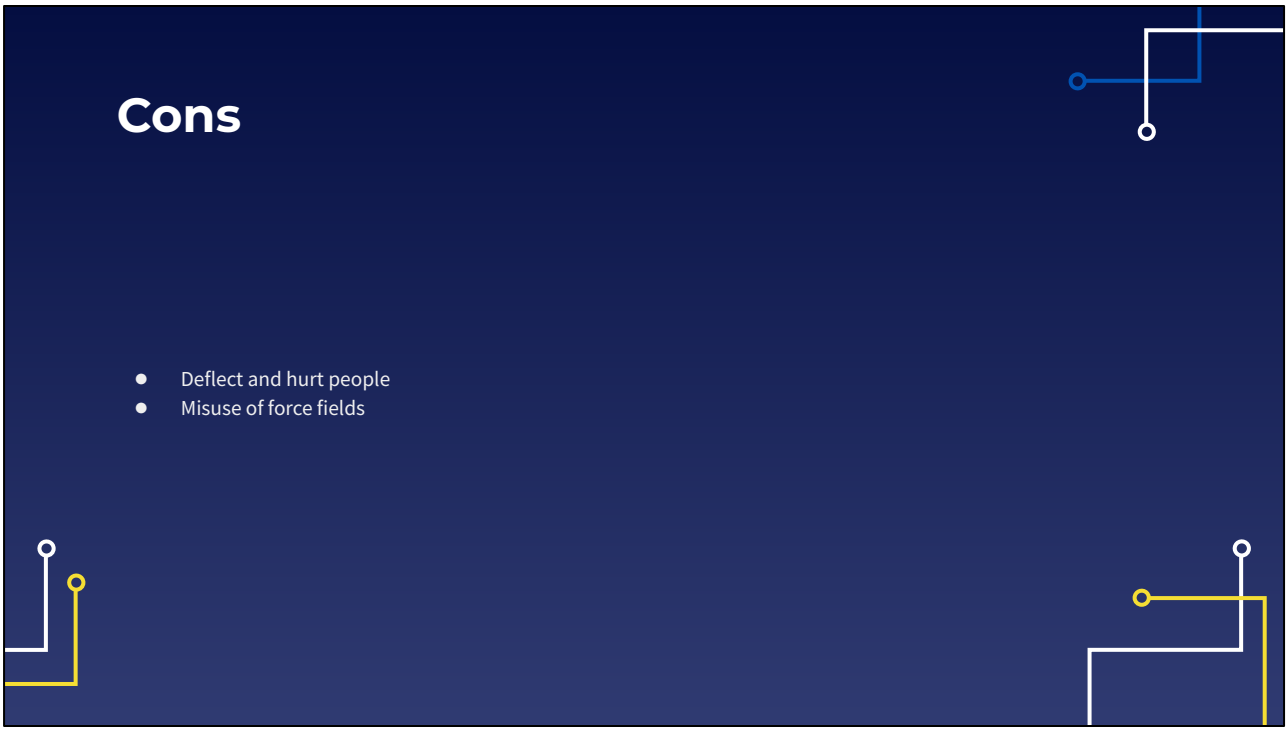
- Military
- Schools
- Hospitals
- Everyone

Force fields would impact many people and things. Some examples of this would be military, schools, hospitals, and people. Force fields would impact military by protecting military vehicles that are carrying both people and expensive military equipment. Schools would also be impacted because they would be safe from bomb and missile strikes. This would also be true for hospitals. In general, everyone would be impacted by force fields because of their ability to protect and create barriers.

Pros

- Many more people would be protected
- Less money spent on rebuilding
- Safer communities

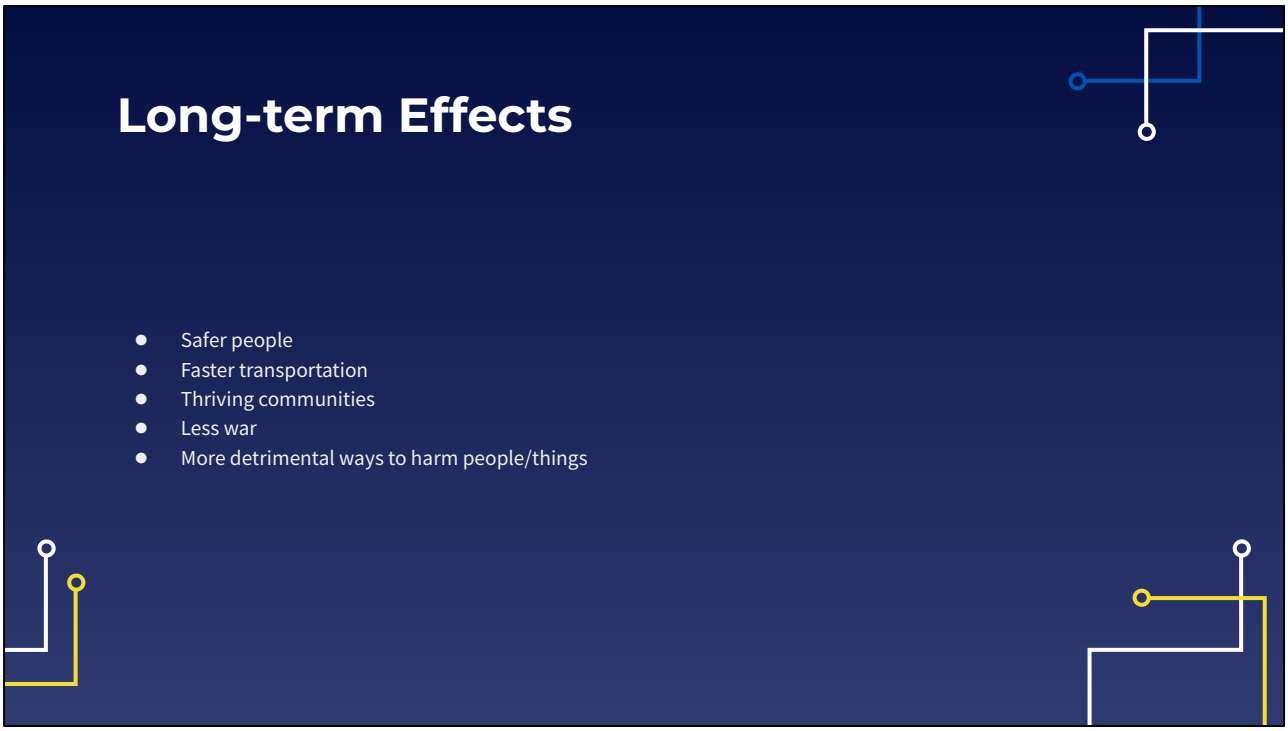
Force fields would be very beneficial. Many more people would be protected because they would be safe from the impact of bombs, missiles, and intruders. More buildings would be protected from the damage as well, leading to much less money being spent on rebuilding infrastructure. Having force fields could allow people to protect themselves and their homes, leading to overall safer communities. In general, force fields would have many beneficial implementations.



Although force fields have many pros there are also cons to them. For instance in a military setting if some people are on the field and are not protected by the force field, the enemies attacks could be deflected off of the force fields and then hit troops of our own. Another con is misuse of force fields. For example if the technology of force fields gets into the wrong hands it could be used against people.

Summary

- Faraday was first to use “field”
- Used in fictional settings since 1900s
- Boeing created first force fields
- Used to protect people/things
- Could be misused



Force fields would have many long-term effects. People would be safer, leading to increased collaboration in communities. Communities would thrive because people would be more comfortable going out and contributing to it. There would also be faster transportation, which would likely lead to people traveling to farther places more often. This could increase greenhouse gas emissions in the atmosphere because of increased car use. This may be a stretch, but it is also possible that there would be less war due to force fields. This could be because countries would not attack each other as much because they would not cause any damage. This is unlikely though because there are other ways to sabotage a country.

Opinion

- Force fields are good
- Help many people
- Less money spent
- Pros outweigh the cons

Sources

Michael Faraday | Science History Institute

Boeing Has Patented a Plasma 'Force Field' to Protect Against Shock Waves : ScienceAlert

Thumbs up photo

School

Force Field

Happy people