

## How to communicate danger 10,000 years into the future

The Waste Isolation Pilot Plant (WIPP) is the nation's only permanent underground repository for nuclear waste. Radioactive byproducts from nuclear weapons manufacturing and nuclear power plants. WIPP was designed not only to handle a waste stream of various forms of nuclear sludge, but also more mundane things that



interacted with radioactive materials, such as tools and gloves.

WIPP, which is located deep in the New Mexico desert, was designed to store all of this radioactive material and keep us all safe from it.

Eventually, WIPP will be sealed up and left alone. Years will pass and those years will become decades. Those decades will become centuries and those centuries will roll into millennia. People above ground will come and go. Cultures will rise and fall. And all the while, below the surface, that cave full of waste will get smaller and smaller, until the salt swallows up all those oil drums and entombs them. Then, all the old radioactive gloves and tools and little bits from bombs –all still radioactive– will be solidified in the earth's crust for more than 200,000 years. Basically forever.

Storing something safely forever is a huge design problem; in fact, the jury's still out on whether WIPP has solved the basics of the storage problem at all. In February of 2014, [a leak was detected at WIPP](#) which exposed several workers to radiation and WIPP has been closed since. The Department of Energy now predicts that it could be up to three years before WIPP is fully operational again.

We know these facts because we can look them up and read the news in a shared language. The problem that the aforementioned panel was convened to address was how to communicate this information to people *10,000 years in the future*.

This WIPP site is going to be radioactive for hundreds of thousands of years, though this panel was only responsible for keeping this place sufficiently marked for

humans for the next 10,000 years—thinking beyond that timeframe was thought to be impossible.

Though 10,000 years in the future is still fairly inconceivable. 10,000 years ago, the biggest new technology spreading across the planet was *farming*. Culturally, we share almost nothing with people alive back then. Who knows the world will look like 10,000 years from now?

The panel began by thinking about language. But language, like radioactive materials, has a half-life. Beowulf, from only 1,000 years ago, is incomprehensible today.

The panel also considered symbols, which seemed like they might be more universal. A smiley face seems to have a global appeal. And face logos have already been used as warnings but symbols' meanings change over time as well.

**Your assignment:**

Decide how to communicate danger to people 10,000 years into the future. An effective approach will clearly communicate that people should stay away from the area even if language, culture, and symbols are nothing like they are today in the future.

Can you find a “universal” way to communicate with future humans?