

# Innovation

## Beware of the magnet

A TEAM at the naval medical research institute in Bethesda, Maryland, may have made scores of scientific experiments suspect – much to the irritation of colleagues whose work is now open to question.

Changes in the weak magnetic field of the earth may cause gene mutations, the team says. Apart from the value of their discovery itself, this means that all studies ever conducted on tissue cultures close to an electric fan, for example, or a small motor or near fluorescent lights, may have been tainted by small magnetic field changes, and should probably be done again. These conditions would probably apply to quite a lot of laboratories.

The team's experiments were performed with human cells called fibroblasts. Tissue cultures were studied while being subjected to magnetic fields of a wide range of frequencies. The lowest level of magnetic field used was less than that of the earth, and still it had an effect – proving that the earth's field is strong enough to have the same effects.

The scientists discovered that the magnetic fields were affecting the manufacture of DNA in the tissues, which would mean that genes could be expected to undergo mutations.

This would open up what the team calls "a new type of mutational force", which could be the explanation, for example, of the extinction of whole species of animals when the earth's magnetic field suddenly reversed its direction, which has happened repeatedly in the history of the planet.

So has the team been bombarded with hate mail from disgruntled experimenters around the globe?

"They really should do the work again," says the head of the team, Dr A R Liboff, now of Oakland University, Michigan. "There is a definite threshold for these phenomena, and if cells are subjected to magnetic fields over that level, they are likely to mutate. But they'll probably be very dignified about the whole thing and ignore the implications."

Robert Temple