THE (IN)FAMOUS TOXINS

Some human made substances can have very severe consequences, and be extremely harmful to living organisms and endanger whole ecosystems, even in relatively small doses, such as

DDT

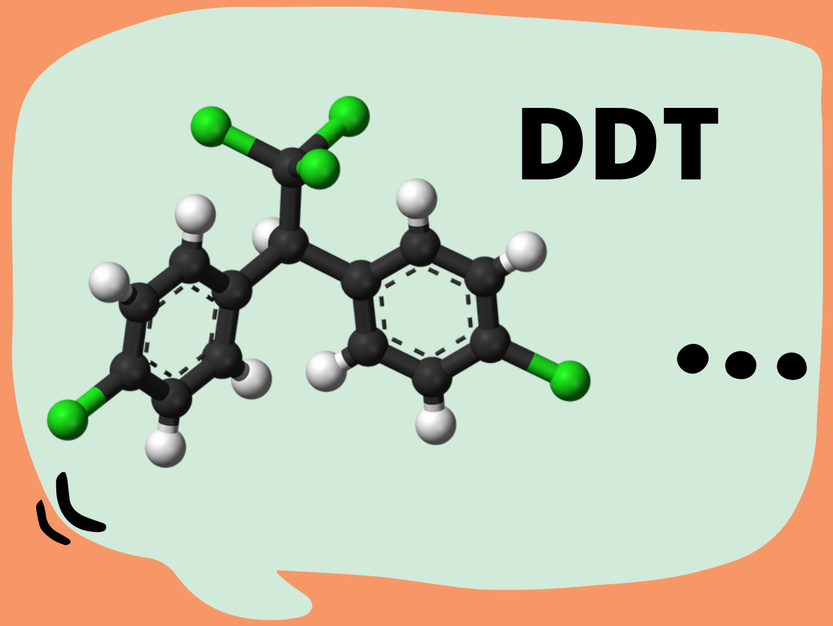
dichloro diphenyl trichloroethane
DDT was used widely in the mosquito control effort
easily becomes embedded into the fat stores of animals where it can remain for many years

MERCURY

especially harmul in its organic form - methylmercury

PCB'S

organic chemicals consisting of carbon, hydrogen and chlorine atoms
PCBs do not readily break down once in the environment. They can remain for long periods cycling between air, water and soil



Scientists claimed it
was completely safe.

In 1948 Dr. Paul Müller
was awarded the Nobel Prize for Physiology or Medicine in 1948 “for his discovery of the high efficiency of DDT as a contact poison against several arthropods

DDT
was used widely in the mosquito control effort to fight MALARIA.

People sprayed DDT on fields and even on the walls and ceilings of houses and
public buildings.

DDT stays in environment for a very long time, it's half life is 15 years

Health Risk

For Humans:

- The effects of DDT on humans is much less noticeable than those on animals, DDT *can* affect hormone production, but it is very rare

For Animals:

- In animals, especially egg laying animals, there is a considerable difference in egg shell thickness as the DDT concentrations increase in an ecosystem
- DDT can be an endocrine disrupter which causes hormone receptors to connect to DDT instead of other hormones

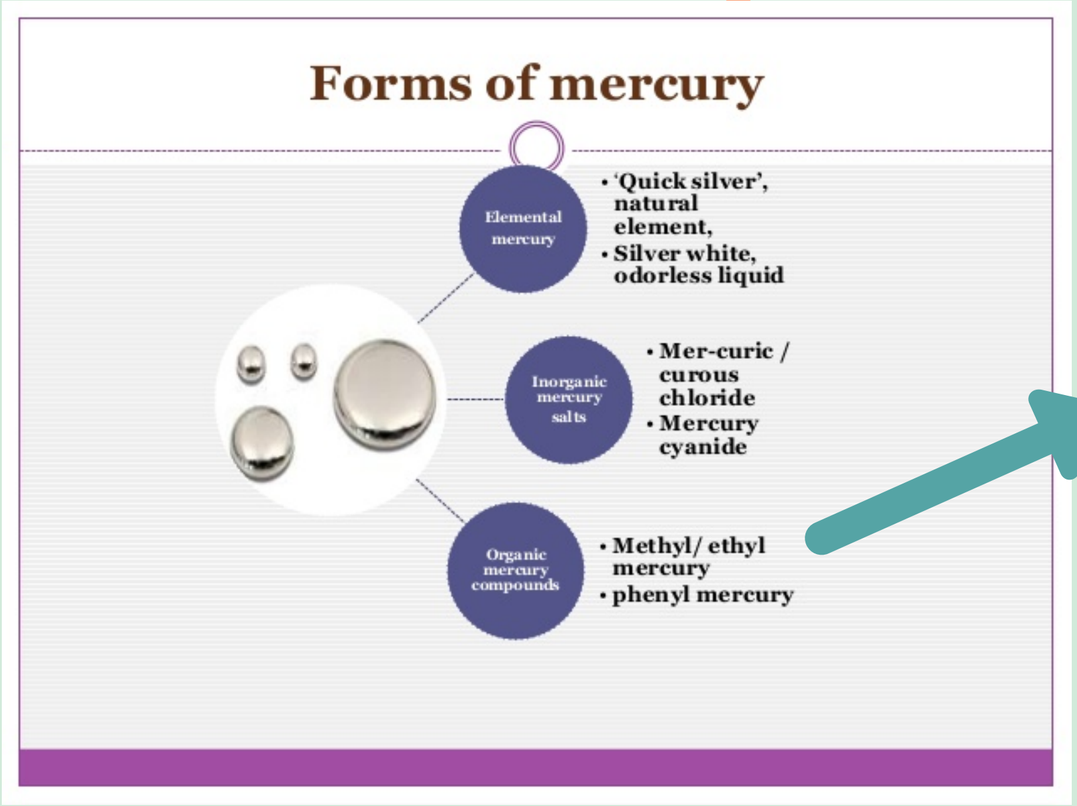
A worldwide ban on agricultural use in effect since 2004, but DDT

is known to be very persistent in the environment

will accumulate in fatty tissues

can travel long distances in the upper atmosphere.

MERCURY (Hg)



Methylmercury
is formed from inorganic mercury by the action of microbes that live in aquatic
systems

Its is composed of a methyl group (CH3-) bonded to a mercury ion
It's a main form of mercury to which environment and humans are exposed

Erethism is a neurological disorder which affects the whole central nervous system. This is also sometimes known as the mad hatter disease. Historically, this was common among old England hatmakers who used mercury to stabilize the wool in a process called felting,

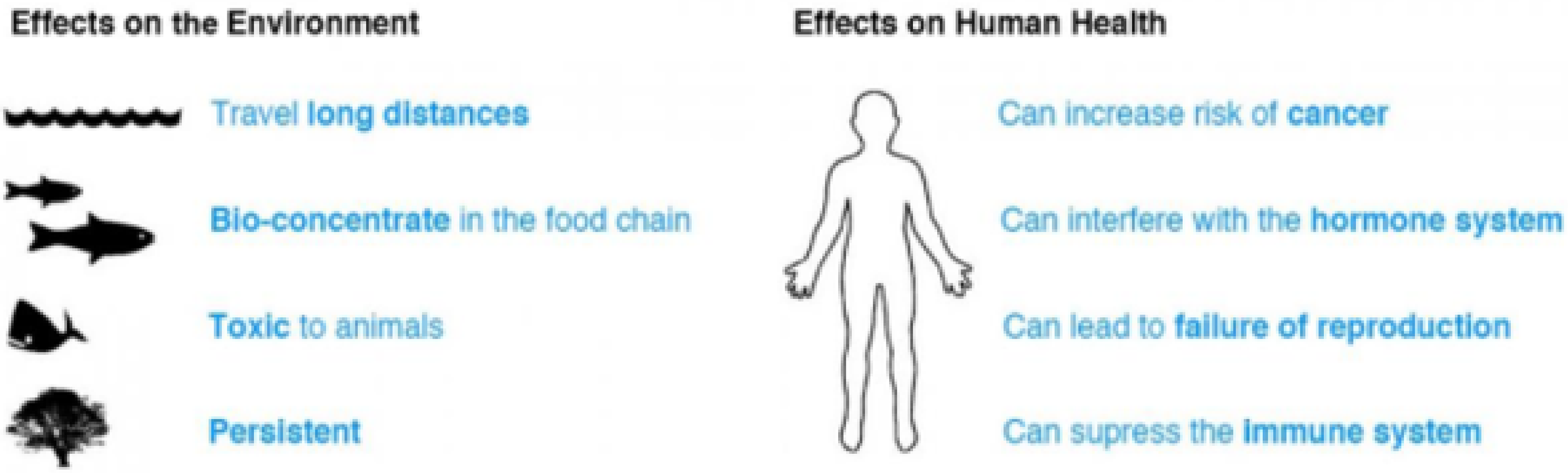
Symptoms are: irritability, low self-confidence, depression, apathy, timidity, and in some extreme cases with prolonged exposure to mercury vapors, delirium, personality changes and memory loss occur as a result.

Some physical problems arise as well, including a decrease in physical strength

PCBs - polichlorinated biphenyls

PCB were produced in large quantities between the 1930s and 1980s. They were used in closed applications, such as transformers and capacitors (typically as part of electric power transmission systems), and in open applications such as paint, buildings, installations and machinery.

PCBs can be found worldwide. In the 1960s, when initial research results were released, traces of PCBs could be detected in people and animals around the world – not only in heavily populated areas such as New York City, but also in remote areas as w as the Arctic. These findings of such widespread and persistent contamination contributed to the banning of the chemical in 19



PCBs have been demonstrated to cause a variety of adverse health effects. They have been shown to cause cancer in animals as well as a number of serious non-cancer health effects in animals, including: effects on the immune system, reproductive system, nervous system, endocrine system