

Whodunnit?

& the science of arsenic assassination



At the time of Napoleon's death, arsenic poisoning accounted for around 40% of all murders in France. It came to be known as 'inheritance powder' due to how popular it was for killing one's own family.

The great thing about arsenic (if you're a murderer) is that it looks very similar to sugar and is almost impossible to taste when added to food. This, added with the fact that it is most effective when given in frequent small doses, meant that if you had access to somebody's food supply you could almost certainly kill them without the person realising until it was too late.

Once inside your body, arsenic acts by inhibiting an enzyme known as PDH (pyruvate dehydrogenase) which is a key part of the Krebs's cycle during respiration. This means all the air you breathe in and food you eat becomes less and less effective at giving your body energy. Essentially, arsenic slowly suffocates you from the inside out.

The principal symptoms include: vomiting, nausea, indigestion and weight loss.

In 1980, during a radio broadcast for the BBC, David Jones, a professor of chemistry, asked if on an off chance anybody listening knew the colour of the wallpaper in Napoleon's room on St Helena.

Nothing happened for a few days until a lady came forwards claiming to know the colour. Amazingly, not from seeing it or hearing about it, she actually had a sample. The wallpaper clipping contained a single star, made up of gold and the other imperial colour, green.



Killer Green

The popular pigment of the time used to make the green in Napoleon's wallpaper was known as Scheele's Green. The pigment was cheap and easy to make but had one fatal flaw, it was made from copper arsenite. This was fine by itself and wouldn't cause anybody any harm were it not for the ever-present influence of fungi.

If Scheele's Green is damp and warm (exactly like the conditions on St Helena) it becomes a perfect breeding ground for fungal growth. The fungal spores that grow perform a nifty trick that turns the copper arsenite into a deadly mixture of arsine, dimethyl and trimethyl arsine.

Napoleon spent almost all of his final days locked up inside his room. He built a trench surrounding his quarters to stop any guards from watching him and even poked eyeholes through his wall from which to watch people. His presence on the island almost vanished and many people remark not seeing him at all during his final year on the island.

On top of this many people on the island complained of 'bad air' and feeling nauseated. Napoleons butler also died shortly before him, suffering before he died from symptoms conspicuously similar to, you guessed it, arsenic poisoning.

It seems that, like many people through history, Napoleon may have suffered from underestimating the power of fungi. Falling not in glorious battle, but holed in inside his room, a victim of his own wallpaper.