

Phosphorus...

Marysia Kratimenos traces the history of this essential element and profiles the remedy

Phosphorus is found in the form of phosphates in both the animal and plant kingdoms. It is essential for the normal functioning of the nervous system, the manufacture of proteins including DNA, the metabolism of foods and the release of energy (photosynthesis in plants.) It activates the vitamin B complex. Most Phosphorus in the body is in bone, as calcium phosphate, but large amounts are also present in the brain, muscles and red blood cells. Phosphate deficiency is very rare as it is widespread in foods, but can occur in certain medical conditions. It can lead to muscle weakness, loss of appetite, joint problems, a bone disease similar to rickets and problems with nerve conduction and brain function.

Phosphorus was first isolated in 1673, by Brandt, an alchemist in Hamburg, and shortly afterwards by Kunkel in Saxony. After distilling vast quantities of human urine with various chemicals, Brandt was left with a small amount of a brilliantly luminescent material, which was thought to be the elusive Philosopher's Stone. Although, it lacked the potential to create gold, Phosphorus rapidly became an integral chemical in the alchemists' repertoire. The name Phosphorus comes from the Greek, meaning the bringer of light. In alchemic

circles it was known as the Morning Star, the planet Venus. Its unique properties led to many scientific papers being published about it and its potential medicinal uses.

Robert Boyle, the father of modern chemistry was fascinated by Phosphorus, and his research into it brought about the separation of alchemy from the more "scientific" chemistry.

Following its discovery attempts were made to discover its medicinal properties. Kunkel made it into "luminous tablets" which were reputed to heal epilepsy and melancholia (depression). Paracelsus also used Phosphorus and Hahnemann was deeply influenced by his work.

In the 18th century Phosphorus was found to assist in the treatment of tuberculosis. Phosphorus water, a less toxic form of the element rapidly gained respectability in medical circles. In 1921 the American Medical Association recommended it for the treatment of anaemia and to facilitate new bone formation. It appeared in the British Pharmacopoeia as late as the 1950s, as treatment for nervous exhaustion, depression, pneumonia, impotence and certain eye conditions. The tonics, Sanatogen and Metatone still contain glycerophosphates. These chemicals are



Picture: Detail of The Alchemist by Joseph Wright, Derby Museum and Art Gallery/Bridgeman Art Library

When Phosphorus was first discovered it was thought to be the elusive Philosopher's Stone sought by alchemists

responsible for the uplifting effects of these health tonics.

Friedrich Nietzsche, the philosopher, developed a theory that personality is dependent on the chemicals in the body. He believed that if Phosphorus were lacking, nervous exhaustion and depression would result. Predictably, his ideas were dismissed as the rantings of a madman, but recent advances in psychological medicine are starting to validate his thoughts. The new anti-depressants act by altering brain chemistry.

The devil's element

There is a darker side to Phosphorus, hence its reputation as the devil's element. It is highly inflammable and thus an essential ingredient in fireworks. It is used in the manufacture of matches, originally called Lucifer sticks. Originally the more toxic white phosphorus was used, nowadays it is red phosphorus. Those working in the match-making factories were exposed to high doses of the chemical and many developed phossy

jaw as a result. This horrific condition is characterised by the rotting of teeth and the jaw bones, leading to appalling pain and infection.

Phosphorus has many military uses; it was used in the First World War as a smoke screen. The billowing clouds masked troop movements. The Molotov cocktail utilises Phosphorus' incendiary properties. In 1943 Phosphorus bombs were dropped on Hamburg, the city where it was discovered.

The nerve gases Sarin and Tabun are phosphorus compounds. They act by interfering with the body's nervous impulses. Both were developed by German scientists looking for new fertilisers. Intensive farming leeches Phosphorus from the soil and the resulting crops suffer. The Black Death of the 14th century led to the death of a third of England's population. It is believed that it had such a devastating effect because the people were suffering from malnutrition brought on by years of such intensive farming. Crop rotation and leaving a field fallow improves the soil and these measures were brought in after the plague.

As the population grew it became essential to find more practical methods of improving soil quality. Erasmus Darwin, the grandfather of Charles, advocated the use of bone ash, compost and manure – natural sources of essential plant nutrients, which are still used today in organic farming. Commercial farmers rely on industrially prepared phosphates.

Phosphates are major food additives, used to prolong shelf life, emulsify fats and as raising agents in baked goods. Phosphoric acid in cola drinks

provides the tangy taste, and the “high”. Phosphates are used to bind fluoride in toothpaste. Recent work published in the respected medical journal, *The Lancet*, proves the long held belief that certain food additives exacerbate hyperactivity and attention deficit disorder. Excess phosphate intake from junk foods leads to problems absorbing iron, calcium, magnesium and zinc. The exclusion of additives and preservatives from the diet has a beneficial effect on many conditions, including eczema and asthma.

Phosphorus replaced Arsenic as the main ingredient in rat poison and as a consequence was used in murders. Poisoning led to liver failure and the subsequent haemorrhages, a raging thirst, the smell of garlic on the breath, diarrhoea, convulsions and kidney

failure. The fact that the organs glowed in the dark led to early arrests, and Rodine was banned under the 1963 Animals (Cruel Poisons) Act.

The concept of spontaneous human combustion has fascinated people ever since Charles Dickens wrote *Bleak House*. Many are actually murders or accidents, but there are several cases, which defy logical explanation. It is believed that after ignition takes place, the body acts rather like the wick of a candle, so that the surrounding room is left undamaged while the person is almost completely reduced to ashes. Phosphorus has been implicated. It is used in fire-retardant fabrics especially nightwear. Treated clothing smoulders and the fire is directed towards the body.

The gut produces large amounts of phosphane gas



Greta Garbo as the consumptive heroine, Marguerite Gautier, in the film Camille, brought Phosphorus to life for homeopaths

Photo: bfi Stills

that is highly combustible. The source of the original igniting spark in these incidents is debatable. Farmers are aware of spontaneous ignition of haystacks, again due to the accumulation of phosphane gases. It may be that something similar is occurring in spontaneous human combustion.

“Will o’ the wisp” may also be explained by this natural phenomenon, and the “ghosts” seen in churchyards. These may be nothing more than escaping luminescent gases, which are interpreted as ghostly apparitions by those with a fertile imagination. Indeed clairvoyants and mediums of the last century used phosphorus paints to create atmospheric luminescence in séances.

Phosphorus... the remedy

Phosphorus was introduced into homeopathy by Hahnemann, and he performed the earliest scientific experiments on it. As like cures like, a study of the toxicology of the element rapidly reveals its curative nature. The early physicians have long identified the potential uses of red phosphorus. By using the potentised form of the element, homeopathy reaps the therapeutic benefits without the toxic dangers.

The constitutional picture of Phosphorus was described by Kent in the 19th century. Many authors have elaborated on this model and added a psychological profile of the Phosphoric type.

The Phosphoric individual is pale, anaemic, with full red lips, thin with a narrow high arched chest: the appearance

typical of someone suffering with tuberculosis.

Romantic literature of the 19th century is full of Phosphoric heroines. Dumas’ *La Dame aux Camelias* is a notable example. Greta Garbo gave a brilliant portrayal of the consumptive heroine, Marguerite Gautier, in the Hollywood film and brought Phosphorus to life for homeopaths.

The constitutional Phosphorus is extrovert, bright, lively, with sparkling eyes and a charismatic nature. One feels invigorated in her company. She is intensely sympathetic and acutely sensitive to mood, atmosphere and all sensory impressions. She is impressionable and clairvoyant. She is imaginative and bubbly, the typical “bright young thing”.

Mia Farrow as Daisy in the film of Scott Fitzgerald’s *The Great Gatsby* demonstrates the shadow side of Phosphorus. Daisy is a social butterfly, narcissistic and highly-strung. Although she probably loves Gatsby in her way, self-preservation and self-interest take precedence. Her character is shallow and emotionally immature; she is incapable of the intensity of love that Gatsby feels. In difficult situations, she falls apart, descends into histrionics and demands intense sympathy and support from others. She needs protection from the harsh realities of life. After the drama of Gatsby’s tragic death, Daisy continues her life as though nothing had happened; the ugly events do not fit into her idealistic view of the world. It is as though Gatsby never existed.

Just as with the element there is a darker side to the personality. Being so open, the Phosphorus type is prone to fears, anxieties and the result

of a vivid imagination. There is a great fear of the dark, the supernatural, fire, storms, disease and death. The element Phosphorus is unstable; it rapidly turns into the gaseous form when exposed to air. Likewise, the Phosphorus archetype lacks boundaries on every level. The intense sensitivity to “other worlds” and the fears are one expression of this lack of personal boundaries.

This tendency extends on a physical level too. There is a bleeding tendency leading to nosebleeds, bleeding gums, heavy periods, bruising, and clotting disorders, which can result in anaemia.

Just like a match, the Phosphorus personality is prone to burn out. This may be emotional, leading to depression or nervous exhaustion, or physical illness may result. A dose of Phosphorus rapidly restores the spark.

As a tubercular remedy, there is a tendency to upper respiratory complaints: sore throat, hoarseness, bronchitis, asthma and chest infections. The bleeding tendency leads to blood streaked sputum, and the pains are burning in nature. There is a deterioration of the condition as dusk approaches, and the patient becomes fearful, craving company and sympathy.

In expert medical hands Phosphorus may be used to treat serious disease, such as epilepsy, liver conditions, including hepatitis, arthritis and destructive bone diseases. Phosphorus is an immensely important remedy in homeopathy, one of our desert island remedies. It is full of contradictions, as gentle and loving as an affectionate kitten yet as dangerous and destructive as the deadliest of poisons.

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