Case histories
Epilepsy

Whoever wrote the Hippocratic treatise *On the Sacred Disease*—almost certainly not the historical Hippocrates—had an eye for an ironic title. This short text is a manifesto for the secular, materialistic medicine we associate with the Hippocratics, and a blistering attack on the claims of ancient Greek folk healers and "temple medicine". The sacred disease—a condition characterised by fits, foaming lips, and loss of consciousness—was not, the author argued, caused by a demon or a heavenly thunderbolt, but was the result of a blockage in the flow of chilly phlegm around the body.

Why has epilepsy so often been associated with possession, prophecy, and mystery? Roy Porter cites "its shocking violence and the traditional impotence of the medical profession", while Andrew Scull argues that epilepsy's position "on the borderlands of insanity" has generated powerful and competing natural and supernatural accounts of the condition. Pliny the Elder tells of Roman epileptics drinking the warm blood of gladiators killed in the arena, while folk remedies sought to expel evil spirits with repulsive smells, or drew on the sympathetic magic of mistletoe twigs and berries, and as late as the 1770s the German priest Johann Gassner was exorcising epileptics.

In the 19th century, a constellation of theoretical and social factors transformed clinical views of epilepsy. The anatomo-localism of Paris medicine, and the emergence of neurology and psychiatry as overlapping and competing domains, provoked a complex set of debates over the nature and aetiology of epilepsy—a history elegantly unpicked by German Berrios. Should epilepsy be considered a form of madness or a somatic disease? Was it a disorder of tissue damage or faulty reflexes? Did its seat lie in the peripheral nerves, the spinal cord, or the cerebral hemispheres?

These questions captured the attention of leading researchers across Europe—Charles-Edouard Brown-Séquard and Jean-Martin Charcot in France, Richard von Krafft-Ebing in Germany, Marshall Hall in the UK—but the most compelling model of epilepsy emerged from the National Hospital for the Paralysed and Epileptic in London. Its resident physician, John Hughlings Jackson, initially drew on Brown-Séquard's theory of epilepsy as a spinal reflex gone wrong, but in *A Study of Convulsions* (1870) he presented a new view of epilepsy rooted in the brain, an "excessive and disorderly discharge of nerve tissues on muscle". In 1884 the surgeon Victor Horsley tried to put Jackson's work into practice, removing scar tissue from the brains of patients who suffered seizures after head injuries, though with only limited success.

While Horsley sought to cure epilepsy by heroic cutting, the institutional care of people with epilepsy was also changing. In 1867 a religious order opened the Evangelic Sanatorium for Epileptics, a self-sufficient farming community, near Bielefeld in Germany, and for the next half-century those suffering severe seizures were treated by segregation in special colonies or schools (and often dosed to the point of toxicity with bromide salts). But late 19th-century scientific, cultural, and political anxieties over degeneration established an enduring association between epilepsy and hereditary weakness. Many US epilepsy colonies enforced eugenic legislation intended to prevent the so-called "feeble-minded" from reproducing, and until 1970 chronic epilepsy could be grounds for divorce in the UK.

For most of its history epilepsy referred to what would now be called grand mal seizures, but in the 20th century clinicians identified a host of other forms. Using electric probes to stimulate the cortex, the American–Canadian neurosurgeon Wilder Penfield showed that epileptic hallucinations and absences originated in the temporal lobes, and from the 1950s neurologists noted a connection between temporal lobe epilepsy and gradual personality changes.

Early 20th-century physicians tried to ameliorate seizures with sedatives like phenobarbital, and the first effective antiepileptic, phenytoin, was introduced in 1936 (and is still in use alongside newer drugs such as gabapentin and topiramate). Surgery, too, remains a useful option for those suffering intractable seizures: Penfield and the neurologist Herbert Jasper developed the Montreal procedure, still in use today, in which electrical stimulation of the brain under local anaesthetic is used to identify and ablate epileptic foci. In the 21st century, the challenge facing medicine is to bring these therapies to the 80% of new cases arising in the developing world.

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Further reading

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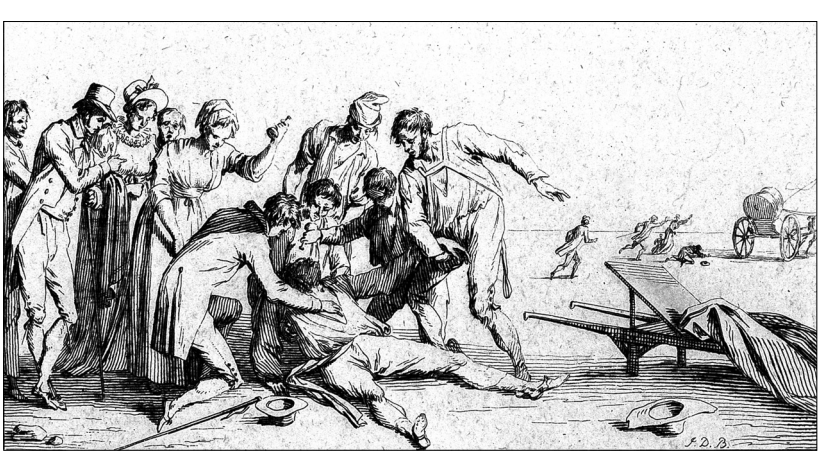
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