Case histories
Migraine

In 1870, the English physician Hubert Airy published a short essay in the *Philosophical Transactions of the Royal Society*. Airy described a new condition, "transient teichopsia", characterised by visual auras and "oppressive head-ache". Airy's article drew on testimony from some of the leading British scientists of the day, and included some of the most striking images in any scientific paper—jagged, spiralling depictions of auras. Airy presented teichopsia as an entirely new diagnosis, unconnected with the long-established disorder known, variously, as emigranea, megrim, or migraine.

Like so many diseases migraine acquired its name and an influential early frame in the classical tradition codified by Galen and others. "Hemicrania" denoted a blinding headache concentrated on one side of the head, caused by an accumulation of humours, and typically treated by soothing and warming the head. By the 19th century the condition was, in the words of the historian Katherine Foxhall, "highly gendered and classed". Clinicians and researchers took little interest in a disease they associated with overworked maids or female factory-hands, and patients were forced to turn to "the largely ignored realms of domestic recipe books, patent remedies and the classified pages of newspapers".

By framing the condition as the consequence of intellectual fatigue in well educated men, and by shifting attention to the visual symptoms, Airy and two 19th-century British physicians who followed him generated a radically new view of migraine. Edward Liveing described "megrims", like epilepsy and asthma, as a form of "nerve-storm", the body and the brain shaking off excess nervous energy. Peter Wallwork Latham, though, argued that the condition was vascular at root, with auras caused by contraction of the cerebral blood vessels, and headaches a result of reactive dilation.

In some ways the subsequent intellectual history of migraine is a tussle between elaborations of Liveing and Latham's views, but in the first half of the 20th century, broader factors pushed the condition back into the margins of clinical consciousness. Treatments remained elusive, and many sufferers found nothing better than aspirin, marketed by Bayer from 1899. New work on hormones and nervous reflexes, meanwhile, seemed to support the notion that migraine was a condition that mainly affected women.

From the 1940s, Latham's vascular hypothesis seemed to be in the ascendant. Influential research by the US neurologist Harold Wolff linked migraine headaches to vasodilation, and in 1946 the US approved treatments based on ergotamine derivatives. Within a decade, though, the balance of evidence began to shift back towards neurology, as various researchers suggested that migraines might be a chronic neurological disorder linked to paroxysms of cortical spreading depression. In 1959, the Italian neurologist Federigo Sicuteri showed that methysergide, an agonist for the newly discovered neurotransmitter serotonin, was effective in treating most migraine headaches. Methysergide was soon found to cause fibrosis, and was replaced with pizotifen, another serotonin agonist, on the market from the mid-1960s.

In the aftermath of World War 2, the spread of state-funded health care, the growing power of the pharmaceutical industry, and the emergence of patient campaign groups all drew attention to the prevalence of migraine across genders and age groups. Specialist migraine clinics in the early 1970s also changed public and clinical attitudes: migraine was no longer a matter of passive (and stereotypically feminine) endurance, but might be actively and effectively managed. New antiemetics made older analgesics more useful, while antiepileptics like sodium valproate proved valuable in prophylaxis. Importantly, sumatriptan, developed by Patrick Humphrey and his team at Glaxo and launched in 1991, was widely taken up as a first-line treatment, along with non-steroidal anti-inflammatory drugs (NSAIDs) like ibuprofen.

According to WHO data, migraine is, in the 21st century, the third most prevalent medical condition in the world. In many high-income nations, specialist migraine physicians and nurses have made long-term management more personalised and more consistent, but middle-income and low-income countries face the problem of access to and cost of treatment. Recent studies have highlighted the side-effects associated with overuse of acute medications like NSAIDs and triptans, while others have argued that the boundaries of the diagnosis may need to be redrawn. In the words of Giles Elrington, former medical director of the UK's National Migraine Centre: "Can we now be sure whether migraine is one disease or many?"

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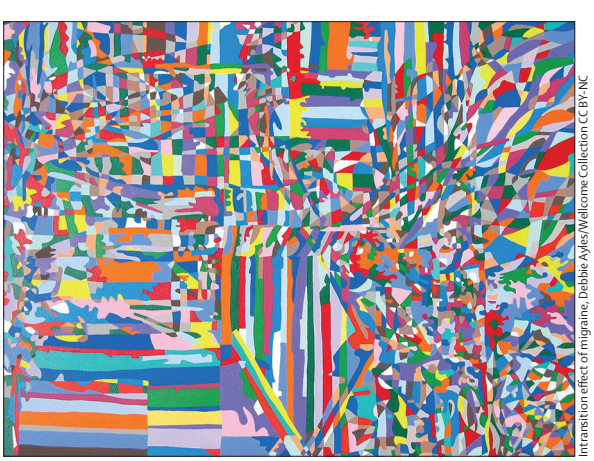

Intransition effect of migraine, Debbie Ayles/Wellcome Collection CC BY-NC

Adrian Roots

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For more on **migraine** see https://www.thelancet.com/clinical/diseases/migraine

Further reading

Airy H. On a distinct form of transient hemiopsia. *Philos Trans Royal Soc* 1870; **160:** 247–64

Foxhall K. Making modern migraine medieval: men of science, Hildegard of Bingen and the life of a retrospective diagnosis. *Med Hist* 2014; **58:** 354–74

Overy C, Tansey EM, eds. Migraine diagnosis, treatment and understanding c. 1960–2010: the transcript of a Witness Seminar held by the History of Modern Biomedicine Research Group, Queen Mary, University of London, on 28 May 2013. London: Queen Mary University of London, 2014