

## WILLIAM ALEXANDER, A FORGOTTEN LIVERPOOL PIONEER

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Science and medicine depend for their advance on active experiment, otherwise they remain static. However, it is only the great discoverers who enter the Valhalla of Science whilst the numerous lesser figures, playing minor but often crucial rôles, disappear into obscurity. Such a man was William Alexander.

William Alexander was born in Holestone, County Antrim, in 1844. He qualified in Medicine at Queen's University, Belfast, in 1870 and subsequently became a general practitioner in Rodney Street, Liverpool. Like a number of general practitioners in those days, he undertook surgical work and in 1878 became a Fellow of the Royal College of Surgeons. He was appointed as Visiting Surgeon to the Brownlow Hill Workhouse Infirmary and later to the Royal Southern Hospital. Brownlow Hill Infirmary had achieved some fame as the first workhouse infirmary to have a proper nursing school, that established by Agnes Jones. It was also where Josephine Butler started her pioneering work to relieve the sufferings of destitute women.<sup>1</sup>

The period from 1870 onwards were sad years for Britain and Lancashire and Liverpool were affected by the decline in the cotton trade. Large numbers were poverty-stricken and unemployment was rife. One group who suffered considerably were those with epilepsy, who were pushed to the back of the queue in the search for employment. In Victorian days there was no proper classification of epilepsy; it was still as much a mystery as it had been in classical times when it was known as the 'sacred disease' or the 'falling sickness', from which Julius Caesar suffered. William Alexander, always interested in the poor, had particularly noticed the predicament of epileptics and it was to them that he turned his attention.

Liverpool was a very charitable town and there were numbers of wealthy people who subscribed funds to the Charities Relief Society, on whose committee Alexander served as well as being its medical officer. He drew the attention of the Society to the plight of epileptics, seen as wretched people who were neither fish nor fowl, fitting neither into the hospital nor the workhouse. He reckoned that one in a hundred of the population were

affected but that there were probably more sufferers who managed to keep their problem secret.<sup>2</sup> He persuaded the Charities Relief Society and a number of wealthy individuals to open a home in Maghull, outside Liverpool, to cater especially for epileptics. This establishment was the first of its kind in Britain and expanded considerably in the following years.<sup>3</sup> Alexander was medical officer to the home and encouraged the interest of other eminent Liverpool medical men, such as E.R. Bickersteth and Dr. William Carter. Secondly, with his son, he encouraged research into epilepsy at the University through his connection with Sir Robert Boyce, the professor of pathology.

Thirdly, William Alexander tried experimental surgery. He thought that improvement of the malady might be obtained by ligature of the vertebral arteries and division of the sympathetic nerves. He can therefore be considered as a pioneer of surgery of the sympathetic system. The Ancients knew, of course, that some organs of the body worked without our willing them to do so; as Masfield puts it:

‘Which work, they know not why, which never halt,  
Myself unwitting where their master dwells...’

However, the sympathetic nervous system as such had attracted little attention until the late nineteenth century; although a few experiments had been tried on several sympathetic nerves, no general conclusions had been drawn. Alexander thought that control of epilepsy could be brought about by ligating the vertebral arteries with their vasomotor nerves. He carried out numerous such operations but without success. Equally unsuccessful, but entirely innovative, were his later experiments with the removal of the superior cervical ganglia of the sympathetic.<sup>4</sup>

In his excellent article on the history of the autonomic nervous system, Erwin Ackemecht states that ‘attempts to influence the vegetative system, especially the sympathetic, by surgical means, start probably with W. Alexander of Liverpool ligating the vertebral arteries in epileptics in 1889’,<sup>5</sup> thus highlighting Alexander’s pioneering rôle in this area. Successful sympathetic surgery, states Ackemecht, dates only from René Leriche (1916).

William Alexander was also an innovator in gynaecology. Until relatively recently it was thought that the position of the organs could cause symptoms; it was not uncommon to hear a patient say that he or she has a ‘dropped stomach’. In this belief, symptoms were ascribed to a retroverted uterus. Alexander invented an ingenious operation to pull the uterus forward by shortening the round ligament, thus avoiding the need to open the abdomen.<sup>6</sup>

In addition to all his numerous activities, Alexander continued to carry out the duties of a general practitioner.<sup>7</sup> Later in life he lived in Heswall where he was buried in 1919 in the same grave as his son who had predeceased him.

Any city could be proud of such a man who was far ahead of his time and whose work clearly merits a fuller exposition.

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### Notes and references

1. J.C. and J.A. Ross, *A gifted touch* (Churchman, Worthing, 1988).
2. My own father attended a bank manager who was afraid of his secret being known; fortunately his attacks were mild and he escaped detection.
3. J. Barclay, *The first epileptic home in England* (privately published, n.d.).
4. W. Alexander, *The treatment of epilepsy* (Portland Young, Edinburgh and London, 1889).
5. E.H. Ackernecht, 'The history of the discovery of the vegetative (autonomic) nervous system', *Med.Hist.*, 18(1974), pp.1-8.
6. W. Alexander, *The treatment of backward displacements of the uterus and of prolapsus uteri by the new method of shortening the round ligaments* (London, 1884). The operation is known as the Alexander-Adams Operation since it is also described by Adams.
7. My father told me that he once met him on the Mersey Ferry when both were going on the same mission, to examine patients for life insurance.

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