

David Bayford

His syndrome and sign of dysphagia lusoria

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Summary

David Bayford (1739–90) was an unobtrusive medical worthy of the age of William and John Hunter, with each of whom there are documented links. From 1761, when he obtained the Membership of the Company of Surgeons, to 1782 he practised as a surgeon in London, though he was defeated by John Hunter in his bid for election to the staff of St George's Hospital in 1768. In 1782 he proceeded to the MD, granted by the Archbishop of Canterbury, when he removed to Lewes in East Sussex, where he practised as a physician. He later became disfranchised by the Company of Surgeons in order to obtain the Licentiate of the College of Physicians.

In 1761, while still an apprentice surgeon, he made his discovery of the unique and bizarre cause—compression of the oesophagus by an aberrant right subclavian artery—of a fatal case of 'obstructed deglutition' for which he coined the term 'dysphagia lusoria' and for which he is eponymously remembered. This discovery remained unrecorded until 1787, when a paper describing the case was read on his behalf before the Medical Society of London.

Introduction

David Bayford was born in an unrecorded part of Hertfordshire, presumably in 1739 as his age was given as 51 when he died on 11th April 1790 at his London home in Hill Street, Berkeley Square, where he had come to live a few months earlier after leaving his previous residence in Lewes, East Sussex. Apart from a brief obituary notice in the *Gentleman's*

Magazine, which ended with the words 'much regretted by all who knew him', little record remains of the details of Bayford's life. His name survives solely eponymously. His birthplace was probably in or near Linton, on the border of Cambridgeshire, which he visited in 1761 and where he made his original discovery.

As with many medical men of this period whose activities did not attract public attention and who lived unobtrusively there is a paucity of information about him*. Nothing is known of his formative years and the core of verifiable facts is centred on the records of his diplomas, degrees, academic and public appointments, and his publications, of which there are only two. Neither the year of his birth nor that of his death appears in the records of the Royal Society or the College of Physicians, while the *Dictionary of National Biography* does not include his name. No portrait of him has survived.

The first known landmark in Bayford's life is the year 1759 when, at the age of 20, having decided to become a surgeon, he became apprenticed for two years to Mr Bromfield, Surgeon to St George's Hospital. In the examination book of the Company of Surgeons there are two entries concerning Bayford. The first is on 4th January 1759, when it is recorded 'David Bayford to Mr Bromfield', which presumably means that he became Mr Bromfield's apprentice in that year, having previously been apprenticed to someone else. The second entry states that on 16th July

* Asherson, N (1952) Dysphagia lusoria, *Journal of Laryngology and Otology*, 57, 111.

1761 David Bayford was examined and approved by the Great Diploma (that is, of Membership of the Company).

Dysphagia lusoria

In February 1761, before the completion of his apprenticeship (which occurred in July), Bayford visited a colleague, Dr Lucas, the medical officer in charge of the workhouse at Linton, Cambridgeshire, and was present there when an emaciated woman of 62 died of 'obstructed deglutition' of many years' standing. Bayford attended the autopsy at which, at first, Dr Lucas could find no cause for the dysphagia.

Bayford, with the optimism and enthusiasm of youth and an enquiring and prepared mind, reviewed the autopsy findings and was successful in detecting the cause of the obstruction as being an aberrant right subclavian artery which arose from the left side of the arch of the aorta, its last branch passing, on its way to the right upper extremity, between the trachea and the front of the oesophagus, compressing its lumen to cause the obstructed deglutition*. The gullet of the woman had been completely strangled by this grotesque freak of nature. Bayford brooded on his findings for 26 years.

It was at a meeting of the Medical Society of London held on Monday 2nd July 1787 with Dr Sims, the President, in the chair and 11 Fellows present (including Dr Lettsom, one of the founders of the society) that, according to the original minutes of the meeting, 'an account of a Singular Case of Dysphagia or obstructed Deglutition, by Dr David Bayford of Lewes, MD, FRs, with explanatory Drawing, communicated by Dr Hulme, was read the first time, and the thanks of the Society voted to Dr Hulme'.

David Bayford was not present at this meeting, where amongst the eight names listed as being candidates for the 'honour of being admitted Fellows' was that of Jesse Foote,

*The aberrant right subclavian artery in over 80% of cases passes posterior to the oesophagus in its path to the right upper extremity. Occasionally, as in Bayford's case, it passes anterior to the oesophagus, between it and the trachea. Very rarely it passes anterior to the trachea.

author of the scurrilous *Life of John Hunter*. Bayford himself does not seem to have been a Fellow of the society at that time, but his name appears on the list of Fellows published in the appendix to the second volume of the *Memoirs of the Society* dated 1789, in which the text of his paper first appeared (Fig. 1).

The paper proceeds to give the detailed history of the woman, who had life-long difficulty in swallowing. She was confined to hospital where, in 1761, she died of extreme emaciation at the advanced age of 62.

'Jane Fordham was born . . . in the last year of the last century [1699]. From her infancy she was observed to have some difficulty in swallowing. . . . She went on in this way, with the discomfort gradually increasing, for many years. . . . Different kinds of food made no sensible difference in the effects, except that solids gave less uneasiness than fluids. . . . Being worn out with fatigue and famine . . . she scarcely swallowed a single morsel for the last three years of her life. . . .

A R T I C L E XXIV.

An Account of a singular Case of obstructed Deglutition, by DAVID BAYFORD, of Lewes, M. D. F. R. S. and C. M. S. Communicated by NATHANIEL HULME, M. D. F. M. S. and Physician to the Charter-House, &c.

Read July 2, 1787.

JANE FORDHAM, was born at Baffenbourn, near Royston, in Hertfordshire, in the last year of the last century. From her infancy she was observed to have some difficulty in swallowing; but it was not much attended to, till she entered into her thirteenth year, when she first experienced those symptoms which commonly precede the eruption of the menfes. At this time it became so considerable as induced her to have recourse to medicine for relief; but she received no sensible benefit from any thing, except repeated

FIG. 1 *The first page of Bayford's paper in the Memoirs of the Medical Society of London, vol. 2 (1st edn, 1789), p. 271.*

'Being, by accident, upon the spot at the time of her death (1761) and having heard the history of her case, I felt myself interested in making further enquiry into the cause of the obstruction by an examination of the dead body. . . . But to my disappointment neither in them [the thorax and abdomen] nor in the oesophagus or part adjacent, was there the smallest appearance of disease except emaciation in the extreme. . . . At length, by mere accident, I discovered an extraordinary *Lusus naturae*, in the disposition of the right subclavian artery which will be easily understood by reference to the annexed figure. . . . This peculiar origin and course . . . had hitherto escaped the observation of Anatomists . . . if not for its singularity, at least for the consequences . . . a certain degree of pressure upon the artery where it passes between the trachea and the oesophagus. . . . A new species of dysphagia is hereby established what may be called *lusoria naturae**. . . . I have met it once before in a foetal subject. Whether the artery, in this latter case, passed between the trachea and oesophagus, or between the oesophagus and the spine, I cannot precisely determine. . . .'

Bayford, after describing the anomaly in detail (Fig. 2), finally summarises the symptoms and syndrome as follows :

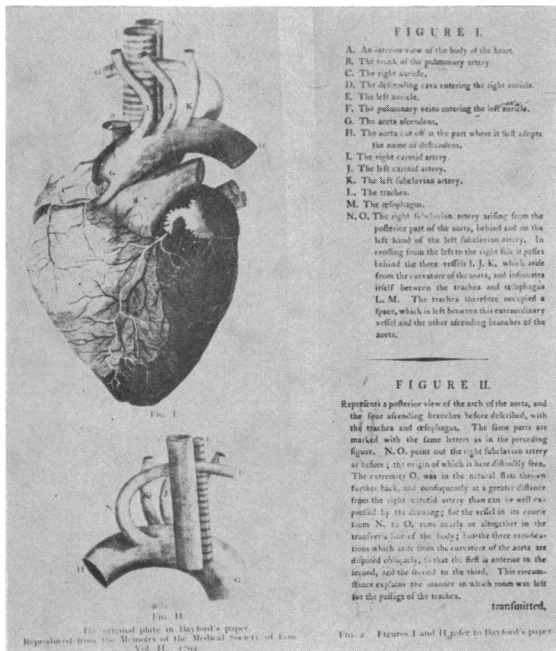


FIG. 2 Illustrations and legends from Bayford's paper in the Memoirs of the Medical Society of London, vol. 2 (2nd edn, 1794). The drawings are by Grymsdyke, who also signed the plates in the 1769 paper.

*The pedantic say this should be '*lusus naturae*'.

'I shall briefly collect into one view the leading characteristics of the *dysphagia lusoria*, that they may be more easily contrasted with the symptoms of the same complaint arising from different causes.

'I. It will be found to have subsisted in a slight degree, even from childhood.

'II. There will be a progressive increase of the symptoms, with an occasional aggravation from plethora, and diminution from abstinence and evacuations.

'III. The obstruction will always happen nearly or altogether in the same place; namely, in the very upper part of the thorax.

'IV. Let the distress in swallowing be ever so great, the food will not commonly return by the fauces.

'V. And lastly. The act of deglutition will not be accompanied with pain or soreness, but extreme anxiety and violent palpitations of the heart. Whether the pulse in the right wrist will be sensibly affected upon these occasions, or whether the irregular motion of the heart may make such affections obscure and indistinct must be left to future experience to determine.'

The specimen of the case was given to John Hunter, but a search of existing records has failed to locate it. It may have been amongst those specimens destroyed by enemy action in 1942.

It was not long (despite the troublesome times on the Continent of Europe at the time) before Bayford's syndrome received posthumous recognition from his Continental colleagues. In 1806 the rubric '*Dysphagia Lusoria*' was used as a heading for the first time in an inaugural address, a paper of 40 pages in German, given by Autenrieth in Tübingen and subsequently published in the *Archiv für Physiologie*, of which Autenrieth was one of the co-editors. This was an exhaustive treatise without any illustrations.

Jablonski, in his *Dictionary of Eponyms and Syndromes* (1969), couples the names of Bayford and Autenrieth and gives both the credit for the syndrome of *dysphagia lusoria*. Chronologically, however, there is no doubt that Bayford has priority both in discovery and in publication. Jablonski adds that the syndrome is synonymous with Arkin's disease but does not elaborate or add any details of this third of his triad of discoveries. Magalini's *Dictionary of Medical Syndromes* (1971) makes no men-

tion of dysphagia lusoria, eponymously or otherwise, while the latest edition of *Dorland's Medical Dictionary* (1974) defines dysphagia lusoria as 'dysphagia resulting from compression of the oesophagus caused by an anomalous right subclavian artery that arises from the descending aorta and passes behind the oesophagus'.

Bayford's prophecy of a physical sign which would enable his syndrome to be diagnosed in the living—namely, that compression of the aberrant artery where it crossed the path of the oesophagus would obliterate the right radial pulse—was demonstrated 200 years later by Holinger in a cine film during oesophagoscopy, using the beak of the oesophagoscope to perform this manoeuvre and obliterate the right radial pulse.

Bayford's first paper, on two cases of aneurysm, had been communicated by Dr William Hunter to 'a Meeting of Physicians' as long ago as 1762 and published in *Medical Observations and Inquiries* in 1769 (vol. 3, p. 14).

St. George's Hospital

In 1768, barely 10 years after his apprenticeship to Mr Bromfield, Bayford was a candidate for Thomas Gataker's post of Surgeon to St George's Hospital but was unsuccessful. His chief opponent, John Hunter, was elected by a large majority, 114 votes to 42 (Fig. 3).

It will not escape notice that although Bayford was fully qualified as a Member of the Company of Surgeons, he lost to a man without that qualification but who had become a surgeon in the then recognised and accepted way of serving the statutory term of service in a military hospital, as did the famous French ear surgeon Itard*, author of a classic book on the ear.

Very little is known of Bayford's further activities at St George's Hospital. He was Assistant Surgeon to William Bromfield from 21st May 1773 to 1778 when, according to Munk, 'he retired from the Hospital, on account of ill health, brought on by some inoculation experiments' (shades of John Hunter!).

*Heller, R (1978) *Officiers de santé*, the second-class doctors of nineteenth-century France, *Medical History*, 22, 25.

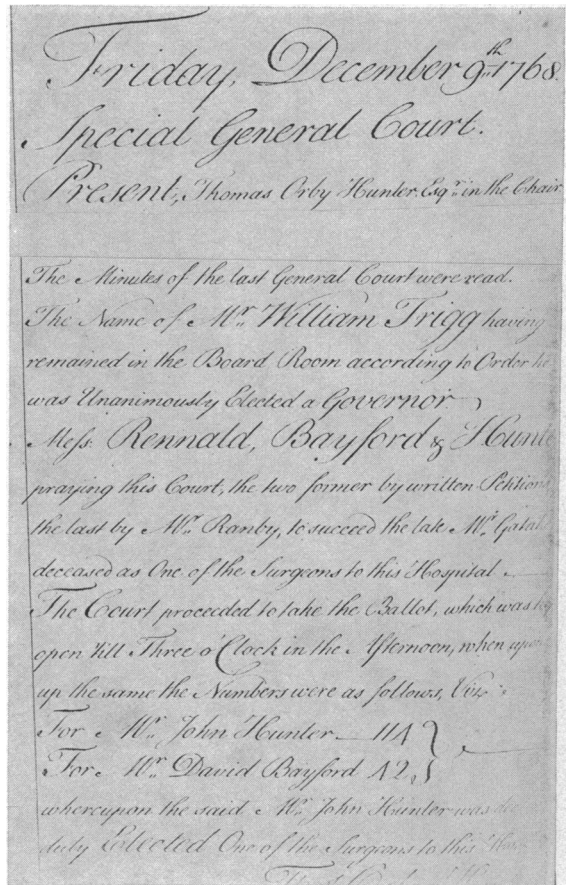


FIG. 3 Extract from the minutes of the Special General Court of St George's Hospital held on 9th December 1768.

The hospital archives record that Mr David Bayford subscribed 5 guineas per annum regularly to St George's up to 1st March 1775 and that he was present at a Quarterly General Court on 8th April 1774, the last mention.

Professor of Surgery at Surgeon's Hall

From 1769 to 1773/4 Bayford held the post of Professor of Anatomy to the Company of Surgeons. Cecil Wall's *History of the Surgeons' Company* states that in 1752 the annual appointment of six Anatomical Officers, as in the days of the old Barber Surgeons' Company, was revived. These officers were two Masters, two Wardens, and two Stewards of Anatomy. In 1766 it was decided (in contravention of

the bye-laws) that henceforth, instead of the two Masters, a Professor of Anatomy was to be appointed annually and was eligible for re-election. His reward was a gold medal in value not exceeding 10 guineas. Thus for the rest of its life the Company's teaching of anatomy (apparently always an unpopular task, since fines for non-performance of their duties were regularly imposed on the office holders) was carried out by a Professor, two Wardens, and two Stewards of Anatomy.

Fellow of the Royal Society

Bayford was admitted a Fellow of the Royal Society on 10th May 1770. The citation reads: 'Mr David Bayford Surgeon, of Prince's Street, Hanover-Square, now Professor of Anatomy at Surgeon's Hall; and many years Lecturer in that Science and the Operations of Surgery; being very desirous of having the Honor of Election into the Royal Society; we the underwritten do, from our personal knowledge recommend him as One that is highly deserving that honor, and very likely to prove a valuable Member thereof'. His sponsors included such distinguished colleagues as William Hunter, William Heberden, and Percivall Pott.

Subsequently, in 1780, Bayford sent to the Royal Society two case records from his colleagues Dr J Andrews, of Bampton in Oxfordshire, and Dr John Harrison, of Epsom. These appear in the bound records of the Royal Society manuscripts together with an autograph letter dated November 1781.

Bayford did not make use of his unique discovery of 1761 in his contributions for his Fellowship of the Royal Society but reserved it for publication at a much later date.

Surgeon into physician

In 1782 David Bayford forsook the practice of surgery and desired to take a medical qualification. This could only be obtained from a university, the College of Physicians, or the Archbishop of Canterbury. He could or would not attend a university. As he was a Member of the Company of Surgeons he

was debarred from applying to the College of Physicians for a medical diploma. However, presumably on the basis of his application on 12th April 1782, Bayford was created a Doctor of Medicine by Dr Cornwallis, the Archbishop of Canterbury, the fiat authorising the conferment of the degree being dated 8th June 1782.

Though Bayford was now an MD, before he could become a Licentiate of the College of Physicians he had to comply with their regulations, which demanded his prior disfranchisement as a surgeon by the Company of Surgeons. This he obtained, at the expense of a fine, at the same meeting of the Court of Examiners, on 1st March 1787, which granted John Abernethy his diploma of Membership, and he was admitted a Licentiate of the College of Physicians in the following month.

It was in 1780, after Bayford had decided to abjure surgery, that he left London and took up residence in the county town of Lewes to practice as a physician. However, the Lewes section of Bailey's *British Dictionary* of 1784 records David Bayford MD as Professor of Surgery. His name appears first in the Poll Book of Lewes.

He returned to London just before his death on 16th April 1790 at the age of 51. Nothing is known of the private life of David Bayford, who died unknown, unhonoured, and unsung. He became eponymous posthumously from his singular contribution to medicine.

Dr Charles Newman, Harveian Librarian at the Royal College of Physicians of London, has been of great assistance to me, and I also acknowledge my indebtedness to the following librarians and others who have responded so willingly to my many requests for information: Mr Eustace Cornelius, of the Royal College of Surgeons of England; Mr L M Payne, of the Royal College of Physicians of London; Mr E G W Bill, of the Lambeth Palace Library; Miss Frances Mackay Picken, of St George's Hospital Medical School; Major H R Mitchell, Registrar of the Medical Society of London; Mr J M Farrar, County Archivist of Cambridgeshire; Mr C R H Cooper, Keeper of Manuscripts, Guildhall Library; and Mrs D C Jones, of East Sussex Record Office; as well as to Mrs Marjorie Stone, my secretary.