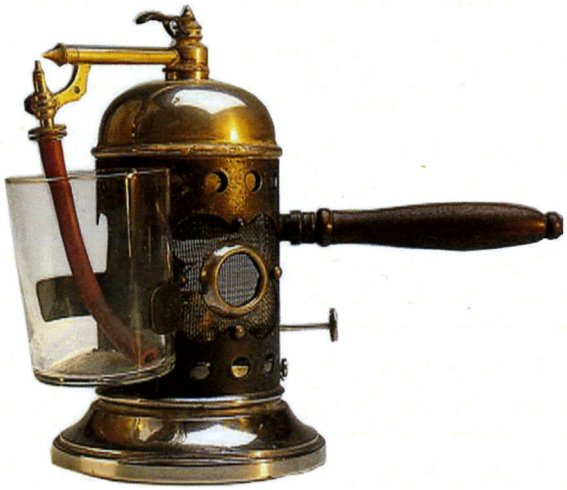
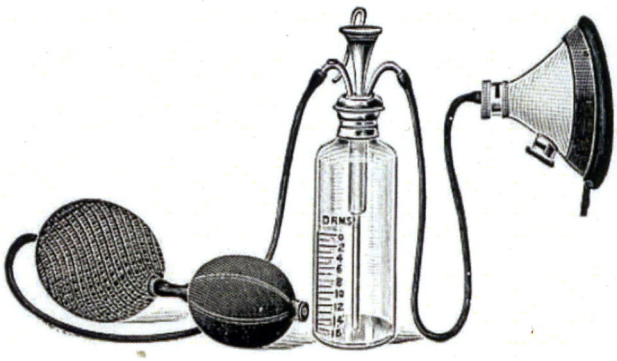
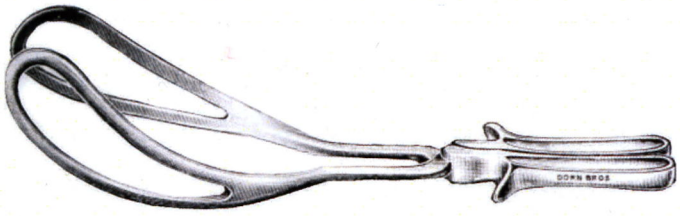




The Historical Medical Equipment Society



BULLETIN NO. 24 ISSN 1366 - 4719 AUGUST 2010

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SPRING MEETING: APRIL 2011 THE BRITISH OPTICAL ASSOCIATION MUSEUM, LONDON

EDITORIAL

Once again we enjoyed excellent hospitality at a leading specialist organisation when the Spring meeting was held at the Museum of the British Dental Association headquarters in London on 17th April, 2010. Irrespective of the many interesting papers, the historical dental equipment on display in the lecture room and the Museum visit, many members high-lighted the sandwich lunch as the best the Society has yet encountered!

An introduction by Rachel Bairsto, Head of Museum Services was followed by Professor Stanley Gelbier, Honorary Curator on early dental extraction instruments, myself on contributions of dental surgery to orthopaedic surgery, Melanie Parker, Museum Education Officer on Sir John Tomes and his inventions, and Peter and Julie Mohr on Brown Kelly and the antrum of Highmore before that excellent lunch. In the afternoon Adrian Padfield introduced us to Barton's combined tongue clip and Junker's terminal for anaesthesia, followed by Margaret Wilson on 'phantom heads' and dental teaching, and Alan Humphries who concluded with a discussion of dental equipment featured in instrument catalogues. After a short dental film we visited the Museum, followed by tea and our usual identification session. We now look forward to our Autumn Meeting in Cardiff at the University Hospital of Wales on 16th October.

As the Society is about to enter its 15th year, it is pleasing to note the exhibition and study of medical equipment has developed significantly, for even some professional historians now admit the contribution of objects; this is especially true when items can be handled. For example, at my local hospital, the Royal United, Bath a recent exhibition to reconstruct a ward scene of the 1940's featured the presence of blue and white enamelled dishes and bowls, red rubber catheters, a sterilising tray heated by small oil lamps and a Schimmelbusch sterilising drum, all causing much interest and comment. Some younger visitors could hardly believe the notion that plastic instruments, wrappings and tubing had yet to be invented.

Sadly this will be my last editing of the Bulletin, having seen 12 editions to press, and having written many editorials before 2005. I must mention particular thanks to Tim Smith for without his technical help and his organisation of printing and despatch, I would have been lost. I'm also in debt to Peter Mohr for much assistance in obtaining scripts and keeping me informed. May I also thank Derrick Baxby who, although unable to attend meetings, has been a regular contributor to the Bulletin. As a world expert scientist on the poxes, including small-pox Derrick has a remarkable knowledge of the instrumentation and paraphernalia used to vaccinate, as I expect you have noticed.

Unfortunately, the ageing processes are catching up with me and I'm sure we would benefit from a much younger editor. With modern electronic processing, the work involved is not time-consuming, being mostly a question of editing communications submitted by members at meetings. Of course I intend to continue to attend Society meetings, God willing.

INTRODUCTION TO THE BRITISH DENTAL ASSOCIATION MUSEUM

RACHEL BAIRSTO, BDA Head of Museum Services

The British Dental Association (BDA) is the professional association and trade union for dentists. Established in 1880 to protect the interests of the first dental legislation (Dentists Act 1878), the BDA now represents over 23,000 dentists working in a diverse variety of fields. The Dentists Act of 1921 created the Dental Board of the UK to administer the Dentists Register. Thus the BDA was freed from legislation, and rapidly became the leading consultative body and champion for the dental profession – the role of the BDA today.

The BDA Museum was formally recognised in 1934 with a donation of objects from the first woman qualified dentist, Lilian Lindsay in 1895. The collection now contains over 30,000 objects relating to all aspects of dentistry (fig. 1).

Fig.1 A view of objects in the Museum; in the foreground a palatial 19th c. set of dental instruments.

Topics include prosthetics, restorative dentistry, anaesthesia, prevention, dental furniture and art, archives and photographs. Spanning over 500 years, the highlights of the collection include ivory dentures with human teeth; Thomas Rowlandson's dental cartoon; the transplantation of teeth and a large collection of 17th century extraction instruments named pelicans. Visitors to the Museum at 64 Wimpole Street have the chance to explore the displays and watch some early oral hygiene film footage.

The Museum is open on Tuesdays and Thursday from 1pm-4pm and at other times by appointment. We welcome visits from adult education and school groups (fig. 2) and promote an active

Fig. 2 Dental lessons for school children!

outreach service. The museum is also busy mounting temporary exhibitions, talks and guided walks. The museum staff is supported by a small team of dedicated volunteers who carry out tasks such as cataloguing, object identification and responding to research enquiries.

For further details please see the website www.bda.org/museum or contact us at

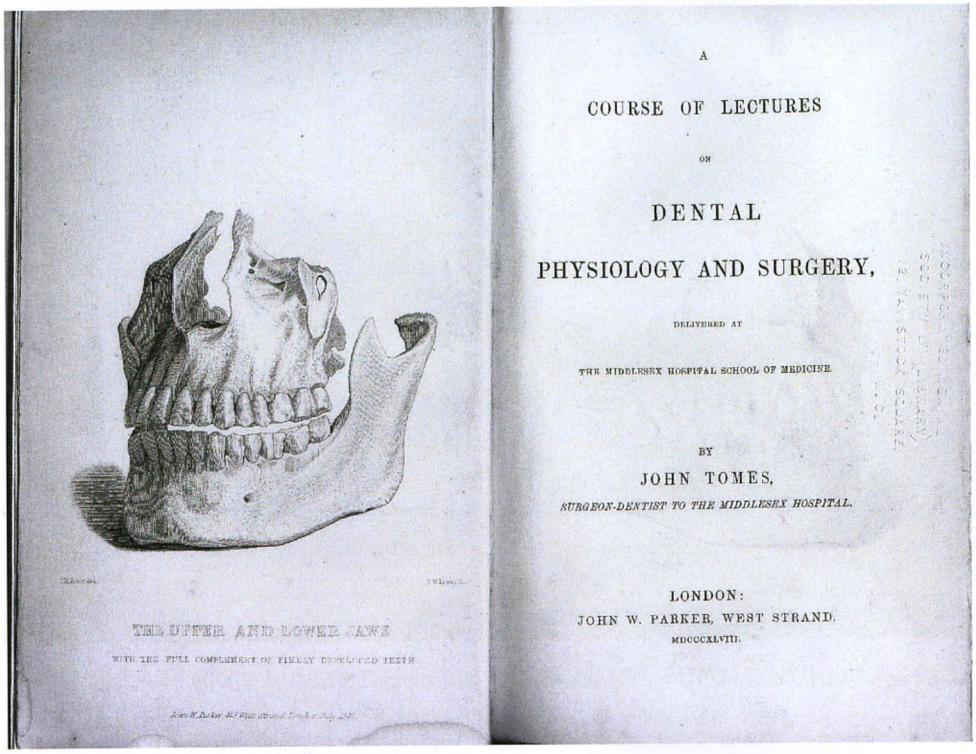
BDA Museum, 64 Wimpole Street, London, W1G 8YS Telephone 020 7563 4549

Email museum@bda.org

SIR JOHN TOMES (1815 - 1895) & HIS INVENTIONS

MELANIE PARKER, BDA Museum Education Officer

John Tomes was perhaps the most influential dentist of his day. He was born in Gloucestershire in 1815 and was apprenticed to an apothecary before taking a place at King's College and Middlesex Hospital Medical School. During that time he decided to pursue dentistry instead. In 1840 he established a practice in central London and was appointed dental surgeon to King's College Hospital and later the Middlesex Hospital (fig.1).


THE UPPER AND LOWER JAWS

A

COURSE OF LECTURES

ON

DENTAL

PHYSIOLOGY AND SURGERY,

DELIVERED AT

THE MIDDLESEX HOSPITAL SCHOOL OF MEDICINE.

BY

JOHN TOMES,

SURGEON-DENTIST TO THE MIDDLESEX HOSPITAL.

LONDON:

JOHN W. PARKER, WEST STRAND.

MDCCCXLVIII.

Fig.1 Illustration and title page of Tomes' text-book, 1848.

Tomes spent the first half of his career undertaking research and inventing instruments. He gave five papers to the Royal Society between 1838 and 1856, being elected a fellow of the RS in 1850, the first dentist to become a fellow on the basis of his dental research. His invention of the 'dentifactor' was also mentioned in his citation. Tomes' last paper was his most famous, when he proposed dentine is sensitive due to structures containing fibres connected to the pulp, becoming known as 'Tomes' fibrils'.

Tomes invented a wide range of dental furniture and instruments but his most enduring technical contribution was improving the design of forceps to fit different teeth (fig.2). He worked with the instrument maker Evrard and published his designs to make them widely available. His 'dentifactor' was a machine for carving ivory dentures and was awarded a Gold Isis medal by the (Royal)

Fig.2. Instruments attributed to Tomes. Left to right: gold foil finishing file; hand drill; extraction forceps; spring mallet; elevator; enamel cleaver; gold foil plugger.

Fig. 3. Portrait of John Tomes by C. Macartney, commissioned in 1880.

Society of Arts in 1845; however it was superseded shortly by the development of 'vulcanite' (hardened rubber).

Tomes then concentrated on transforming dentistry into a profession, founding the first dental school in the UK and acting as the chief negotiator in establishing the first qualification, the LDS, in 1860. He spearheaded the passing of the first Dentists Act (1878) which restricted the term 'dentist' to qualified persons to initiate the Dentists' Register.

In recognition of Tomes' many achievements he was elected the first president of the BDA in 1880 (fig.3). and was knighted in 1886. In the words of Sir Harry Baldwin, Tomes was 'a great original investigator, a great mechanical inventor, a great operator and a great leader of his profession.'

An exhibition about Sir John Tomes is currently on show at East Surrey Museum, Caterham until 5th June and will then be on display at the Hunterian Museum, Royal College of Surgeons of England from 22nd June to 25th September. It will return to the BDA in mid-October.

PS. Melanie has written a more extended review of Tomes in BDA News (2010) 23: 21-2.

SOME EARLY DENTAL EXTRACTION INSTRUMENTS

PROFESSOR STANLEY GELBIER, Hon. Curator BDA Museum

Greeks and Romans used forceps with the head gripping the tooth and handle exerting leverage. At first made from iron and sufficiently simple to be constructed by blacksmiths, gradually they became sophisticated with specially adapted patterns. Initially made to individual dentists' designs, by 1830 instrument makers such as Claudius Ash sold forceps off-the-shelf. In 1841 John Tomes produced anatomically designed forceps to give a better grip; others followed (Fig 1).

For a time forceps were unfashionable but later became popular. Meanwhile elevators were prominent, first used 1,000 years ago by Arab and Egyptian practitioners. From the 16th century they lifted out fractured teeth and roots from bone. Earlier versions were straight, with pointed ends, which later were divided and hollowed. Some had big handles, making it easier to hold and exert leverage.

Fig. 1 Extraction instruments in BDA Museum: from the top: old forceps; a pelican; modern forceps; a key.

Pelicans were used for extractions in 15th-18th centuries. Based on coopers' tools for forcing hoops on barrels, they resembled the bill of a pelican. Initially forged from iron by blacksmiths, with a single shaft and semi-circular bolster at the end, they were followed by several variations (Fig. 2).

Fig. 2 Selection of pelicans

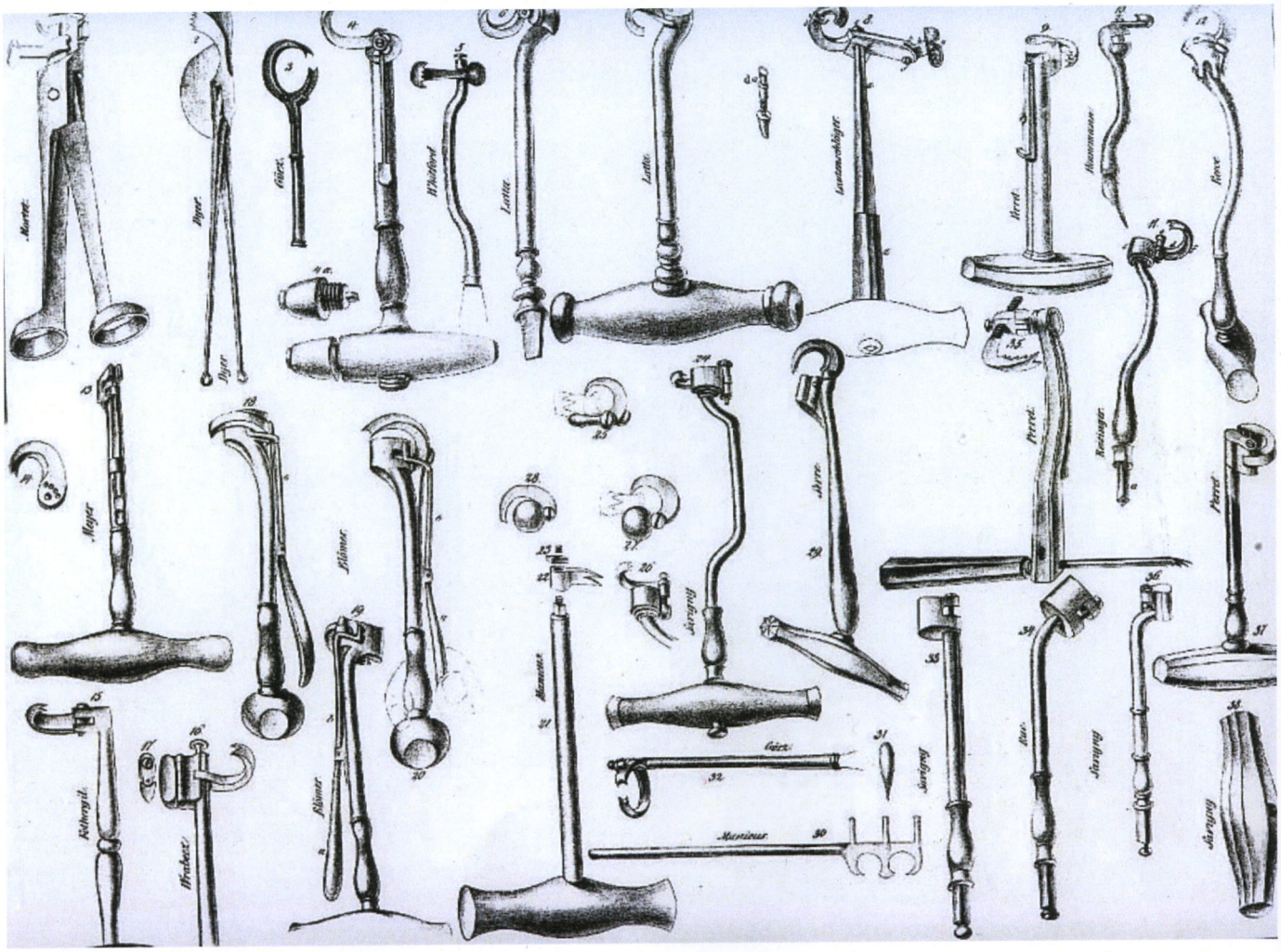


Fig. 3. Large selection of dental keys.

Crowns were gripped between the hook and bolster and eased out sideways, often severely damaging the gums, bone and nearby teeth, all without anaesthetics.

From 1730 keys, resembling door keys, proved more effective than pelicans. A claw was attached by a swivel to a bolster at the end of a shaft. At first made of metal, they later gained handles of wood, ebony, horn or ivory (Fig 3). The bolster was placed against the root of a tooth and the claw hooked over its crown. The bolster acted as a fulcrum and the tooth was forced out of the socket, often breaking both. Keys were used in England as late as 1910.

Acknowledgements: Rachel Bairsto, Head, Melanie Parker, Education Officer and Sophie Riches, Research Assistant, at BDA Museum; Librarians, BDA Information Centre; BDA Museum for Images.

DENTAL CONTRIBUTIONS TO ORTHOPAEDIC SURGERY

JOHN KIRKUP

For many years I've realised dental surgery often took the lead where orthopaedic surgery was to follow, although my current brief observations are somewhat ad hoc; perhaps it would benefit from a PhD thesis? I will concentrate on two areas developed by dentistry before entering orthopaedic practice, firstly, items related to equipment and secondly, the introduction of novel materials.

Equipment Easy methods of adjusting the inclination and height of dental chairs was already in use by 1876 (fig.1), whereas surgical operating tables only developed these helpful conveniences very much later. Also in 1876, dental cabinets were offered with an integral lathe, sharpening stone, vice, etc for working materials whereas general surgeons relied on a craftsman in the theatre principally to sharpen scalpels during operations until the early 20th century. A foot pedalled dental drill was also advertised in 1876 (fig.2), yet not adapted for orthopaedic surgery much before 1904.

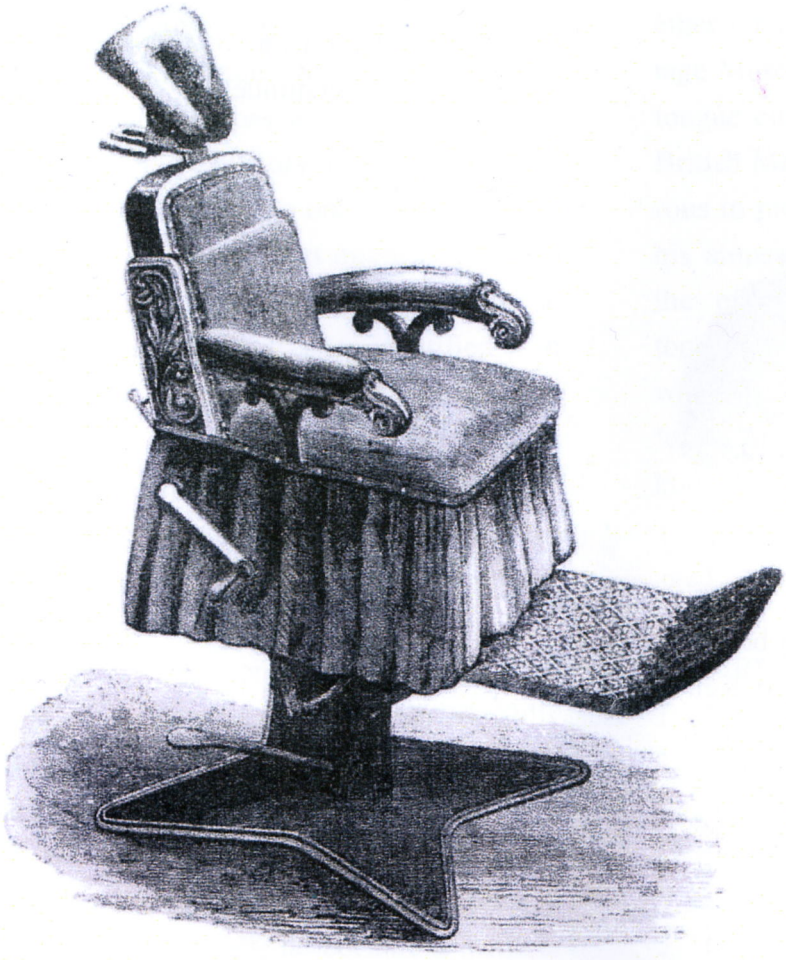


Fig.1. Morrison's patent dental chair; foot pedal to rotate or angle chair; handle to raise and lower the seat. In C. Ash & Sons Dental Catalogue, 1876, p. 34.

Materials In 1866 the Buffalo Dental Manufacturing Company advertised the nickel-plating of metal instruments whereas only a few general surgeons nickel-plated their metal instruments simply for cleanliness, as cast steel rusted quickly in antiseptic carbolic acid and when boiled in water. About 1892, the acceptance of thermal asepsis ensured the destruction of instruments handled in ebony, ivory, etc and precipitated protective nickel-plating of all metal instruments.

Marius Smith-Petersen introduced cups for interposition arthroplasty of the hip, made of glass, viscalloid and bakelite which all failed, to be rescued by his dental surgeon who in 1937 recommended chrome-cobalt alloy (vitallium) already established in dentistry. John Charnley searching for material to stabilise femoral and acetabular prostheses in bone during hip replacement, was introduced to polymethyl methacrylate

Fig.2 Morrison's treadle drill , patented in 1871

by a dental colleague which proved to be the lynch pin of this now common procedure. Ken McKee who pioneered hip replacement without cement, later changed his design for cementation and on the advice of a dental surgeon introduced spikes on his acetabular cup, to improve fixation (fig.3).

These examples confirm that orthopaedic surgery has benefited from the pioneering efforts

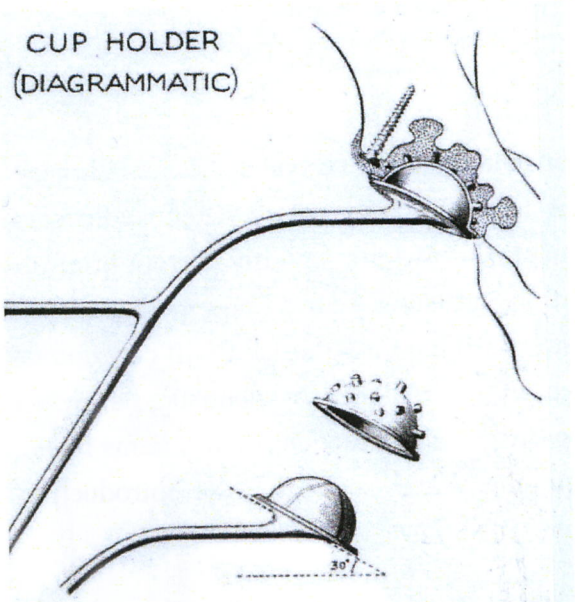


Fig.3 McKee's hedge-hog spiked cup, inserted into methyl methacrylate cement with a cup holder, c.1973

of dental surgeons, a collaboration which hopefully will continue.

BARTON'S TONGUE CLIP & JUNKER TERMINAL

ADRIAN PADFIELD

A COMBINED TONGUE CLIP AND JUNKER TERMINAL.

Designed by Dr. G. A. H. BARTON.

Extract from *British Medical Journal*, Dec. 24, 1910.

Price 10s. 6d.

During operations on the upper air passages the anæsthetist not infrequently has his hands literally full. To render his task a little easier I have designed the combined tongue clip and Junker terminal here illustrated, and made for me by Messrs. Mayer & Meltzer. The tongue clip is of the Watson Williams pattern, except that the point protector has a little slit on either side, allowing of the passage of the fine end of the pin in or out when the spring is depressed, rendering its adjustment slightly easier. The pin is set on the Junker terminal at 1½ in. from its free extremity. The terminal is short, its cross section oval, and slightly curved upwards at its free end to carry the orifice away from the dorsum of the tongue. Whilst not suggesting for a moment that this device should replace the many excellent gags which are supplied with Junker terminals attached, I think it a useful alternative in the class of case indicated above—and, indeed, in many operations on the head and neck region where Junker's method is a convenient one. When no traction is required on the tongue, the pin serves to hold the terminal in place; if traction is required it can be effected by a single finger in the loop.

While cataloguing the surgical instruments in the Hawley Tool Collection, Sheffield about 12 years ago, I came across a small unidentified item. I showed it at a History of Anaesthesia Society meeting in 2002 but no one recognised it. I thought it was anaesthetic but might be otolarygological or dental. Alan Humphries took an image and about two years later identified it in Mayer & Phelps catalogue of 1934 (see above).. The tongue was pierced by a spike, retained by the swivel clip and the anaesthetic agent (usually chloroform) was fed into the pharynx through the terminal which was attached by a small rubber tube leading to a Junker's vaporiser.

George Alexander Heaton Barton's (1865-1924) education, medical training and career are fully recorded (1). He commenced anaesthesia in London after joining Dr Gee in practice in 1902, near St Mary's Hospital, where he had trained in the 1880s. Obtaining appointments as anaesthetist to various London hospitals, he became a member of the Society of Anaesthetists. In 1905 he spoke at a Society meeting on ethyl chloride and published a book 'A Guide to the Administration of Ethyl Chloride' and in 1908 described his ether inhaler (specimen in the Anaesthesia Heritage Museum). In 1910 a short article about his tongue clip & Junkers terminal appeared in the British Medical Journal (2). If somewhat barbarous in piercing the tongue, he was forthright in his amusing book 'Backwaters of Lethe' about the efficient necessity of this in preventing tongue obstruction of unconscious patients' airways. From this book it is obvious he was a 'character' and might have become a well-known figure in the history of anaesthesia of his era. Sadly he fell off his horse in Rotten Row aged 58 and died of a fractured skull.

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MEDICAL TOURISM, PART 2: TONNERRE, BEAUNE AND JERSEY

JOHN PROSSER

A more unexpected place to find an ancient hospital is Tonnerre in Burgundy. The town is not very inspiring but the hospital founded in 1292 is very impressive (figs.1&2). The building is very large, bigger than most of our parish churches and in fact has been used as such for the local population. Inside it appears very spacious with plenty of room for the 40 beds it contained. There is little to indicate its earlier function but the post hole for the bed hangings show where the beds were positioned. Upstairs there is a small but interesting medical museum which seems to reflect medical care at about the time of the First World War.

Fig.1. Hôtel-Dieu Tonnerre exterior

Fig.2. Hôtel-Dieu Tonnerre interior

The Hôtel-Dieu in Beaune established in 1443 is a delightful timber framed building somewhat modified over the years and in use as a hospital until 1960 (figs.3&4). The hospital was endowed originally by a very rich Lady, Marguerite of Burgundy in memory of her husband. It was modelled on the earlier hospital at Tonnerre. The main hospital ward has been beautifully restored looking very like the prints of medieval hospitals seen in books on the subject. It looks very comfortable and with attendant nurses appears to be not an unpleasant place to stay. As always the altar forms an important part of the ward. Next to the main ward there is an even more comfortable side ward for the nobility! Attached to the ward there is a small medical museum (figs. 5&6), a

Fig.3. Hôtel-Dieu Beaune exterior

Fig.4. Hôtel-Dieu Beaune interior

Fig.5. Set of dental instruments and pelican at Beaune

Fig.6. Trephanation instruments at Beaune: unusually both trephine and brace handles in the same box

pharmacy and the ward kitchen. The whole makes a very enjoyable visit.

A short trip to a medical meeting in Jersey gave us the opportunity to visit the large underground hospital on the island (fig.7). This although built by slave labour as a barracks and ammunition store by the occupying Germans was converted by them to a hospital in 1944. It contains all that was needed for such a hospital including a spacious operating theatre. The hospital now houses an impressive exhibition on the German occupation.

Fig.7. The museum of the German Underground Hospital , Jersey

THE BROWN KELLY CURETTE FOR THE ANTRUM OF HIGHMORE

PETER & JULIE MOHR

The Brown Kelly curette is an oddly shaped instrument designed to reach the awkward recesses of the maxillary sinus (fig.1.) It is included in the

Fig. 1 The Brown Kelly curette.

Down Bros. *Catalogue of Surgical Instrument* (1935,) along with a host of other specialised instruments described as 'for the Antrum of Highmore' in a 16-page subsection.

'Antrum of Highmore' is an archaic term for the maxillary sinus. The anatomy was first described by Nathanial Highmore (1613-85,) a physician and anatomist, in his celebrated *Corporis Humani Anatomica* (1651.) He termed the sinus the 'antrum maxillae superioris' and included detailed engravings. The high atavistic position of the outflow ostium makes the antrum notoriously prone to chronic infection and attempts at surgical drainage were often unsuccessful, until in 1893, Caldwell in New York and in 1897, Luc in Paris, introduced the operation of 'sub-labial fenestration of the anterior maxillary wall followed by nasal antrostomy' (fig.2).

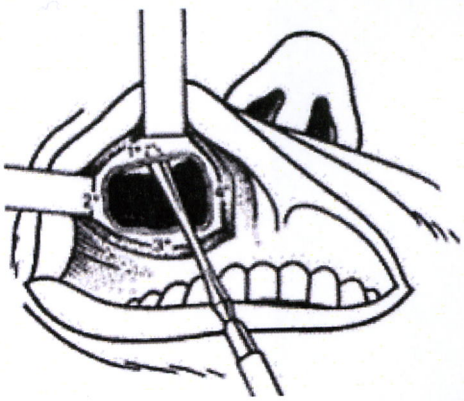

Fig.2 The Caldwell-Luc sub-labial approach to the maxillary sinus.

In 1904, Adam Brown Kelly (1865-1941) ENT surgeon at the Glasgow Victoria Infirmary, used a similar sub-labial approach under cocaine local anaesthesia; he punctured the anterior wall of the antrum with a trocar and then used a speculum to view the interior. This with drainage, together with sinus transillumination (fig.3,) allowed a more accurate diagnosis (cysts, polyps, infection etc,) before deciding if a full Caldwell-Luc operation under general anaesthesia was necessary – his special curette, designed later, was only used under general anaesthesia. The sub-labial approach to the maxillary sinus was adopted world-wide, and only superseded by per-nasal endoscopic sinus surgery in the late twentieth century.

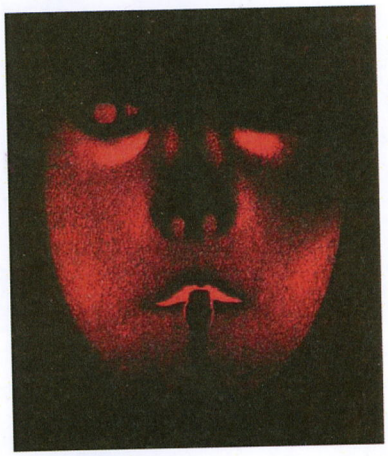

Fig.3 Sinus transillumination demonstrating opacity beneath left eye(from BMJ 25 Mar 1905)

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A MEDICAL TOUR OF CUBA

NASIM NAQVI

I was among a group of 15, mainly doctors, plus nurses, a teacher and a musician who recently visited Cuba. Apart from Havana we travelled to other cities and to a remote mountainous region visiting a village clinic. In Havana we met Dr. Aleida Guevara, a paediatrician and daughter of Che Guevara (who also was a doctor) (Fig.1).

Fig.1 Author with Dr Aleida Guevara

She answered many questions and we found her down to earth with a sense of humour in her passionate protection of Cuban socialism and a free health service. Next day we met a civil servant from the health department whose presentation in English was packed with impressive statistics, for example:

	1959	*2009*
Life expectancy	*60 years*	*78 years*
Infant mortality	*60/1000*	*4.7/1000*
Total number of doctors	*6286*	*78,416*
Medical schools	*1*	*72*

He emphasised the eradication of polio, encephalitis, diphtheria, measles and rubella; and the virtual disappearance of malaria. Cuba also has free education from primary to university level; the literacy rate is almost 100%. In old Havana we visited a child and maternal day clinic and a day geriatric home. Unfortunately a visit to a major hospital and medical school was cancelled due to a change in visa regulations. There are some 20 museums in Havana although none are medical; however we visited one of

Fig.2 Pharmacy museum in Havana

two pharmacy museums, packed with medicinal jars in glass cabinets (fig.2). We also visited a remote primary care or family doctor clinic where the doctor was quite open about shortages in basic supplies of medicines and other essential provisions. This small community lived in poor housing but every house was supplied with electricity, water and gas. We saw a number of medicinal plants growing in the area. It was surprising to discover there are no poisonous snakes or other stinging creatures and also no large wild mammals but the country is a heaven for bird watchers with a huge diversity of beautiful birds. We found Cuba peaceful with a low crime rate and no fear for personal safety.

THE BAKELITE MUSEUM

PETER & JULIE MOHR

A number of early 20th century medical instruments and items of equipment are fitted with handles or other components made from Bakelite which was especially useful as an insulating sheath for electro-medical endoscopes. Dr Leo Baekeland (1863-1944) invented this synthetic plastic from phenol & formaldehyde in 1907 and founded the New York General Bakelite Company in 1910. Hard but mouldable, it proved extremely durable and superior to celluloid, the first plastic, and to semi-synthetic plastics derived from rubber such as Ebonite and Vulcanite. Bakelite was used in every aspect of daily life: kitchens, radios, furniture, jewellery, cameras, toys – even caravans and bicycles – were all made from or used this ubiquitous plastic (fig. 1). The original dark brown colour was later overtaken by a rainbow of later Bakelite products.

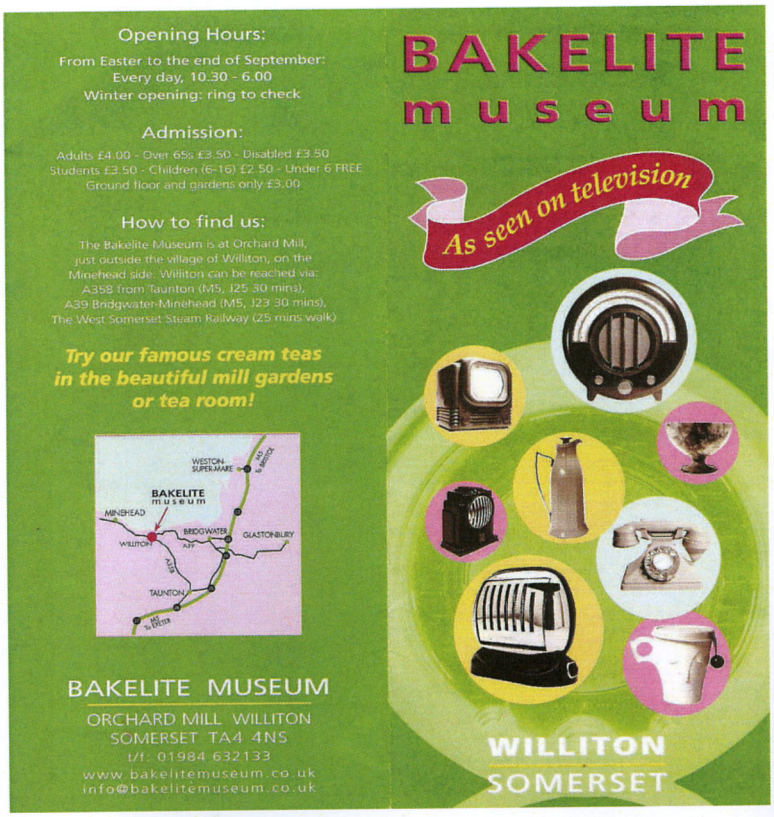

Fig. 2. Bakelite Museum brochure.

The Bakelite Museum has a fascinating collection of thousands of objects stacked across two floors of an old mill (fig. 2). Only a small fraction are 'medical' (massagers, diagnostic equipment, electro-medical and teeth) but the astonishing range of household and decorative items provides a wonderfully nostalgic tour. The origin of Bakelite and the history of plastics are well covered. It is well worth a visit, and they do cream teas!

Fig.1. Household objects incorporating bakelite.

The Bakelite Museum, Orchard Mill, Williton, Somerset, TA4 4NS. Open daily from Easter to end of September, 10.30am – 6pm. Entrance: £4 and concessions: Tel. 01984 632 133.

ROWELS & SETONS, ANCIENT THERAPIES:

ILLOGICAL & LOGICAL. Part II - Setons

JOHN BROBERG

Definition

Setons were defined in Part 1 but the following quotation and Fig. 1 will remind readers.

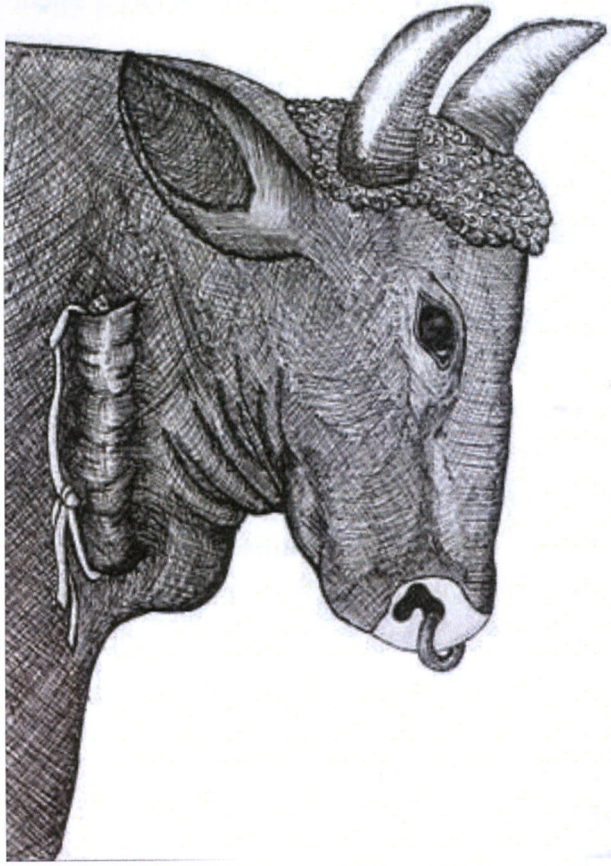

Fig. 1. Bull's head with large seton in the neck.

In 1587 Mascall wrote (1) :-

"If a beast be rotten of his body, ye shall slit the skin in the upper part of the dewlap two fingers straight downwards, open the wound and extend it downwards a finger length. Then take 9 green leaves of lungwort bind them together and place them in the wound and pass the thread down so it can be drawn up and down through the wound every 2 or 3 days once or twice. Do this for 15 or 16 days, and you will see it swell and at length it will putrefy, stink, run and rot away, skin and all. By voiding so much corruption this cleaneth the beast and makes him whole again."

[In witchcraft, 9 is the healing number.]

Mascall considered bad humours were discharged in the purulent matter from the seton. In fact, within 15 to 16 days the beast had time to recover without setons which were not usually applied severe enough to rot skin; lungwort, used here, is a very strong irritant.

Indications

Markham gives instructions to treat fistulas by setons made of medicated cloth and thread. The commonest purulent fistulous wounds in horses involved bursae over the poll (the poll evil) and withers which opened dorsally. For adequate drainage from infected withers, seton needles were passed down through the wounds and out through the skin at the lowest point of the fistula. Long seton needles were needed for this and if the infection penetrated deep below the shoulder blade exceptionally long needles were needed to pass a seton from the withers and out behind the elbow (see Part I, fig.1). Many setons were placed either side of the shoulders to provide good drainage, essential for cure. This is a logical treatment. In 1893, Mayhew (2) offered excellent advice after completing this painful operation:

"Never, however, attempt to pass by the heels of a steed that has been pained. The animal may suspect your motives and the hind feet of the horse are the most powerful weapons of offence and of defence. Have the creature backed from the stall ere you attempt to quit it."

Today, it is easy to forget these procedures lacked analgesics or anaesthetics. Mayhew evidently carried out this procedure on the standing horse!

Blackleg & Rinderpest

In 1797 Downing wrote on the murrain or blackleg, recommending setons in the dewlap as a preventive (3):

"Take some plaited hair and draw through between the skin and the flesh and anoint the plaited hair with horse turpentine, this shall be pulled up and down through the wound."

Until the early 20th century many authors recommended setons to prevent blackleg when bullocks were turned out at spring but I have found no explanation of why this was believed to work.

Blackleg is caused by anaerobic Clostridia in the soil which may lie dormant in the body until an animal is bruised. Multiplying in damaged tissue, death soon follows. Setons in dewlaps permitted open wounds to contact soil and hence Clostridia in this aerobic situation might stimulate immunity without causing disease? This may be the true explanation.

A colleague who worked as official veterinarian at the Liverpool docks in 1963 said bullocks imported from Ireland invariably had a wire seton in the brisket .

Between 1775 and 1780 Adami (8) experimented with setons to vaccinate cattle against rinderpest. He impregnated woollen threads with the saliva of infected animals. First he incised the skin of healthy animals over the 2nd or 3rd intercostal space, allowed the wound to bleed freely, drew 8 impregnated threads into the wound and plastered it. Alternatively he drew the threads into the subcutaneous tissue with large suture needles. These animals all died whilst uninoculated controls lived. He then inserted fewer air dried threads and these later animals died more slowly. Adami concluded successful immunisation required careful determination of the inoculum dose. Sadly he was unable to continue experimenting. His attempt at virus attenuation was over 100 years before Pasteur's work; excellent logic!

In 1832 White wrote (5):

" *...a new operation has been practised at the Veterinary College for chronic lameness of the feet, which, it is said, has been so far successful as to afford considerable relief. It consists in passing a seton through the cleft of the frog and bringing it out at the at the pit or hollow part of the heel."*

It seems setons establish granulation tissue in a chronically inflamed part as in the case of fistulous withers, in addition to their drainage. The logic here is simply that it works, one cannot argue with that, yet it seems a horrendous measure.

In the drawing below the approximate position of the seton is shown by the black line.

Clark showed a defect in the "shuttle bone" (fig.2) in 1829 (6), now called the navicular; defects seen on x-ray are diagnostic

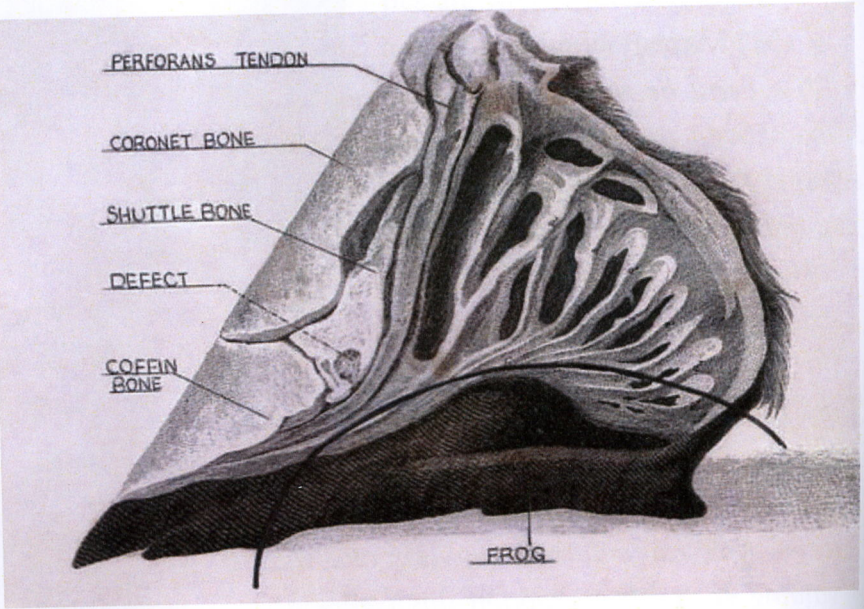

Fig.2 The "shuttle bone" in a section of a horse's foot

of navicular disease. In 1903 Fleming (7) described this technique for its treatment and various other setons to just draw off fluid; further illogical interference.

In 1934 Wooldridge (8) still recommended setons for navicular disease, fistulas, abscesses and inflamed bursas, as these are less likely to be bitten or pulled out than tubing, also used for drainage. However, by then rowels and setons were losing their appeal.

A friend states in the remoter parts of the Middle East and Northern India setons are still inserted for fistulous withers. In Europe such wounds are now rare and would be treated with Penrose Drains, the current improvement on the seton.

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GLOSSARY:

Poll – the top of an animals head.

Withers – the high point of the horse's shoulder over the thoracic spine.

Frog – the hind part of the ground surface of the hoof, V shaped pointing forward, relatively soft part of the hoof that cushions the heel.

MUSEUMS IN ROUEN

BELINDA HEATHCOTE

Belinda Heathcote reminds us that the 'Musée Flaubert et d'Histoire de la Médicine' in Rouen, Upper Normandy is housed in the old 'Hotel-Dieu' annexe where the author Gustave Flaubert (1821-80) was born and his father was surgeon. The writer's birth-room is on display as well several rooms on anatomy with models, surgery with instruments, a pharmacy and cabinet of curiosities, etc (fig.1). The city also has a superb Wrought Ironwork Museum with a small section of medieval surgical instruments and the 16th century St Maclou Cloister, one of the last examples of a medieval plague cemetery with carved wooden figures portraying the Dance of Death. A magnificent Gothic cathedral, several churches, many half-timbered houses and many other museums can be viewed or visited; indeed it is said Rouen has more museums for its population than any other city.

Fig.1 Birthing models from the Musée Flaubert et d'Histoire de la Médicine

Address: 51, rue de Le Cat, 76000 Rouen

WHAT IS IT?
[August 2010]

This engraving from Guillemeau of 1594 demonstrates a common procedure. What is this? And what are the instruments applied to the victim called?

WHAT IS IT? [February 2010]

The simple band around the skull and jaw is an efficient tourniquet to control the temporal artery.

The complex equipment above the right shoulder is attempting to control the subclavian artery. This was a) inefficient as bodily movement was inclined to disturb its placement and function, and b) very expensive and hence little if ever applied. It is sad that this fine drawing in 1837 by Jacob, a pupil of the artist David, had little future.