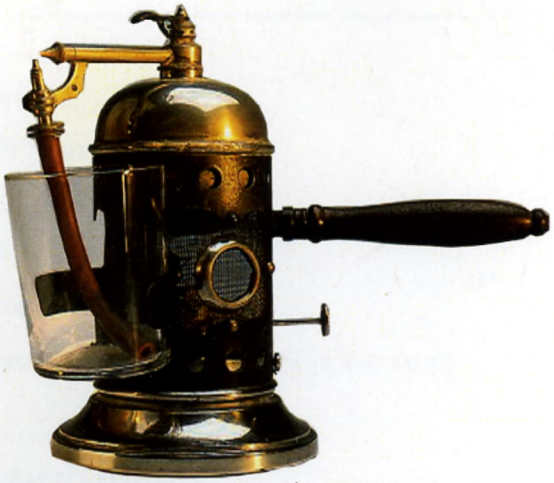

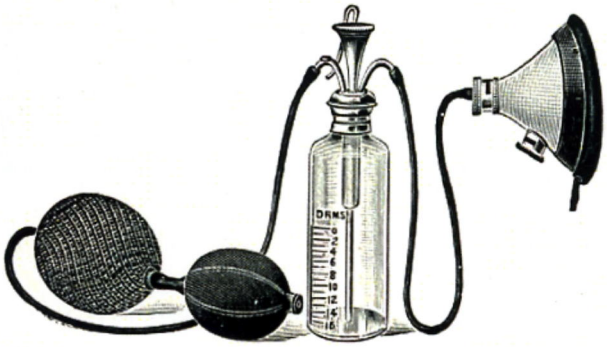

The Historical Medical Equipment Society

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FUTURE MEETINGS

THE ASSOCIATION OF ANAESTHETISTS, LONDON - Tuesday, 17th October 2006

PROPOSED VISIT to Hospital of Notre Dame à la Rose, Lessines, Belgium – April 2007

EDITORIAL

Much disappointment has been expressed after cancellation of the Sheffield meeting at short notice last April, and we very much hope HMES can meet in this important city, distinguished for centuries by quality steel making including the manufacture of surgical instruments, at some future date. We now look forward to our next meeting at the Association of Anaesthetists in London on Tuesday 17th October next. Please note this is a week-day meeting. It will be of interest for the planning of future meetings to see how many of you can manage a week-day. One of the problems of Saturday meetings is the closure of some museums and other premises.

Normally our Bulletin publishes short versions of papers communicated at the previous scientific meeting but in their absence we have been fortunate to receive intriguing reports from two of our collector members and a museum report from our Chairman. Veterinary fleams have been little discussed and certainly not in the Bulletin, which gives Derrick Baxby's account of his observations on a hundred fleams considerable distinction. For your editor at least, this opens up a new field of interest and importance; I have a suspicion animal-bleeding probably preceded human bleeding and invite your comments on this question. Curiously, Nasim Naqvi's revealing account of his abortive attempts to purchase instruments in the Middle East included what appears to be a veterinary fleam, though human use is possible; again your comments would be helpful. Our Chairman, John Prosser has kindly provided an account of the splendid museum in Worcester which escaped review after the HMES meeting there, at a time when Bulletin production was under strain.

The years go by, and April, 2007 will be the Society's tenth birthday. It has been suggested we meet in London once more, at the College of Surgeons where we started, but we remain open to offers and suggestions; even a visit abroad is not ruled out, possibly to Belgium.

PS. My last PS indicated "The Evolution of Surgical Instruments:a historical study from the ancient world to the 20th century" was being printed. I'm very relieved to announce that I've received copies after years of delay and happily while still 'compos mentis'. It is available at the Hunterian Museum, Royal College of Surgeons for £155 which reflects the cost of an American quality publication, many illustrations and a sizeable work weighing some 5 pounds. Substantial postage can be avoided if you purchase direct at the College when in London. Derrick Baxby has bravely read it through from beginning to end (this is not required however, as each chapter forms an entity to study in isolation) and he has provided a review at the end of this Bulletin.

THE VETERINARY FLEAM

DERRICK BAXBY

The fleam, a blood-letting instrument characterised by a small triangular two-edged blade set at right angles to an arm was, originally, attached to a fixed handle, intended for human and veterinary practice. Later multi-blade models folding into a common handle were developed, replaced for humans in the 16th century by thumb lancets and in the 18th century by spring lancets, although remaining in veterinary use until the early 20th century

Fig. 1. 3-blade fleam with lancet, knife and hoof searcher. Straight open-back brass shield with brass blade protector and prominent rivets. (Douvert Freres, Thiers, late 18th century)

(1,2). Human fleams are rare survivals and unlikely to be found outside special collections. No specific clinical indications are considered here although given the embedding of phlebotomy in the human psyche (1), it was inevitable animals were treated similarly. This paper collates the characteristics of 100 folding fleams, 27 already described in detail (1), the remainder from private collections and internet sales (www.ebay.com). Table 1 summarises the results.

The basic fleam

In general, its size (80- 120mm closed) and weight suggest veterinary use. However, the smallest blades were possibly used on humans, whilst some veterinary fleams have accessories almost certainly intended for human use (see below). The commonest type has a brass, parallel-sided shield open at the back except for the V-shaped blade protector, usually made of brass [67 examples] (fig.1), or less commonly horn [5 examples] (fig. 2). The shields and arms are usually straight (fig.1), but occasionally curved (fig. 2). A large minority [28 examples] has a horn shield, most commonly North American bison (3, 4), with a smooth outline and brass back strap (fig. 3). Some shields are described as being bone but in fact are horn. The blades are assumed to be shear or cast steel but only 7 were stamped to confirm this. Usually hollow ground, multiple blades were graduated in size for different animals and/or to give access to superficial or deeper veins. Most examples [71] had 3 blades, 12 had 2, and 17 had one, 4 or 5.

Fleams with accessories

A significant minority [21] has additional instruments pivoting around the blade axis. Seen in various combinations were; a sturdy two-edged 'lancet' possibly for draining abscesses or releasing gas from ruminants stomachs; single-edged general

purpose knives suitable for trimming hooves or horns; various types of hook ('stone pick', 'hoof-searcher'). The examples seen varied from the simplest, one fleam blade plus one accessory, to complex examples with 3 blades plus 3 different accessories (fig. 1). The maximum number of components, in any combination was 6. Evidentally, a fleam blade was occasionally included among gadgets fitted to multi-bladed 'sports' knives popular in the 19th century (4, 5). A small number [6] has one or, in a single example, 2 thumb lancets fitted into carefully made slots in the horn shield (fig. 3).

Their size, well within the blade length of 30-47 mm determined by Kirkup (2) for human thumb lancets suggests they were intended for human use, and emphasises the contrast between human and veterinary instruments. Perhaps such lancets were used by rural veterinarians treating owners as well as livestock. Only 7 had cases; doubtless some have been discarded. Apparently the fleam was driven through the hide into the vein by a bloodstick, essentially a truncheon (1, 2); the only one found in this survey was French.

from a French catalogue of 1772 showing a fleam almost identical to that in figure 1 and they date 24 of 27 fleams to the 19th century, and also suggest horn shields were introduced late in that century (1) although others indicate horn was employed in Sheffield in the early 19th century (5). Often the workmanship was very high (fig. 2 & 3).

Fleams were listed in veterinary/medical catalogues although most were made by general cutlers; they rarely featured in trade adverts and were usually listed in catalogues as pen- or pocket knives (4).

Fig. 2. 3-blade fleam with curved arms and open-back curved brass shield with horn blade protector Note fine brass, horn and rivet work. (Parkin & Marshall, Sheffield, 19th century)

Makers and dating

Some chronological information is available about instrument makers and cutlers (3, 6); otherwise dating is difficult. Certain examples are crudely made with prominent rivets (fig. 1) which may indicate early manufacture but late 19th century models from the best makers (Rodger, Newton) differed in quality according to price. Davis and Appell reproduce a page

Fleam makers were exceptionally classified as such – the only one found being Samuel Borwick, listed in Sheffield from 1829-1865. Makers were recorded for 65 items; a further 5 only recorded a place of manufacture. Inevitably, most were British made [59] and others were probably British in origin. 39 were Sheffield made and 9, apparently, London made (see below). The commonest maker was Borwick

with 11 examples. Only 2 other makers were represented more than twice; Gregory with 3, and Newton with 4, both general cutlers in Sheffield (4). 8 were French, including 3 from Thiers, an important cutlery centre (3). Only one was known to be American. The apparent importance of Sheffield is probably greater than appears, for it dominated British edged implement making from the 1660's, and by 1849, 349 firms were making folding knives there (4). Certain Sheffield cutlers established London showrooms which has misled some (1, 6) whilst major London surgical instrument makers such as Weiss, Arnold and Down sold edged items made for them in Sheffield (3). It has been claimed that any 19th century English multi-blade instruments were "almost certainly made in Sheffield whatever the mark" (4).

Fig. 3. 3-blade fleam with one separate thumb lancet (blade length, 40mm) fitting into a slot in the horn shield. Note the fine backstrap, horn and rivet work. (Rodgers, Sheffield, mid-19th century)

Conclusion

Veterinary fleams may be grouped according to the material used for the shield or the number of blades and nature of any accessory items. Dating can be difficult and quality varies but the best are fine examples of cutlers' skills. Excellent fleams are readily available, remarkably cheap, and a representative specimen is worth a place in any collection.

VETERINARY FLEAMS, (N=100)		
Shield:	brass	67
	horn	28
	brass/horn	5
Blades:	three	71
	two	12
	one, four or five	17
Accessories:	pivoted	21
	separate	6
Maker:	name	65
	place or country only	5

Table 1.

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THREE INSTRUMENTS OF ARAB ORIGIN

NASIM H NAQVI

In May 2006 I travelled by road from Beirut in Lebanon to northern Syria, up to Aleppo, and then south to Damascus by the road known as King's Highway. From Damascus the same road continues south and about fifty miles from the ancient town of Bosra enters Jordan at the historical citadel called Karak. After visiting Biblical and other historical sites in Jordan our group flew back from Amman. During this long journey, apart from sight-seeing, I specifically sought out antique or junk shops for surgical instruments or medical artifacts. Despite restricted opportunity to visit the souqs, with some 20 tourists from UK, I was able to discover three instruments at antique dealerships in Aleppo and Damascus. Our guide in Amman informed me such items can also be found in Amman and other towns in Jordan.

I was astonished that the dealers demanded prices much higher than expected and no amount of skillful haggling would coerce them to reduce the price quoted in the first place. This contradicted completely the culture for which souqs of Arabian cities are well known. Moreover they opposed inflexibly any photography of their wares. This attitude was quite unexpected for which I have no clear explanation. Perhaps, through the internet, they have knowledge of the American medical antiques market and expect similar prices. But American antique dealers usually offer quality objects with authenticity, while the objects in souqs, although interesting, were not authenticated. In the absence of photographs three have been drawn as accurately as possible.

Multi-bladed fleam.

The item shown in figure 1 was a multi-bladed bloodletting knife similar to an English 18th-19th century veterinary fleam, which normally has a brass handle and steel blades. But this instrument was made entirely of steel, heavily rusted, without a maker's mark or place of manufacture and crudely made; it is doubtful if it was imported and may be a copy made locally. It had four bloodletting blades and a fifth smaller straight blade. The handle was about six inches long and a little more than one inch in width, quite robust with a loop for securing the instrument and, at the opposite end, housing to accommodate all the four fleams and the blade. The instrument was offered by an antique dealer in Aleppo for $300.00. An offer of $100 was sharply rejected.

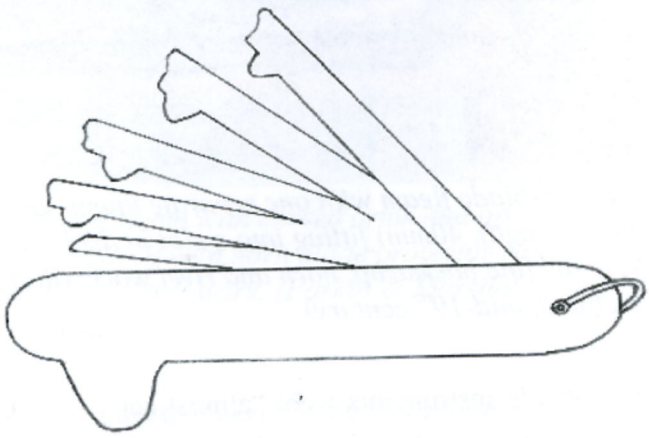


Fig.1. Multi-bladed fleam.

A tongue depressor.

The second item was a tongue depressor, approximately seven to eight inches long and one inch wide, probably made of bone although the dealer was selling it as "pure ivory". Slightly concave on one side and convex on opposite side, its ends were nicely rounded and similar in size and shape (Fig.2). It was impossible to ascertain its age, though the shopkeeper was sure that it was hundreds of years old. The price was $250.00 and no less; this was in an antique jewelry shop in the gold souq of Damascus, where a few other ivory items were also displayed. A

Fig.2. Tongue depressor made of bone.

fifty dollar note failed to conclude a deal.

A scalpel.

The third find was a scalpel, in my judgment a genuine Arabic surgical instrument found in another antique jewelry shop in Damascus. About ten inches long with a handle made of real ivory about seven inches in length and round in cross section. The blade was over two inches long and less than half inch wide with the typical lustre of Damascene steel the sharp edge extended to half the length of the rounded end. On one side of the blade an engraved mark could not be deciphered. The blade was attached to the handle with shining brass beading; the shortness of the blade excluded its use as a razor; the workmanship was impressive (Fig.3). The price was $250.00 and no less.

In the Arabic gallery of the National Museum in Damascus, I noticed only two items related to medicine. One displayed a few pages from a surgical manuscript of Albucasis and other two scalpels as described above, the difference being these

Fig. 3. A scalpel of Arabic origin.

had wooden handles. Unfortunately no description or information as to their origin or period was displayed.

As Arabic surgical instruments of any age are almost non-existent, finding three in the markets of ancient Arab cities is noteworthy and significant. Any one interested in collecting Arabic surgical instruments would find it fruitful to browse in the souqs of Syria, provided their pockets are full of dollars!

THE GEORGE MARSHALL MEDICAL MUSEUM, WORCESTER

JOHN PROSSER

George Marshall was a Consultant General Surgeon at the Worcester Royal Infirmary from 1950 to 1971. During his long life he amassed, from many sources, a fascinating collection of antique medical artefacts and medical books which were deposited in the grounds of The Ronkswood Hospital in Worcester. The collection was diverse from pap boats to pill silverers, and stethoscopes to bleeding bowls. After retirement, he presented the entire collection to the Postgraduate Centre where it was available for study by the medical staff and interested members of the public.

Fig. 1. General view of the museum with obstetrics and war surgery displays in the foreground

In 1997 the new Worcestershire Royal Hospital was being developed, with consequent loss of the Ronkswood site including the Postgraduate Centre, and a multidisciplinary Education Centre was planned within the site of the new hospital. By 1998 a decision was made to include space in the proposed Centre for a Medical Museum based on the George Marshall collection. To fund the cost of construction and fitting of the Museum, an application was made for a grant from the Heritage Lottery Fund in 1999 which was approved and, by early 2002, the Museum was open and receiving visitors. This was achieved by much hard work by Dr Frank Compton the historical adviser, Sophie Porter the Education Officer and later the Curator, and myself, assisted by the Museum Design Company. In addition to display of the collection, an oral history project was initiated by volunteer interviewers.

Fig. 2. Display of nineteenth century chemist's shop

Fig. 3. Leech jars and fleams

It has been policy of the Museum to provide a study centre for health care professionals and a source for the needs of pupils from local schools studying 'Medicine Through Time'. From 2002, the accent on education services to local schools has continued with classes visiting the museum and the Curator taking artefacts for teaching in schools. Since Laura Smart took over as Curator, she has expanded the educational role of the museum and has organised a course on the 'History of Medicine'. As experienced throughout the NHS, the Education Centre has come under financial constraint and grants have run out; the Museum may no longer be able to employ a full-time Curator and some involvement in local schools may have to be curtailed. It is to be hoped that other functions of the Museum will continue as before.

Fig. 4. Cupping jars and scarifier

Fig. 5. Amputation in the early anaesthetic pre-Listerian era

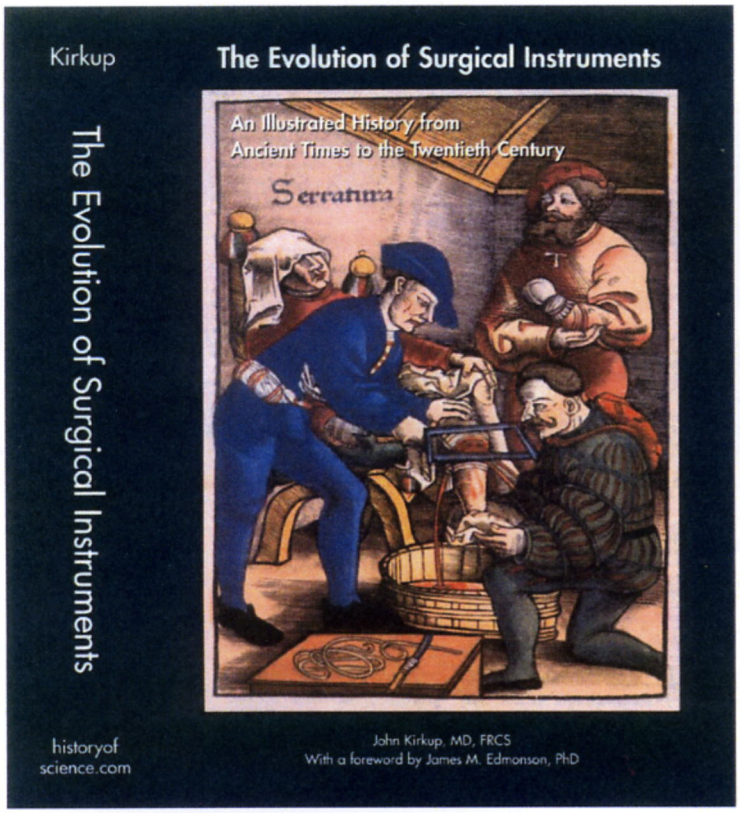
The Museum is open to the public from Monday to Friday, 10am to 4pm; visitors should check by phoning 01905 760738

RECENT BOOK OF INTEREST

John Kirkup, *The Evolution of Surgical Instruments: an illustrated History from Ancient Times to the Twentieth Century* (Novata, CA: historyofscience.com, 2005)

After a long incubation period (not the author's fault), John Kirkup's book finally arrives to fill an important gap in the history of surgery – and it is well worth the wait. Previous writers have ignored the true origins of surgical instruments and/or like Elisabeth Bennion, stopped with the introduction of all-metal heat sterilizable instruments. The author's novel approach is to trace the evolution of all basic instrument types, except the tube, from the instinctive, pre-technological use of hands, mouth, and teeth. Then, from an analysis of archaeological evidence, surgical treatises, catalogues and collections, he quantifies the introduction, rise and decline of organic, mineral, various metallic, and synthetic materials in constructing instruments to the present time. With this as a comprehensive introduction, he then describes the evolution and use of eight basic instrument types, eg. knives ('The surgical blade from finger nail to ultrasound'), spring forceps, needles, tubes, scissors, etc. Finally he discusses the detailed application of instruments to non-specialised procedures including haemorrhage arrest, wound closure, foreign body extraction, amputation, bloodletting and vaccination. If this makes it sound rather dull, it is not, for the author writes well with a light touch. Unfortunately some illustrations are rather small. Again not the author's fault and perhaps inevitable as an attempt to keep size and price of such an authoritative book within reasonable limits. However, scrupulously researched and referenced, lavishly illustrated and with a comprehensive index and list of museums in 25 countries, this book is highly recommended, and should stand alone as the ultimate source of information and reference on its subject for years to come. Only the introduction of new materials/techniques not yet available will date it.

Derrick Baxby

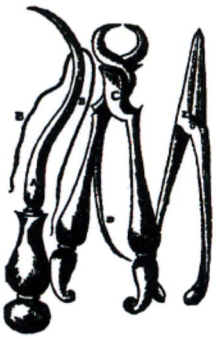


John Kirkup, M.D., F.R.C.S.

The Evolution of Surgical Instruments: An Illustrated History from Ancient Times to the Twentieth Century

xvi, 507pp. Frontispiece, 30 color illustrations, 527 black and white illustrations. Bibliography. Index. 8–1/2 × 11 inches. Cloth, dust-jacket, acid-free paper. ISBN 0–930405–86–2. $275.00

ABOUT THIS BOOK



The Evolution of Surgical Instruments is the first comprehensive work on the subject published in over sixty years, and arguably the most important general history of surgical instruments ever published. The only prior work on the subject, C. J. S. Thompson's *The History and Evolution of Surgical Instruments* (1942) attempted to cover the entire history in only 113 pages. Elisabeth Bennion's *Antique Medical Instruments* (1979) concentrated chiefly upon the aesthetic aspects of medical and surgical instruments to 1870. James Edmonson's comprehensive history, *American Surgical Instruments* (1997), focused on instruments manufactured in the United States up to 1900.

"Perhaps Dr. Kirkup's most useful and welcome contribution lies in his logical approach to the subject of surgical instrumentation. . . . He traces eight primary structural forms and their changes and evolution over time. . . ." (from the Foreword by James M. Edmonson, Ph.D.).

This publication is available from the Hunterian Museum of the Royal College of Surgeons, price £155 (excluding postage).

WHAT IS IT ?

The figure shows an angled saw blade which can be altered by loosening and then tightening the lever at its base. The handle is solid for holding in the palm. The instrument is nickel plated and marked 'Hilliard'.

We would be grateful for your views. Please phone, e-mail or write to the editor.

John Kirkup