The Historical Medical Equipment Society

Inaugural Meeting

Medical Instruments - Signposts to Medical History

Royal College of Surgeons, 34-43 Lincoln's Inn Fields, London WC2A 3PN

Saturday 12 April 1997

10.00	Registration and Coffee
10.30	Introduction to the Society. Background to its formation
11.00	General Meeting. Discussion of the aims and activities of the Society. Participants are invited to bring their suggestions. Election of Officers for 1997-8
12.30	Lunch
14.00	Short Papers a. John Kirkup on Instruments and Surgical History. b. Caroline Reed on pharmaceutical equipment. c. Tony Bennett on early anaesthetic equipment.
15.40	Tea
16.00	Workshop: discussion and identification of instruments and equipment.
17.00	Close

Participants are invited to bring instruments and equipment for discussion, or to identify, buy, swap or sell. If you plan to contribute please let Dr Kyriazis know when you register, or call him on 01604 30779 (evenings).

This meeting is generously sponsored by Philip Harris Medical-
'suppliers of medical instruments for 180 years'

The cost, to include lunch, tea and coffee, is £5.00 for HMES members, and £10.00 for non-members

To register, plese send your name and address together with your cheque to the Meetings Secretary, Dr M Kyriazis, 14 The Avenue, Northampton NN 5BT. An application for membership is included for the use of those on our mailing list who have not yet joined the Society. If you join at the time of registration for the meeting, the cost will be £15.00. Cheques should be made payable to the Society.

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Historical Medical Equipment Society

It is a better and a wiser thing to be a starved apothecary than a starved poet;
so back to the shop, Mr John,
back to 'plasters, pills and ointment boxes.'

John Gibson Lockhart 1818

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Editorial

As Chairman of your Steering Committee, it is my privilege to greet readers of the Historical Medical Equipment Society's first Bulletin. It is the Committee's hope that this will cement the Membership, and prove a regular communication to stimulate your participation and contributions.

Members and potential members, I believe, recognise the vital importance of artifacts in illuminating our appreciation of the heritage of medicine and related health specialities, be they medical practitioner, dentist, pharmacist, nurse, historian, museum curator or conservationist, collector, dealer, or equipment manufacturer. Many of you, I understand, seek information and opinions concerning the identity, discovery, acquisition, preservation and history of specific items or even whole collections. To this end, the Society should prove a stimulating forum, for specialists and non-specialists alike, in encouraging the exchange of expertise, the resolution of uncertainties, and, I very much hope, active research into the history and development of medical equipment, thus far a somewhat neglected topic.

My own field of enquiry concerns surgical instruments, particularly their origins and materials of fabrication. For this a knowledge of surgery is not enough and I have found myself battling to interpret archeological, ethnological, botanical, zoological, metallurgical, technological and manufacturing evidence, as well as the history of surgery. More often than not it has been an isolated struggle as sympathetic opinions in these disciplines have been difficult to identify. Perhaps some of my queries, and yours, may be answered if the Society attracts a broad range of experts. Indeed our net is cast wide to appeal to those interested not only in operative, but in diagnostic instruments, prosthetic implants (dental, orthopaedic, vascular, etc), anaesthetic equipment, orthotic equipment (bandages, splints, dressings etc), pharmaceutical jars and apparatus, veterinary instruments and equipment, disposable items, and alternative medical equipment. We hope to attract speakers to meetings for specialist views on instrument manufacturing methods (past and present), archaeological aspects of medical artifacts, materials science considerations (analyses of steels, modern alloys, etc), recent endoscopic developments, the use of lasers, ultra-sound and other rays (today and in the future), and so on. We will, of course be guided by the membership on these matters.

As yet we are at the fledgling stage, much in need of your advice and assistance. To this end your Committee has planned an Inaugural Meeting on 12 th April 1997 (see details elsewhere in this Bulletin), and we look forward to your participation in the election of officers, in clarifying objectives, considering a constitution, debating future activities and discussing any other subject that the membership feels is relevant. If you cannot attend the meeting, please write with your queries and suggestions. In the meantime do not hesitate to contact the Secretary or myself (01225 423060) for further information.

John Kirkup
Chairman

This fist issue of The Bulletin has been edited by Dr David Warren pending elections on April 12th.

From Wood, Bone and Stone to Stainless Steel

Interpretation of discarded instruments, apparatus and equipment, medical or otherwise, usually demands identification of the material or materials of fabrication or composition. Frequently, this information enables an object to be dated with some accuracy, recognising that the date may span several centuries, as, for example, bronze Graeco-Roman items. In addition, recognition of modified materials often suggests a more accurate date, for example the application of nickel plate to steel or the decorative form of pharmaceutical jars.

In this brief communication, the evolution of materials in relation to the historical development of surgical instrumentation is considered. The general conclusions apply to other forms of medical equipment.

Today, the severe irritation and pain caused by a buried thorn in a foot promotes instinctive reactions to extract it, using either one's own fingers, nails or teeth, or those of a friend or relative. These symptoms and actions must apply equally to Old Stone Age man, except that faced with extraction failure, he could not fall back on more sophisticated aids, available to modern man. However, at some stage, early man selected a sharp stick, piece of bone or another thorn to assist the extraction process. He could not employ metallic tweezers or needles, for history confirms metal refining was yet undiscovered. Later he may have found a flint flake of assistance in extending wounds for access to larger embedded foreign bodies. I conclude that the extraction of thorns, splinters, flint chippings, arrow heads and similar irritants formed an early branch of surgery and a stimulus to organic and mineral instruments selected for this purpose.

Before the appearance of written records, archeological evidence establishes one of mankind's greatest achievements, the extraction of metallic copper from its ore, between 4000 and 3500 BC. As Childe has commented: 'The superiority of copper weapons over those of bone and stone was almost as decisive as that of firearms over bows and arrows.' Soon copper was hardened with tin to form bronze, an alloy which dominated weaponry for over 3000 years. Whether copper and bronze were employed surgically is unknown before about 400BC when Hippocrates advised the alloy for surgical instruments. Bronze finds at Pompeii, buried by Vesuvius in AD 97, confirm the importance of this material to medical and surgical practice which continued throughout the Roman period. Estimates indicate that some 80% of these instruments were composed of bronze, and at least 14% of iron or 'steel.' Unlike bronze, the ferrous materials have corroded severely or disappeared.

Following the collapse of the Roman Empire, identifiable surgical instruments are exceptionally rare until the Renaissance. As there is no reason to suppose that all surgical actions ceased during the battles of the Middle Ages, arrow extractions and so on must have continued, using 'steel' pincers and tongs. To account for this remarkable archeological hiatus, it is suggested that bronze was replaced completely by low quality iron and steel which, in the case of small items such as instruments, have corroded totally. This enigma requires further investigation.

Technological advances in steel quality took place slowly and it is not before the 16th century, and more evidently in the 17th, that examples of surgical instruments survive. Even so, the steel of the period necessitated amputation knives and saws of heavy construction to prevent breakage during use. More refined instruments did not appear before

the later 18th century when crucible or cast steel became available. This type of steel remained the main source of fabrication until stainless steel appeared in the 1920's.

However, other materials must not be overlooked. Silver has been influential since Roman times as probes, cannulae, catheters and tracheostomy tubes; when hallmarked such items can be dated precisely. In addition brass was important in the 18th and 19th centuries, contributing to scarificators, spring lancets, tourniquet screws, syringes, speculae, and especially as rivets for thumb lancets, scalpels and many objects combining steel and organic materials. From about 1830 German silver, an alloy of copper, zinc and nickel became a rival to brass and silver for sounds, bougies, scarificators, syringes, and and other equipment, until displaced by nickel and chromium plated steel at the end of the 19th century. Even gold or gold plating, lead, pewter and platinum made minor contributions until very recently.

Wood, bone, horn, ebony, tortoiseshell, ivory, mother-of-pearl and agate formed the handles of many instruments for centuries until dramatically eliminated within a few years. This took place between 1883 and 1893, following the introduction of thermal sterilisation for instruments, dressings and theatre clothing. As a result, organic materials were warped or destroyed immediately, and an immediate solution to their failure became imperative. Almost overnight, handles were made of cast steel and nickel plated, to prevent rusting due to boiling water and superheated steam damaging unprotected steel. Initially such handles were solid metal replicas of their much lighter organic precursors. This caused imbalance in the hand and techniques for reducing weight by narrowing, scalloping, fenestration and by the introduction of hollow handles followed rapidly.

If nickel and chromium plate quickly dominated surgical instrument manufacture, this did not last long as stainless steel, discovered in 1913, began to displace plating from the early 1920's. More expensive than plated cast steel, it became obvious that stainless steel items, free from the peeling and chipping problems of plate, had a much longer working life and ultimately were more economic. Until recently, stainless steel provided over 90% of instrument materials in some catalogues. Nevertheless, in Europe generally, disposable scalpel blades have continued to be made from cheaper and sharper cast or carbon steel. Finally, it must be appreciated that steel incorporates a wide range of materials of different qualities; for instance, the International Standards Office approves 16 different chemical formulae for stainless steel to manufacture surgical instruments.

Stainless steel is now in retreat as disposable items, minimal access surgery and endoscopic methods flourish, but that is another story.

January 1997 **John Kirkup**

Book Reviews

Ancient Egyptian Medicine, John F Nunn, British Museum Press, 1996, ISBN 0-7141-0981-9 240pp, Hardback £25 This absorbing book, by an experienced physician and Egyptologist, covers many aspects of Egyptian medicine in a systematic way, and includes much of intrigue to those interested in medical equipment. Medical papyri, patterns of disease, and knowledge in the fields of surgery and trauma are reviewed. A chapter on healers discusses doctors, veterinary and dental surgeons, and speculates on the possible role of pharmacists and nurses. The 80 B/W illustrations include many showing artifacts associated with medical, surgical and pharmaceutical practice, including inscriptions on stelae and on archaeological finds. The appendices include a fascinating table of hieroglyphs associated with disease. (This makes an excellent companion to Doctors and Diseases in the Roman Empire by Ralph Jackson, also a BM Publication, 1988 ISBN 0-7141-1398-0). Ed

Eye and Instruments, Isolde den Tonkelaar, H E Henkes & G K van Leersum, Batavian Lion, Amsterdam, 1996, ISBN 90-6707-400-4 301pp Hardback £58 This superb book, with its comprehensive, and beautifully photographed colour illustrations, is a catalogue of 281 items dating from 1853 to 1903 in the former Netherlands Hospital for Eye Patients. Instruments and equipment for external and internal examination of the eye, for determination of visual acuity and visual fields, tonometers, model eyes and teaching equipment for trainee surgeons are all well illustrated, as is equipment for detecting malingerers! Experienced collectors will find some gaps, but I have found this book valuable in helping to identify unusual model eyes and ophthalmoscopes found on the continent. A magnificently produced publication, and a pleasure to own. Ed

Weir's Guide to Medical Museums in Britain. The Domus, Royal Society of Medicine, 1 Wimpole St, London 1996 £11 This fascinating book introduces many medical collections in local and county museums. Details of spas and physic gardens are also included. This volume has been revised and updated, and has been recently re-published in pocket size by the RSM. Ed

Auction News

Christies have some 'interesting Italian gynaecological and other instruments' in their 13 March sale, and there will be further sales of medical instruments and equipment on 5 June and 13 November. For further information in the week before the sale contact Jeremy Collins at Christies, 85 Old Brompton Road, London SW7 3LD.

Sotheby's Scientific Instrument sales on 7 March and 3 October 1997 will include medical instruments and equipment, spectacles and optical equipment in the price range £200-5000. Catalogues may be purchased for £14, but the specialist responsible for the sale, Jon Baddeley, will be pleased to reply to letters of enquiry from prospective purchasers who have specific interests. Write to him at 34-35 New Bond St, London W1A 2AA

Museums

The Paris Museum of the History of Medicine is in the medical school building of the Université René Descartes, 12, rue de l'Ecole de Medicine, 75006, Paris. Open in the afternoons. (Call 01.40.46.16.93) An excellent compact exhibition of some very early instruments, and many examples of French instrument making from the 19th century, including comprehensive surgical sets and some fine early cardiovascular instruments. The labelling is patchy, and information very inadequate for informed visitors. Be prepared to fight your way through crowds of medical students waiting for lectures! Ed

The Dental Museum, Musée Pierre Fauchard, is at 22 rue Emile Menier, 75016 Paris, but is only open by appointment on Wednesday afternoons. (Call 01.45.53.40.05) There are outstanding instruments and presentation sets, and a very good illustrated publication.Ed

A new museum of Spectacles (The Brilmuseum) has opened in Amsterdam. Founded by Jan Teunissen, an optician, collector and

dealer, the museum, at Gasthuismolensteeg 7 (Tel 020 4 212 414), is close to the Royal Palace in Dam Square, and open on Wednesdays and Saturdays from 1200 to 1800 hours. Most of the material is from 1875-1975, and comprises spectacles and optician's equipment and ephemera. Ed

Members Wants

A doctor recreating an **Edwardian consulting room** wishes to purchase a suitable oak examination couch, room screen and other contemporary items. Details to Dr Tim Watkins-Jones, The Practice, Queensferry, Flintshire. 01244 813340

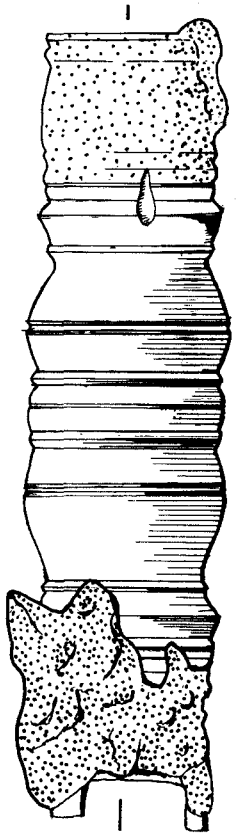
Dr Marios Kyriazis is researching **portable injection cases** - usually containing syringes, needles, ampoules of drugs for injection, or, in some cases tabloids or powder for reconstitution using a pestle and mortar, and bottle of solvent. If you have such sets, or information about them, please call Dr Kyriazis on 01604 30779

Can you help?

The Slovenian Health Museum is being founded in Ljubljana, and Dr Slavec, the Head of the Institute for the History of Medicine would value help in identifying 'many historican medical instruments in our collection.' Please contact the Secretary for further details if you can help.Ed

The Leisure Services Department of Tameside Metropolitan Borough is establishing a permanent display on medicine and public health at their new museum in Ashton-under-Lyne. They wish to design a 1920's general practitioners surgery, and are keen to find artefacts and photographs from that era. Please contact Ronan Brindley, Tameside Museum Service, Heginbottom Mill, Ashton-Under-Lyne OL6 7SF; Tel 0161 343 1978.

The Mary Rose Trust has asked for help in identifying wooden instrument handles, the contents of 13 ointment canisters, pewter plates and flasks and for help in identifying the fractures and their treatment in 23 human bones - all found in the barber surgeons cabin on this 16th century ship. They require expert help, and detailed research in order to prepare a final report. All material is in a conserved state, and full details and photographs can be made available. If you can help. please contact the Secretary, HMES.



A cherry wood handle from the Mary Rose. ?saw or trephine. Approx half full size. With acknowledgement to the Mary Rose Trust

Classified Advertisements

Wessex Medical Antiques buy and sell antique medical instruments and offer valuation services. Free illustrated catalogue from PO Box 85 Portsmouth PO6 2BB UK, Fax 01705 201479 e-mail:101767.2756@compuserve.com http://www.thesaurus.co.uk/wessex/

Movements

Elisabeth Bennion, the specialist dealer in antique medical instruments (and author of Sotheby's publications on Antique Medical Instruments and Antique Dental Instruments) has left Grays Antiques Market, and from 8am to 2pm on Saturdays only deals from 286 Westbourne Grove, London, W11. At other times she can be contacted at 96 Pelham Road, London, SW19. (Tel 0181 543 0043)

Meetings

The **Inaugural Meeting of this Society** will be in London on 12th April 1997. See full details at the end of this bulletin

The Old Operating Theatre and Herb Garret plan a series of lectures, and full details are available from them at 0171 955 4791. Of particular interest to members is a *150th Anniversary Lecture on Anaesthesia* on Sunday 2 March at 2.30pm

The Freud Museum have a day of lectures on *Freud and the Literary* on Sunday 15 March. For a programme and further details call 0171 435 2002

The Historical Medical Equipment Society

The Society was launched in October 1996 and a Steering Committee appointed under the Chairmanship of Mr John Kirkup, FRCS. The committee members are Dr David Warren (Secretary and Treasurer) Dr Marios Kyriazis (Meetings Secretary), Mrs Sue Weir and Mr John Maynard. Elections of officers for the year 1997-8 will be held at the meeting on 12 April 1997.

All communications should be addressed to the Secretary, 77 Carmarthen Ave., Portsmouth PO6 2AG, Fax 01705 201479; from whom membership application forms may be obtained. These outline the objectives and activities of the Society, and the subscription of £10 for one year includes 2 or 3 issues of the Bulletin, and reduced fees for meetings.

The Editor of the Bulletin invites papers, notices of meetings of specialist societies, book reviews, auction news, contributions for the 'Wants and Offerings' section and news of museums and lectures. Please address all contributions to the Secretary, HMES.