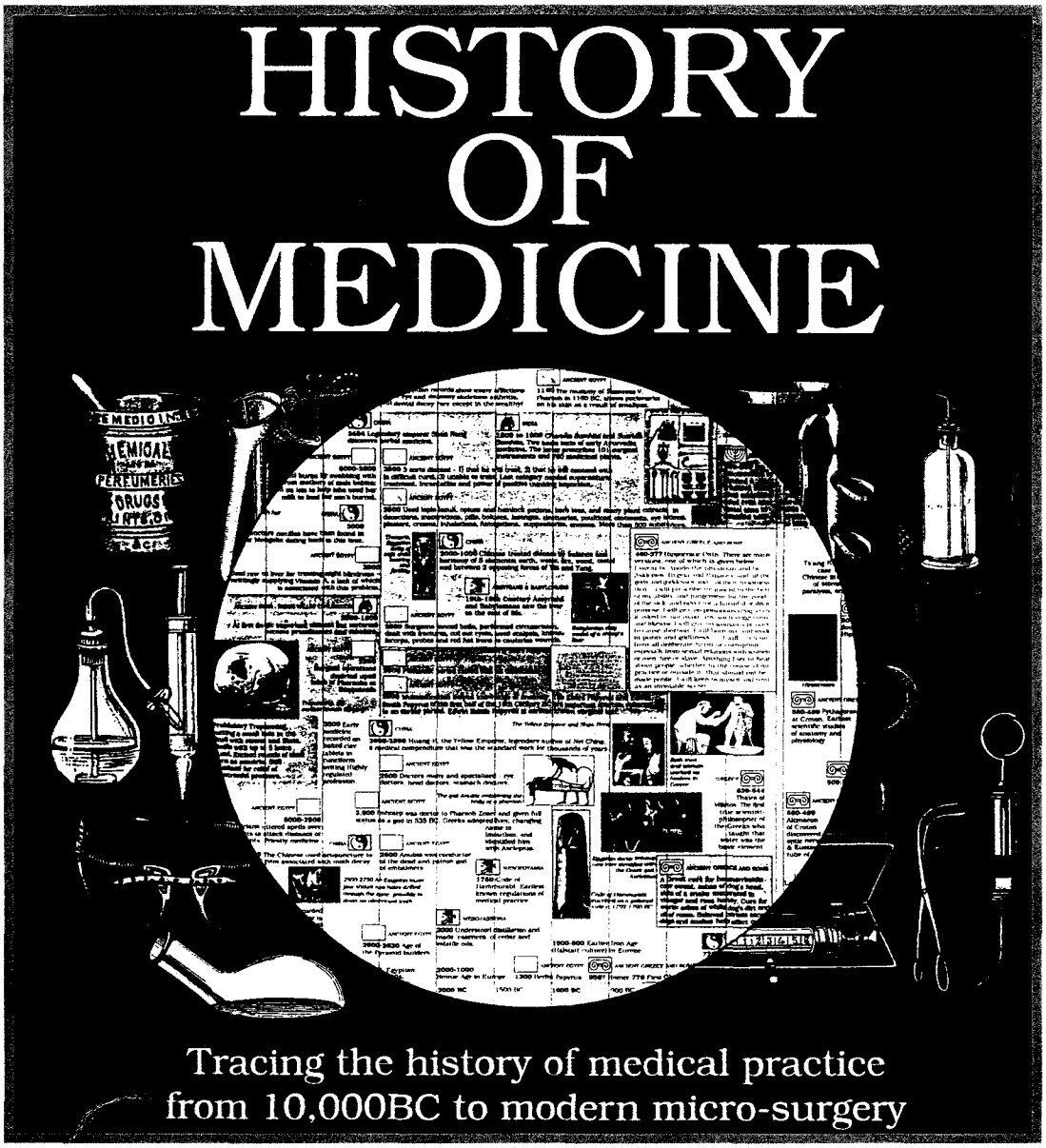
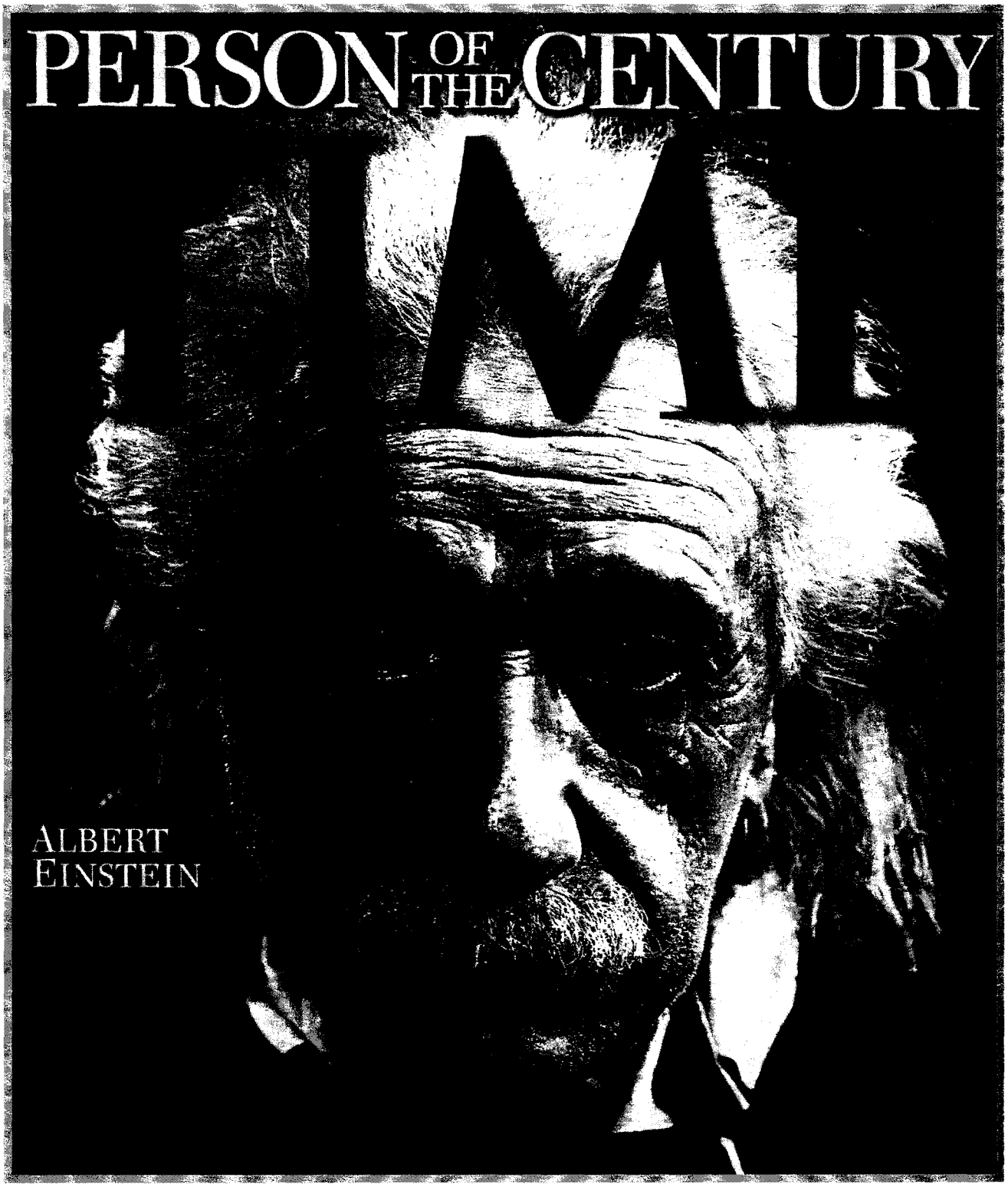
Historical Medical Equipment Society London



BULLETIN NO. 12 ISSN 1366 - 4719 AUGUST 2004



ALBERT EINSTEIN
(1879 - 1955)

NOBEL LAUREATE IN PHYSICS, 1921
THEORETICAL FATHER OF "LASER"
(Light Amplification by Stimulated Emission of Radiation:
His only but superb contribution to medicine)
"We shall require a substantially new manner of thinking if mankind is to survive".

HISTORICAL MEDICAL EQUIPMENT SOCIETY, LONDON
Bulletin No. 12, August 2004, International Standard Serial Number (ISSN) 1366-4719

EXECUTIVE COMMITTEE

NEXT MEETING

Venue: **The Medical Museum, Manchester**
Date: **Saturday October, 16, 2004**
Organiser: **Dr. Peter Mohr**

Fuller details of the meeting and programme will be circulated nearer the date, but please put this in your diaries NOW!

CONTENTS

Epitaph by Alexander Pope (1688-1744) on Isaac Newton's (1642-1727) Tomb in Westminster Abbey:
"Nature and Nature's Law lay hid in night; God said, Let Newton be! and all was light".

EDITORIAL

BRISTOL MEETING. APRIL. 2004

Despite last minute difficulties due to the sudden illness of our organiser, the April meeting at Glenside Psychiatric Museum, Bristol was a great success for which we thank Peter Carpenter and Tim Smith. Twenty four enthusiastic members attended on a beautiful spring day, starting in the Blackberry Hill Hospital where papers were read and an excellent lunch enjoyed.

David Goodwin described the drama of Brunel's inhalation of a coin and its eventual recovery, and then mesmerised us with a sophisticated conjuring trick using a real half guinea. David also displayed a recent acquisition of the Reading Medical Museum, a very complete field surgical kit pocketed in a canvas roll, from World War Two with relevant documentary evidence of its owner. M. I. Shaikh enlightened us on the subject of surgical instruments pictured on postage stamps, some of which were noted to be inaccurately depicted and even unidentifiable. Peter Carpenter, Consultant Psychiatrist at the hospital, discussed the development of psychiatric care at Glenside and then introduced us to the museum, a short walk away in the former hospital chapel; this large space was full of impressive items reflecting all aspects of life in a psychiatric institution until some 30 years ago, including diagnostic and therapeutic instrumentation. Earlier your Chairman introduced the topic of instrumentation devised to open the mouth for inspection and treatment, illustrating the subject by demonstrating actual instruments which were circulated to the audience for close inspection. As this was found to be a valuable method of illuminating the subject, speakers might consider illustrating future talks in this way, whenever such a demonstration is a practical possibility.

At this meeting, we welcomed a number of new members and persuaded one of them, Peter Mohr, Curator of the developing Medical Museum in Manchester, to hold our next meeting there on 16th October, 2004. We look forward to seeing you all in Manchester.

Meanwhile, do not forget to share your experiences of visiting obscure or special collections by sending the editor a short account. It is clear there is more than we imagine hidden away and we need to hear of your visits, especially abroad; remember communication is a prime objective of our Society.

JOHN R. KIRKUP
CHAIRMAN

" Practice all the operations, performing them with each hand and both together – for they are both alike – four object being to attain ability, grace, speed, painlessness, elegance, and readiness."

- HIPPOCRATES (460 – 356 B.C.)
Father of Rational Medicine

COMMENT

MEDICAL PHILATELY

'Philately' is concerned with the Collection and Study of Stamps. 'Philately' originated from the Greek word – 'philo' – loving + 'ateleia' – (a negative; to tax) exemption from payment, used in reference to a franking mark or postage stamp exempting the recipient from payment. The term 'philately' was coined in 1864 by a Frenchman Georges Herpin. The first recorded sale of adhesive stamps took place on May 1, 1840 in England. The first list of stamps was issued in 1861 by Oscar Berger-Hevrault in Strasbourg and Alfred Potiquet in Paris.

Portrayal of medical historical subjects on stamps is of great interest globally.

Stamps are ubiquitous. In most countries they represent the major interest in the history, geography and culture of the people. Stamps also convey these interests to people of other countries. While an individual artist may be occasionally driven to illustrate contemporary popular medical interest – stamps reflect these concerns more.

Medical historical stamps can be put in three categories (1):

1. Paintings and Sculptures associated with medicine. Few persons have the opportunity of seeing the original – stamps bring them to the attention of many. Examples are Trumbull's painting of the Declaration of Independence (U.S.A. and other countries) showing three of the five physician signers; Billroth in the Operation Theatre (Austria) and the first public demonstration of Anesthesia (India).

2. Portraits of medical personnel, past and present. Examples include Hippocrates on stamps of various countries, Florence Nightingale (various countries), Clara Maass (USA and Cuba). A subsection of this are people famous for some specific achievement such as the first Women Medical Graduates (various countries) and the Nobel Laureates in Medicine or Physiology (various countries).

3. Stamps that reflect and emphasize global concern of health and disease. Examples include Drug Abuse, Smoking, Cancer and AIDS, and on the positive side, the eradication of smallpox. Many nations (including the U.S.A.) are issuing stamps to celebrate the end of the Millennium. Often the subjects are chosen by popular vote. The stamps in this group particularly illustrate the people's concerns.

SISIR K. MAJUMDAR
EDITOR

Reference:

1. Chakravorty, R.C. (2000),: 'Medical History, Art and Philately' – Paper presented at the 37th International Congress on History of Medicine, held at Galveston, Texas, U.S.A. (Sept 10-15), under the auspices of the International Society for History of Medicine (ISHM).

"The heart of animals is the foundation of their life, the sovereign of everything within them, the sum of their microcosm, that upon which all their growth depends, from which all power proceeds"

- WILLIAM HARVEY (1578-1657)

"Excitatio Anatomica de Moto Cordis et Sanguinis in Animalibus" (1628)

"Chronology is the iron foundation of all historical work"
– Medical Historian: HENRY E. SIGERIST (1891-1957)

YEARS TO REMEMBER
YEAR 1543 A.D.

PUBLISHED:

- "De Humani Corporis Fabrica" (On the Fabric of Human Body)
  - By ANDREUS VESALIUS (1514 – 1564)

- "De Revolutionibus Orbrium Coelestium" (On the Revolution of Celestial Bodies)
  - By NICOLUS COPERNICUS (1473 – 1543)

YEAR 1564 A. D.

DIED: MICHAEL ANGELO DI LODOVICO BUON ARROTI SIMON (1475-1564)

BORN: WILLIAM SHAKESPEARE (1564-1616)

YEAR 1642 A. D.

DIED: GALILEO GALILEI (1564-1642)

BORN: ISAAC NEWTON (1642-1727)

BORN ON THE 300TH ANNIVERSARY
OF GALILEO'S DEATH: STEPHEN WILLIAM HAWKING (1942 -)
-Currently holds Newton's Chair as Lucasian Professor of Mathematics at Cambridge University.

PERSONAL RECOLLECTIONS OF SIR JOHN CHARNLEY

John R. Kirkup

The Wrightington Hospital, near Wigan, visited by HMES under the guidance of Paul Hughes on 11th October 2003, was originally a tuberculosis sanatorium where Sir Harry Platt, orthopaedic surgeon at the Manchester Royal Infirmary, consulted to treat tuberculosis joints requiring long-term care and surgery. It has since become a world famous centre of orthopaedic excellence and, indeed, from 1960 was the first institution to specialise in hip replacement surgery.

When tuberculosis of bones and joints declined, mainly due to the pasteurisation of milk which killed the bovine bacillus, the hospital's future became uncertain. Fortunately, John Charnley, a very energetic protégé of Sir Harry, was appointed to Wrightington where his proposal to found a Centre for Hip Surgery was readily accepted in 1958. However, he was still attached to the Manchester Royal Infirmary where the writer worked on his unit, as a surgical trainee during 1958 and 1959, years when osteoarthritis of the hip was treated routinely by osteotomy, cup arthroplasty and arthrodesis, accepted solutions at that time. Charnley's fellow orthopaedic surgeon on this unit was David Lloyd-Griffiths, a brilliant teacher with an encyclopaedic command of previous orthopaedic achievements and literature; by contrast John Charnley was only moved to teach when discussing technical aspects of treatment such as the fixation of fractures, the mechanics of splintage and traction or his latest operative technique for relieving osteoarthritic hips. In essence, Charnley's spoken comments had little connection with past achievements and only became animated when he debated future possibilities; the remarkable contrast between the two teaching rounds was striking, yet both were fascinating for apprentice surgeons aiming to take their final fellowship. One particular incident sticks in my memory and underlines Charnley's emerging infatuation with hip surgery, to the exclusion of other problems. Attending his general out-patient clinic, as an observer, I noted his temper rising as the first three patients all complained of low back pain or sciatica; when the fourth admitted similar complaints, he jumped up and said to me "I've had enough of bloody backs, I'm leaving. You carry on", and off he went, probably to the workshop at Wrightington.

Charnley was aware of the possibility of total joint arthroplasty, a procedure already explored elsewhere by a few surgeons, particularly by Kenneth McKee in Norwich with whom I had the privilege of working from 1956 to 1958. Indeed, McKee had started total replacement in 1951, using chrome-cobalt cups and stemmed balls located in bone without cement, nevertheless achieving a number of excellent results. Although I did not know it, Charnley had begun to experiment, in 1958, with methyl methacrylate bone cement as a filler or grout to locate metal components securely in bone. This had already been tied by Habousch in New York without finding a satisfactory method of fixation. By contrast, Charnley was much bolder in his approach, achieving a sound technique to immobilise metal and plastic prostheses totally in bone; indeed this was the breakthrough which ensured successful total joint replacement. In the same year, he appointed an engineering technician at Wrightington, to be followed by the erection of a biomechanical workshop to make prostheses and instruments, and to test the wear of plastics against metal; only after this experimental work did he contemplate actual surgery.

After various difficulties and one disaster, Charnley solved the problems of prosthetic materials between 1963 and 1968, to achieve predictable pain-free mobile joints

for those crippled by hip pain and stiffness; most patients were given a new lease of life lasting many years. The operation demanded a large armamentarium of novel instruments, mostly designed or modified by Charnley himself, and exclusively made by Thackray's of Leeds. Wrightington became a Mecca for surgeons world-wide and indeed those wishing to take up his procedure had to spend several days at Wrightington under instruction by Charnley before their hospital received permission to purchase his instruments and prostheses. I remember such a visit with half a dozen fellow surgeons in late 1960's when he was operating in the Howarth 'greenhouse'; we were rigorously quizzed on his latest technique, and sternly warned about the choice of patient and so on.

Sir John Charnley was a perfectionist and continued to conduct intensive research into all aspects of joint replacement after his retirement, until his death aged 70 years in 1982.

BIBLIOGRAPHY

1. Charnley, J., Low Friction Arthroplasty of the Hip, Theory and Practice (Springer: Berlin 1979)

2. Waugh, W., John Charnley, The Man and the Hip (Springer, London 1990).

"History will be kind to me for I intend to write it"

SIR WINSTON LEONARD SPENCER CHURCHILL (1874 – 1965)

Nobel Laureate In Literature, 1953

DOCTORS IN MUSIC: THE MUSICAL MAESTROS

Kasper Bartholin	**(1585 - 1629)**
Robert Boyle	**(1627 - 1691)**
Herman Boerhaave	**(1668 - 1738)**
Leopold Auenbrugger	**(1722 - 1809)**
Oliver Goldsmith	**(1728 – 1884)**
Hector Berlioz	**(1803 - 1869)**
Herman Von Helmholtz	**(1821 - 1894)**
Theodor Billroth	**(1829 - 1894)**
Alexander Borodin	**(1833 - 1887)**
Albert Schweitzer	**(1875 - 1965)**
(Nobel Laureate for Peace, 1952)	
Fielding Hudson Garrison	**(1870 – 1935)**

And many others.

SOURCE:

Strohl, L. E., Jamieson, R. W. and Diffenbaugh (1974):
Physicians – Musicians
Perspectives in Biology and Medicine Vol.17, pp.267 - 285

BRUNEL, BRODIE AND THE VANISHING HALF SOVEREIGN

David Goodwin

Isambard Kingdom Brunel is universally known for his engineering feats. Medical history records his fate following the performance of a simple magic trick for his children. This has been described previously (Dawes 1982).

On 3rd April 1843, Brunel was entertaining the family. The half sovereign, similar in size to the old sixpenny piece, was placed in the mouth and reproduced from his right ear. On this occasion the coin was inhaled, entering the respiratory passages and lodging in the division of the windpipe (trachea) to the right lung. This produced intermittent bouts of coughing. Examination by Dr Seth Thompson with the stethoscope, described in 1819 by Lannaec, confirmed the diagnosis. Several unsuccessful attempts were made to expectorate the coin. The intrepid engineer built a tilting board on which he was strapped and inverted. On 19th April Sir Benjamin Brodie, surgeon to St George's Hospital, and his entourage examined Brunel, confirmed the diagnosis and sanctioned further use of the tilting board, without success (Brodie, 1843).

On 27th April an opening was made in the trachea (windpipe) in the neck without anaesthesia. This was not available until 1847.

Several attempts to extract the coin with forceps was unsuccessful.

Finally, on 13th May, permission was given to make a further attempt with the tilting board. The patient was strapped to it and inversion produced a bout of coughing. As a result the coin was forced into the mouth behind the incisor teeth. The symptoms were immediately relieved, recovery was uneventful and the neck incision healed.

This story gave me an excellent opportunity to present the case history and perform a modern version to The History of Medicine Society.

Following a short slide presentation of the medical facts to a rather sleepy audience, before lunch on a Saturday morning a real gold Victorian half sovereign was initialed by a member of the audience, vanished and reproduced in a tumbler of confetti inside a locked box. There were no medical complications!

The subsequent response of the audience confirmed magic not only to be an excelled way of enlivening an audience, but that it is still popular entertainment.

REFERENCES

BRODIE BC (1843) Proc Med Chir Soc 26, pp 286-297.

DAWES, EA (1982) 'A Rich Cabinet of Magical Curiosities'
Magic Circular, 76, pp 6-7.

"Everything has its beauty and not everyone sees it".

- CONFUCIUS (K'ung Fu-tzu – c550-c479 B.C.) of CHINA

THE ANCESTRY OF MOUTH GAGS : A DEMONSTRATION

John R. Kirkup

"You must hold his mouth open with a
piece of wood wrapped in linen,
and give him a drink"

Edwin Smith Papyrus, c. 1550 BC

Without a specific interest in mouth gags and their predecessors, I have accumulated a number of these instruments haphazardly. On enquiry, no publications were found analysing their significance and development, hence this communication is a spontaneous initial survey, hopefully to stimulate others to examine the subject the more detail. As the metallic mouth gag is a late introduction, particularly associated with advanced anaesthesia far outside my experience, most comments are directed towards its predecessors and related instrumentation devised for opening or enlarging the oral cavity.

A preliminary analysis suggests two main functional categories:

(a). Instruments applied with patients awake and, generally, with their active co-operation, mainly for diagnosis; these include tongue depressors, spatulae and the speculum oris of older writers (Fig. 1). In practice, patients must be prepared to open the mouth widely and tolerate downward pressure on the tongue. This promotes a view of the teeth, tonsils, uvula, back of the pharynx and fuller observation of the tongue itself.

(b). Instruments applied when patients are unconscious, fitting, wilfully refusing food or medication, or anaesthetised, mainly for their treatment; these include tongue forceps (Fig. 2), jaw openers (Fig. 3), mouth dilators, mouth wedges, tooth props (Fig. 4) and mouth gags (Fig. 5); tooth props may be tolerated consciously. Tongue forceps apply traction to a swallowed tongue to improve the airway; metal jaw openers separate the teeth when the jaws are clenched tight by muscle spasm; wooden dilators and wedges are gentler, especially for children, being less likely to damage teeth; mouth gags relate especially to anaesthetic measures to provide surgical access for tonsillectomy, cleft palate repair, complex dental and maxillo-facial procedures. Examples of the following instruments were circulated for the audience to inspect, supplemented by illustrations on cards.

TONGUE DEPRESSORS AND SPATULAE

1. A modern wooden spatula; this reflects 'the piece of wood' of the Ancient Egyptians, and is equally disposable.

2. Solid metal spatulae in silver (hall-marked 1980), silver plate (19th C) and stainless steel (20th C).

3. Metal wire spatulae (20th C), one folding in two equal parts (Wise's).

4. Angulated stainless steel depressor (Lack's 20th C).

5. Dismountable cast steel on tortoiseshell handle for pocket case (19th C).

6. Semi-precious banded agate, for infants, 90 by 13mms, very probably designed to impress rich or aristocratic families in the 19th Century.

TONGUE FORCEPS

7. Spring forceps holder, plated steel and ebony (Bartholome's, circa 1895) (Fig. 2K).

8. Pivoting forceps, fenestrated with catch, stainless steel (Guy's patter, 20th C).

9. Powerful cross-action spring forces, stainless steel (Laborde's 20th C).

10. Pivoting forceps with pliable fenestrated jaws, plated steel (Cohen's 20th C) (Kindly lent by Adrian Padfield).

11. A spring forceps clip with pin and catch, plated steel (Gardner's 20th C).

JAW OPENERS AND MOUTH WEDGES

12. Screw controlled opener or mouth wedge, plated steel, Heisters 18th C pattern (20th C) (Fig 3 K).

13. Pivoting dilator with spring resistance, plated steel (Collin's 20th C).

MOUTH GAGS AND TOOTH PROPS

These were developed for general anaesthesia and oral surgery. An early version with asymmetrical jaws was associated with Fergusson for cleft-palate. However, in 1907 Colt who carefully reviewed available gags and measured the oral features of 500 patient's, advanced his own design similar to Fergusson's but with an attached anaesthetic tube (1). Colt also stated that Coleman's dental gag of 1861 (2) was the earliest such gag.

14. Incentric forceps, asymmetric jaws protected by rubber, controlled by an engenious square rack, stainless steel (Fergusson's gag 20th C) (Fig 5K).

15. Incentric forceps, equal rubber protected jaws, controlled by transverse rack, plated steel (Doyen's gag, 20th C) (Fig 5 L).

16. Complex incentric forceps, indentations for teeth, adjustable tongue spatula, rack control, plated steel, (Whitehead's gag 20th C).

17. Spring controlled bar with two limbs for teeth, protected by rubber (Baillou's mouth prop, 20th C).

18. Complex frame with four adjustable components, stainless steel (Davis-Boyle gag, 20th C).

CONCLUSIONS.

This abbreviated account of devices to investigate, enlarge and control the oral cavity suggests four main categories of instrument, each with wealth of modifications. Most diagnostic inspections of the tongue or tonsils only requires the patient to 'open wide' or to 'put out your tongue'. However, spatulae improve vision and may permit the insertion of angled mirrors deep in the pharynx in order to glimpse the larynx, virtually an endoscopic manoeuvre. Therapeutic instruments are more complex, especially gags for oral surgical procedures where prolonged vision is necessary and anaesthesia has to be delivered at the same time.

From introduction of simple pieces of wood, twigs or perhaps the fingers of concerned mothers for their children to the sophisticated Davis-Boyle gag is a span of many centuries, yet most instruments demonstrated have developed within the last 150 years. No attempt was made to display the many modifications of the Davis-Boyle gag which suggest to me a subject for research by itself; for example, Down's instrument catalogue for 1955 devoted eight pages to its varieties and extensions (3).

REFERENCES

1. Cot, G H, 'The Gag', Lancet, 2 (1907): 1011 – 1017

2. Coleman, A, 'An Instrument for Keeping the Mouth Open in Operations Under Chloroform', Medical Times & Gazette, 1 (1861): 105 – 106.

3. Downs Bros., Surgical Instruments, Appliances and Hospital Equipment (London, 1955), 1615 – 1622.

FIGURE CAPTIONS

Fig. 1. Speculum oris; large jaw depresses tongue whilst smaller is located beneath the chin; tongue depressor. Presumed steel (Pare, 1575).

Fig. 2, K Bartolome's tongue holding forceps with sliding catch. Nickel-plate and ebony (Arnold, 1886); L. St Clair Thompson's tongue clip. Stainless steel (Allen & Hanbury, 1930).

Fig. 3, KI Heister's pattern of jaw opener. Steel (Krohne & Sesemann, 1878); L Jaw opener. Steel (Garengeot, 1727).

Fig. 4, K Maunder's mouth wedge; L Hewitt's mouth wedge and prop for child. All boxwood. (Allen & Hanbury, 1930).

Fig. 5, Fergusson's mouth gag with sliding quadrangular catch; L Doyen's mouth gag with rack catch. Both stainless steel (Allen & Hanbury 1930).

Je le pansait ; Dieu le guérit
(I dressed him ; God healed him)

AMBROISE PARE (1510-1590)
Father of Modern Surgery

50th ANNIVERSARY OF THE FIRST SUB-FOUR-MINUTE-A-MILE-RUN (1954 – 2004)

PHYSICIAN – SPORTSMAN

SIR ROGER GILBERT BANNISTER (1929 -)

- **First man to run a mile in less than 4 minutes (3 min 59.4 sec) – in a dual meet at Oxford, May 6, 1954. Broke the world record (4 min 1.3 sec) held for nine years by Gunder Hagg of Sweden.**
- **Won British (1951, 1953 – 54) and Empire (1954) Championships in the mile run and the European title (1954) in the 1,500 metre event.**
- **Ran in the 1952 Olympics at Helsinki (Finland).**
- **A Doctor-Athlete par excellence**

- EDITOR

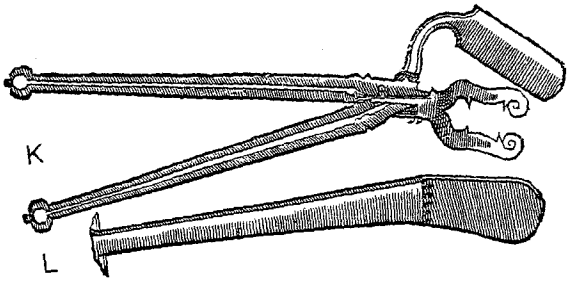


Fig. I

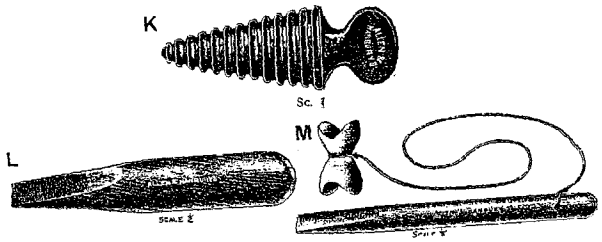


Fig. 4

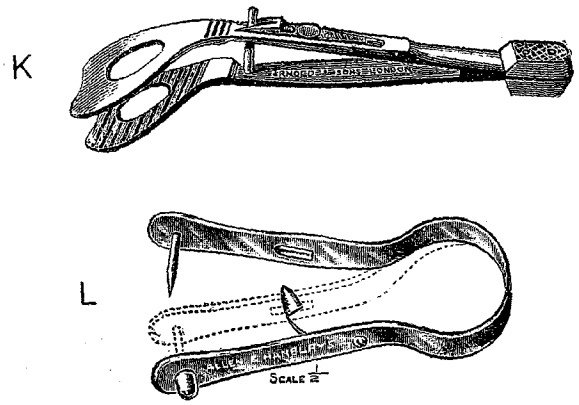
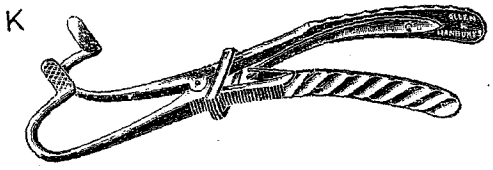


Fig. 2



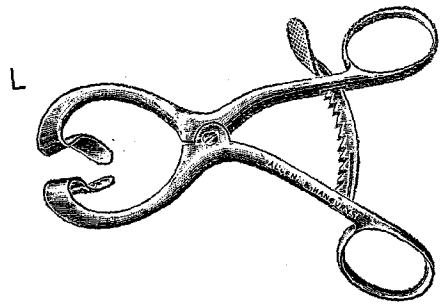


Fig. 5

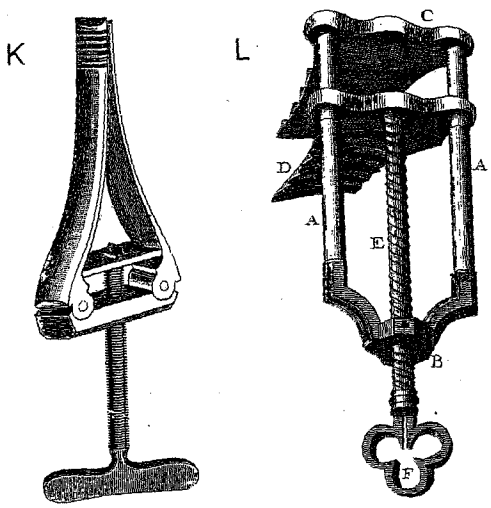


Fig. 3

HISTORICAL SURGICAL INSTRUMENTS ON POSTAGE STAMPS

IBRAHIM SHAIKH

Philately can be a useful past time hobby. Thematic collections on medical topics are illustrated in a book by Mackenzie "History of Anaesthesia on Postage Stamps." I presented a slide-illustrated postage collection on Surgical Instruments to HMES Bristol meeting on 24th April 2004. A summary with some postage stamps are given in this article.

"William Morton (1819-1968), Father of Anaesthesia" is depicted on Transkei 1984 stamp 25c, so are "William Stewart Halsted (1852-1922), modern surgery" and a surgical instrument 50c and 30c Transkei stamp "Joseph Lister (1827-1912) and artery forcep."

Great Britain on Lister centenary in 1965: Two commemorative stamps 4d value show carbolic spray inscription *Lister Centenary Antiseptic Surgery on both stamps* and on 1s value portrait of Lord Lister and a chemical symbol.

Australian 5c value stamp issued on World Medical Association Assembly depicts bust of Hippocrates, surgical glove and a syringe and origin of its first use. 14th Congress of International Society of Orthopaedic and traumatic Surgeons held in 1978 in Koyto, Japan shows artificial hip joint.

Iran (40 riyal) and Pakistan (Rs.10) show surgical instruments.

A beautiful 1981 set of six postage stamps of 17-18 century Early Medical Equipment in Karl-Sudhoff Institute Leipzig (East Germany) are of special note.

Henbane was used for Inhalation anaesthesia 10 pf. Dental root extractor 20 pf. Bone holding forcep 25 pf. Bladder knife and Hernia shear 35 pf. Speculum and Obstetric Forcep 50 pf. Triploid Elevator 85 pf.

It has been a great pleasure in presenting to HMES members a short collection of postage stamps and the book on "HISTORY OF ANAESTHESIA ON POSTAGE STAMP" is certainly worth reading.

" Until all light in the world
has the oneness of the ocean,
a generous, vast wholeness,
a crackling, living fragrance."

('Too Many Names' – ESTRAVAGARIO (1958))
- NEFTALI RICARDO REYES BASS ALTO PABLO NERUDA (1904 – 1973)
Chilean Poet, Nobel Laureate in Literature, 1971.

GLIMPSES OF THE HISTORY OF PSYCHO-SURGERY : AN ODYSSEY IN SCIENCE

SISIR K MAJUMDAR

SUMMARY

Psycho-surgery is the surgical treatment of patients with mental illness resistant to all available forms of conventional therapy. The origins of modern psycho-surgery go well back into the 19th Century but the actual surgery owes its origin to experiments in chimpanzees, carried out at Yale University, USA in the 1930's. Pre-frontal leucotomy was first carried out by the Portuguese neuro-psychiatrist, Antonia Caetamo De Abrev Freire Egas Moniz in collaboration with his neuro-surgeon colleague Almeida Lima in Lisbon in 1936 on the first series of 20 patients. In the USA, two surgeons from Washington – Walter Freeman and James Watts, slightly modified Moniz and Lima's operation (Freeman-Watts Standard Lobotomy). This presentation traces the origin of psycho-surgery from antiquity to the contemporary period, assesses current status, explores its impact in different circles – psycho analysts, ethicists, the Press and the literati of the day.

Development of modern psycho-pharmacology in 1950's pushed psycho-surgery into oblivion almost to the point of extinction.

INTRODUCTION

Psycho-surgery is the surgical treatment of patients with psychiatric illness by means of surgical removal or destruction of nerve pathways within the brain. It excludes patients with recognisable pathological lesion in their brain which is producing psychiatric symptoms, i.e. patients with benign or malignant tumours or epilepsy and also many surgical interventions that have been developed for the treatment of chronic pain. "Psycho" is derived from the Greek word "psukhe", meaning breath, soul, mind and "surgery" derives again from the Greek – "Cheios", a hand and ergon, work; it applies therefore, to the manual manipulation carried out by surgical practitioners in the effort to assuage injuries and diseases of his or her patients. Psycho-surgery is a branch of modern neuro-surgery dealing with only mentally ill patients.

Brain is the physico-chemical organ of mind. Mental illness is as old as mankind. Primitive people had it and were treated by magico-religious methods. The New Stone Age (9000 BC – 2000 BC) which began in the Near East, has provided archaeologists with much evidence of one very frequently performed operation – "Trephination", which consists of cutting an opening – circular or square – from tiny hole to about two inches in diameter. In the New Stone Age certain nervous and mental conditions must have been attributed to a demon which had possessed the patient. This belief is still common in primitive races. Naturally the surgeon would seek to let the demon escape through the trephined hole in the skull. The plate of bone which was cut from the skull was not thrown away but it was hung around the neck as an amulet – an example of our earliest surgical operation associated not only with the treatment of disease but also with its prevention. A great act of far-sightedness indeed! Of course, there were many other reasons for trephination like head injury etc.

THE PROLOGUE:

Human brain is an eternal magic box. It's exploration was, and still is, a natural instinct for scientists. Trephination seems to be the luminous link with the past in the art of psycho-surgery. History, as we know, is a dialogue between the past and the present. The idea of intervening

surgically on the brain to treat mental illness is as old as ancient Egyptian trepanning in the antiquity. Trepanning was still used by Egas Moniz in 1936.

PARTS AND FUNCTIONS OF THE BRAIN (FIG. I)

1. FRONTAL LOBE : Controls behaviour, emotions, organisation, personality, higher intellectual activities, planning and problem solving.

2. PARIETAL LOBE : Controls judgement of shape, size, texture and weight, the sensation of pressure and touch, understanding of spoken and written language.

3. OCCIPITAL LOBE : Controls colour recognition, shape recognition.

4. HIPPOCAMPUS : Controls object recognition, stores meaning of words or places.

5. TEMPORAL LOBE : Controls smell identification, sound identification, short-term memory, hearing.

6. CEREBELLUM : Controls balance, muscle co-ordination, posture maintenance.

7. BRAIN STEM (Between spinal cord and forebrain): (Pons, midbrain (thalamas) and Medulla Oblongata) : Controls alertness, blood pressure, digestion, breathing, heart rate.

EVOLUTION OF PSYCHO-SURGERY

19th Century : Experimental

1846 : Switzerland

It was observed that taking off some parts of dogs' brains makes them less aggressive.

1847 : USA

An Irish workman, Phineas Cage, shed new light on the field of neuroscience in a rock blasting accident which sent an iron rod through the frontal region of the brain. He survived miraculously enough but with marked changes in his personality – a mild mannered man had become aggressive, rude and indulging in the grossest profanity, which was not previously his custom, manifesting but little deference for his fellows, impatient of restraint or advice when it conflicted with his desire. Cage sustained no impairment with regards to his intelligence or memory (observed by Dr Harlow, a Boston physician in 1868). this incident provoked scientists to ask the question:

Can alteration of the brain structure lead to differences in personality?

If so, then, are there specialised regions of the brain responsible for the function of different elements of our personal character?

Thus, completely by chance, the foundational discoveries for the development of pre-frontal leucotomy or frontal lobotomy were laid.

1890 : Germany

Friederich Golz, a German researcher calmed dogs by removing portions of their temporal lobes.

1890 : Switzerland

Dr Gottlieb Burckhardt, the superintendent of a psychiatric hospital, drills holes (trepination) in the heads of six severely agitated patients (schizophrenic) and extracts sections of the frontal lobes, altering their behaviour with varying

degrees of success. Two of the patients died. It was considered morally reprehensible at the time, but the work was not forgotten. Phineas Cage and his iron bar have started a train of thought that will come to a strange and tragic fruition in the next century.

1895 : Emory Lamphear – "It seems possible that with additional experience and a minute study of the pathologic changes seen in the brain, the knife may be the means of restoring to reason many cases now considered incurable".

(Elliot Valenstein : Great and Desperate Cures, Basic Books, New York, 1986).

TWENTIETH CENTURY

1935 : Yale USA / Lisbon, Portugal

Following demonstration by Carlyle Jacobsen and John Fulton that frontal lobe mutilation produced a 'calming' effect in chimpanzees, Antonio Egaz Moniz and Almeida Lima of Lisbon cut the frontal lobes of 20 of his psychiatric patients and reported similar 'calming' effects.

1936 : Washington, USA

Walter Freeman and James Watts introduced a surgical technique called the 'Freeman – Watts Standard Procedure' for frontal lobe lobotomy into the USA. Early technique involved drilling burr holes, later Freeman developed his famous transorbital approach pushing literally an ice pick into the brain via the eye sockets.

1942 : The ice pick lobotomy has spread worldwide and by now approximately 5000 people are lobotomised each year during the 1940's!

NEUROLOGICAL CONFERENCE, LONDON, JULY 1935

It was quite a gathering. John Fulton of Yale University brought two chimpanzees and demonstrated lobectomy in a day long symposium. Fulton had completely removed the entire frontal lobes from these two animals (lobectomy) – which radically altered their behaviour. He could no longer generate experimental forms of neurosis in the animals. they were seemingly impenetrable. The symposium was fascinated, and the discussion about the significance of the frontal lobes went on and on. Fulton's chimpanzees initiated the charismatic era of modern psychosurgery. The celebrated Russian Ivan Petrovich Pavlov (1849 – 1936), Nobel Laureate in Physiology on Medicine,1904, the Portuguese neuropsychiatrist Antonio Egaz Moniz, famous for pioneering cerebral angiography (the process of mapping the parts of the brain by injecting contrast solutions which can be seen by x-rays) and Walter Freeman attended the symposium. Egaz Moniz stood up and asked Fulton :

"If the frontal lobe removal prevents the development of experimental neurosis in animals and eliminates frustrational behaviour, why would it not be possible to relieve anxiety states in man by surgical means".

Implications of this question were shown by Egaz Moniz himself during the subsequent years.

PERSONALITIES : ANTONIO CAETANO DE ABREV FREIRE EGAS MONIZ (1874 – 1955):

Antonio Caitano De Abnev Freire Egas Moniz (1874 – 1955) of University of Lisbon Medical School, Portugal, was an ambitious and multi-talented person – a neurologist, political figure, and a man of letters. By the 1930's he was already known for his successful refinement of techniques enabling doctors to visualise blood vessels in the brain by using radioactive tracers in 1927 (cerebral angiography).

He served as the Minister of Foreign Affairs and the Ambassador to Spain and was even one of the signers of the Treaty of Versailles (June 28, 1919) which marked the end of World War I (1914 – 1918).

In July 1935, at an international neurology conference held in London he saw a presentation on the frontal lobes of the brain and the effects of removing them from chimpanzees. Moniz later claimed he had been thinking about similar methods before the conference, but it went into scientific mythology that the calm behaviour of the presenter's formerly temperamental chimp had inspired him to develop the lobotomy to treat mental illness.

Moniz had an idea that some forms of mental illness were caused by an abnormal sort of stickiness in nerve cells, causing neural impulses to get stuck and the patient to repeatedly experience the same pathological ideas. There was no empiric evidence for this theory, but Moniz pressed on. If the nerve fibres causing these morbidly fixed ideas could be destroyed, the patient might improve. In November 1935, he and his assistants made the first attempts at this type of psychosurgery. First they gave a series of alcohol injections to the frontal lobe (through holes drilled in the skull). After seven patients, they switched to cutting the lobe with a wire. Nothing was removed, connections were just severed.

In 1936 Moniz published the very positive results of his first 20 operations on patients who had suffered from anxiety, depression and schizophrenia. Though his follow-up was mainly within the first few days of surgery and his determination of "improvement" rather subjective, his publication was well received. It seemed to offer evidence of the benefits of psychosurgery. For example, Moniz's first patient was less agitated and less overtly paranoid than she had been before, although she was also more apathetic and in fact duller than Moniz has hoped. She had a few physical side effects such as nausea and disorientation, but overall struck Moniz as much improved. In the 1930's diagnoses of serious mental illness were increasing, and yet knowledge of its causes or how to treat it was not. Doctors were sometimes willing to try anything to help their most desperately ill patients. This terrible need for treatment cleared the path for widespread acceptance of such radical treatments as shock therapy and lobotomy. In 1949 Moniz shared the Nobel Prize for Physiology or Medicine (for the discovery of the therapeutic value of leucotomy in certain psychosis) with Walter Rudolf Hess (1881 – 1973) of Switzerland (for his discovery of the functional organisation of the interbrain as a co-ordinator of the activities of the internal organs).

Moniz's name was suggested for the Nobel Prize several times :1928 and 1933 for cerebral angiography, 1937 and 1944 for pre-frontal leucotomy and finally in 1949 for the same.

WALTER FREEMAN (1895 – 1972)

In the United States, neurology professor Walter Freeman of George Washington University threw himself into lobotomy practice and promotion with an unmatched fervour. Within a year of reading Moniz' publication he and an assistant had performed 20 lobotomies. They wrote "In all our patients there was a .... common denominator of worry, apprehension, anxiety, insomnia and nervous tension, and in all of them these particular symptoms have been relieved to a greater or lesser extent". They also claimed that disorientation, confusion, phobias, hallucinations and delusions had been relieved or erased entirely in some patients. But they also noted, "Every patient probably loses something by this operation, some spontaneity, some sparkle, some flavour of the personality". In 1942

they published an influential book promoting the practice. In the United States the number of lobotomies performed per year went from 100 in 1946 to 5,000 in 1949. That year Moniz won the Nobel Prise in physiology/medicine for his contribution. Some 50,000 operations in the USA and about 10,500 in England and Wales were carried out by mid 1950's.

The popularity of the procedure declined drastically in the 1950's and beyond. Evidence of serious side effects mounted with longterm studies. Mortality for early operations varied from 2 to 6 per cent, epilepsy from 10 to 50 per cent, and between a third and a half of patients developed personality changes involving euphoria, apathy and lack of initiative. The use of newly developed psychoactive drugs of pheothiazinie drugs (Chlorpromazine etc.) in 1952, the first non-sedating tranquilliser, reduced the perceived need for most lobotomies.

SETTING THE SCENE

After attending the demonstration by John Fulton in a neurological conference in London in July 1935, Egas Moniz had the idea to perform a similar operation to alleviate some severe mental symptom of intractable psychoses. Egas Moniz knew that certain psychoses, such as paranoia and obsessive-compulsive disorders, involve recurrent though patterns that dominate all normal psychological processes. Based on Fulton's ideas, he proposed to cut surgically the nerve fibres which connect the frontal and prefrontal cortex ('rational brain') to the thalamus ('emotional brain'), a structure located deep in the brain, which is responsible for relaying sensory information to the cortex. In this way, Moniz reasoned, there might happen an interruption of the repetitive thoughts, allowing a more normal life for the psychotic.

Moniz, working with a neurosurgeon and colleague, Dr Almeida Lima, developed a surgical approach to the problem, which he called leucotomy ('white matter cutting'). He would open several small holes in trepanning the two sides of the brain, and insert a special wire knife, called a leukotome into the brain substance. With a few sideways movements, the fibres were severed and the patient could recover. Moniz reported that the results were good in several patients. Severely agitated, anxious or depressive patients had a general improvement in their symptoms, in some cases in a striking way. In other patients, however, the operation had no success, and Moniz was cautious to propose that leucotomy should be used only when the case was so hopeless as to warrant it.

After Moniz and his colleagues reported his results to the world (in six countries, simultaneously) in 1936, several centres around the world started to try out the new surgery. In Brazil, the noted neurosurgeon Mattos Pimenta, from the Paulista School of Medicine, in Sao Paulo, was one of the first to perform Moniz leucotomies, with doubtful success. Leucotomy and lobotomy area apparently synonymous in psychosurgery. Walter Freeman and James Watts considered that leucotomy was an incorrect name for the procedure. It suggested that it was only the white matter – the Leukos, that was affected but actually nerve cells were also destroyed. Hence, they renamed it the lobotomy.

THE HEYDAY OF LOBOTOMY

So, probably prefrontal leucotomy (lobotomy) would fizzle out (Monis would retire early, after being shot in the spine by one of his ex-patients, becoming paraplegic) and be abandoned a few years after being invented. Many psychiatrists, particularly the psychoanalysts were adamantly against it.

However, an ambitious American physician and clinical neurologist, Walter Freeman, attended the same London

conference as Moniz. Later he read Moniz's reports in the library. He became very excited with the idea and his results and teamed up with a neurosurgeon James Watts to apply the newly invented technique in American patients. They first operated in September 1936. After a few cases, he was convinced that leucotomy worked, and started to propagandise it heavily. He was met with suspiciousness and resistance by the bulk of American neurosurgeons, but he insisted, eventually winning the reluctant approval of his colleagues. He and Watts perfectioned the technique, arriving to what he called the "Freeman-Watts Standard Procedure" which had a precise set of guidelines for the insertion of the leukotome.

Freeman was very good in convincing the general press about the promises of the prefrontal lobotomy (as he called it now) and almost single-handedly pushed it as a valid therapeutic procedure across the nation's insane asylums, hospitals and psychiatric clinics. He also performed with Watts many operations around the country, but he was dissatisfied with the messiness and length of the operation. Having heard about an Italian who had developed a trans-orbital approach to the frontal lobe (i.e. by inserting a leucotome after making an opening in the roof of the eye orbits), he invented in 1945 a much quicker and simpler way: the so called "ice-pick lobotomy". Instead of a leucotome, which required a surgical trepanning, he used a common tool to break ice, which could be inserted under local anaesthesia by tapping it with a hammer, The ice pick would perforate skin, subcutaneous tissue, bone and meninges in a single plunge; and then Freeman would swing it to severe the prefrontal lobe. This would take no more than a few minutes, with no need to intern the patient in the hospital. The procedure was so ghastly, however, that even seasoned and veteran neurosurgeons and psychiatrists would not stand the sight of it, and sometimes faint at the 'production line' of lobotomies assembled by Freeman. James Watts became distressed with this kind of operation and broke his ties with Freeman.

Lobotomy took America and some other countries by storm. They were performed in a wide scale in the 40's, because the mental asylums were brimming over with cases after the Second World War. Between 1939 and 1951, more than 18,000 lobotomies were performed in the United States, and tens of thousands more in other countries.

ABUSE OF LOBOTOMY

Ice pick lobotomy was considered to have amazing potential for controlling society's misfits, viz schizophrenics, homosexuals, communists, radical political and social activists. It was widely abused as a method to control undesirable behaviour, instead of being a last resort therapeutic procedure for desperate cases. In Japan, the majority of the operated cases were children, many of whom had only problematic behaviour or a bad performance at the school. Inmates in prisons for the insane were widely operated. Families trying to get rid of difficult relatives would submit them to lobotomy. Rebels and political opponents were treated as mentally deranged by authorities and operated. Amateur surgeons would often perform hundreds of lobotomies without even doing a systematic psychiatric evaluation. The Hollywood and Broadway (New York) actress and radical political activist – not a mental patient Francis Farmer was a victim of Freeman's transorbital lobotomy in 1941 in the Western State Hospital in Fort Stella, Coombe. When, in 1949, Antonio Egas Moniz was awarded the Nobel Prize for Medicine and Physiology, in recognition of his creation of the prefrontal leucotomy (lobotomy) it became a respectable procedure, and as a result, in the ensuing three years, more lobotomies

were performed than in all previous years (Figure II).

THE DEMISE OF LOBOTOMY

Over 50,000 lobotomies were performed in the US alone between 1939 – 1951. Finally, around 1950, the first discordant voices against the lobotomy folly started to be heard. Scientific evidence for the benefits of lobotomy was not coming. Even lobotomy's proponents admitted that only one third of the operated patients would improve, while one third remained the same, and one third got worse (25 to 30% is the proportion of spontaneous improvement in many kinds of mental diseases! Thus, a large proportion of the operated patients could have recovered without the lobotomy). In the United States, a major evaluation study called the Columbia-Greystone project was conducted in 1947 and failed to provide evidence of the positive effects of lobotomies. Many times, the evaluation was performed by the surgeons who did the work, without any kind of scientific controls. At the 1960 World Psychiatry Congress, Freeman presented the results of his follow-up studies on 3,439 lobotomy patients, claiming they showed that 85% of his private trans-orbital patients were now at home, and two thirds of them were "usefully occupied". His data were so anecdotal, so subjective that they were not taken seriously. At the same time a 10 year study on British patients did not make such encouraging reading.

Ethical objections began to pile up, because of the irreversible damage to the brain, and also because of the reports of severe collateral effects of the surgery on the personality and emotional life of the patients. In addition, the appearance of new antipsychotic and anti-depressive drugs, such as Thorazine in the 50's gave new means to combat most of the symptoms experienced by agitated and uncontrollable patients. Neurosurgeons everywhere started to abandon lobotomy in favour of more humane methods of treatment.

Concern over the protection of patients against lobotomy and similar radical therapies, particularly in inmates, where release was widely exchanged with agreement to a lobotomy (a highly unfair, unbiased and controversial offer); translated into laws in the United States in the 1970's and in many other countries as well. Psychosurgery was classified as an experimental therapy, with many safeguards to the patient's rights.

The original lobotomy operation is now rarely performed, if ever, although many countries still accept psychosurgery as a form of radical control of violent behaviour (Japan, Australia, Sweden and India are among them). In the former Soviet Union, lobotomy was outlawed in the 1940's because there was an ideological stance against it.

LOBOTOMY – CRITERIA AND ULTIMATE FATE

- The major indication for psychosurgery (lobotomy) is the presence of a debilitating, chronic disorder that has not responded to any other treatment.
- A reasonable guideline is that the disorder should have been present for 5 years…..
- Chronic intractable major depressive disorder and obsessive-compulsive disorder are two reportedly most responsive to psychosurgery.
- The presence of vegetative symptoms and marked anxiety further increases the likelihood of a successful therapeutic outcome.
- When patients are carefully selected, between 50 and 70 per cent have significant

therapeutic improvement with psychosurgery.

- As measured by intelligence quotient scores, cognitive abilities improve after surgery....

Rosemary Kennedy, sister of John Fitzgerald Kennedy (1917-1963), 35th President of the USA (1961-1963), was given the miracle cure of the frontal lobotomy to help cure her of "aggressive impulses". The operation was a complete success and Rosemary was rendered off to a convent for care owing to the small detail that she was totally unable to care for herself.

Rose Williams, sister of the famous playwright Tennessee Williams (1911-1983), Pulitzer Prize Winner (1947) for "A Streetcar Named Desire", also had a lobotomy in 1943 following a series of 'mental breakdowns' and a diagnosis of schizophrenia. The operation was considered to be a failure and Rosemary was disabled for life. Tennessee Williams went on to become an alcoholic.

Walter Freeman, himself with no qualifications for surgery, recorded details of 3,439 lobotomies that were carried out by himself. Freeman performed his last lobotomy in 1967 which resulted in fatality when he ruptured a blood vessel and the patient inevitably bled to death. Freeman died from cancer on May 3 1972 at the age of 76.

Probably fewer than 20 psychosurgical operations are now carried out each year in the United States for psychiatric disorders. For these lucky 20 people the procedures are not strictly "lobotomies" because radiation is used to produce tiny lesions in the cingulate gyrus region of brain, which has been connected with the development of obsessive-compulsive disorder (OCD). The application of new molecular genetic techniques has now enabled us to explore the mechanisms of aggression.

THE EPILOGUE

The history of psychosurgey is a long eventful journey – an odessy in experimental surgery indeed! It created social excitement. It allured the 'Press of the day in the USA. Some newspapers like New York Times, Washington Evening Star, Saturday Evening Post etc. deliberately conducted the publicity machine for Walter Freeman's neo-discovery. The popular coverage was universally optimistic with headlines such as: "Psychosurgery Cured Me", "Wizardry of Surgery Restores Sanity to Fifty Raving Maniacs", "Turning the Mind Inside Out", and memorably and tragically incorrectly "No Worse Than Removing a Tooth". The Press muddled people's perception about the relevance and therapeutic status of psychosurgery. They were confused. Then, in 1962, came the final nail in the coffin of psychosurgery when the writer-physician Ken Kesey published his Pulitzer Prize winning novel "One Flew Over the Cuckoo's Nest", a story set in a US asylum. (Annual Pulitzer Prizes awarded each May since 1917 for literature, fiction, poetry, biography, history, drama, music and journalism (8 Prizes) have been established in the USA by the will of the Hungarian émigré Joseph Pulitzer (1847 – 1911)). It was all over for the psychosurgeons. Lobotomy was finally seen for what it was: not a cure but a way of managing patients. It was just another form of restraint, a mental strait jacket nailed permanently over the brain. It did not create new people; it subtracted from the old ones. It was an act of defeat. It was an act of frustration.

"The writer, a freeman addressing free men, has only one subject – freedom".

- In "What is Literature"

JEAN – PAUL SARTRE (1905 – 1980)
- Awarded Nobel Prize in Literature, 1964 but Declined.

FIGURE I

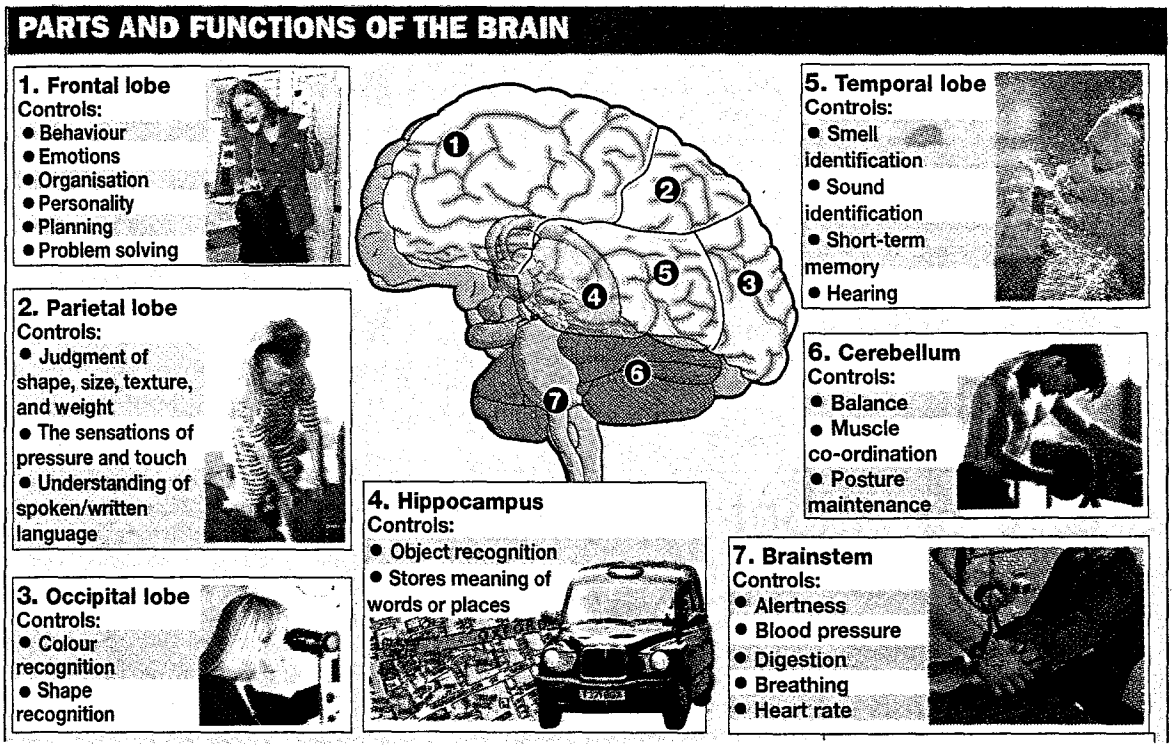
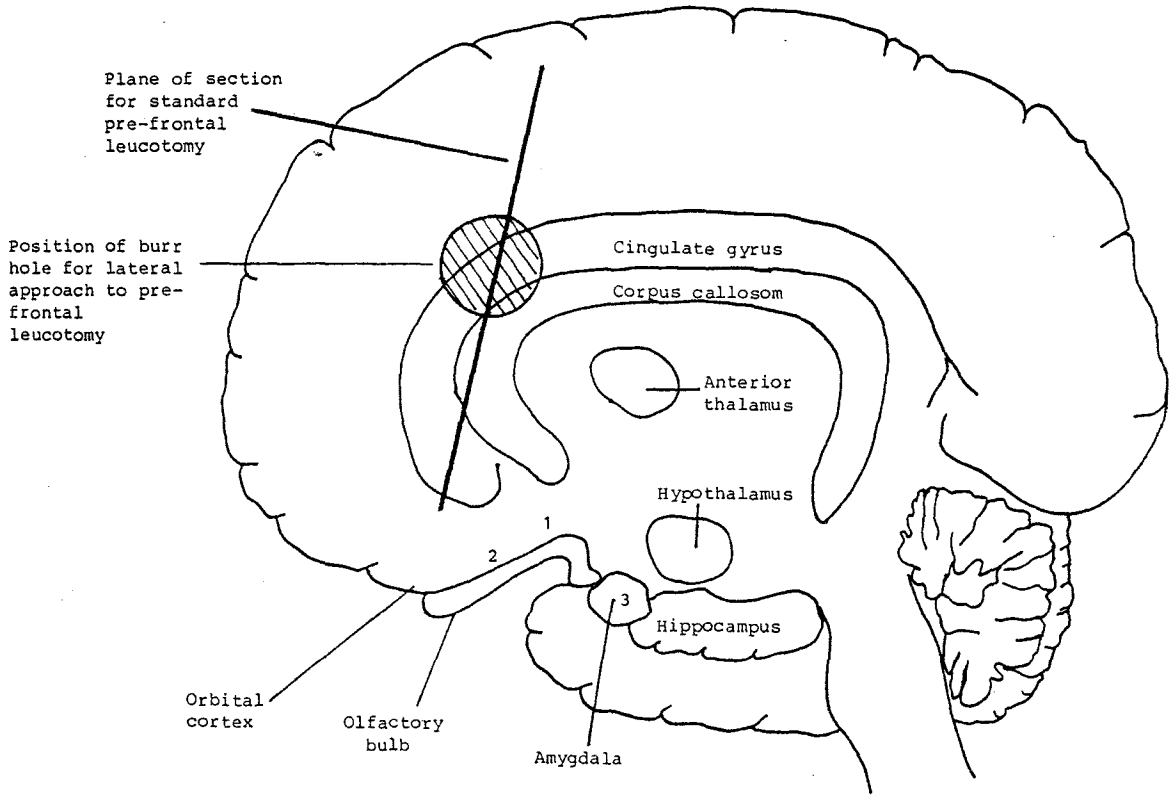


FIGURE II



Approximate sites of current psychosurgical lesions (with standard pre-frontal leucotomy incision for comparison).

1 Stereotactic limbic leucotomy (lesions in cingulate gyrus and lower medial quadrant of frontal lobe).
2 Stereotactic tractotomy
3 Amygdalotomy

MUSEUM VISIT
GLIMPSES OF GLENSIDE MUSEUM, BRISTOL

PETER CARPENTER

Originally, the paupers kept in workhouses included lunatics. In Bristol, this was St. Peter's Hospital, which was unusual in having dedicated lunatic wards. The hospital was destroyed in the Second World War. In most workhouses, though, people who were mad would have been sent to a local madhouse. At this time treatment was fairly basic, and from the period of 1800 we have Haslam's key, (Fig. I) for forcing open a patient's mouth in order to enable force-feeding. We also, at the turn of the century, have Rush's tranquilliser, (Fig. II) which is one of the most severe pieces of restraint equipment used, but I am not aware of it being used in this country.

In the 1840's the Metropolitan Commissioners in Lunacy surveyed the care of pauper lunatics and produced a report that detailed horrendous abuses. The result was the 1845 Lunatic Asylum Act, which compelled the magistrates to build pauper lunatic asylums for each county. These were overseen by commissioners in lunacy rather than by the poor-law commissioners. However, patients were admitted to them on the say-so of magistrates and the overseers of the poor, and the medical staff in the lunatic asylums had little control over admissions or discharges. The lunatic asylums acted as an outreach of the poor-law workhouses.

In Bristol, because there were lunatic wards at St Peter's Hospital, the guardians of the poor resisted any attempts to force them to build a new lunatic asylum. It therefore took twenty years, until in the end they were forced to build the current Glenside. Before this, they contemplated using the current building that we are in, namely these Napoleonic prisoner-of-war buildings, as a new lunatic asylum. Dating from the 1860's and the building of Glenside, we have a Victorian straightjacket from Yorkshire, made from tear resistant linen.

Though the cure rate was claimed to be 30% and another 30% of people were normally discharged approved, there was still a slow build-up of chronic long-term patients. The inevitable result was a constant need to enlarge the institution and Glenside progressively enlarged from its 200 beds in 1862 to the 1,300 beds in 1908. At this time, in common with other lunatic asylums, it was operating as a total community, and as a result many of the artefacts and pieces of equipment that are in the museum really relate to those of institutional community life rather than any medical treatment. Hence, we have a collection of gardening implements dating from when the hospital ran its own farm. Here we have a tipping trolley for carrying food waste into the gardens.

In the First World War Glenside Hospital was changed into an army hospital treating physically wounded soldiers. From this period we have over 100 photographs of the building and patients, mainly taken by enterprising photographers who would sell their postcards to the patients. Here we have a photograph of the old x-ray room and x-ray machine and two photographs of the theatres within the war hospital.

The hospital reverted back to a mental hospital in 1919. From this period we have some of the paraphernalia of looking after the patients such as the suicide caution ward, which staff had to sign to indicate they were taking responsibility for a patient who was declared suicidal. These cards were required by the Central Board of Control. To care for suicide patients we have the altered cutlery, with forks with webbed tines so that the patient could not stab themselves or other people, and a knife with a one-inch cutting blade. We also have lockable safety razors.

In the museum we have remains of the padded cells which were classically padded and then covered with Hessian, then painted with multiple coats of varnish. We also have the low-beds for the epileptic patients so that they could not injure themselves when falling out. We also have a small collection of old wheelchairs and walking frames. We also have a collection of crutches and surgical boots and moulds.

The hospital though was a total institution and one of the main industries for the women was working in the laundry. As a result we have a very extensive collection of old irons. Another issue of this period was that midwives would not enter hospitals to deliver babies, but worked in the community. As a result, one of the trainings for mental nurses included being able to deliver babies, and here is the model baby which was used for training.

The new psychiatric hospital was opened in Bristol just prior to the Second World War, namely Barrow Hospital (Fig. III). This was used in the Second World War as a naval hospital but was opened as a psychiatric hospital soon after the war. From this time we have a photograph of the x-ray room (Fig. IV) at that time. This was the period of surgical and more physical intervention and hence we have a Freeman Leucotome which was used for leuctomies. The account of this particular instrument is that it was used on an outpatient basis with the person given unmodified Electro Convulsive Therapy (ECT), and whilst in a stunned daze this was then inserted above the eye socket and moved laterally to cut the neural tracts (Vide the article on "Psychosurgery)". ECT was brought in as a more humane method of inducing convulsions, replacing the previous chemical treatments of Cardiazol. It may be mentioned that in 1937 Ugo Cerletti (1877 - ?) and Lucio Bini (1908 - ?) of Rome first used an electrical method (110 volts for half a second to produce convulsion). One of the early ECT machines brought into this country was modified or developed at The Burden Institute, and this is the photograph of it in use. We still have one of these early machines (Fig. V). We also have a collection of the ECT machines as they developed over the next few years, resulting in one that I was myself using in 1980. We also have a more modern straightjacket, but it is interesting to know that these straightjackets, made of sail cloth, were not used in Glenside but in the isolation or fever hospital.

Also from the 1950's we have quite a lot of the administrative equipment. Nobody moved in or out of the hospital without some form of certificate and as a result the secretarial offices were very important. Here are some early Dictaphones as well as mechanical adding machines. Prior to the NHS though all patients had to have a post-mortem, in part to establish that the cause of death was not untoward. I understand this was carried out by the medical superintendent. We still have the mortuary equipment. In 1948, with the NHS, the post-mortem was moved to being held at Frenchay Hospital. We do, however, have some more modern equipment as well such as some stereotactic equipment from the 1990's.

"If a doctor has treated a man with a metal knife for a severe wound, and has caused the man to die, or has opened a man's tumour with a metal knife and destroyed the man's eye, his hand shall be cut off".

CODE OF HAMMURABI (1728 – 1686 B.C.), Babylonian King

FIG. I

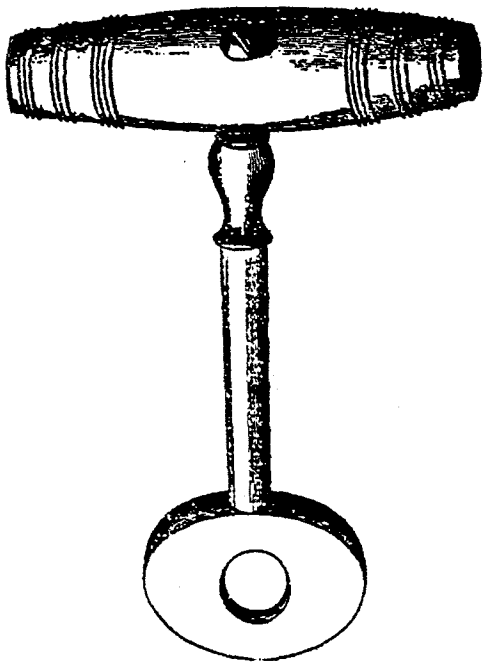


FIG. I: Haslam's 'key' for forcing open patients' mouths

(*The Quarterly Review*, 1809)

THE TRANQUILLIZER, 1811

FIG. II

FIG. III

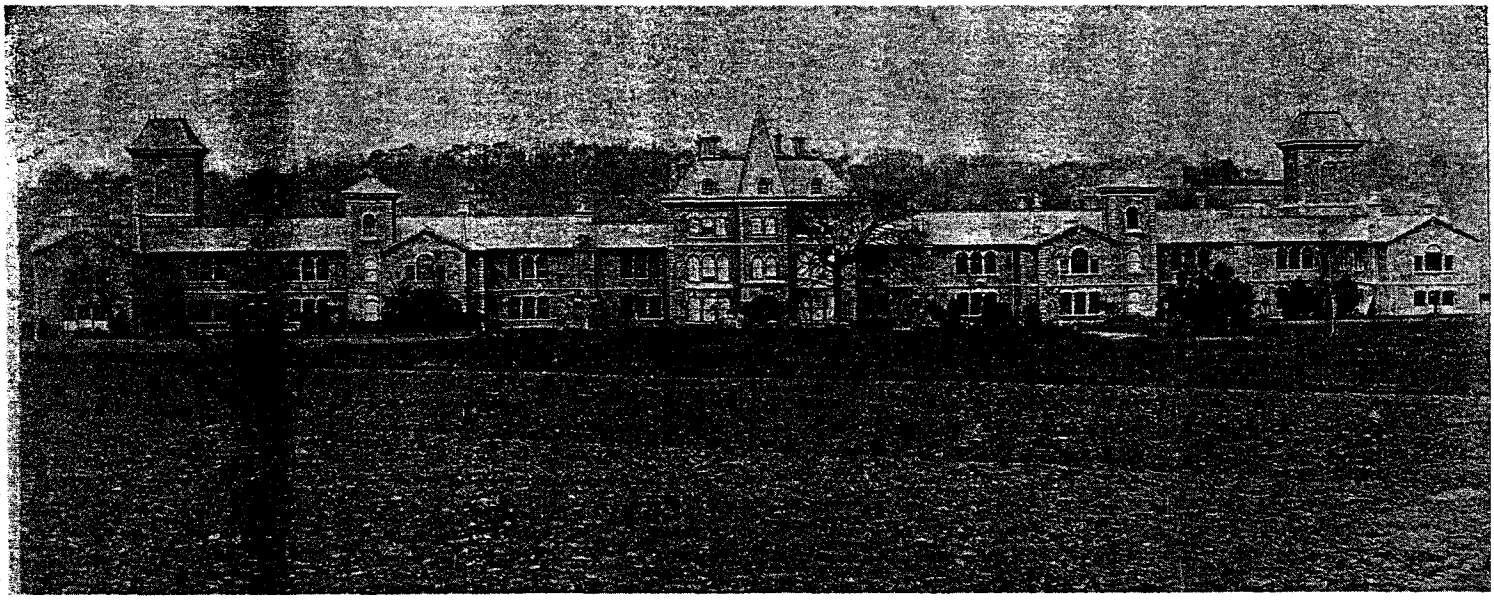


FIG. IV

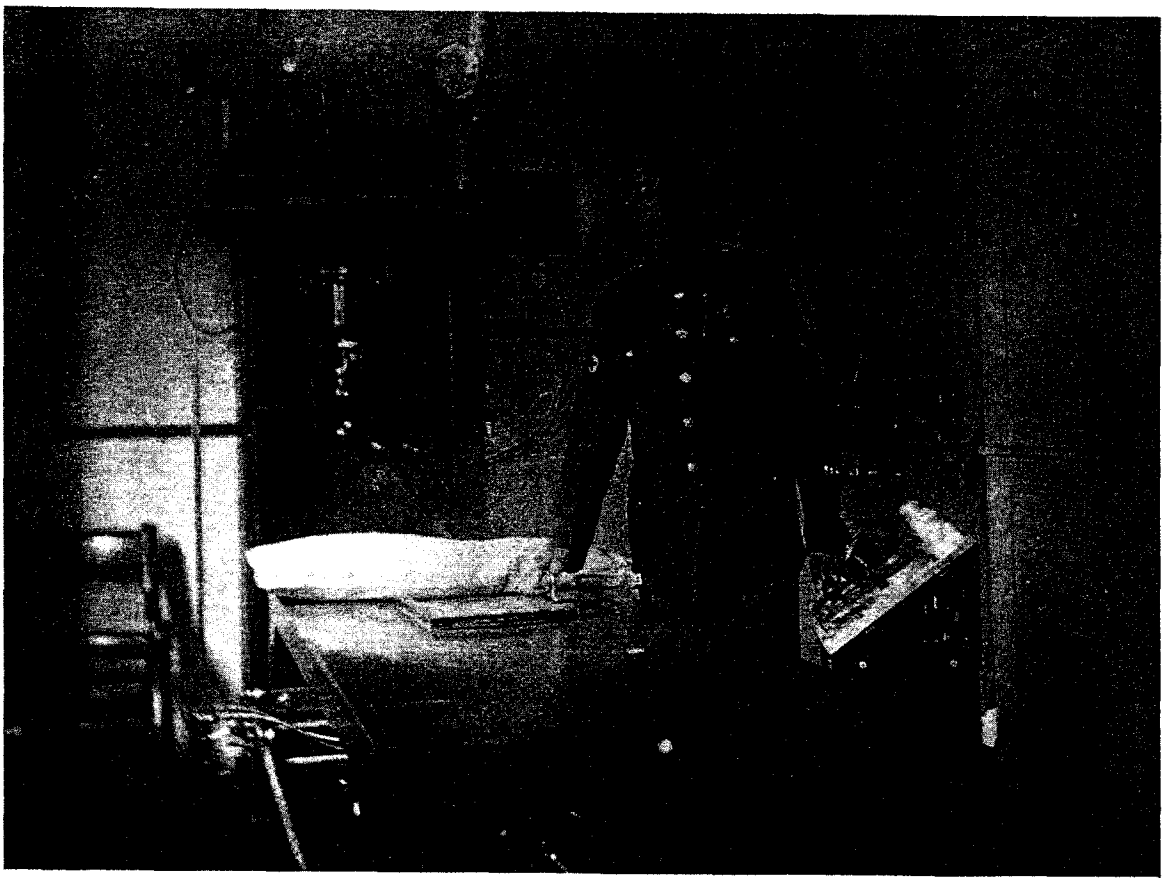
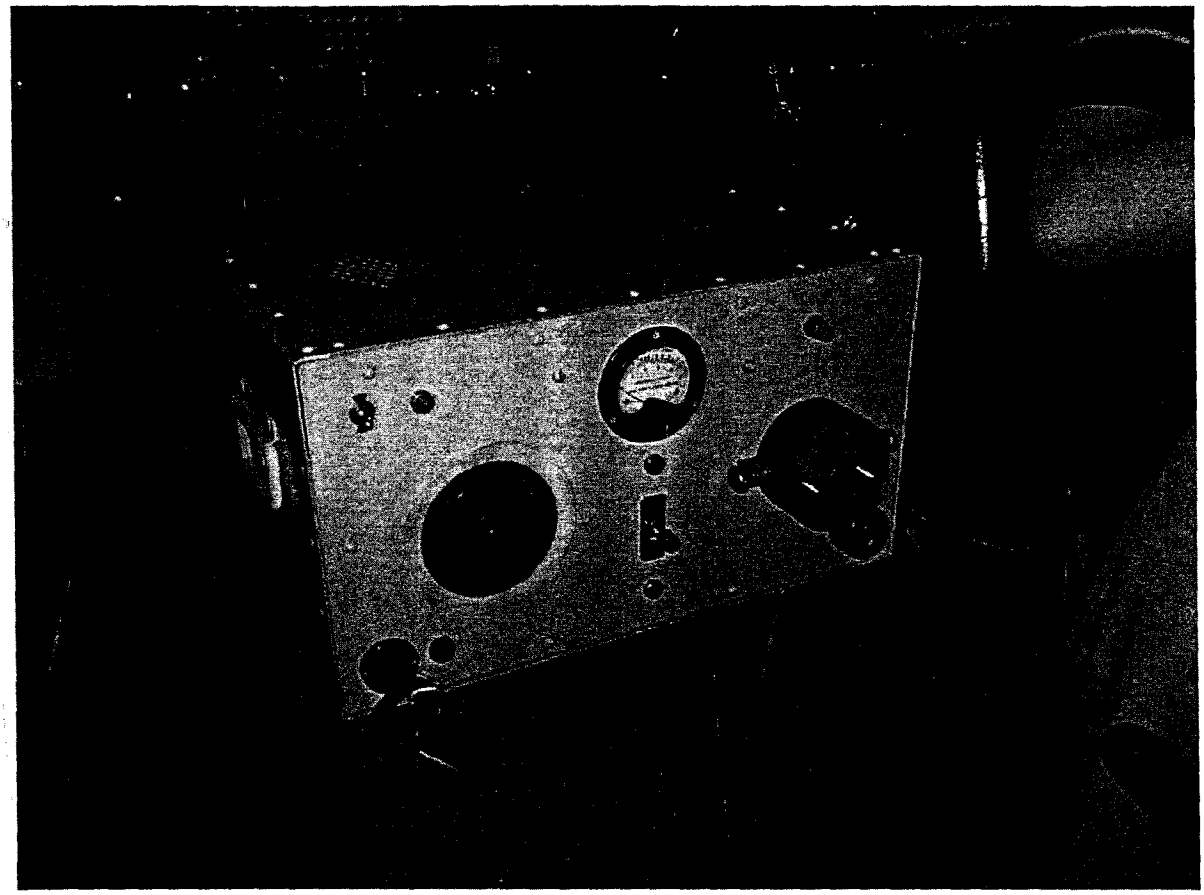


FIG. V



DOCTORS IN LITERATURE: THE LITERARY LAUREATES

Hieronymus Fracastorius	(1483 - 1553)
Francois Rabelais	(1483 – 1553)
Nostradamus – Michael De Nostre Dame	(1503 – 1566)
Ambroise Pare	(1510 – 1590)
Thomas Browne	(1605 - 1682)
Tobias Smollet	(1721 – 1771)
Oliver Goldsmith	(1728 – 1774)
George Crabbe	(1754 – 1832)
John Keats	(1795 – 1821)
Samuel Smiles	(1812 – 1904)
Ronald Ross (Nobel Laureate in Physiology on Medicine, 1902: First British)	(1857 – 1932)
Arthur Conan Doyle	(1859 – 1930)
Anton Pavlovich Chekov	(1860 – 1904)
William Somerset Maugham	(1874 – 1965)
Alfred Doblin	(1878 – 1957)
George Walton	(1887 – 1963)
Mikhail Afansievich Bulgakav	(1891 – 1940)
Louis-Ferdinand Celine	(1894 – 1961)
Archibald Joseph Cronin	(1896 – 1981)
Balai ChandMukhopadhyay – "Bonophool"	(1899 – 1979)
Carlolevi	(1902 – 1975)
Mario Tobin	(1910 – 1996)
Nihar Ranjan Gupta	(1911 – 1986)
Han Suyin	(1917 -)
Richard Gordon	(1921 -)
Daniel Abse	(1923 -)
Michael Crichton	(1942 -)
Taslima Nasreen	(1962 -)

And many others.

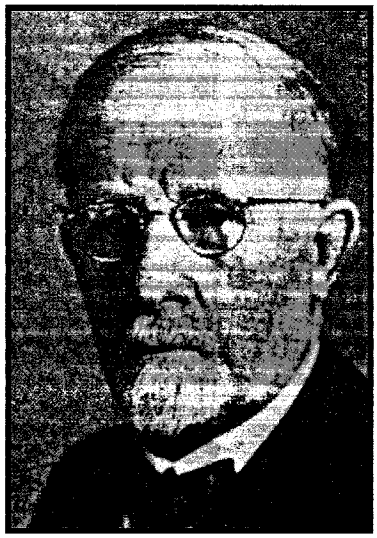
SOURCE:

Majumdar S. K. (1999): Doctors in Literature
Bull. Ind. Inst. Hist. Med. Vol. XXIX, pp. 29-50

NOBEL PRIZE IN PHYSIOLOGY OR MEDICINE, 1949
(CO-WINNERS)

ANTONIO CAETANO DE ABREV FREIRE
EGAS MONIZ
(1874 - 1955)

(For Therapeutic Value of Leucotomy in Psychosis)



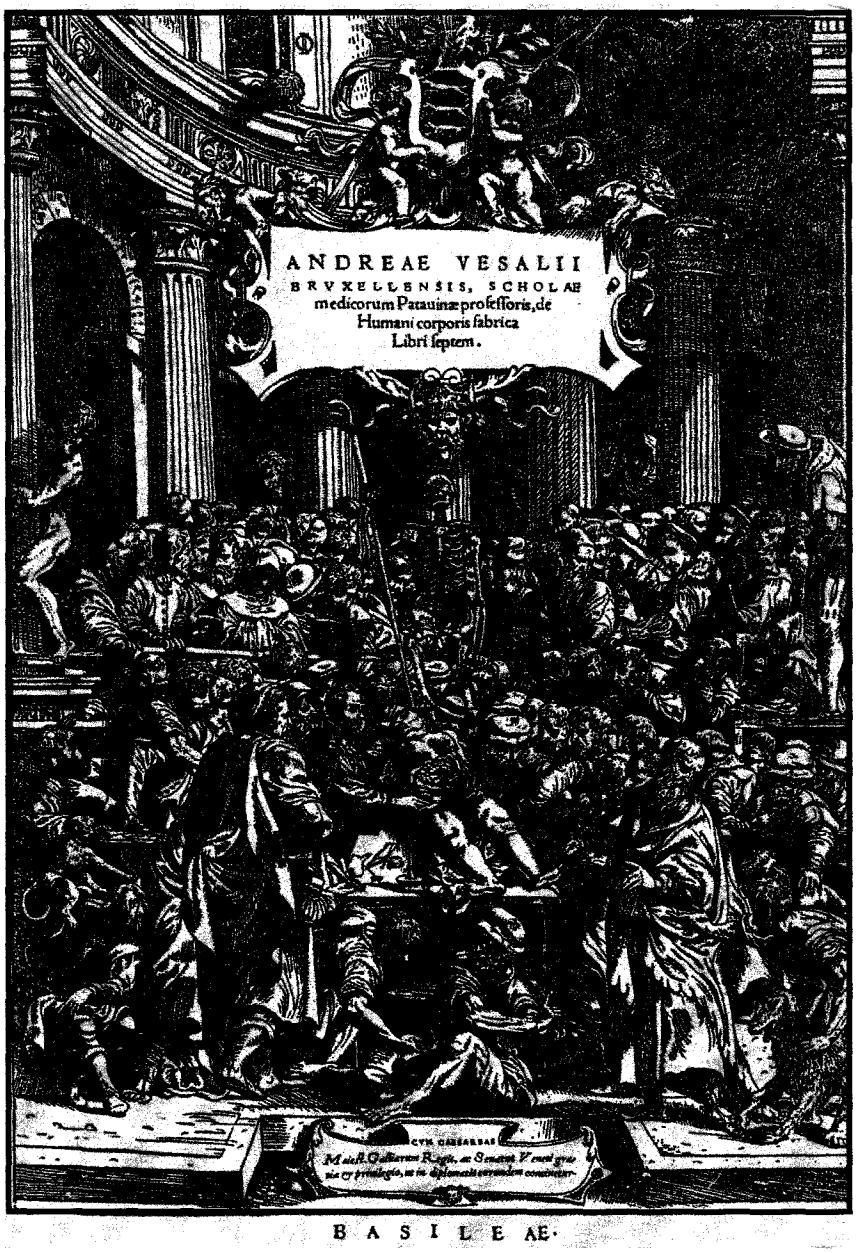
WALTER RUDOLF HESS
(1881 - 1973)

(For Discovery of Function of Midbrain)

PSYCHO SURGERY IN THE U.S.A.

WALTER FREEMAN
(1895 - 1972)

HISTORICAL MEDICAL EQUIPMENT SOCIETY, LONDON (HMES, LONDON)
Bulletin No. 12, ISSN 1366 - 4719 August 2004



(The front piece of "DE HUMANI CORPORIS FABRICA LIBRISEPTEM" (1543) by ANDREUS VESALIUS (1514 - 1564))

**"Camerado, this is no book,
Who touches this touches a man".**

U.S. Poet WALT WHITMAN (1819 - 1891)

Typeset by **KAYLEY LIMITED**, 68 Summerhouse Drive, Bexley, Kent DA5 2EE.
Printed in Great Britain by **KAYLEY LIMITED**, 68 Summerhouse Drive, Bexley, Kent DA5 2EE
Published by Historical Medical Equipment Society, London