

The
Scottish Society
of the
History of Medicine

(Founded April, 1948)

REPORT OF
PROCEEDINGS

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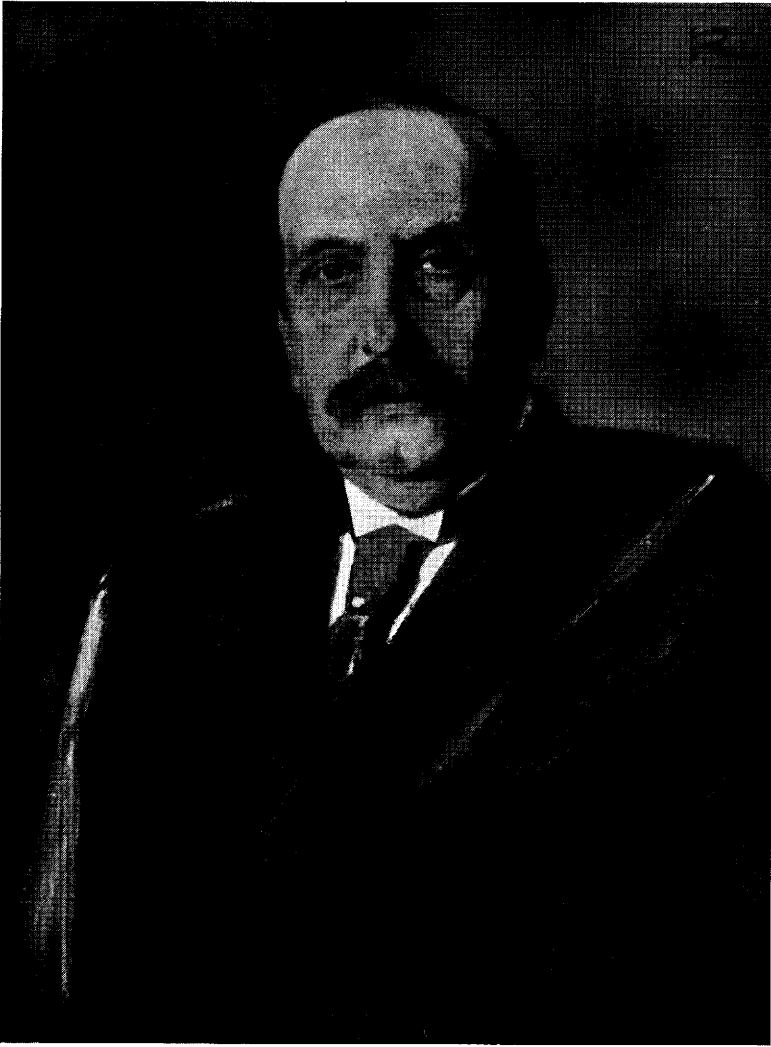
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SESSION 1963-64

The Scottish Society of the History of Medicine.

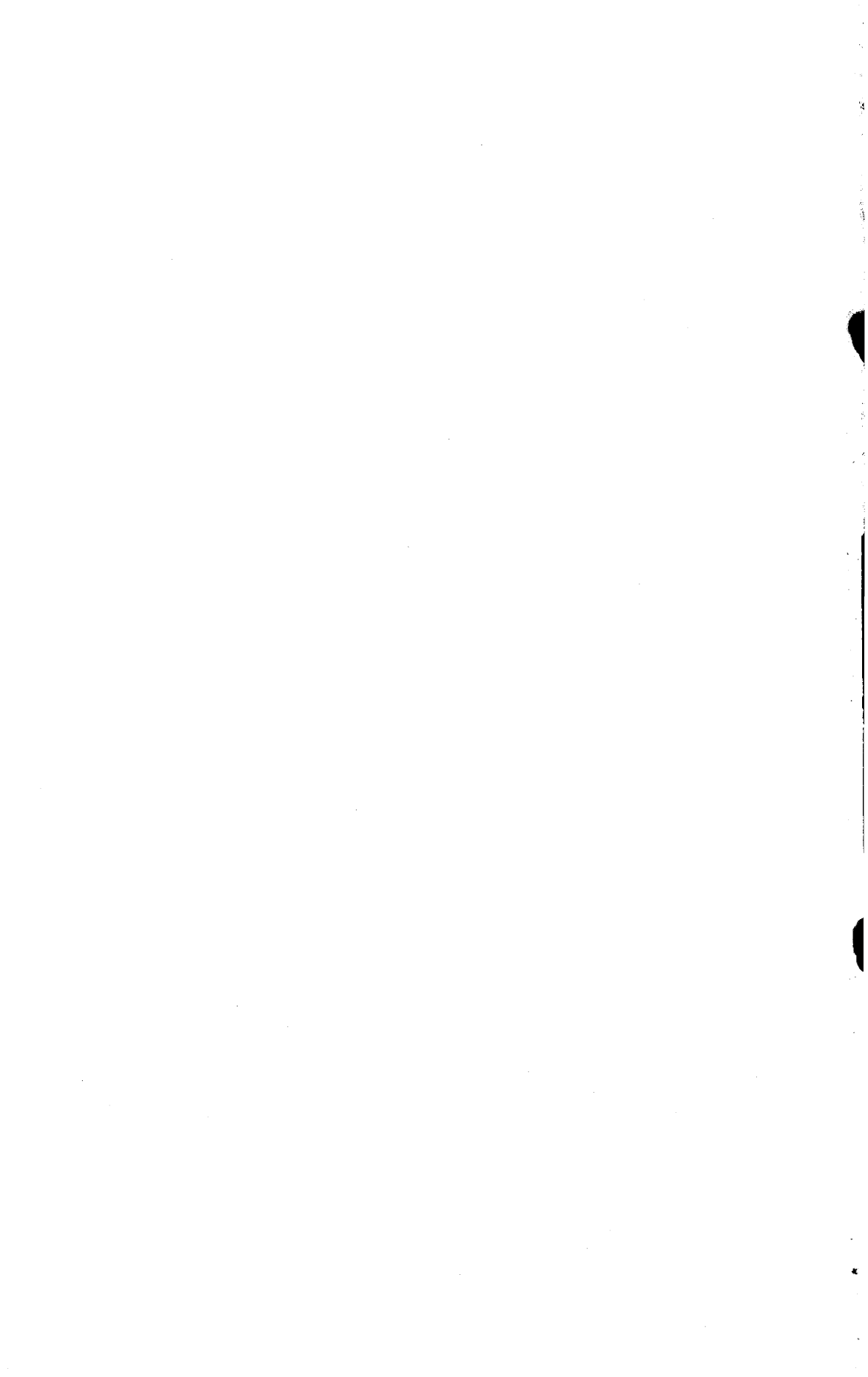
- Honorary President* Dr. DOUGLAS GUTHRIE
- President* - - Mr. CHARLES H. KEMBALL (died 30th March, 1964)
- Vice-Presidents* - Professor ADAM PATRICK
Professor NORMAN M. DOTT
- Hon. Secretary* - Dr. H. P. TAIT, 22 Belford Avenue, Edinburgh, 4
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- Council* - - Dr. E. H. DUFF retires by rotation, 1964
- | | | |
|-----------------------|----|------|
| Dr. IAN A. PORTER | .. | 1964 |
| Dr. A. T. SANDISON | .. | 1964 |
| Mr. D. C. MILN | .. | 1965 |
| Mr. G. R. PENDRILL | .. | 1965 |
| Professor JOHN CRAIG | .. | 1966 |
| Mrs. MENZIES CAMPBELL | .. | 1966 |
| Dr. W. D. H. CONACHER | .. | 1966 |
- THE SENIOR PRESIDENT,
ROYAL MEDICAL SOCIETY (ex officio).



PATRICK HERON WATSON, M.D., LL.D., F.R.C.S.E., 1894
presented by his former residents in the Royal Infirmary and
Chalmers Hospital, Edinburgh

Painted by Sir GEORGE REID, P.R.S.A.

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The Scottish Society of the History of Medicine

REPORT OF PROCEEDINGS

1962-63

ANOTHER successful and profitable session has come to an end with membership of the Society well maintained and enthusiasm unabated. The usual three meetings were held at which excellent papers were delivered and animated discussions took place.

The Annual General Meeting was held in November, 1963, at Glasgow when the Society was addressed by Professor L. R. C. Agnew of the Chair of History of Medicine at the Medical School, Kansas University. The forty-seventh meeting was held in February at Edinburgh when Dr. Boog Watson gave a delightful paper on Sir Patrick Heron Watson; while the summer meeting was held in June at Hawick when papers on Shakespeare and on Dr. John Leyden were given by Drs. Armstrong Davison and Douglas Guthrie respectively, the Society at the same time making a pilgrimage to Leyden's home at Denholm.

Obituary Notices

Death has dealt severely with the Society this session. Mr. Charles H. Kemball, our President, died on 30th March, 1964. It is difficult to realise that we will have his presence no more at our meetings for he was an original member of the Society, who always took the greatest interest in its affairs and was a staunch and regular attendee at its meetings. One of only two members who were dental surgeons he not only prized his election in October as President from a personal point of view but also regarded it as a recognition by the Society of the importance of the history of dentistry. At the summer meeting at Hawick, Professor Norman M. Dott, who presided as a Vice-President, paid this tribute to Mr. Kemball.

"We are met here in the good Border town of Hawick, as desired and arranged by our late President, with the purpose of remembering the lives, long since sealed by death, of John Leyden and William Shakespeare. Since these good plans were laid, our President has been called from us—drawn into the shadowy paths of history. And if, as he purposed—*Deus volentes*—the glory of his living sun may not shine upon us today, yet the moonlit image is as dear and no less beautiful, perhaps clearer to us.

"Charles Henry Kemball, F.D.S., H.D.D., D.D.O., D.D.S., F.R.S.E. was born at Boxford in Suffolk in 1889, of farming stock and he became a dental surgeon by apprenticeship, study, licence and professional travel. From his earliest days as a dentist to his last he was closely associated with the Edinburgh Dental Hospital and School. He was the familiar and confidant of its founders and bore their torch onwards nobly. With his passing a living bridge that connected them with us has been broken. He was a good historian of his own, past and present times, and he possessed inspired insight for his profession's future. He therefore built a durable bridge of paper—its stones his many memorable and treasured contributions to this and other learned societies and institutions. Among his many honours, presidencies and chairmanships, this his latest, in the seventy-sixth year of his life, was dear to his heart. We look on him with affection, respect and reverence."

On the call of Professor Dott the assembled company stood and observed a minute's silence.

Professor Benjamin J. Ryrie died on 28th March. Formerly Professor of Pathology in the University of Capetown and Dean of the Faculty of Medicine there, Professor Ryrie retired to Edinburgh in 1953 and soon afterwards joined the Society of which he was a keen and loyal supporter.

We will miss these two distinguished men and the Society is the poorer in their passing.

In October, 1963, the Royal College of Physicians and Surgeons of Glasgow resolved that a fund should be set up to commemorate the late Archie Goodall in recognition of his long and faithful service both to the Royal Faculty and the College as councillor and honorary librarian. This fund will be used to endow an annual lecture on a subject related to medical history, education or scholarship. Members of the Society were privileged to contribute to this fund.

It is but fitting that mention should be made here of the death on 22nd August, 1963, of Lord Nuffield, aged eighty-five. He was Britain's greatest benefactor to medicine and his charter of foundation of the Nuffield Foundation in 1943, and to which he handed over as a capital fund his holdings in the Nuffield organisation, included among its objects the promotion of medical research and teaching; the organisation of medical and health services; scientific research and teaching in the interests of trade and industry; the pursuit of social studies; and the care and comfort of aged persons.

The remarkable Egyptologist and foeklorist, Dr. Margaret Murray, died in November, 1963, aged one hundred. Much of her work had great significance for medical historians and she was a Fellow of the Society of Antiquaries of Scotland.

The death occurred on 4th April, 1964, of Sheriff George Wilton Wilton, aged one hundred and one. His lifelong interest was that of finger-prints and he published a book on the subject. He always felt that less than justice had been done to Dr. Henry Faulds, who, while serving as a medical missionary in Japan, had demonstrated the value of finger-prints as evidence in criminal cases, and communicated his views to *Nature* in 1880.

Personal

Warmest congratulations are extended to our Honorary President and Founder, Dr. Douglas Guthrie, on yet another honour which has been conferred on him. At the fourth British Congress on the History of Medicine and Pharmacy held at Nottingham in September, 1963, he was awarded the Honorary Fellowship of the Faculty of the History of Medicine and Pharmacy of the Worshipful Society of Apothecaries of London for his distinguished services to medical history.

He has also collected a series of his papers and addresses into a delightful volume, *Janus in the doorway* (1963). The essays are divided into six sections dealing respectively with the historical approach to medicine; the genesis of medical thought; a Scottish symposium including the rise of medical education in Scotland and the medical and scientific exploits of King James IV; the geographical outlook containing his Herveian Oration on Harvey in space and time; researches and discoveries; and byways in biography. As is to be expected the collection is a valuable source book and an admirable addition to the bedside library. Dr. Guthrie pays tribute to James Warburton Begbie and John D. Comrie who promoted the teaching of the history of medicine at the Edinburgh Medical School. Yet, in spite of Dr. Guthrie's plea that "the most logical introduction to any field of learning is a study of its history", it is to be regretted that so little time is given in University medical curricula to advance these views.

Although Marjory Fleming, "Pet Marjorie", is dealt with by Dr. Guthrie in his essay on Dr. John Brown in *Janus in the doorway* he has also written a com-

memorative appreciation of Brown and Marjory in the *Scotsman* (Weekend Magazine, 9th November, 1963) to mark the centenary of Brown's introduction of Marjory to her numerous admirers.

Professor Sir David Henderson has published a valuable study—*The Evolution of Psychiatry in Scotland* (1964). No one is more qualified to undertake and write such a study which fascinates the reader from the first to the last page. The work is divided into eight chapters: a general introduction; Franco-Scottish foursome concerning Philippe Pinel and Jean E. D. Esquirol and our own Andrew Duncan, senior, and Sir Alexander Morison; Royal mental hospitals of Scotland and the Royal Scottish National Institution all of which were described in the paper which Sir David contributed to this Report of Proceedings last year; four notable social reformers, Mrs. Elizabeth Fry, Florence Nightingale, Octavia Hill and Dorothea Lynde Dix; the beginning of preventive and research methods in psychiatry; personal training and experience, being Sir David's own story; the changing scene from 1919-1962; and teaching, research and future prospects in psychiatry.

Dr. Edward R. C. Walker announced his retirement from the post of Scottish Secretary of the British Medical Association in November, 1963, to take effect on 6th April, 1964. An original member of the Society and one of its warm supporters, it was a particular pleasure to be present at the function held in Edinburgh on 31st March when Dr. Walker was presented with his portrait at a "full-house" gathering when tributes were paid to his work during the eighteen momentous years that he was Scottish Secretary.

Dr. J. Menzies Campbell, whose health precludes his attendance at our meetings, but who nevertheless remains an enthusiastic member, is as active as ever with his pen. His contributions to dental history during the session under review include: Keys, tokens and medals (*Dent. Mag. & Oral Topics*, June, 1963); Drilling, filling, filing, and scraping (*Ibid*, December, 1963); Transplanting teeth (*Dent. Pract.* 1963, 13, 520).

Dr. M. H. Armstrong Davison, as President of the North of England Medico-Legal Society, delivered a presidential address on Medicine, murder and man (*Medico-Legal Journal*) in October, 1963.

Dr. W. N. Boog Watson wrote a charming *Short History of Chalmers' Hospital* (1964) to mark the centenary of the foundation and opening of this Edinburgh hospital on 22nd February, 1864. He also contributed a biographical sketch of George Chalmers, plumber and founder of the hospital (*Scotsman*, 22nd February, 1964, Weekend Magazine).

Our only pharmacist member, Mr. Charles G. Drummond, who has done so much in Scotland to promote the study of the history of his profession, gave a paper on Pharmacy and medicine in Georgian Edinburgh, to the Scottish branch of the Pharmaceutical Society in January, 1964, and his paper was subsequently published (*Pharm. J.* 1964, 28th March, pp. 287-293).

The Senior President of the Royal Medical Society is an *ex officio* member of the Society and its Council so that we may be associated with the undergraduate body in Edinburgh. Some time ago it was announced in this Report that the Royal Medical Society was appealing for funds to build or acquire new accommodation. Subscriptions have been slow to come in and it was announced in November, 1963, that Midlothian County Council require the Society's present premises in the very near future for the Council's own expansions. The matter then is one of urgency for the Society and an appeal is therefore made to our members to contribute to the Royal Medical Society's building fund.

Dr. J. Simpson of the Department of Public Health and Social Medicine at St. Andrew's University discussed the influence of Pringle and Cullen on eighteenth century medical opinion on fever in a paper—Ideas on the fever (*Med. Off.* 1964, 111, 105-108).

Professor A. Mair of the Chair of Public Health and Social Medicine at St. Andrews University has drawn our attention to two new developments in Dundee during the past session. The first concerns the introduction of a new course in Industrial Health run by the Department at Queen's College under Professor Mair's direction. A diploma and a certificate in this subject are awarded after courses lasting nine and three months respectively. The second concerns the inauguration of the Dundee and District Occupational Health Service, under the direction of Dr. W. M. Dixon. Supported by the Nuffield Foundation, a complete medical and nursing service is offered to local industry, particularly to smaller firms for whom the cost of whole-time staff would be difficult or impossible. The service also assumes responsibility for the Student Health Service at Queen's College. The cost at present is £2 per employee per year.

Medico-Historical Notes

In 1959 Edinburgh University launched an appeal for one million pounds for development purposes and an 21st August, 1963, a gift of £100,000 was handed to the University from the Sembal Trust for furthering the work of the General Practice Teaching Unit, the only one of its kind in the world and set up in 1948. This teaching unit now has some 40,000 patients under its wing, after starting with only one doctor when now it has 13, six of whom are full-time general practitioners.

On 2nd September, and subsequent days, the British Pharmaceutical Conference celebrated its centenary conference in London, and a full account of the proceedings and functions associated with the gathering is given in the *Pharmaceutical Journal* (7th September, 1963) and the *Chemist and Druggist* (of same date). The first conference was held at Newcastle-upon-Tyne on 2nd September, 1863 when 22 gentlemen were present, one of their number, Henry Deane begin elected chairman. A beautifully illustrated *Pharmaceutical Miscellany* was presented to members attending the Centenary Conference by the *Pharmaceutical Journal*.

The fourth British Congress on the History of Medicine and Pharmacy was held at Nottingham University from 20th-23rd September, when the theme was The Evolution of Pharmacy in Britain. This was voted another success by those members of the Society who attended.

In last year's Report we commented upon the decision of the Robert Louis Stevenson Club to give up the house at 8 Howard Place, Edinburgh, where R.L.S. was born on 13th November, 1850. The house, as a place of literary pilgrimage, was closed on 28th September, 1963, and was put up for sale on 18th March, 1964, being sold to a private purchaser.

The unveiling of a memorial plaque on 11th October, 1963, to men of the Irish Brigade who fought for Prince Charles Edward Stuart, at Culloden recalls to mind the erudite series of papers on the Medical Heroes of the 'Forty-Five' which appeared in the now defunct *Caledonian Medical Journal* by the senior editor of the Journal at that time, Dr. W. A. Macnaughton (*Cal. med. J.* 1932-36, 15, 59-68; 110-124; 142-150). The last editor of this journal was the late lamented Dr. John Ritchie, a former President of our Society.

Scotland's first training school for dental hygienists was opened on 11th November, 1963, as a branch of the Edinburgh Dental School. The new unit is a small compact school opposite the main dental hospital in Chambers Street. The opening of this training school will facilitate teaching of Scottish candidates for the Certificate of Proficiency in Oral Hygiene.

On 20th June, 1913, the Medical Research Committee, set up under provisions for research contained in the National Insurance Act of 1911, held its first meeting under the chairmanship of Lord Moulton, a distinguished judge and scientist. This was the beginning of what is now called the Medical Research Council which received a Royal Charter on 1st April, 1920. The fiftieth anniversary of the Medical Research Council was suitably celebrated by a series of special articles in the *British Medical Journal* and *Lancet* (23rd November, 1963).

The first step towards a centralised Post-Graduate Medical School for Edinburgh was taken on 18th December, 1963, when a commemorative plaque was unveiled at a new post-graduate medical centre which is being built in Roxburgh Place. The new centre, the Pfizer Foundation Building, is the result of the establishment of an educational and charitable trust, sponsored by the Pfizer group of companies. The new building, when completed in 1965, will contain a conference room, library, reading room, lounge, and offices for the staff of the Post-Graduate Board for Medicine.

The Medical Act, 1858, which set up the General Council of Medical Education and Registration of the United Kingdom, to give the General Medical Council of today its original and full name, obliged the Council to "cause to be published under their Direction a Book containing a List of Medicines and Compounds, and the manner of preparing them, together with the true Weights and Measures by which they are to be prepared and mixed, and containing such other Matter and Things relating thereto as the General Council shall think fit, to be called 'British Pharmacopoeia'; and the General Council shall cause to be altered, amended, and re-published such Pharmacopoeia as often as they shall deem it necessary." So there appeared in 1864 the first edition of the *British Pharmacopoeia* which superseded the pharmacopoeias which had hitherto been in use in England, Scotland and Ireland, viz. the London, Edinburgh and Dublin Pharmacopoeias respectively.

The Executive Board of the World Health Organisation on 21st January, 1964, adopted a resolution that a broad co-ordinated and accelerated research programme on major health problems was needed. This resolution followed on a discussion of a proposal to establish a World Health Research Centre. Although political opinion in this country is divided on the need for such a centre, suggestions have been made that Scotland might provide a suitable locus for setting up such a research centre under World Health Organisation auspices.

Two hundred years ago, on 30th March, 1764, Dr. Thomas Simson died at St. Andrews in his sixty-eighth year. He was the first Chandos Professor of Medicine and Anatomy at St. Andrews University, having been appointed to that post following the giving of £1,000 for the purpose by James, Duke of Chandos. Simson lectured in English instead of the Latin more usual for the times, and he appears to have thrown himself into his duties with enthusiasm and acceptance.

Far-reaching changes in the medical curriculum at Edinburgh University which will enable highly qualified students to gain a medical degree in five years instead of the present six years were announced early in April. This new course which is being regarded as experimental at present will come into operation in the autumn term this year (1964).

Also in April, Malta issued a special stamp to mark the congress being organised at Valetta in June by the United Nations Food and Agricultural Organisation to discuss the control of brucellosis in the Mediterranean region. The stamp shows the heads of Sir David Bruce, discoverer of the cause of Malta Fever, and of Sir Themistocles Zammit, the Maltese physician and anthropologist.

Professor Adam Patrick has called our attention to an exhibition of medical, anatomical and surgical books printed before 1800 and which was on show in the Upper Hall and Parliament Hall, University Library, St. Andrews, from 2nd to 4th April. The exhibition was arranged to coincide with the Conference of the Association of Surgeons of Great Britain held at St. Andrews at that time. In the exhibition Greek, Arabian and Medieval Medicine were represented by works of Hippocrates, Galen, Hali Abras, Rhazes, Avicenna and the School of Salerno; Renaissance, 17th and early 18th century medicine, anatomy and surgery by Albrecht Durer, Eucharius Rosslin, Ambroise Pare, Andreas Vesalius, Thomas Gale, Fallopius, Eustachius, Fabricius, William Harvey, Guilio Casseri, Bidloo, Lancisi, Thomas Willis, James Yonge, William Cowper, Morgagni, Cheselden, Dionis,

William Smellie, Charles White, Percival Pott, John and William Hunter, von Soemmerring, Albinus and Scarpa.

Few big medical meetings have given as much pleasure as the joint British Medical Association and Canadian Medical Association meeting held in Edinburgh in 1959. To renew some of the links forged at this memorable meeting, the City of Edinburgh Branch of the B.M.A. arranged a trans-Atlantic telephone link-up with the Ontario Medical Association to coincide with the latter's meeting in Toronto in May. This telephonic link-up took place on 28th May when a ninety-minute programme on Medical Rehabilitation within the Community was the subject of joint discussion.

An exhibition opened in July at the National Library of Scotland is devoted to botanical illustration. Included among the volumes on display are the two folios illustrated by Elizabeth Blackwell. This remarkable woman was the wife of Dr. Alexander Blackwell, a distinguished Scottish physician of the eighteenth century who became physician to the Swedish royal household. Being alleged to have become involved in a conspiracy against the throne of Sweden, Dr. Blackwell was executed in 1747. Mrs. Blackwell having considerable ability in drawing, found this gift of great use to her when her husband earlier in his career was in prison for debt. She therefore submitted some drawings of plants and flowers to Sir Hans Sloane, Dr. Richard Mead and other eminent physicians of the period and, on their supporting her contemplated publication of a herbal, she hired a house near the Chelsea Physic Garden and made not only drawings of the flowers and plants in this garden but also engraved them on copper and coloured the prints herself. Her husband lent her all the aid he could by attaching the Latin names to the plants and giving short accounts of their principal characters and uses. The first volume of Mrs. Blackwell's work appeared in 1737, and contained 252 plates, each of which is occupied by a particular flower or plant. The volume was dedicated to Mead as follows: "As the world is indebted to the encouragers of every public good, if the following undertaking should prove such, it is but justice to declare who have been the chief promoters of it; and as you were the first who advised its publication, and honoured it with your name, give me leave to tell the readers how much they are in your debt for this work, and to acknowledge the honour of your friendship." The second volume, dedicated to Mr. Rand, an eminent apothecary and demonstrator to the Company of Apothecaries in the garden at Chelsea, appeared in 1739. The venture by this devoted wife resulted in the release of her husband from the debtors' prison. Mrs. Blackwell's later life is quite unknown.

One hundred years ago on 16th August, 1864, Elsie Maud Inglis, the greatest of Edinburgh's medical daughters and one of her best loved figures, was born. She was the founder of the Scottish Women's Hospitals whose activities during World War 1 were so glorious. She was a pioneer of medical education in Edinburgh, helping to found the Scottish Association for the Medical Education of Women and the Medical College for Women in Edinburgh. The Honorary Secretary was privileged to give a paper on Dr. Inglis to the Eastern Division of the Medical Women's Federation in April and this paper will be printed subsequently.

Books and Other Notices

It is particularly gratifying to know that each year that passes seems to show an increasing number of books of medico-historical interest. Such being the case, it is but right to point out to members of the Society that the notices of books made in this section of the Report are only those with which we have had some knowledge or acquaintance.

Of autobiographies, *We met at Bart's* (1963) by Geoffrey Bourne is a quite delightful and enjoyable story by a well known physician; *The Road to Harley Street* (1964) by W. Byam is of different vintage, being rather sour in parts; *Final Diagnosis* (1964) by John Glaister, Emeritus Professor of Forensic Medicine at Glasgow

University, is a fascinating story in which it is revealed that Glaister has corresponded with Erle Stanley Gardner on matters pertaining to Perry Mason's cases.

Of biographies, the first to be noted is *Knox: The Anatomist* (1964) by Isabel Rae. This is a book which should be of special interest to Scottish medical historians and in particular those with affinities to Edinburgh. The book, acceptably short and written in a lucid style, presents the story of this remarkable man. Endowed with great intellectual gifts, Knox studied medicine at Edinburgh University, practised surgery in the army and while serving in Cape Colony gained a wide knowledge of natural philosophy, ethnology and comparative anatomy. By 1826 he was an acknowledged expert in those subjects and in that year he became lecturer in anatomy in Edinburgh, showing himself also to be a teacher of quite exceptional ability. "Knox primus et incomparabilis" his students called him and a brilliant academic future lay ahead. Yet, in 1842, his career in Edinburgh shattered, Knox had to seek anonymity in London where for fourteen years he travelled the valley of humiliation. It was only in the last six years of his life that he regained some measure of recognition as a pathological anatomist.

In the past, attention has been paid to Knox by historians and dramatists, but always with an exaggerated concentration on the Burke and Hare episode. Miss Rae is partisan in her approach, in details she may even be prejudiced as in her sketch of James Syme as the bigotted, bitter, unscrupulous persecutor of Knox. But her picture of Knox himself is in true perspective. While giving reasonable space to the body-snatchers, she directs her emphasis to the other significant happenings in Knox's eventful career. Most convincing is her presentation of the complex character of the man. Misfortune came about, not primarily through his connection with the West Port murderers. Miss Rae shows that it was arrogance of mind by which Knox became the tragic hero of his own life story.

Among other biographies noticed during the past session are: the *Biographical Memoirs of Fellows of the Royal Society*, volume 9 (1963) includes a sympathetic appreciation of the life and work of Sir Leonard Rogers, the authority on tropical medicine, who died when he was ninety-five years of age; *Sir John Simon* (1963) by R. Lambert is a detailed study of the work of this great man who was pathologist, surgeon, sanitarian and medical administrator, and the City of London's first Medical Officer of Health, being appointed in 1848, one year after Liverpool had appointed W. H. Duncan as her medical officer of health, the first such appointment in Great Britain; *James Currie: the entire stranger and Robert Burns* (1963) by R. D. Thornton, Professor of English at Kansas State University, is an attempt, largely successful, to defend Currie's rather unjustly incurred reputation over his biography of Burns, and the author shows that Currie was a physician with an excellent record in medicine; *John Locke (1632-1704), physician and philosopher* (1963) by K. Dewhurst shows that Locke, so much better known as a philosopher, also practised medicine for some time; *Two pioneers of tropical medicine: Garcia d'Orta and Nicolas Monardes* (1963) by C. R. Boxer, is a slim paper-covered book dealing with the lives and achievements of these two Iberian physicians; *Gillies—Surgeon extraordinary* (1964) by Ronald Pound, tells the story of the pioneer plastic surgeon who came to England from New Zealand in 1901 and stayed in this country; *A time to heal* (1964) by H. McLeave is a study of the late Ian Aird and of particular interest to Scottish and especially Edinburgh medicals. Aird's work in the surgery of conjoined twins recalls K. Hunter's little biographical study of the original Siamese twins, Chang and Eng in *Duet for a lifetime* (1964).

It is good to see a reprinting (1964) of the late E. T. Withington's *Medical History from the Earliest Times* first published in 1894. This erudite and classical book has long been out of print, and its reprinting will be generally welcomed. It is the only general medical history book which has been noticed this year.

It would appear that more and more attention is being paid nowadays to the history of special aspects or subjects of medicine and several such works have been

noted. *On Wings of healing* (1963) by H. N. Cole is the history of the Airborne Medical Services from their foundation in 1940 until 1960—a proud story of the part played by the airborne medical services in various parts of the world; *St. Thomas' Hospital* (1963) by E. M. McInnes, the hospital archivist, provides a graphic account of the well known hospital whose date of foundation is uncertain; *The London: A study in the voluntary hospital system* (1963) volume 2, by A. E. Clark Kennedy is a valuable sociological study as well as giving details of the London Hospital's history from 1840 to 1948; *St. John's Hospital for Diseases of the Skin, 1863-1963* (1963) edited by Brian Russell; *The March of Medicine* (1963) by H. S. Glasscheib, translated by M. Savill, deals at considerable length with Edinburgh's part in the progress of anatomy; *A history of the Royal College of Physicians of Ireland, 1654-1963* (1963) by Professor J. D. H. Widdess reveals the varied career of the founded in 1654 as the Fraternity of Physicians, later becoming known as King's College and Queen's College of Physicians of Ireland before the present title was adopted in 1890; *World health and history* (1963) by W. Hobson, is a very readable book dealing with the historical aspects of preventive medicine and public health; *The evolution of clinical methods in medicine* (1963) by K. D. Keele consists of the Fitzpatrick lectures given at the Royal College of Physicians of London during 1960-61 and is a first class book; *The Central Middlesex Hospital: The first sixty years, 1903-63* (1963) by J. D. Allan Gray tells the story of a hospital opened in March 1903 as the Willesden Workhouse Infirmary, taken over in 1929 by Middlesex County Council which developed it into a modern general hospital; *A short history of surgical dressings* (1964) by I. M. J. Elliott and J. R. Elliott contains much of interest; *The king's malady* (1964) by C. C. French deals in a dramatic way with the mental illnesses of George III.

In the bibliographical field, *English books printed before 1701 in the library of the Royal College of Surgeons of England* (1963) edited by W. R. le Fanu, includes Peter Lowe's "Chirurgie" published in 1596.

Two books of special interest are a collection of essays by J. F. D. Shrewsbury *The Plague of the Philistines and other medical-historical essays* (1964) which deals with, *inter alia*, the health of Henry VIII and the plague of the Philistines which Shrewsbury suggests was bacillary dysentery and not bubonic plague as most other commentators have accepted, and *Medicine and custom in Africa* (1964) by M. Gelfand which consists of a collection of lectures given to his first year medical students and containing a wonderful panoramic view of witch-doctoring, the rearing of children, food habits and other topics relating to the peoples of Africa.

From Dr. Samuel X. Radbill of Philadelphia, Pennsylvania, we have received two volumes of considerable interest to Scottish medical historians. The first, edited with notes and an introduction by Dr. Radbill, is *The Autobiographical Ana of Robley Dunglison, M.D.* published as a separate volume of the Proceedings of the American Philosophical Society (1963, n.s. 53, part 8). The preparation of this work for publication has obviously been a labour of love for Dr. Radbill who has enhanced the value of the collection by his footnotes. Robley Dunglison (1798-1869) was born at Keswick, Cumberland, and after attending lectures at Edinburgh, London, and Paris, passed the examinations of the Royal College of Surgeons and the Society of Apothecaries. He went to America in 1825 to serve as Professor of Medicine at the newly founded University of Virginia, becoming personal physician to Thomas Jefferson, James Madison and James Monroe, and was called into consultation in the treatment of Andrew Jackson. He left Virginia in 1833 for the University of Maryland where he taught for three years, and then moved on to Jefferson Medical College at Philadelphia where he spent the remainder of his life. The *Ana*, prepared in Philadelphia about 1852, were designed to preserve personal recollections and records which Dunglison thought might be of interest to his family. His recollections of four American Presidents and anecdotes concerning many prominent men of the nineteenth century make the *Ana* a rich source book. The original eight holograph volumes were added to from time to time by Dun-

glison and are now in the possession of the College of Physicians of Philadelphia. Dr. Radbill is to be warmly congratulated on making such a carefully compiled record available to a wide audience.

The second volume Dr. Radbill has favoured us with is "Old Blockley", being the Proceedings of the Bi-centenary celebration of the building of the Philadelphia Almshouse (1933). Disciples of Sir William Osler will remember well his close association with Blockley. Harvey Cushing has this to say of Osler and his love for Blockley: "Osler's disinclination for a general practice, for which a university position was coveted as a portal of entry, and his determination to limit himself largely to consultations, was mystifying to his medical colleagues, most of whom were accustomed to hold afternoon office hours and to engage actively in house to house practice. His afternoons, on the contrary, usually found him at 'Blockley', where, as will be learned, after his morning at the University Hospital and some bread-and-milk picked up in the ward, he would betake himself with a group of students to spend the afternoon making postmortem examinations instead of sitting in his office awaiting patients."

Here is another recollection about Osler and Blockley by a former resident there: "If he found something especially interesting he would send out the runner to get all the boys and show what a wonderful thing he had found and how interesting and instructive it was. Once in the ward class there was a big coloured man whom he demonstrated as showing all the classical symptoms of croupous pneumonia. The man came to autopsy later. He had no pneumonia, but a chest full of fluid. Dr. Osler seemed delighted, sent especially for all those in his ward classes, showed them what a mistake he had made, how it might have been avoided and how careful they should be not to repeat it."

In all, Osler completed one hundred and sixty-two autopsies at Blockley during his Philadelphia residence. His most notable studies here were upon malaria and the wealth of material in the Blockley wards enabled him to rectify an earlier scepticism toward the observations of Councilman on the malarial plasmodia reported before the Association of American Physicians in 1886.

The third volume we have received is *The Crystal Arrow* (1964) by Dr. Felix Marti-Ibanez, editor-in-chief of *MD Medical News magazine*. The book consists of the editorial essays which have appeared in *MD* since it appeared in 1957. The subjects cover a wide field and show the catholicity of Dr. Marti-Ibanez' tastes, and the breadth of his reading. He possesses the "art of good saying" in full measure and the volume can be opened at any page and in a moment the reader will be engrossed in whatever Dr. Marti-Ibanez happens to be writing about at that moment, be it on literature, travel, art, love, the joy of living, disease and destiny, or history of medicine. In the essay concerning medical students, whom Dr. Marti-Ibanez calls "the young princes", he has this to say about the study of medical history:

"Nothing is better than the history of medicine for instilling into the medical student a high sense of his professional mission, history taught not for the purpose of making the student an historian on a small scale, but of making him a better physician by making him a better man. In other words, it is a study of man in society, of his supreme greatness and his tragic errors, and it teaches the concatenation of ideas through the ages, the living panorama of the human mind in full creativity, the relative value of truth and error in science, the relativity of human knowledge, the duty of 'equanimity'".

In probably the finest essay in the collection, "To be a doctor", we read:

"Your duty to your patients will be to act toward them as you would wish them to act toward you: with kindness, with courtesy, with honesty. You must learn when and how to withhold the truth from your patients if by not telling them all the facts of the case you can relieve or console them, for you can cure them sometimes, and you can give them relief often, but hope you can give them *always*."

Remember that a laboratory report is not an irrevocable sentence. A hematological determination, a roentgenogram, an electroencephalogram may supply vital information on the organic working of the body, but it is even more vital never to forget that, behind all such reports and data, there is a human being in pain and anguish, to whom you must offer something more than an antibiotic, an injection, or surgical aid; you must, with your attitude, your words, and your actions, inspire confidence and faith and give understanding and consolation."

We should again like to accord our warm thanks to various individuals and scientific bodies who have sent us catalogues, papers and reports during the session. These include: *Landmarks in dermatology* from the Harveian Librarian of the Royal College of Physicians of London; *Acta medicae historiae Patavina*, vols. 8-9, 1961-62; 1962-63, from Professor L. Premuda of Padua; *Pagine di storia della medicina, Tribuna sanitaria*, and *Rivista di storia della medicina* from Professor A. Pazzini of Rome; *Bulletin of Cleveland Medical Library*, and a *Bibliography of history of medicine in the United States and Canada, 1962*, from Dr. Genevieve Miller of Cleveland; *Report of the Copenhagen Medico-Historical Museum, 1961-63*, from Dr. Egill Snorrason; *Medicinhistorisk Arsbok, 1963*, from Dr. Wolfram Kock of Stockholm; *Quarterly Journal of History of Science and Technology, Warsaw, 1964*, from the librarian of the Polish Academy of Sciences; *Papers from the medico-historical library of Hungary, 1963*, from Dr. A. Palla of Budapest; *Bulletin of Department of History of Medicine, Osmania Medical College vol. 1, nos 2-4*, from Dr. D. V. Subba Reddy of Hyderabad, India.

The Forty-Sixth Meeting and Fifteenth Annual General Meeting

The Forty-Sixth Meeting and Fifteenth Annual General Meeting of the Society was held on Friday, 1st November, 1963, in the Bloch Lecture Theatre, Royal College of Physicians and Surgeons of Glasgow, Professor Patrick, President, in the chair. The Society's Report of Proceedings for 1962-63 was submitted and approved. Attention was drawn to the new format on the front cover page and permission was granted to the Council to experiment further with the front cover page, to include the possible use of a coloured one. The Honorary Treasurer in his statement showed that the Society's finances were in a reasonably satisfactory state.

On the motion of Dr. R. J. Peters, seconded by Mrs. Boog Watson, Mr. Charles H. Kemball was proposed as President, in room of Professor Adam Patrick who demitted office on completing three years; Professor Patrick and Professor Norman M. Dott as Vice-Presidents; and Professor John Craig, Mrs. Menzies Campbell, and Dr. W. D. H. Conacher as members of Council, together with the re-election of members of Council eligible for such, and the Honorary Treasurer and Honorary Secretary. The motion was accepted unanimously. Mr. Kemball on assuming the chair paid tribute to Professor Patrick and Professor Stanley Alstead and Dr. W. S. Mitchell who retired from Council by rotation. Mr. Kemball regarded his election not only as a personal honour but as a recognition of the place of history of dentistry in the Society's activities. He then called upon Professor Agnew to address the meeting on:

MANUSCRIPTS AND MEDICINE

(The following is an abstract of the paper)

Manuscripts, in the widest sense of the work (i.e. things written by hand) are of great value as primary source materials for the medical historian. Such items as letters, notebooks, diaries and journals are always worth hunting for, and, if found, may yield a rich harvest of new information and insights—not only in connection with one's original problem, but also *de novo*. Manuscripts are almost invariably

unique in the sense that no other copies exist (the commonest exceptions to this general rule, of course, are usually to be found before the invention of the printing-press); thus, careful preservation of manuscripts is essential, and the more important ones should be photo-copied routinely.

For teaching purposes, manuscripts are invaluable; and students who have to write research papers usually evince a far deeper interest and even frank excitement when they have access to some hitherto unexamined MS. materials. Also, there are subjective elements involved in handling manuscripts—one feels, for example, far more in contact with, say, Florence Nightingale, when handling some of her actual letters than when perusing a copy of one of her books. While on the subject of students, it is perhaps worth noting that student notebooks (particularly of the eighteenth and nineteenth centuries) can be of tremendous interest and value to the medical historian who is keen to find out the nature and content of lectures delivered by any given medical teacher. Very often verbatim notes can be found, and when one is dealing with some figure in medical history who did not publish very much such notes are a godsend. For example, in the course of some work on Philip Syng Physick (1768-1837) the so-called Father of American Surgery, Dr. G. F. Sheldon and Professor Agnew (*J. Med. Educ.* 1960, 35, 541-549) were able to trace nearly thirty sets of notes taken by Physick's students during his tenure of the chair of surgery (1805-19) at the University of Pennsylvania School of Medicine. Great care has to be taken in any analysis of material from student notebooks—the dating of the notes may be inaccurate, and the spelling, especially of proper names, often atrocious. Further, since it was common practice (18th and 19th centuries) to sell MS. copies of lecture notes in such famous medical centres as Edinburgh, one may encounter a student MS. notebook dated and signed by the owner but containing, in fact, the substance of lectures delivered before he was born!

Finally, manuscripts of the kind described should always be preserved whenever and wherever they may turn up, or at least until such time as they can be examined by an expert. Many of the MSS. of famous living scientists, medical and otherwise, are clearly worth keeping for posterity, and such questions as (a) whose papers are worth preserving; (b) what should be preserved; (c) where should such materials be kept—these are currently exercising the interest of archivists on both sides of the Atlantic and appropriate solutions are being sought.

The Forty-Seventh Ordinary Meeting

The Forty-Seventh Ordinary Meeting of the Society was held in the Hall of the Royal College of Surgeons of Edinburgh on Friday, 28th February, 1964, Mr. Kemball, President, in the chair. Dr. W. N. Boog Watson presented a paper on

AN EDINBURGH SURGEON OF THE CRIMEAN WAR PATRICK HERON WATSON (1832-1907)

In 1854 Britain and France declared war on Imperial Russia, an expeditionary force proceeded to the Black Sea, having the Crimea as its field of operations and Constantinople as its base, and a large number of doctors offered their services as medical officers to the forces thus engaged. One of these was Patrick Heron Watson. Letters written by him during his war service in 1854 and 1855 have been made available by the courtesy of his grandson, Commander Patrick Haig Ferguson, and they form the basis of the first part of this paper. The latter part is concerned with Heron Watson's career as a surgeon of high repute in Scotland.

In 1854 Patrick Heron Watson was 22 years of age, an M.D. of Edinburgh University and he had just finished his term of service as house-surgeon in Edin-

burgh Royal Infirmary, where Joseph Lister had been one of his companions. He was already ambitious to become a teacher of surgery and one of his objects in joining the army was to gain experience in military surgery, so that he might apply for the University chair of that subject when a vacancy should present itself.

At the end of 1854 he went to London and applied at the War Office for an assistant-surgeonship, and in his letters he gives a description of the entrance examination, of which translation from Latin of a portion of Celsus was an essential part. The questions put were thirty in number and concerned intermittent and remittent fever, yellow fever, black vomit, gunshot wounds, amputations, ligatures, and a little materia medica and chemistry. Heron Watson passed with the highest distinction.

Before proceeding to Chatham he ordered his uniform and equipment and supplied himself with garments of fur from the Hudson Bay Company, having in view the cold of the Crimean front. After three weeks in the military hospital at Chatham, Heron Watson travelled with eight other assistant surgeons to Marseilles, where they embarked on a French transport bound for the Black Sea and on the 25th January, 1855, they reached Constantinople.

The British hospitals, except the Naval Hospital at Therapia, were situated in or near Scutari on the Asiatic side of the Bosphorus. The party, therefore, crossed the straits and reported to the P.M.O. in that town. While waiting for orders they learned something of the shocking conditions in the hospitals, and Heron Watson described the Barrack Hospital, to which he expected to be posted, as, "a lazarus, a dead house". Eventually he was sent to Koolalee hospital, five miles outside the town, reputed to be healthy and comfortable. This reputation was, however, unjustified, official records showing that in February, 1855, one in four of the patients admitted died of infection, much of which originated within the building itself.

Many of the earlier letters discuss the nursing staff, who were under the charge of Miss Stanley. Of the lady volunteers and the paid nurses Heron Watson had a very poor opinion and he wrote "a bevy of good cooks would be a good deal more useful and not half so troublesome." "The nuns," he commented, "are far better than the nurses and if I were ill I would rather have a nun to attend me." He even spoke slightly of Miss Nightingale, saying "from what I have seen of her, which certainly has been in the distance, she is a very dowdy old maid, of whom the less romance the better". Later when Miss Stanley was replaced as lady superintendent by a more efficient disciplinarian, he was able to write in higher terms of the nursing service, and especially of the Sellonite Sisters, an Anglican sisterhood.

During the earlier months the quarters provided in hospital for the staff were so bad, being described on one occasion as "more like condemned cells", that the assistant surgeons rented a private house at their own expense. In the hospital itself, situated in old Turkish cavalry barracks, Heron Watson was in charge of two wards for medical patients. In consequence, there was little opportunity for surgery and the only major operation which he performed at Koolalee was the amputation of both feet, one by Syme's and one by Mackenzie's method, of a soldier suffering from frostbite. Of his medical patients he wrote, "the cases are diarrhoea, dysentery and fever. All cases have scurvy as well", and the shocking conditions which prevailed made him write, "In fact our army is gone, and we are in the most deplorable condition through want of the common requisites of life." Later a sanitary commission was sent out from Britain to inspect the hospitals and after its visit to Koolalee radical improvements were effected, so that in May 1855 Heron Watson was able to write, "the wards are now in a state which is worthy of a civil hospital long founded at home".

The risk of infection was very great for the hospital surgeon. A month after Heron Watson's arrival at Koolalee one of his fellow doctors contracted typhus and a fortnight later another colleague fell ill with the same infection and died of it.

In the beginning of April Heron Watson himself contracted typhus but after some days of grave illness he recovered, spent his convalescence in a hotel in the pleasant town of Therapia, and was back at full work by mid-May. He was still employed in the medical wards and, his heart being in surgery, he applied for transfer to the Crimea. In this he was successful and in the end of June reached Balaclava and was posted to the Castle Hospital. Here he worked with great contentment in three crowded wards which housed only surgical patients and it was at this time that he received news that he had been elected a Fellow of the Royal College of Surgeons of Edinburgh.

From the Castle Hospital he was transferred to the post of regimental medical officer in a howitzer battery, but his experience in the field was of the shortest for at the end of ten days he contracted very severe dysentery. In what seemed to be a dying condition he was shipped to the General Hospital at Scutari where he shared a small room with his brother who had also come down from the front suffering from dysentery. Although he never met Miss Nightingale personally, Heron Watson was now able to write with great appreciation of the attention and the comforts which he received from the nursing staff under her direct orders. After three weeks at Scutari he was moved to Malta and after a period of convalescence there returned to Britain.

Patrick Heron Watson finished his military service with the Royal Artillery at Woolwich and Aldershot. When he returned to Edinburgh in 1856 he found that the chair of military surgery, to which he had aspired, had been abolished. Nevertheless he was able to embark on a career which brought success in both the teaching and the practice of surgery. He became private assistant to James Miller, Professor of Surgery, and in 1860 was appointed assistant surgeon in Edinburgh Royal Infirmary. In 1863 he became full surgeon and his tour of office of fifteen years was prolonged by a special additional appointment until 1886. His association with Chalmers' Hospital was of even longer duration for he was surgeon to that hospital for the unusually long period of forty years.

In 1858 Heron Watson became lecturer in surgery in the School of Medicine of the Royal Colleges and held that post for many years. In this position he showed himself one of the pioneers of the movement for the medical education of women. When the opponents of that movement succeeded in 1870 in excluding women from the medical faculty of the University Heron Watson opened his class of surgery to women students and he alone of the Infirmary surgeons provided clinical study for them in hospital. During the years that followed he was one of their most active allies until in 1886 the Edinburgh Medical School for Women was opened.

In 1877 he was an applicant for the chair of clinical surgery in the University but, despite very strong backing, he was unsuccessful and Thomas Annandale was appointed. This failure was brought about largely by his refusal to confine himself to surgery only. While conducting what was said to be the largest surgical practice in the country he was equally successful as a physician, medical patients of all kinds seeking his care. Nevertheless it is as a surgeon that Heron Watson is remembered, for Heron Watson was a great surgeon. He had been trained in the tradition of pre-anaesthetic days when speed was the great desideratum and his elegance, dexterity and rapidity were extraordinary. But he was no mere flashy operator. The knife was used only when its use was justified and every operation was most carefully planned. In his earlier days Heron Watson was a pioneer of surgical progress. Before 1875 he had performed many of the abdominal operations which became accepted procedures only at the turn of the century, in particular removal of the spleen, the kidney and portions of the intestine. The new procedure for thyroidectomy which he introduced became the accepted practice; he popularised excision of joints; and he was the first man in the country to carry out total excision of the larynx.

As a man he had, and admitted, the faults of obstinacy and argumentativeness, but those who knew him recognised a great kindness of heart and a generosity and sympathy towards others. Rutherford Morison, himself an eminent surgeon, has written of Patrick Heron Watson, "There was a stronger individuality about him than anyone else I have known. His old house-surgeons will remember his military walk; correct attire; neat, plainly written notes; ready command of language peculiarly his own; his courteous manner; his independence of character. We will revere these memories for we loved the man."

In 1878 the Royal College of Surgeons of Edinburgh elected Heron Watson its president. He became surgeon to Queen Victoria and later to King Edward VII and he was knighted in 1903. So high was the esteem of his colleagues that in 1905 he was for the second time elected President of the Royal College of Surgeons of Edinburgh in order that he might preside at its Quatercentenary Festival. His death occurred on the 21st December, 1907.

The Forty-Eighth Ordinary Meeting

The Forty-Eighth Ordinary Meeting of the Society was held at Hawick on Saturday, 13th June, 1964, in lovely weather and in most attractive surroundings. Members and their guests met for informal lunch, thereafter paying a pilgrimage to the nearby village of Denholm, where Dr. John Leyden lived and where a monument stands to his memory on the village green, proceeding on to the stone which marks the site of the little cottage where Leyden was born. The meeting itself was held in the hotel where lunch had been partaken, Professor Norman M. Dott, Vice-President, in the chair. Warm tribute was paid to our late President, Mr. Kembball, and a minute's silence was observed by the company. Two papers were the order of the afternoon's proceedings, the first by Dr. M. H. Armstrong Davison, the second by Dr. Douglas Guthrie. Dr. Armstrong Davison spoke on

SHAKESPEARE: SOME MEDICAL PROBLEMS

Genius does not die: it passes from mind to mind and influences the thoughts and actions of a widening circle of inheritors, so that the seed, once sown, continues to yield fruit for many ages to come; for genius is not so much the capacity to take infinite pains, as the skill to disseminate original thought.

The year 1564 saw the death of Michael Angelo and the birth of Shakespeare; two men who together bridge the gulf between the medieval and the modern, two men of genius whose ideas are deeply imprinted upon the minds of all succeeding ages. This year also saw the death of Vesalius and of Calvin, and the birth of Galileo. Indeed, 1564 was a year of vast importance in the calendar of human endeavour.

It has often been said that we know little or nothing about the greatest of our poets, but this is far from the truth. We know much about Shakespeare: when he was born, when he died, more or less whom and when he married, what family he had, and much about his commercial occupations. Yet it is also true that no real picture of the man emerges, just as no authentic portrait of him survives. Ben Jonson tells us a little of his wit and verbosity, there are rumours of his amorous propensities, and we know that Greene hated him, just as we know that Jonson loved him. The rest is not silence, but many thousands of words of conjecture, to which, I fear, I am now adding.

A great deal has been written about Shakespeare and Medicine; my reason for increasing the flow of words is simply that I hope that what I have to say will give you a closer insight into the man himself and an appreciation perhaps of some of the difficulties under which he worked.

And here I should say that adversity and, particularly, ill-health are among the most potent stimulants of genius, especially of the artistic genius. I need not exemplify this statement which is supported by the evidence of the lives of many artists, writers and, above all, poets.

There was a time when Shakespeare was believed to have been a master of almost every trade and profession. Most notably, he has been claimed to have been a lawyer of uncommon learning, but that claim has now been largely withdrawn. It is true that he makes use of many legal phrases and expressions, but it is also now recognised that he does not use them all correctly. Men have written of his skill in Medicine, but I hope to shew you that this is likewise an extravagant claim, although there can be no doubt that he was pre-occupied with the subject of health, the obvious reason for which interest being that his health gave him considerable concern: he was, in fact, a vaeletudinarian, as was so natural when disease was so little understood and so often fatal.

Before dealing with Shakespeare's medical knowledge on the evidence of what he wrote, I must first embark on the stormy sea of textual criticism, but my voyage on it will be short. Apart from a few signatures, we possess none of Shakespeare's actual handwriting, unless, as some believe, a couple of leaves of the play *Sir Thomas More* were actually written by him. However, we do know, both from his signatures and from such common errors as the confusion between 'e' and 'd' in the printed texts, that he wrote what is known as 'Secretary Hand', a form of gothic script which, when hastily written, is often difficult to decipher. Furthermore, the frequent mislineations and repetitions of similar lines in the plays indicate that there were many alterations, erasures and corrections, with, from time to time, re-writings in the margin of his manuscript. So far from Heminge and Condell being correct in their assertion that his manuscripts had 'scarce a line blotted', they seem to have been far from clean, and often extremely confusing. To add to this confusion, there is no doubt that some of the texts, at any rate of the Quartos, were written from memory by some of the actors themselves, who introduced a number of mistakes and even whole passages from other plays not by Shakespeare, while others, especially in the First Folio, were taken from the Prompt or acting copies which had, no doubt, been altered from time to time during rehearsal. Finally, it may be said that the First Folio, our main source and the sole source for some of the plays, is an extremely badly produced book, carelessly edited and incompetently corrected. The Sonnets, as you know, were surreptitiously printed, and are as full of errors as are the plays, so that the only works which the poet had published under his own eye, the two long poems, *Venus and Adonis* and *Lucrece*, are the only ones in which we can be sure that we are close to the author's text. In other words, when dealing with single words and short phrases, we can never be certain that we have the very words actually written by Shakespeare himself. An example of this occurs in *The Merry Wives of Windsor*, when the Host addresses Dr. Caius as 'Monsier Mock-water', amended in many texts to 'Monsieur Muckwater'. However, as Sisson (1956) has pointed out, a common form of Secretary 'a' resembles 'oc' very closely. The sense is lamentably clear: the Host applies this epithet as a well-known symptom of extreme cowardice; what Shakespeare really wrote was 'Monsieur Make-Water'.

It might be suggested that the interest of the poet for medicine derived from the fact that his son-in-law was a doctor. However, Dr. John Hall did not settle in Stratford-upon-Avon until about 1600, and it was not until 1607 that he married Shakespeare's daughter, Susannah (Simpson, 1959). The poet's interest in medicine is evident in the earliest of his plays, and there is little to show an increase in this interest in his later writings; I do not think that it is possible to trace any influence of Dr. Hall in the later plays, although *Timon of Athens*, one of the more 'medical' of the plays was probably written between 1604 and 1607; the earlier date is three years before the worthy doctor became his son-in-law.

To me, it seems that too many conclusions have been drawn concerning Shakespeare's beliefs from isolated passages in the plays; for they are only autobiographical in the sense that the imagery must have occurred to the author's mind. For example, Hotspur's famous speech which refers to 'parmacety for an inward bruise' must not be taken to mean that Shakespeare believed that the remedy was a good one; the most we can say is that he had heard of spermaceti. We might conclude that Shakespeare, having got the name wrong, did not have any real knowledge of the substance, but the first 'a' in 'parmacety' only reflects contemporary pronunciation (as in modern Dutch), while the absence of the initial 's' may be a mistake on the part of the compositor or merely the author's idea of what Hotspur would have said. We are on rather different ground with the Sonnets, for these are necessarily autobiographical as far as they go. I say 'necessarily' because this is how they read, although I am aware that it has been suggested that they are not autobiographical at all, but were merely written as 'poetic exercises'. I do not believe that this is a tenable position; anyone who reads them as a piece of literature will feel the deep sincerity of the emotion which guarantees their authenticity and origin.

As with almost all of Shakespeare's writings, the date of the Sonnets is in dispute. They were published as a whole in 1609, but two of them, in slightly different form, had been printed by William Jaggard in *The Passionate Pilgrim* in 1599, and, a year earlier, Francis Meres had referred to 'Shakespeare's sugr'd sonnets among his private friends'. It would seem to be a fair conclusion that the majority were written before 1600; one at least (CVII) may be as late as 1603, for it seems to refer to the death of Queen Elizabeth and the accession of James I, although some have seen in it, wrongly, I believe, the defeat of the Spanish Armada in 1588.

There are 154 sonnets; the last two are of doubtful provenance and lack the brilliance of all that goes before. Of the remainder, some are connected as stanzas in short poems, while others are complete in themselves. There are no less than twelve sonnets in which medical allusions have prominent place, enough to support my thesis that Shakespeare was excessively interested in matters of health, for these were probably written when he was in his thirties, an age when healthy people are apt not to think, much about death and disease. Particularly, I want to draw your attention to sonnets XXXIV, XXXVIII, LXXIV and LXXXIX, in which allusions are made to the author's own health. In the first of these, we find, 'For no man well of such a salve can speak That heles the wound and cures not the disgrace'. The important point is the juxtaposition of 'wound' and 'disgrace', which we see again in the third of these references, 'The coward conquest of a wretch's knife'. In the context, the wretch is 'Time', and the knife, his scythe, but two such similar lines of thought and expression can only spring from a serious mental trauma: the poet had been wounded by a wretch, and was disgraced, at least in his own mind, because he had shewn cowardice. This could hardly apply to chance-medley, nor to a duel, for no gentleman would have fought with a 'wretch,' nor would one who had received a wound be blamed for cowardice. On the other hand, there were many who broke down at the thought of a surgical operation in the days before anaesthesia; later, de Quincey was to become an opium addict rather than face a dental extraction. Further, the surgeon of those days, an unlettered craftsman, was, almost by definition, a 'wretch'; the inference would seem to be that Shakespeare had undergone an operation and that, during it, he had behaved with less constancy than he subsequently thought he ought to have shewn.

The other two references are similar to each other; 'So I, made lame by Fortune's dearest spite', and 'Speak of my lameness, and I straight will halt'. In either of these, the expression might be metaphorical, but the two together suggest strongly that the author had some disability which rendered walking less easy than usual, and this may perhaps explain the early eighteenth century story that the 'top of his performance' as an actor was the Ghost in *Hamlet*, for the Ghost would move slowly and a slight limp would not be amiss.

Taking all four references together, I suggest that Shakespeare underwent an operation for strangulated hernia and that the wound remained unhealed, resulting in a limp. This is a long shot; it is probably wrong. Another alternative will present itself in due course.

Now, let us turn to the question of how much medicine Shakespeare knew. I think it must be evident that he knew little of psychiatry, partly because no one did at that period, and partly because his delineation of lunatics, of the really insane, is always quite unrealistic. No lunatic ever behaved as Ophelia did, nor can we quite credit the alleged cause of her insanity. That Shakespeare often described accurately people who were neurotic or even somewhat psychotic shews no more than that he had known similar people and could understand how they would have behaved in the situations which he devised for them. This is to understand psychology, without knowing that the subject exists. Rather similar is the case of Julius Caesar. From North's Plutarch, Shakespeare learnt that Caesar suffered from 'the falling sickness', generally equated by us with epilepsy. As Terence Cawthorne has pointed out, Shakespeare makes Caesar deaf in one ear, a disability not mentioned by any historian; from this he deduces that the poet had known someone who suffered from Meniere's syndrome, a sort of vertigo associated with deafness in one ear, and this may well be the case. This, however, does not mean that Shakespeare associated a particular sort of 'falling', distinct from epilepsy, with deafness: rather, it argues confusion; all forms of 'falling' were epilepsy to Shakespeare, and the acuteness of his observation exposes the scantiness of his knowledge. Indeed, we can go a little further, for, in *King Lear*, we find the expression, 'A plague upon your epileptic visage', which appears to be an error for 'apoplectic'; while, in *Othello*, there is a very fair description of an epileptic fit:

IAGO My lord is fallen into an epilepsy,
This is his second fit, he had one yesterday.
CASSIO Rub him about the temples.
IAGO No, forbear,
The lethargy must have his quiet course,
If not, he foams at mouth, and by and by
Breaks out to savage madness'.

On the other hand, Shakespeare appears to confuse apoplexy with epilepsy, or, at least, with the condition from which he makes Julius Caesar suffer. In *The Second Part of King Henry IV*, the following dialogue takes place between Falstaff and the Chief Justice:

FALSTAFF And I hear, moreover, his highness is fallen into this same whoreson apoplexy.
CH. JUSTICE Well, God mend him! I pray you, let me speak with you.
FALSTAFF This apoplexy is, as I take it, a kind of lethargy, an't please your lordship; a kind of sleeping in the blood, a whoreson tingling.
CH. JUSTICE What tell you me of it? be it as it is.
FALSTAFF It hath it('s) original from much grief, from study and perturbation of the brain: I have read the cause of his effects in Galen; It is a kind of deafness'.

True, Falstaff is rambling to fend off the unwelcome attentions of the Chief Justice, but here we have the epileptic lethargy noticed in *Othello*, combined with the deafness of Julius Caesar, described as an apoplexy, and, in both *Coriolanus* and *Hamlet* the sense of lethargy is associated with the same term. Of course, consciousness may be lost in both apoplexy and epilepsy, but I think that there is enough to shew that Shakespeare was confused, as many laymen are, by the two diseases.

Falstaff mentioned Galen by name; Shakespeare seldom mentions the names of the great doctors of the past; indeed, Galen and Hippocrates, household names,

are all he calls upon, the latter once in the *The Merry Wives of Windsor*, and Galen twice in that play and once in *Coriolanus*; in each case, it is the merest allusion; in *Coriolanus*, however, he is described as an 'empiricitic', a curious word which would not, I feel, have pleased Galen. Nearer to his own day, Paracelsus is also once mentioned in *All's Well That Ends Well*. Von Hohenheim, to give his name in the vernacular, had died only 23 years before Shakespeare's birth; he had caused a considerable sensation during his short stay at Basel, and he was anathema to the orthodox physicians. That Shakespeare knew this last fact is clear from the context, but it is also clear that the audience was expected to take the point, just as an audience in the 1920s would have seen a joke alluding to Freud. Other doctors mentioned in the plays are Dr. Caius, who is made into a clown, and Dr. Butts, an essential character in the play of *Henry VIII*. Although physicians turn up in several other plays, notably in *Macbeth* where there are two, one English and one Scottish, only one of all these, Cornelius in *Cymbeline*, is dignified with a name. The otherwise unknown Gerard of Narbonne whose daughter appears as the principal character in *All's Well That Ends Well* is taken readymade from Painter's *The Palace of Pleasure* itself lifted from Boccaccio. We may mention here that Shakespeare had read the story of Aeson's rejuvenation by Medea in Golding's translation of Ovid (the story is referred to in *A Merchant of Venice*), and Aesculapius is twice mentioned, once in *Pericles* and once in *The Merry Wives of Windsor*.

Now, this list of doctors is very small in comparison with the great number of medical allusions. We have no reference, for instance, to Celsus, although the *De Re Medicina* was the first medical book to be printed (1477), and it remained popular on account of the purity of its Latin until long past Shakespeare's day; not are any of the outstanding men of his own day, other than Caius, referred to by name or works; neither Linacre nor Paré might ever have lived, and the *De Fabrica* might never have been written from all we learn from the works; he had never heard of Fracastoro nor read Fernel.

Here, I must pass to our author's conception of anatomy and physiology, which I take together because, in the eyes of Galen, they were so intimately intertwined as to be inseparable. Shakespeare knew the vulgar names of the main organs of the body, and, generally speaking, he was aware of which ones were associated with humours. He knew, too, which humour was akin to which of the four elements and, not infrequently, he uses humours and elements interchangeably, as though he thought that they were the same thing. More frequently, he associates organs with emotions: spite in the spleen, compassion in the bowels, love in the heart, and lust and therefore courage in the liver. Once, he mentions melancholy as a 'surly spirit', and once he uses the phrase 'spirit of humours', thus shewing confusion between the four humours of the Pythagorean school and the three spirits of Galenic physiology. Elsewhere, by 'spirit' the vital spirit or pneuma is always implied, and the term is very correctly used in *Love's Labours Lost* in the phrase 'the nimble spirits in the arteries' (the word 'artery' is only used on a single other occasion, in *Hamlet*), an idea repeated in *Twelfth Night* in the words 'Let thy blood and spirit embrace'.

This particular point is one of several problems which arise from a well-known passage in *Romeo and Juliet*. I give you the reading in the First Folio of 1623:

'Take thou this violl being then in bed,
 And this distilling liquor drinke thou off,
 When presently through all thy veins shall run,
 A cold and drowsie humour: for no pulse
 Shall keepe his native progress, but surcease:
 No warmth, no breath shall testifie thou livest,
 The Roses in thy lips and cheekes shall fade
 To many ashes, the eyes windowes fall
 Like death when he shut up the day of life:
 Each part depriv'd of supple government
 Shall stiffe and starke, and cold appear like death,

And in this borrowed likenesse of shrunke death
Thou shalt continue two and forty houres,
And then awake, as from a pleasant sleep'.

The passage is almost the same in the Second Quarto of 1599, but, in the Fourth Quarto, which is undated, but which is after 1609, the word 'many' ('The Roses in thy lips and cheeks shall fade To many ashes') becomes 'paly'. This is an obvious editorial correction of an error and is without authority. Assuming that the original compositor read 'MANIE', this could be a simple mistake, as Sisson (1956) has pointed out, for 'WANED', and this is probably what Shakespeare actually wrote: 'The Roses in thy lips and cheekes shall fade To waned ashes'.

However, in the First Quarto of 1597, a so-called 'bad' quarto, the passage differs. It runs:

'And when thou art alone, take thou this Violl,
And this distilled liquor drinke thou off:
When presently through all thy veynes shall run
A dull and heaue slumber, which shall seaze
Each vital spirit: for no pulse shall keepe
His naturall progresse, but surcease to beate:
No sign of breath shall testifie thou livest.
And in this borrowed likeness of shrunke death
Thou shalt remaine full two and fortie hours'.

If this is what Shakespeare actually wrote, and not merely the incorrect remembrance of a plagiarist, the reference to 'vital spirit', or *pneuma*, is unique in Shakespeare's works, for elsewhere, the word 'spirit' is unqualified; but the passage shews, whoever wrote it, an error, for, to speak of 'each vital spirit' is to confuse the *vital* spirit of Galen with his other two spirits, the natural and the animal, which, although necessary to life, are not 'vital'. It should be emphasized that nowhere does Shakespeare indicate any knowledge of these other two spirits, and, apart from the two references already cited from *Love's Labour Lost* and *Twelfth Night*, none of his numerous references to spirits coincides with the medical teaching of his time.

The whole passage in *Romeo and Juliet* which I have quoted has been claimed to be evidence that Shakespeare had knowledge of some narcotic drug (Keys, 1945), but this suggestion is based upon too superficial a view. In the first place, no one who has ever used narcotic drugs could possibly prognosticate to the very hour the duration of action, and, secondly, no narcotic could produce a state of suspended animation in which both pulse and respiration stopped completely. The idea of an imaginary narcotic of this sort was familiar to du Bartas and to Boccaccio, and it arose from fabulous tales about the mandrake, a mythical plant which never had any real existence, but to which we must presently return.

To come back to Shakespeare's knowledge of Galenic physiology, one may notice an almost complete absence of reference to the various coctions by which the processes of digestion were explained. Once, and once only, is the subject approached, in a trivial allusion in *Love's Labours Lost*, in the following passage:

HOLOFERNES . . . to insert again my hand credo for a deer.
DULL I said the deer was not a hand credo; 'twas a pricket.
HOLOFERNES Twice-sod simplicity, bis coctus!

A recent authority (David, 1956) collates this with Holland's translation of Pliny, where we find 'Coleworts . . . twice sodden, it bindeth the bellie', and the same idea is used proverbially by Lyly in his *Euphues*. But the use of the term 'coctus' is interesting for, soon after, we find Holofernes saying,

' . . . a foolish extravagant spirit, full of forms, shapes, objects, ideas, apprehensions, motions, revolutions: these are begot in the ventricle of memory,

nourished in the womb of pia mater, and delivered upon the mellowing of occasion'.

Now, Galenic physiology represented the ventricles of the brain as the seat of memory, and the term 'pia mater' is also here correctly used by the ideas of the time. We have already seen the use of the word 'artery' in this very play, and we also find in it 'This is the liver-vein, which makes flesh a deity'. I doubt if this last phrase has any real meaning or can be explained from Galen, but it will be remembered that he, and even Harvey, regarded the origin of the circulatory system as being situated in the veins of the liver. These examples all occur in one play, and that an early one; it was probably written in 1593. To me, it seems inevitable that, shortly before writing *Love's Labours Lost*, Shakespeare had dipped into, but not fully read, some book on the working of the human body; a few remarks from it were employed by him in this play, but he subsequently forgot what little he had learnt, and his later plays shew that he had not assimilated the scanty knowledge which he here displayed.

There remains but little to say on the head of anatomy; we may mention that Shakespeare uses the words 'nerve' and 'sinew' interchangeably; and, in *Cymbeline*, we read: 'I would have broke my eye-strings, cracked them, but to look upon him', which Nosworthy (1955) glosses thus:

'The eyes-trings (i.e., muscles, nerves or tendons of the eye) were thought to break or crack at death or loss of sight. So in Toplady's *Rock of Ages*: 'When my eye-strings break in death'.'

But, surely, the allusion is to the optic nerves being torn by a forced straining forward of the eyes to follow the departing Posthumus; in any case, the idea is from folk-medicine, and not from orthodox sources. Finally, we have the finely dramatic and convincing speech by Lady Macbeth:

'I have given suck, and know
How tender 'tis to love the babe that milks me:
I would, while it was smiling in my face,
Have pluck'd my nipple from his boneless gums,
And dashed the brains out, had I so sworn
As you have done to this'.

But, of course, an infant's gums are not boneless; they are, usually, toothless, but that is another matter.

Let us now take a look at the diseases which Shakespeare mentions. We may notice in passing that the vast majority of the diseases which occur so frequently in the plays are unnamed; they are merely called a 'sickness', a 'distemper' or an 'illness', and the most part of those which are named are spoken of in the common terms of ordinary lay conversation. Thus, we have agues, scald, scurvy, gout, green-sickness and hare-lip. By pestilence, plague, red-plague and references to tokens, we are reminded of the serious epidemics of bubonic plague which swept across Britain in Shakespeare's life, especially in the years 1592-4. This disease was characterised by tokens, red spots, which appeared on the chest, and which were believed to indicate an infallibly fatal outcome. The words 'rheum' and 'rheumatic' occur, and may be taken to refer to a cold in the head, and not to rheumatism as we understand the term to-day. Cataract, or some similar intra-ocular cause of blindness, is referred to as 'web and pin' and squint as 'squiny', while, in the term 'sand-blind' we probably have a reference to some sort of conjunctivitis, perhaps trachoma. Leprosy is also mentioned, and there is an interesting description of the King's Evil in *Macbeth*:

MALCOLM Comes the king forth, I pray you ?
DOCTOR Aye, Sir: there are a crew of wretched souls,
That stay his cure: there malady convinces
The great assay of art; but at his touch,

Such sanctity has Heaven given his hand,
They presently amend.

MALCOLM

I thank you, Doctor.

MACDUFF

What's the disease he means

MALCOLM

'Tis called the Evil:

A most miraculous work in this good King,
Which often, since my here-remain in England,
I have seen him do. How he solicits Heaven,
Himself best knows; but strangely-visited people,
All swoln and ulcerous, pitiful to the eye,
The mere despair of surgery, he cures;
Hanging a golden stamp about their necks,
Put on with holy prayers; and 'tis spoken,
To the succeeding royalty he leaves
The healing benediction".

Holinshed, whom Shakespeare used much, refers to Edward the Confessor, the king here mentioned, having the ability to heal 'infirmities and diseases. He used to help those that were vexed with the disease, commonly called the 'king's evil', which we to-day recognise as scrofula. Although the practice of 'touching' was mainly employed by the monarchs of France and England, it seems also to have been an attribute of the Stuarts and *Macbeth*, of course, was written soon after the accession of James VI to the throne of England.

From some source or other, Shakespeare knew of the disease which we call goitre and which is common in the Tyrol. In *The Tempest*, we read:

'When we were boys,
Who would believe that there were mountaineers,
Dew-lapp'd like bulls, whose throats had hanging at 'em
Wallets of flesh?'

But that this comes from a traveller and not from a medical source is apparent from the next sentence, 'or that there were such men Whose heads stood in their breasts?', which somehow spoils the authenticity of the authority.

In Shakespeare's day, when seats were hard, those who worked at the loom, rocking from side to side as they threw the shuttle back and forth, were unduly apt to suffer from sores and abscesses round the buttocks. Shakespeare knew this, but his audience knew it also, so that he had no need to point the joke; he merely called his weaver, Bottom.

Once, and once only, does Shakespeare give us a medical diagnosis in Latin:
'O! how this mother swells up towards my heart;
Hysterica passio! down, thou climbing sorrow!
Thy element's below'.

At first sight, this looks well, but, alas, it is King Lear, a man, speaking, whereas none but a woman could suffer from 'rising of the mother'.

As for the causes of disease, the plays refer time and again to the influence of the stars in the production of plagues.

'Be as a planetary plague, when Jove
Will o'er some high-vic'd city hang his poison';

or, from Sonnet XIV,

'Not from the stars do I my judgement pluck,
And yet methinks I have astronomy;
But not to tell of good or evil luck,
Of plagues, of dearth, or seasons' quality'.

The South wind he regarded as a particularly dangerous influence, and contagion and infection are properties of the air, bred in darkness and at night and

cleansed away by the sun. Hence we have 'The vile contagion of the night', and 'sucked up from the sea contagious fogs'. This, although typical folk-lore, ultimately hails no doubt from Hippocrates, but it should also be remembered that, for two centuries before Shakespeare's birth, the reality of what we now call 'contagion' was recognised, and quarantine had already become an accepted means of attempting to prevent the spread of epidemics.

It is noticeable that, in all this talk of diseases, common complaints such as Measles, Smallpox and Whooping Cough are unmentioned; coughs, consumptions and tumours almost never. Wounds naturally are frequently mentioned, although seldom described. Shakespeare knew of the use of the tent for holding a wound open in order to ensure that it healed from the bottom, he knew of 'setting-to' a leg, and he knew that a head wound ought to be enlarged, although he may not have understood the reason for Hippocrates' insistence upon this. In *Antony and Cleopatra*, Scarus says, 'I had a wound here that was like a T, but now it is made an H'. Here there is an undoubted pun between the letter 'H' and the word 'ache', then often pronounced 'aitch'. For other treatments, we find clysters, purges, diets, plasters, bleeding, cataplasms and pills, but all these were, and are, common knowledge, and the references convey no hint of expertise in their use. One curious statement in *Antony and Cleopatra* is when Antony says:

'To-morrow, soldier,
By sea and land I'll fight: or I will live,
Or bathe my dying honour in the blood
Shall make it live again'.

Ridley (1954) thinks that this refers to the belief that leprosy could be cured by bathing in the blood of children: there are several contemporary references to this belief, and I may remind you that, when Francis II, the first husband of Mary Queen of Scots, was believed to have leprosy, the English Ambassador in France spread a rumour that children were being kidnapped and murdered to supply the wherewithal for this remedy for the French king.

Another 'treatment' which deserves mention is the use of spectacles. These had been invented in about 1275, and were quite common in the Elizabethan period; Shakespeare mentions them several times. Before spectacles of glass were invented, a precious stone was not infrequently used as a magnifying glass, and this seems to be the allusion in Imogen's remark, 'can we not Partition make with spectacles so precious 'Twixt fair and foul?'

Of therapeutic drugs, Shakespeare only mentions nine; spermacety we have already noticed; he knew that colocynth (which he calls coloquintida) and vinegar (which he calls eisel) were bitter; he knew that wormwood was applied to the nipples at the time of weaning a baby; and he recognises a preparation of thistle as a remedy. In *Much Ado About Nothing*, we find, 'Get you some of this distilled carduus benedictus, and lay it to your heart: it is the only thing for a qualm': there is a pun here about benedictus and Benedick.

He knew that rhubarb was a purgative, and the one allusion to this has caused a good deal of trouble to textual editors. The play is *Macbeth*:

'If thou couldst, Doctor, cast
The water of my land, find her disease,
And purge it to a sound and pristine health,
I would applaud thee to the very echo,
That should applaud again—
What rhubarb, cyme, or what purgative drug
Would scour these English hence?'

In passing, we may notice the reference to uroscopy or water-casting as a method of diagnosis, but the problem lies with the word CYME. Some have read this as 'senna', others as 'ocyme', an alternative name for basil, yet others have amended

to 'thyme', or even 'sium' (wild parsley). But the word 'cyme' only means the top of a plant, and 'rhubarb cyme' makes perfectly good sense, if one omits the comma placed between the two words, evidently inserted by a compositor ignorant of the expression.

The only other drugs which Shakespeare mentions by name are poppy, which he knew to be a narcotic, and mandragora or mandrake. I am by no means convinced that Shakespeare knew that mandrake and mandragora were the same thing. There are only two references to the latter, and both are to a narcotic:

'Give me to drink mandragora . . .
That I might sleep out this great gap of time
My Antony is away',

and

'Not poppy nor mandragora
Nor all the drowsy syrups of the world
Shall ever medicine thee to that sweet sleep
Which thou owedst yesterday'.

On the other hand, the four references to mandrake do not mention its narcotic powers: two refer to the shrieks which the plant was supposed to utter when it was pulled from the earth, and two to its alleged aphrodisiac properties.

"And shrieks like mandrakes torn out of the earth,
That living mortals hearing them run mad",

and

'Would curses kill as doth the mandrake's groan'.

Falstaff, referring to his prowess in the deeds of Venus, says,

'Thou whoreson mandrake, thou art fitter to be worn in my cap
'than to wait at my heels';

while, speaking of Shallow, he says,

' . . . a' was . . . lecherous as a monkey, and the whores called
him mandrake ".

You will recall that the dangers met in digging mandrakes originate in the references to the plant, Moly, in Homer, which 'is hard for man to dig' and to the Baaras of Josephus. The stories became amalgamated to form the mandrake myth, and the plant inherited also its connexion with fertility from the domain of the Bible, translated as 'mandrakes' in Genesis in the story of Leah. These stories about a non-existent and impossible plant grew, and the mandrake became a part of the imaginary apparatus of witchcraft; it was early adopted into medicine, and the plant became even more believed in when, one hundred and fifty years after Shakespeare, Linné named one of the solanaceae, *Atropa mandragora*. The extent of the superstition in Shakespeare's day can be estimated from these six references in the plays, far exceeding the number of allusions to any other drug.

The references to poisons in the plays equal in number those to therapeutic drugs; they include aconite, yew, ratsbane, hemlock, corrosive and mineral poisons; also there is the toad, so beloved of that most unsuccessful poisoner, the Marquise de Brinvilliers. There are, too, the various other ingredients of the witches' cauldron in *Macbeth*, most of which are unpleasant rather than poisonous. There is also the question of the identity of 'the insane root which takes the reason prisoner'. Some have thought that mandragora is intended, but, according to Pliny, mandrake causes dumbness, and neither *Macbeth* nor Banquo suffered from this complaint. In *The English Herbal of Physical Plants* compiled by John Pechey in 1694, we find the following remarks:

'J. Bauhinus says he knew two families who, thinking they had gathered parsnips, by chance found these roots in winter without leaves . . . , and, having eaten a few of them, they were like to be suffocated; and were senseless and mad and just like anticks; he cured them with vomits. And I remember a whole family, several years ago, was strangely surprized at a village called Huntingdon, about

two miles from the city of Chichester in Sussex, upon the like occasion. But some affirm that old parsnips will cause the like symptoms; wherefor they call them Madnips'.

Now, these remarks are in reference to the Cow-parsnip so common in our hedgerows, a species of heracleum, and I think that it was probably this which Shakespeare had in mind when he spoke of the 'insane root'.

Finally, there is the mysterious 'hebenon' or 'hebona' of *Hamlet*.

' Sleeping within my orchard,
My custom always of the afternoon,
Upon my secure hour thy uncle stole,
With juice of cursed hebenon in a vial,
And in the porches of my ears did pour
The leprous distilment; whose effect
Holds such an enmity with the blood of man
That swift as quicksilver it courses through
The natural gates and alleys of the body;
And with a sudden vigour it doth posset
And curd, like eager droppings into milk,
The thin and wholesome blood; so did it mine;
And a most instant tetter bark'd about,
Most lazar-like, with vile and loathsome crust,
All my smooth body'.

All six quartos of *Hamlet* vary somewhat from this, and all say 'juice of hebona', not 'hebenon'. I suspect that Shakespeare wrote 'henbane', 'HEBANE', the dash over the 'E' signifying the omitted 'N', and that, either the dash was obscured by a crease in the paper or a blot, or it was for some other reason unnoticed by the compositor, who was thus faced with an unknown substance beginning 'HEB—', and he chose something which came as near to the scrawl in front of him as he could manage. Later, the line was felt to scan badly, so, in the Folio, 'hebona' was changed to 'hebenon'; perhaps, with reference to the Latin, *Hebenus*, the ebony-tree. However, this explanation does not entirely satisfy, because a similar word, *hebon*, appears in Marlowe; the coincidence of similar compositorial errors is not impossible, but it is perhaps rather more likely that Shakespeare, ignorant of all but the most superficial ideas about poisons, merely copied what he thought Marlowe had written. There is a vague possibility that the word is Old English, allied to the German 'eibe' a yew.

We may note that the expression 'the leprous distilment' does not mean that the substance was distilled. 'To distill' signified 'to drip', and the liquid became a distilment as soon as it was poured out in drops. Note, too, that the first effect of the poison was to produce a tetter or rash, resembling the bark of a tree or leprosy, an effect which virulent poisons were always supposed to produce.

It seems most unlikely that a poison would be active if poured into ears: a perforated ear-drum from chronic suppurative otitis media would seem to be a necessary condition, but there is no evidence that Hamlet's father was deaf; indeed, such a disability would mar his image. I think that Shakespeare was so ignorant of anatomy that he thought that the auditory meatus entered the skull, but there is still another difficulty. In all the Quartos, as in the Folio, the portal of entry is given in the plural, 'And in the porches of my ears did pour'; something which is quite impossible. One could, conceivably, pour something into the ear of a person sleeping on his side, but not into both his ears, even if he were sleeping on his back or his face. In any case, the idea is pretty foolish, for the first touch of the liquid on such a sensitive part would waken the sleeper, and, since death could not be instantaneous, he would certainly make something of an outcry before the poison overtook him.

Shakespeare makes many references to pregnancy, but few are important to our purpose. He knew that Lucina was the nymph, although he seems to have

thought of her as a goddess, who assisted women in childbirth: 'Lucina, O divinest patroness'. He also thought that the moon was responsible for congenital deformities, which is why Caliban is called 'Mooncalf' by Stephano. There is another reference in *The Tempest* which is a possible allusion to the effects of pregnancy, when Prospero says that Sycorax 'This blue-eyed hag was hither brought with child'. Kermode (1961) thinks that this refers to the eyelid, blueness of which was regarded as a sign of pregnancy. The phrase has been emended to 'blear-eyed' by some editors, Sisson (1956) believes wrongly, for he thinks that, since black eyes were considered beautiful, to call a hag blue-eyed was to aggravate her ugliness. I prefer the gloss of Kermode, for there is a similar allusion in Webster's *The Duchess of Malfi*.

It may not be amiss to mention that Shakespeare had at least a slight knowledge of the veterinary art, for he knew that the correct term for giving medicine to a horse was to give it a drench. Also, he speaks of mange, murrain, staggers, bots, spavin and glanders. No doubt these were all well-known terms when even urban life had close connexions with the country and when the horse was the usual means of transport.

Finally, we must mention Shakespeare's many references to syphilis, which he calls pox, malady of France or consumption. The most important references are in the well-known passages in *Timon of Athens*. First, there is an allusion to the lock-hospitals:

'She whom the spital-house and ulcerous sores would cast the gorge at', and then, to treatment:

"Be a whore still. They love thee not that use thee.
Give them diseases, leaving thee their lust.
Make use of thy salt hours; season the slaves
For tubs and baths; bring down rose-cheek'd youth
To the tub-fast and the diet".

DiETING was, of course, used in all illnesses; later, it was to become particularly important in the treatment of gonorrhoea, as we know from James Boswell's diary, but Shakespeare knew of only one venereal disease. The use of hot baths (the tub above-mentioned) was well-known as a method of treating syphilis.

Curiously enough, however, Shakespeare never mentions the use of mercury, although this had become more or less routine by the end of the first quarter of the sixteenth century. This particular lack of knowledge may be important, as we shall see.

Next, we come to the effects of the disease:

'Consumptions sow
In hollow bones of man: strike their sharp shins,
And mar men's spurring. Crack the lawyer's voice,
That he may never more false title plead,
Nor sound his quilllets shrilly. Hoar thy flamen,
That scolds against the quality of flesh,
And not believes himself. Down with the nose,
Down with it flat, take the bridge quite away
Of him that, his particular to foresee,
Smells from the general weal. Make curl'd-pate ruffians bald,
And let the unscarred braggarts of the war
Derive some pain from you. Plague all,
That your activity may defeat and quell
The source of all erection. There's more gold.
Do you damn others, and let this damn you,
And ditches grave you all'.

Here we find several of the effects of syphilis, the erroneous idea of baldness

(Shakespeare was at least partly bald), the osteitis of the tibiae, the falling of the nose, the laryngeal infection, the skin rash and the development of impotence. But, more important than these generally known facts, is the extraordinary ferocity with which the whole scene proceeds, the flaming hate which informs each phrase, the dislike of woman and of sex, the embittered passion against prostitutes.

Now, *Timon of Athens* is a late play, probably written between 1604 and 1607, and it seems to me that we have here the outpourings of a poet who fears that he himself is suffering from syphilis. Already in his forties, retired to Stratford, where he had hoped to enjoy his leisure, the symptoms of disease fell upon Shakespeare; he blamed the loose life he had led in London, he reviled prostitutes, he enumerated the signs and symptoms of a disease, horribly prevalent at this date, which he feared that he had himself contracted. Gloom came upon him, and, in this gloom, he wrote not only *Timon of Athens*, but also *King Lear*. Was the disease the cause of his death, and did he in fact suffer from syphilis? We shall never know, unless the curse inscribed upon his tombstone and the sentiment of a nation be ignored, and his bones be given over to the sacrilegious hands of the pathologist—which I hope will never happen.

In this account of some of the medical problems of Shakespeare's works, I have left much unsaid. There are numerous passages which would amplify what I have said to-day, although I doubt whether any of them can seriously change the views which I have here set forth. Shakespeare was a valetudinarian, but he was almost entirely ignorant of the art of medicine as it was understood in his day; he depended upon folk-lore, upon the odd phrase picked up from the authorities he used (none of whom was strictly medical) and upon the common knowledge of his day.

This brings us back to his own complaints. He feared in his later life that he had contracted syphilis, but he never consulted a doctor about his fears, for he remained unaware of the specific effects of mercury. He was lame, I believe, as the result of an operation, and, earlier, I suggested that he might have undergone this for the relief of a strangulated hernia. But there is an alternative: during the years 1592-4, plague was particularly prevalent; the theatres were closed because of the fear of infection, the Court absented itself from London, and the Parliament was anxious not to prolong its session. At this very time, *Venus and Adonis* was produced, the product, I believe, of genius combined with disease. Soon, it was to be followed by the much less brilliant *Lucrece*, which may well be the indication that health was returning to the poet. I suggest that, in 1592, or 93, Shakespeare fell a victim to the bubonic plague. An abscess formed in the groin; it was incised, became infected, and continued a chronic sore for the rest of his life. Hence his desire to retire into the country, hence his lack of success as an actor. Did this ulcer ultimately cause his death, and did he believe that it was, in fact, a gummatous ulcer? Was it the illness of 1592 or 93 which caused him to try to read the medical book on which he drew in his first play *Love's Labours Lost*? Was it his lameness, as a result of this illness, which turned him from an actor's life and made him become a playwright? Is it possible that, if there had been no epidemic of plague in Britain in the early 1590s, the works of Shakespeare would never have been written? These are, for me, the final medical problems of Shakespeare.

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Dr. Guthrie read a short paper on

Dr. JOHN LEYDEN (1775-1811)

The position of Dr. John Leyden of Denholm in the world of literature is not easy to define. He was the poet of Teviotdale, as Scott was the poet of Tweed, and James Hogg, of Etrick. Leyden is less famous than the other two, and his poems are seldom to be found in any anthology.

His greatest achievement was in the rarely-tilled field of Oriental Literature; and his knowledge of Arabic, Persian, Sanskrit and other languages was quite unique.

His death at the age of 36 was as truly a calamity as were the deaths of Burns and Byron at the same age.

As a preacher, Leyden was avowedly a failure, and as a physician he was by no means outstanding.

Leyden's accomplishments were of wide range, but when his friends suggested to him that he should limit their scope, he would retaliate that, if one erected in one's mind the scaffolding of any subject, the masonry could easily be added later. Certainly his appetite for learning was phenomenal, but the man who has a genius for acquiring knowledge of all sorts is apt to win a fame less immortal than he who specialises in one definite branch of learning.

Perhaps that explains why Leyden is not so well known today as he deserves to be. Nevertheless he was a great man, "a star of the first magnitude", as Sir Walter Scott called him: a man well worthy of the tribute we pay to him today.

Early Life and Schooldays

In order that we may understand the life and work of Leyden, let us look a little more closely at his ancestry and his early environment. A note regarding his name may be appropriate.

Views vary widely regarding the correct pronunciation. We are told that the name is a Peebles-shire name, and should be pronounced—*Lee-den*, like Innerleithen, and one must admit that this is the local version, in and around his old home.

Others, perhaps associating the name with that of the famed centre of medical learning in Holland, pronounce it—*Lie-den*. On his grave, in Java, one finds the inscription John Casper Leyden, but this introduction of a Dutch name was a joke perpetrated by some of his friends who knew that he disliked being regarded as of Dutch descent. Both names seem a little pedantic, and the majority of people, on seeing the name for the first time, would pronounce it—*Lay-den*. So, for present purposes, I shall adopt this version, with due apologies to all who differ.

Born at a cottage in the little village of Denholm, midway between Hawick and Jedburgh, and five miles from each town, John was the son, and first child of John Leyden, a shepherd, and his wife Isabella Scott. His ancestors were of farming stock and had long been associated with the parish of Cavers, where there was once a fair-sized town of which no trace remains, and the mansion-house of Cavers, seat of the Douglas family since the 14th century. To the library of this house, now in ruins, John Leyden was a privileged visitor.

When John was a year old, his father assumed charge of the sheep-farm of Nether Tofts, and the family removed from Denholm to a cottage at Henlawshiel, in full view of the rugged slope of Ruberslaw, near the top of which hill is a rocky pulpit from which Alexander Peden used to preach in the Covenanting days.

Leyden recalls it thus:—

“Oft have I wandered in my vernal years
Where Ruberslaw his misty summit rears.”

In his best known poems, *Scenes from infancy*, he refers to his early delight in the

changing seasons, and the world of natural beauty in which he was reared. Listen to his reference to a thunderstorm, when he tells

“ How it delights my soul to gaze
Upon the lightning's lurid blaze
And after each successive flash
To listen to the echoing crash.”

John was taught to read by his parents, and by his grandmother who lived with them. At an early age he could read The Bible, and he was especially attracted by Old Testament stories of the deeds of Samson and David, who were his first heroes. He was also brought up on David Lindsay's poems which were then in every cottage; on Chapman's Homer (which excited him as it did Keats) and on the Arabian Nights and William Lithgow's Travels, books borrowed from William Boa, the local blacksmith. This was strong meat indeed for a small boy, but not unusual at that time; and when he began to attend the village school at Kirkton at the age of ten, John's education was already well advanced.

Good literature was cheap then, and the reprints sold by pedlars as penny chap-books compared very favourably with our modern paper-backs. At school, he was introduced to Arithmetic and Latin, and before long, it became obvious that John Leyden was no ordinary boy, so keen was his capacity for all kinds of knowledge, and especially for languages.

Among his school friends was James Purvis, whom he had the great pleasure of meeting later in India, as he mentions in one of his verses, on “ Denholm Green ”

“ Purvis when in this eastern strand
With glad surprise I grasp thy hand

How many dear illusions rise
And scenes long faded from my eyes
Since first our bounding steps were seen
Active and light on Denholm's Green.”

Studies at Edinburgh University

At the age of 15, resolved to become a minister, John Leyden set out for Edinburgh University. His father accompanied him for the first twenty miles, and each, in turn, rode the pony which the father took back to Denholm, John continuing his journey on foot. During this long walk, in October 1790, he composed this Ode to his own shadow, his “ sole companion ” after he bade goodbye to his father:—

“ Once more, inconstant shadow, by my side
I see thee stalk with vast gigantic stride,
Pause where I stop, and where I careless bend
My steps, obsequiously their course attend.
Beneath the moon I started at thy sight
When, with the flaky snow, the fields were white.
T'was thus I left my father's old abode,
And thou the sole companion of my road.”

With Latin he was already so familiar that he proceeded at once to the Advanced Class. In Greek when called up to read before the Class, his rustic appearance and Border accent were ridiculed by his fellow-students. They were soon reminded by the Professor (Dalziel) that the object of their scoffing possessed what so many of them lacked—a sound knowledge of Greek. In subsequent years he proceeded to the Classes of Logic, Moral and Natural Philosophy and, of course, Divinity.

Even during his early student years he contributed to the famous Edinburgh Review, writing ballads and poems under the initials J. L. These efforts brought him into touch with a number of well-known writers, including Lord Cockburn, Henry Mackenzie, Rev. Sydney Smith, Francis Horner, Richard Heber and Sir Walter Scott. Leyden assisted Scott to write his *Minstrelsy of the Scottish Border*, which, published in 1802, drew attention to many ballads which might otherwise have been lost. It is said that when in quest of a certain ballad, Leyden walked 40 miles to visit an old woman who knew it, and returned to Scott singing it loudly in his high-pitched voice. In 1801, Leyden annotated the *Complaynt of Scotland*, an account of poetry, music and the arts, written by an unknown author about 1548.

During the vacations, he not only visited his home, but also taught for a time in the school at Clovenfords, where there is a tablet to his memory. In 1800 he acted as courier for two young German noblemen, and published his diary—*A Tour in the Highlands and Western Islands*—which is still worth reading. It might be inferred that so keen a student as Leyden would have little time or inclination for athletic pursuits. This is not so; he was an adept at boxing, jumping and running, and he often engaged in contests at the Fairs in Hawick and Jedburgh so that he was known as “the Denholm athlete.”

The Church exchanged for Medicine

Of special interest to us today is John Leyden's association with Medicine, slight though it may be. His first preoccupation, however, was with Arts and Divinity. In 1797 and 1798, he was tutor at St. Andrews University to the two sons of Mr. Campbell of Fairfield, and at St. Andrews he became licensed as a preacher. But it soon became obvious to him that the Church was not for him. After he had preached in several churches, including that of Cavers, he foresaw that he could only become what was then known as a “Stickit Minister”.

There was a large congregation at Cavers, and when the Rev. John Leyden gave out as his text, “Get thee behind me, Satan”, one rustic whispered to his neighbour “He could never let the deil alane a' his days”. This was a reference to one of Leyden's practical jokes when he used to frighten his friends by “raising the deil” in Cavers Church.

On one occasion he had tied the church bell rope to the leg of a pig which he had anointed with phosphorus, with alarming results. No, the Church was not his true field of activity; he would go East to pursue his favourite study of Oriental languages.

The only post which India could then offer, was one of Assistant Surgeon in the East India Company, and Leyden promptly set himself to acquire the necessary qualifications. It has been said that Leyden studied medicine for only a few months, and then purchased an M.D. from St. Andrews University. This statement is quite untrue.

Between 1790 and 1800, he had attended many University classes in Edinburgh besides those already mentioned. It was a time when poor students were encouraged, and frequently allowed to attend without paying the fee. Chemistry, he attended in 1796 under Professor Charles Hope, Botany in 1797 under Professor Daniel Rutherford, and Anatomy in 1798 under Professor A. Monro (tertius). In 1799-1800 he took *Materia Medica* under Professor Home and also Medicine and Obstetrics, his teachers being James Gregory and Andrew Duncan, in the former, and Alexander Hamilton on the latter. He also attended a course on Surgery in the Extra-mural School, taught by John Bell, the well-known surgeon, the elder brother of Sir Charles Bell, who befriended and coached him, recognising his genius. Leyden had no difficulty in passing the examination as Licentiate of the Royal College of Surgeons of Edinburgh. In August 1802 having taken all the necessary classes, he graduated M.D. at St. Andrews. A Doctor's degree was necessary, as well as a Surgeon's diploma.

Leyden in India 1803-1811

Leyden had been greatly interested in the travels of Mungo Park, and had written *A historical and philosophical sketch of the Discoveries and Settlements of Europeans in Northern and Western Africa at the close of the Eighteenth Century* (1799). He even had thoughts of going to Africa, and Scott wrote to a friend in 1801, "Leyden has taken up a most absurd resolution to go to Africa. It gives me pain to see a valuable young man of uncommon genius fairly throw himself away." Nevertheless Leyden's keen interest in Oriental languages led him to seek employment in India instead of Africa, and it was for this reason that he equipped himself with a medical degree.

His linguistic ability was very considerable and it is said that at this time he had a knowledge of no less than forty languages and dialects. Certainly his decision to go to India was wise, and in April 1803, on the eve of sailing we find him writing to Sir Walter:—"Adieu, my dear Scott; be certain that wherever John Leyden is, his heart is unchanged by place, and his soul, by time." The voyage to India, lasting four months, was not without its dangers. The sailors mutinied, and Leyden joined the officers in their effort to quell it, as he described to his father in a letter saying "I cut down four of the mutineers, who all recovered though badly wounded."

On arrival at Madras, he was placed in charge of the civil hospital, but it was soon recognised that one with so advanced a knowledge of Eastern languages would be more usefully employed as a judge or administrator. In this capacity, he served at Mysore, and later, in Calcutta. In 1807, there arrived in India a new Governor-General, in the person of Lord Minto, by whose friendly influence Leyden's subsequent career was moulded.

Another fellow-Borderer who was a close friend to Leyden was General Sir John Malcolm, who visited him on one occasion when he was very ill with fever. Leyden was so delighted to have recent news of his old home that he burst into song, the song of little Jock Elliot—"Wha daur meddle wi' me". This exuberance was characteristic of Leyden. He was fond of talking in a loud voice and could not restrain his enthusiasm. When urged by a doctor to take more rest in a tropical clime he replied, "I cannot be idle, the wheel must go round to the last."

In 1808 he was appointed a judge in the Supreme Court at Calcutta, and this led to a more highly paid appointment as Assay-Master of the Mint. In 1811, Leyden was selected by Lord Minto to accompany him as interpreter on an expedition to Java. There, he contracted fever, from which he died after three days illness on 28th August, 1811, in Batavia, at the age of thirty six.

Leyden was a man of vast genius and uncommon talents. Although, his forceful personality led him to be often misunderstood, he was not conceited. He had common sense and a deep religious faith and respect for the feelings of others. From Java he wrote to his father, "Tell my mother not to be so frightened as she generally is".

Lord Minto said of Leyden—"No man was ever so entirely disinterested." His gift of languages was quite phenomenal and there is no doubt that his work in India was of the greatest service to the country. His was indeed a dedicated life.

This brief tribute to the life and work of John Leyden of Denholm, may fitly conclude with the lines by Sir Walter Scott, engraved on the memorial we saw today at Denholm:—

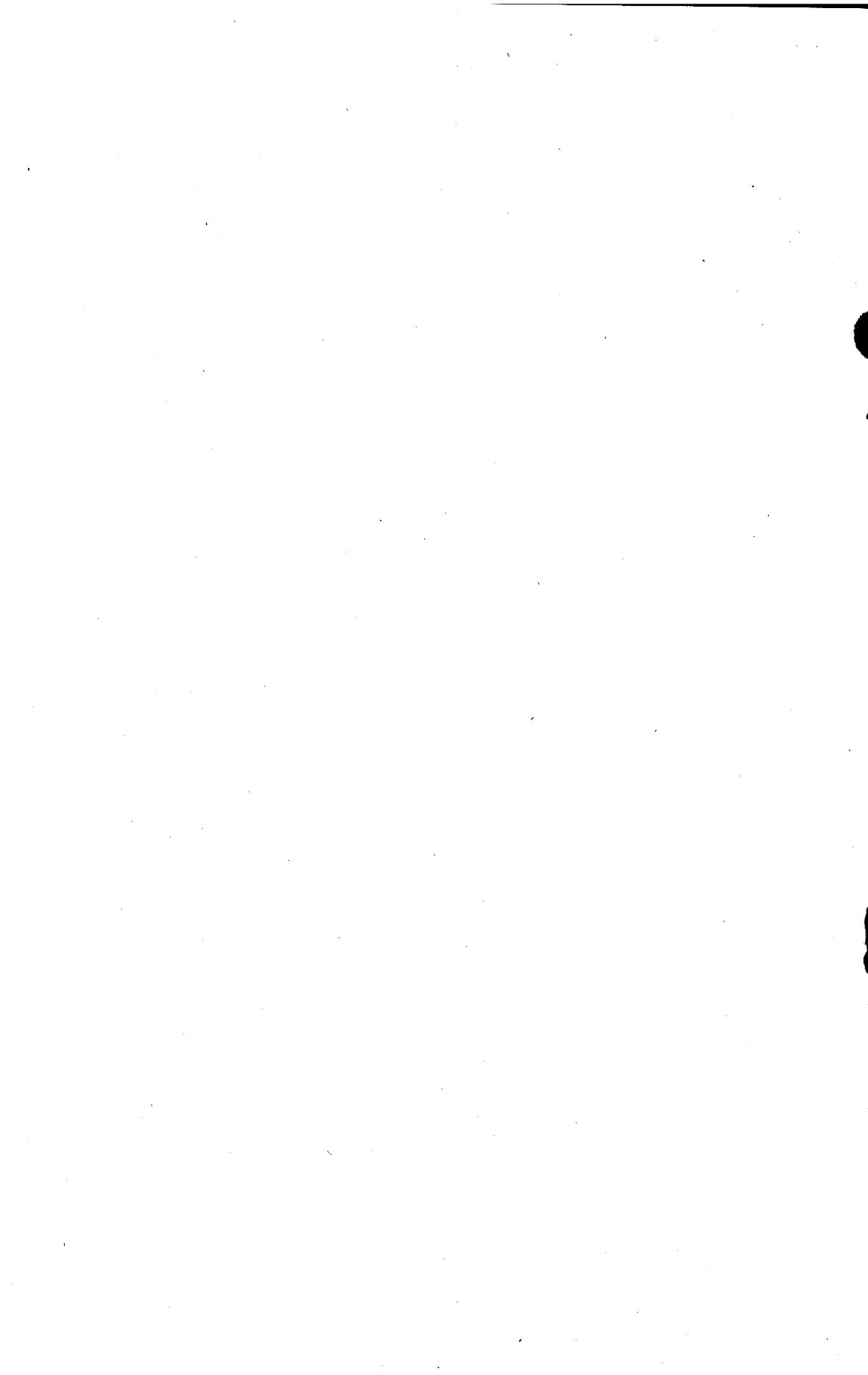
" His bright and brief career is o'er,
And mute his tuneful strains.
Quenched is his lamp of varied lore

That loved the light of song to pour;
A distant and a deadly shore
Hold Leyden's cold remains."

Following these two papers a short discussion ensued and thereafter the meeting ended, a fitting end to a successful session noteworthy for the excellence of its papers and the interest displayed in the discussions.

NORMAN M. DOTT, *Vice-President.*

H. P. TAIT, *Honorary Secretary.*



The Scottish Society of the History of Medicine.

CONSTITUTION.

1. The Society shall be called "THE SCOTTISH SOCIETY OF THE HISTORY OF MEDICINE," and shall consist of those who desire to promote the study of the History of Medicine.

2. A General Meeting of Members shall be held once a year to receive a report and to elect Office-Bearers.

3. The management of the affairs of the Society shall be vested in the Office-Bearers, who shall include a President, one or more Vice-Presidents, a Secretary, a Treasurer, and not more than ten other Members to form a Council. The Council shall have power to co-opt other Members who, in their opinion, are fitted to render special service to the Society.

4. All Office-Bearers shall be elected annually. The President shall not hold office for more than three successive years, but shall be eligible to serve again after one year. Not more than eight Members of Council, or two-thirds of the total number, shall be eligible for immediate re-election.

5. The Annual Subscription shall be fixed from time to time by the Council and reported to members of the Society.

6. The Secretary shall keep brief Minutes of the proceedings shall prepare Agenda, and shall conduct the correspondence of the Society.

7. Meetings shall be held at least twice yearly, and the place of meeting shall be in any of the four University centres, or elsewhere, as the Council may decide.

8. This Constitution may be amended at any General Meeting of the Society on twenty-one days' notice of the proposed amendment being given by the Secretary, such amendment to be included in the Agenda circulated for the Meeting.

