

The  
Scottish Society  
of the  
History of Medicine

(Founded April, 1948)

REPORT OF  
PROCEEDINGS

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SESSION 1985 - 1986

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# The Scottish Society of the History of Medicine

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# The Scottish Society of the History of Medicine

(Founded April, 1948)

## *Report of Proceedings*

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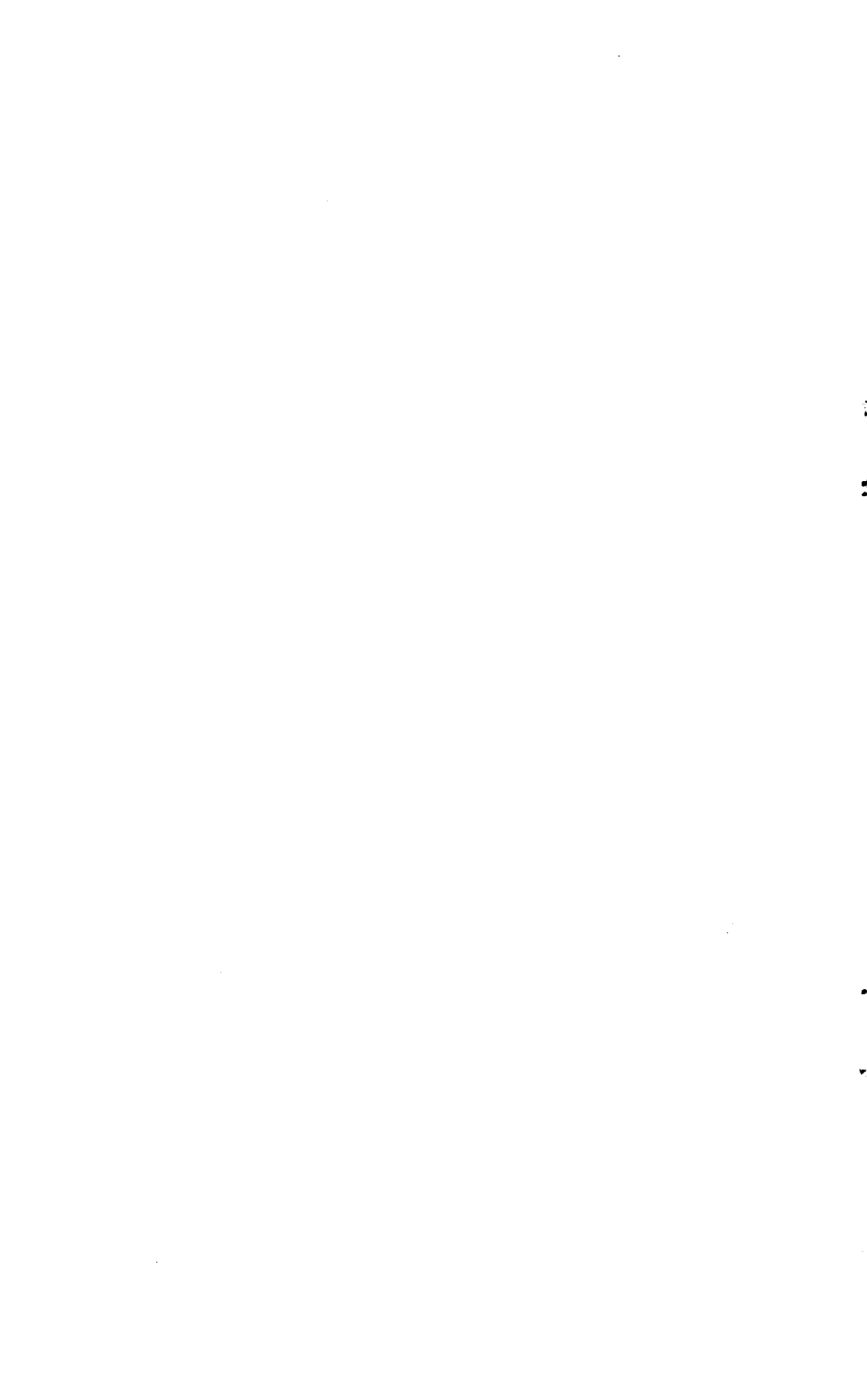
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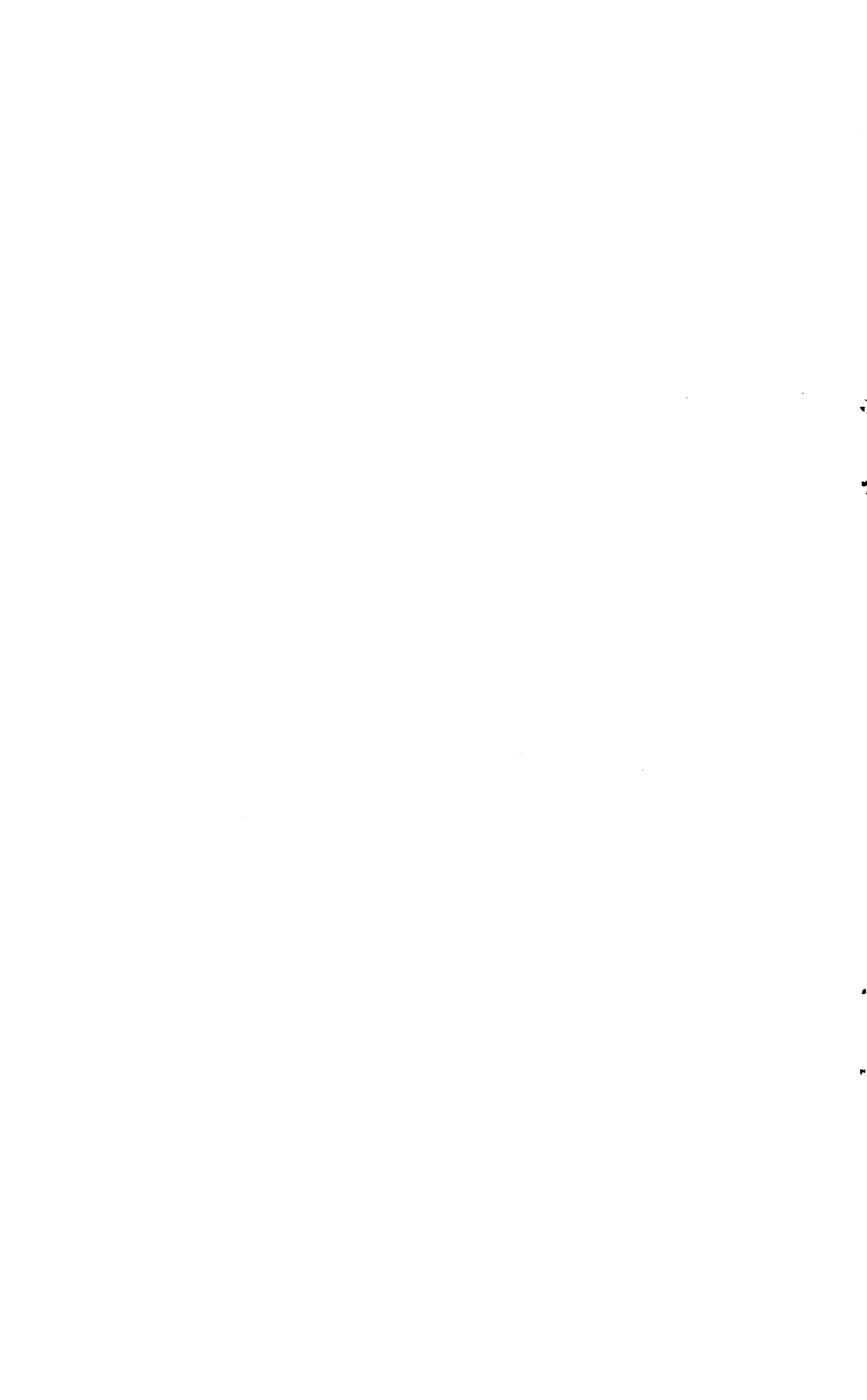
## INTRODUCTION

Last year, the Report of the Proceedings for 1984-85 was produced, thus re-introducing what had ceased in 1971 to be an independent publication. This year, at the request of Council, a slightly more detailed contents page has been introduced. The general structure of the report has remained the same, without the Notes and Notices which were such a feature of the earlier Proceedings. It is appropriate however to make one exception, to pay a tribute.

This year, for the first time since the Society started, more than 40 years ago, we are without Haldane Tait, who died in December 1990. A great sense of loss will be felt by all who knew him, for by his qualities he was an inspiration. He had come to personify the Society – a founder member, he had been a Secretary for nearly 30 years, President and latterly Honorary President. Throughout this time he had edited the Proceedings or in recent years the Newsletter. He was particularly considerate to younger members, though he will be missed by all. His memory and his enthusiasm will remain as a source of encouragement to us to continue the development of interest in the History of Medicine.

April 1991

David Wright  
*Editor of Proceedings*



# **The Scottish Society of the History of Medicine**

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## **REPORT OF PROCEEDINGS**

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### **THE THIRTY SEVENTH ANNUAL GENERAL MEETING**

The Thirty Seventh Annual General Meeting was held in Glasgow on 9th November 1985 in the Recreation Hall at Belvidere Hospital. 60 members or guests attended. Mr John Blair was elected a new council member and Drs. Bryan Ashworth and Margaret Menzies Campbell completed their terms as council members and were warmly thanked for their contributions to the Society.

### **THE ONE HUNDRED AND FIFTEENTH ORDINARY MEETING**

This meeting directly followed the Thirty Seventh Annual General Meeting in the Recreation Hall at Belvidere Hospital. Dr. Alastair Masson, in the Chair, introduced Mrs Brenda White who talked on James Burn Russell.

### **JAMES BURN RUSSELL. M.O.H. GLASGOW 1872 – 1898**

I have been asked to speak to you this afternoon on the subject of the career of James Burn Russell, the first full- time MOH in Scotland who served Glasgow from 1872 to 1898.

Amongst references to Russell's career is Joseph Lister's assessment of him. After Lister's first year of lectures at the University of Glasgow, 1860, his students, ranging from the second to their fourth years of study, presented Lister with an address of appreciation of those lectures. The man chosen by popular vote to deliver the address was James Burn Russell, then in his second year of medical studies. Recounting this experience to Sir Hector Clare Cameron some years later, Lister remarked, "Depend upon it, when you find fellow students think so well of a comrade as to insist upon thrusting him forward to perform a very important and representative task, you will find him, years later, holding a high position in some branch of his chosen profession. Watch his career and you will seldom be disappointed".

The career of James Burn Russell falls into three distinct phases; that of Medical Superintendent and Physician to the Glasgow municipal fever hospitals, 1868-1872; Medical Officer of Health for the City of Glasgow, 1872-1898; and Medical Member of

the Local Government Board for Scotland 1898 until his death in 1904 at the comparatively early age of 67.

It has been my privilege to study Russell's career as MOH for Glasgow and it would be easy for me to raid the moving obituaries and biographical sketches which surrounded his death in 1904 and present you with a catalogue of his successes in that position. However, I feel this would be a gross oversimplification on my part and a great dis-service to Russell himself. As part of my research into the social and political factors surrounding the history of Glasgow's Public Health Administration, my association with Russell has come from a study of his printed works and from the detailed fortnightly, quarterly and annual reports on the health of Glasgow presented to the health committee during his tenure as MOH. In the absence of any private papers relating to Russell I feel that through following these reports, both Russell's character and his Modus Operandi emerges most vividly. Having understood them, I realise that the one cannot be separated from the other. Russell is perhaps the most oblique person I have ever encountered. Alive or dead. My paper's title therefore should be something like, "*Observations on James Burn Russell as Public Health Administrator, 1872 - 1898.*"

James Burn Russell's career as MOH for Glasgow began 113 years ago this week, on the 4th November 1872 to be precise. He came to a Sanitary Department founded in January 1863 as part of a sanitary package deal for the city contained in the clauses of the 1862 Glasgow Police Act. The department already had the nucleus of a sanitary administration. Under his predecessor, William Tennant Gairdner, the city had reluctantly adopted the principles of statutory provision of fever hospitals, wash-houses for infected bedding and linen, a reception house for isolating fever victims relatives until their homes and linen were fumigated, and a system of small area statistics to measure the city's morbidity and mortality patterns.

Until 1870 the sanitary department was staffed almost exclusively by a medical executive consisting of six doctors acting on a part-time basis; one chief MOH, W. T. Gairdner, who was also professor of medicine at Glasgow; and the five district police surgeons, some of whom were also poor law medical officers. All six men held private practices. They made house to house visitations, referred patients to hospital, and supervised the small number of policemen seconded to the sanitary department to act as epidemic detective inspectors. The city's cleansing department controlled fumigation and wash-house facilities, the Chief Constable and his Lieutenants acted as Nuisance Removal and Lodging House Inspectors, police constables reported on overcrowding, and the Master Works carried out the business of "ticketing" overcrowded houses on the instructions of the MOH.

In 1870 after a comprehensive reorganisation of the sanitary department, a sanitary inspectorate was formed with an executive branch corresponding to the medical branch, chief and district sanitary inspectors. These officials were however full-time, and controlled the force of some 40 odd full-time sanitary inspectors whose specialised duties replaced the old system of police involvement in sanitary matters.

At the same time Belvidere Estate was purchased and hospital facilities erected. The expense entailed in such a vigorous programme of civic health care brought the sanitary department's expenditure under scrutiny as it rocketed from £9,000 in 1869, to £27,000 in 1871 and to £36,500 at the end of the municipal fiscal year, May 1872. No government



grants existing, all this meant added rates, and concerned town councillors mounted a cost cutting exercise into sanitary and medical staffing levels.

The sanitary executive and staff emerged unscathed with extended powers for the C.S.I. to sign orders in his own right. It was the part-time medical staff who bore the brunt of the councillor's wrath. It was decided to rescind their appointments with salaries totalling £740 and to advertise for one full-time MOH at a salary of £600. A saving of £140 out of an extended expenditure of £36,500.

The shock waves of Glasgow's radical decision reverberated around the British medical profession through the medium of the B.M.J. which deprecated the move on the grounds of inadequate salary and medical support staff. Glasgow was compared to Liverpool where the MOH, Dr Trench had the aid of poor law medical officers and was paid a salary of £1,000. Even so, the advertised post brought 45 applicants, mostly unsuitable, out of which emerged a short list of four including Russell.

Russell was not the unanimous choice. Many councillors objected to his lack of professional stature and international reputation – qualities demanded when the position was first established in 1863 and fulfilled by the first incumbent, Gairdner.

Russell was a local man, whose reputation was good, but local. He was the man chosen by Gairdner in 1865 to head the city's hospital extension programme, but was he the man to succeed Gairdner as MOH of a city whose population of half a million enjoyed death rates hovering around the 30 per 1,000 mark?

Would he be an improvement on Gairdner? One councillor summed up the general feeling when he shrugged and remarked, "You only get what you pay for".

What then did Glasgow get when it appointed its cut-rate full-time MOH who, initially, was also obliged to retain his duties as superintendent and physician to the city hospitals?

It obtained the services of a serious, slightly stooped 35 year old man with a flowing beard, roman nose, grey-blue eyes and a well balanced head. He was energetic, a keen hill walker, a strict teetotaler and non-smoker. By inclination he was a thinker, not happy with the immediate cut and thrust of impromptu debate, but rapidly developing a literary style of expressing his considered thoughts. By nature and conviction he was, and remained, an environmentalist. In later years, when others toyed with eugenics, Russell placed the formative years of a child's environment as the building blocks of the people it produced. Because of this I make no excuse for introducing you to the formative years of James Burn Russell.

He was born in Glasgow in 1837 to parents of reasonably modest affluence. For some undisclosed reason he was sent quite early in his life to live with his paternal grandfather, James Russell, in Rutherglen and stayed with him until he entered university. One possibility for this is Glasgow's extremely insanitary condition, which in 1842 brought it the well known condemnation from Edwin Chadwick in his famous Report on the sanitary condition of the working classes in Great Britain. James Russell had fought at Waterloo and when young James went to live with him he was a harbour-master on the Clyde – a recipe for discipline if ever there was one. Living in the small burgh of Rutherglen, Russell had the opportunity to observe the mixture of the urban and rural aspects of life with the social scale from affluence to poverty to a much greater extent than in Glasgow where the socio/economic divisions were greater.

His childhood pleasures were hill walking on the Cathkins and reading Fennimore Cooper's tales of the backwoodsman. Late in the 1840s he entered Glasgow High School, again when Glasgow was in sanitary ferment following the activities of the Health of Towns movement and the English Public Health Act of 1848. Glasgow High was followed by Glasgow University in 1854. He graduated B.A. in 1858 after a distinguished period of study during which excellence in classics, English literature, poetry, and natural philosophy brought him not only academic essay prizes but also brought him to the notice of Thomson, Lord Kelvin. Thomson made Russell one of his assistants on the first successfully laid Atlantic telegraph cable in the summer of 1858. For a time Russell was in charge of the station at Valentia and wrote up his experiences in the West of Scotland Magazine.

This left a decided impression on Russell in later life. Wherever he went telephones were sure to follow. He loved instant communication and its usefulness in sanitary detection became a marked feature of his administration.

Russell entered his medical studies in the winter of 1858, again at Glasgow, where he graduated M.D. C.M. in 1862, the year in which Glasgow agreed to found its sanitary department under the clauses of the 1862 Glasgow Police Act. During his medical studies he was influenced by two energetic professors, Lister, on the threshold of his brilliant contribution to the late nineteenth century surgical revolution, who brought with him the enthusiasm for Pasteur's work, and Gairdner whose commitment to the new doctrine of Hygiene and Public Health preceded his departure from Edinburgh in 1862 to become Professor of medicine at Glasgow.

After graduating, Russell spent two years as house physician at the G.R.I. followed by a spell on the wards of the city Poorhouse. For a few months he ventured into private practice before Gairdner chose him to become the first Medical Superintendent and Physician to the Parliamentary Road Fever Hospital in 1865, at which date his career in epidemiology and sanitary administration began. Russell was an intimate observer and participant of the city's purchase of Belvidere Estate and subsequent building of Belvidere Hospital. As such he was well acquainted with the city's sanitary problems which populated his wards and admirably suited to become the first full-time MOH in Scotland in 1872.

Under Russell's administration as MOH, Glasgow began a positive policy of treating all fever patients within the city in the city's fever hospitals, either at Parliamentary Road, Belvidere, or their temporary isolation units. This was achieved in 1876 after a rather punchy series of letters in the local press between Russell and the managers of the G.R.I. who insisted on taking in fever patients residing within and outwith the local authority boundary. Russell warned that excreta from the G.R.I.'s fever patients was flowing into the public sewers, a charge vigorously contested by the G.R.I. But Russell won, no doubt helped by the publicity which highlighted the city's fever facilities. 1877 brought the permanent smallpox isolation unit at Belvidere hospital.

But Russell's greatest struggle with the city authorities was to rid them of the practice of charging parochial boards for pauper fever patients treated in the city's hospitals. Parochial hospitals had sent their fever patients to the city hospitals from 1872 and extracting payment was costly and time consuming. The stumbling block to an integrated system whereby all Glasgow citizens suffering from fever could obtain free treatment in

the city's hospitals was that to many ratepayers this meant paying two taxes, the poor-rate and the fever tax. Eventually, in 1881 the practice ceased. Russell won his victory by a kind of pincer movement; he appealed to Christian ethics by illustrating his reports to the health committee with harrowing cases of parochial authorities, disputing liability, sending fever patients in-extremis, across the city, on foot, to report to the sanitary chambers for hospital admission on the rates, dying hours later; and he appealed then to civic economics, when he went on to point out the trail of infection strewn by these poor unfortunates on their way to the sanitary chambers.

Getting Glasgow to recognise its hospital provision responsibilities was not Russell's only aim. He embarked on a crusade to make other Scottish local authorities equally aware of their responsibilities to their rate payers. He achieved this by a strict policy of admitting fever patients from other local authorities, only in emergencies, and then only when there was room in the city hospitals. Furthermore, he insisted that those local authorities he did help had to erect their own hospitals under the terms of the 1867 Public Health Act for Scotland. He used the Board of Supervision, (the poor law authority which administered the Public Health Act) to force recalcitrant authorities to face up to their responsibilities in this matter. In his policy of free fever treatment, James Burn Russell raised not only the social conscience of Glasgow, but of many other Scottish local authorities.

Rewarding as his career in hospital provision for the treatment of disease proved, Russell recognised the vital role of the detection and the prevention of disease, which fell within the remit of the sanitary inspectorate. And it is here, outwith the scope of his actual jurisdiction, that we see Russell's greatest contribution to public health in Glasgow.

When Russell became MOH, he entered a sanitary department fragmented into the three component parts of nineteenth century public health, the treatment, the detection and the prevention of disease. Each had its own administration. The medical executive had lost overall control in 1870, and in 1872, when Russell was appointed MOH, medical influence and representation within the sanitary department was at its absolute nadir. He was the sole medical member of the sanitary department and, with his retained responsibility for the city's fever hospitals, his role was clearly viewed to be restricted to the functions related to the treatment of disease. Ranged against him was the sanitary inspectorate executive of 1 CSI and 5 DSIs, and a staff of 40 SIs, left intact after the annihilation of the part-time medical executive, whose function was disease detection; and the Cleansing Inspector who retained control over the department's wash-house, fumigation and cleansing requirements, fulfilling the function of disease prevention.

The divisions went deep. The MOH and the CSI presented not only separate reports but their reports were based on two different divisions of the city. Thus Russell reported on the city's mortality and morbidity using the small area statistics system, established by Gairdner, which divided the city into 24 sanitary districts, whilst, Kenneth Macleod, the CSI, reported on nuisance removal, common lodging houses, overcrowding and cleansing etc etc., using the traditional 5 police divisions of the city. It was not until 1885 that the CSI's system of reporting changed to correspond with the MOHs.

Russell was a man with long term policy objectives, as his hospital record shows. His ultimate objective within the sanitary department was to restore medical authority over all its functions. This he never achieved, despite his growing professional standing and personal charisma. In fact, that objective was not achieved in Glasgow until 1920. But,

because that was his ultimate goal he worked thoroughly, patiently and tactically towards that goal – building up the remit, and the prestige of the sanitary inspectorate to forge an integrated medico/sanitary machine with two, quite separate, executive officers. This policy carried no element of personal aggrandisement. It was a genuine belief in the efficacy of one supreme administrator co-ordinating every aspect of Glasgow's public health problems.

In the absence of a subordinate medical staff, Russell relied heavily on the sanitary inspectorate. They were the key to policing public health. A sanitary schutz-staffel, or should I say sturm-abteilung? From the nuisance removal, lodging house and night inspectors, Russell traced overcrowding and disease outbreaks and gave his opinion on the best course of action where nuisance removal was concerned. But he worked most closely with the epidemic inspectors whose detective house-to-house enquiries uncovered infectious disease. The epidemic inspector had his own patch to police. When he found disease he immediately informed Russell, and, dependent upon his advice, either had the patient removed to hospital or made arrangements for home nursing. The epidemic inspector instructed house occupants on elementary hygiene and the use of disinfectants. He arranged for the cleansing department to fumigate the house, to burn infected straw beds and provide new chaff, to remove and clean infected personal and bed linen, and if Russell recommended it, the epidemic inspector extended this to contiguous apartments and houses. He was required to keep a record of his activities and to conclude each case brought to his attention. His paramedical activities also included on-the-spot secondary vaccination when he discovered smallpox cases. But, and this is important, despite his close connection with the MOH, the epidemic inspector, along with all branches of the sanitary inspectorate, was ultimately responsible to the C.S.I. When it is considered that it was not unusual for the C.S.I. to report 10,000 house-to-house visitations in addition to the night inspectors' figures of 2,000 for overcrowding - and this for each fortnight - the scale of Russell's dependency on the sanitary inspectorate is revealed. And yet he worked endlessly to increase the remit of the inspectorate to encompass the work of the cleansing department.

Reading Russell's fortnightly reports to the health committee is to see this campaign in action. One follows his stooping figure as it tracks the city's streets, wynds, closes, backlands, crescents and avenues, observing everything in sight, noting every missing item. Pale faces at unlit windows, single-ends with dead children awaiting burial lying amongst living siblings and sorrowing mothers, were observations Russell incorporated into his public lectures to prick the conscience of affluent Glasgow rate-payers. But, vanmen removing feather beds from the upper class house of an un-notified smallpox victim brought about the purchase of stoving facilities, such as those used in Liverpool, which disinfected such bedding and prevented its illicit and dangerous sale to upholsterers. In the short term this strengthened the cleansing department. But, as part of a long term strategy, it consolidated a campaign based on the economy of adding the sanitary cleansing duties to the remit of the sanitary inspectorate. Russell achieved this in 1879, increasing the facilities and the manpower of the sanitary department.

An area where Russell extended his grip on sanitary administration was his campaign against infected milk carrying the scourges of enteric and scarlet fevers. More than any other Scottish city, Glasgow was extremely susceptible to contaminated milk. Its large population used milk from a wide geographical spread facilitated by the rail network

surrounding the city. In a biographical sketch of Russell for the Royal Philosophical Society of Glasgow, Dr Brownlee wrote that "a milk epidemic afforded Russell a special weapon which he did not hesitate to use. It was here he could most forcibly present his case for sanitary control of dairy farms and dairies."

Looking at Russell's milk epidemic reports, those written in the heat of battle to contain the specific outbreak, and those printed reports reflecting the measures taken and the further necessary precautions, the reader is struck by the sanitary machinery Russell was fashioning. From the early 1870s he began systematic research into each outbreak, and he had many examples to study. The major enteric fever outbreaks from contaminated milk occurred in Parkhead 1873; Washington Street, Pollokshaws Road and Kingston in 1875; the west end outbreak in 1878; in the northern and central city districts in 1880; and the hospitals outbreak in 1884.

Those were the bad years. By the mid 1880s Russell had raised milk hygiene to such a level that associated enteric fever epidemics rarely if ever occurred again under his administration. He attacked it on three levels. At source where he found defective drainage and hygiene in dairy farms, the middleman who took in milk from a multiplicity of farms and the retail dairy with its suspect back-shop living conditions. He initiated legislation and went to London to see it through and from that came Orders in Council to Regulate Dairies and Milkshops in 1879. By maintaining that the status of enteric fever in Glasgow depended on the state of rural sanitary administration he harried the Board of Supervision into taking action against offending local authorities who had no intention of enforcing existing sanitary legislation for farm steadings. In Glasgow itself, Russell persuaded the city to expand the sanitary inspectorate to include a division devoted to milk inspection. They inspected local dairies and their living accommodation, milk agents premises, instituted a register of all dairies, agents and the farms which supplied them. People were encouraged to demand certificates of cleanliness from all milk suppliers. In perhaps his most detailed study of infected milk supplies, the 1880 outbreak, one sees the whole process from contaminated dairy farm to the small dairies retailing the milk. The middleman's reluctance to divulge his suppliers. The MOH's thinly veiled threats. The dead victims. The suffering patients. The clinical evidence. The over-loaded hospitals. The sanitary inspectors' telephone calls. It is a magnificent study in forensic sanitation. But there are others, equally succinct, lying in the records of the health committee fortnightly meetings. Testimonies to Russell's investigations into smallpox, leading to extended port health inspection, and anthrax in rag workers (which brought about an extended remit of the inspectorate to cover rag stores) and, typhus the etiology of which eluded him to the end. One feels so much for him commenting on the isolated outbreak, torn between the "tattoo marks of flea bites" and the obvious connection with clothing used by the victims.

The extent of Russell's expansion of the sanitary inspectorate's remit can be seen when the office of C.S.I. changed hands. The inspectorate now numbered 90 and carried out the functions of nuisance removal, lodging house, night inspection, epidemic, house to house visits, vaccination defaulters, disinfection, female health visitors, interments, reception house, unwholesome and adulterated food, contagious diseases (Animals Act), Dairies and Milkshops, Public institutions, defective ventilation, drainage, drain testing and other associated sanitary duties. Most of these advances had come from Russell's promptings. Kenneth Macleod did not have the necessary guile to tackle city councillors and coerce them into ever increasing sanitary expenditure.

One might well ask how Russell had achieved all this. Sanitary expenditure was highly unpopular, however persuasive the arguments were. The answer lies in Russell's ability to communicate through the written word. His obituarists, men whose friendships with Russell were forged in their student days, all commented on his reluctance to speak off the cuff, but paid homage to his literary ability to express his considered findings. Russell had the gift of distilling medical facts into everyday language which he then ladled into the town council and its health committee a spoonful at a time, helped always by that very necessary spoonful of sugar. His approach was psychological. His detailed quarterly reports emphasised to local councillors that they administered one of the great cities of the world – The Second City of the Empire. He did this quite simply by comparing Glasgow's health figures firstly with Scotland, then England, then Europe, then America. It concentrated the corporate municipal mind wonderfully when Glasgow was compared, often very favourably, with Vienna or Berlin, or Moscow, or New York, Boston or Philadelphia. Such a change from Perth, Manchester and Liverpool.

Councillors au-fait with continental Europe's pressing medical problems were then given yearly induction courses on the reasons for Glasgow's disease patterns, the value of constant sanitary vigilance, the needs of the sanitary department, and anything he thought necessary for his clinical observations, such as the need for constant meteorological observations.

The rhetoric of his epidemic accounts was always redolent with battle imagery and stirring victories. Russell knew well the minds of his municipal masters.

Or did he? Despite his successful policies and constantly falling death rates, 1885 saw the collapse of his long term policy to restore overall medical control of the sanitary department. When the C.S.I., Kenneth Macleod died, Russell's supporters on the health committee successfully moved that in order to avoid divided responsibility the office of C.S.I. should now be made subordinate to the MOH. Their decision was over- thrown by the full town council committee. Passions ran very high in the surrounding debates, but the traditional Scottish separation of medical and sanitary administrations was retained, buttressed by the then current Scottish legislation relating to public health.

It is perhaps coincidence that Russell's writings, post 1885, became more acutely angled towards the social aspects of public health administration pointing out society's responsibilities towards raising the living standards of the less fortunate. Pleading for more playing spaces for city children. Reminding the mission orientated middle classes that they stood in more mortal danger leaning against a lamp-post in the Briggait than they did trekking through darkest Africa. His writings, such as the Vital Statistics of Glasgow 1886, and the Evolution of the function of Public Health in Glasgow, 1895, increasingly dwelt on the medical advances associated with improved public health in Glasgow.

I recognise that, this afternoon, I have illuminated only a fragment of James Burn Russell's career as MOH for Glasgow, but I do hope that I have cast some light on the man, his personality, the problems of his office, and his methods of dealing with them.

Mrs White's paper was followed by a typically lively presentation by Dr. Peter McKenzie, himself a former Physician Superintendent of Belvidere Hospital. Dr. McKenzie, with the aid of slides and personal recollection, treated members to a vivid account of the Brownlee era at Belvidere. As Physician Superintendent from 1900-1909, Dr. John Brownlee was instrumental in combating the bubonic plague epidemics of 1900 and 1901 and the later cerebrospinal fever outbreak. In concluding his paper, Dr. McKenzie paid special tribute to the dedication of the Belvidere nurses.

In thanking the speakers for their very different but complementary studies, Dr. Masson expressed the Society's great pleasure at the presence, as our guest, of Dr. Brownlee's daughter, Miss Margaret Brownlee.

## THE ONE HUNDRED AND SIXTEENTH ORDINARY MEETING OF THE SOCIETY

The One Hundred and Sixteenth Ordinary Meeting of the Society was held in the Glasgow Dental Hospital and School on 22nd March 1986 and was attended by 42 members or guests. Dr. Masson took the Chair and, in opening the proceedings, he referred to the recent death of Charles Drummond, a former President of the Society, paying tribute to his pawky humour and cheery presence which had enlivened many meetings.

The first Paper was then delivered by Professor David Mason, Dean of Dental Education at Glasgow Dental Hospital and School, and was entitled:

### ROOTS

First of all, I would like to welcome the Scottish Society of the History of Medicine to the Dental Hospital and School. I am also very pleased and privileged to have this opportunity of speaking to the Society. I intend to tell you something about the history of dentistry and "Roots" seemed an appropriate title. I would like to acknowledge the help I have received in obtaining historical data from the work of the late Dr. Menzies Campbell, whose wife, Mrs Margaret Menzies Campbell, is here today. She is an active member of your Society who has continued her husband's splendid work. Both Dr. and Mrs Menzies Campbell have been a constant source of inspiration to many of us in the field of dental history.

Dentistry really only assumed its position as an independent profession during the nineteenth century. Of course, long before that there was written evidence of traditional dental treatment and dental procedures, but these were largely performed by priests, surgeons, physicians, magicians and charlatans, who had a part-time interest in dentistry. Interestingly, in Scotland the Stuart Kings had a notable influence. James IV, who was killed at the Battle of Flodden in 1513, lived in Holyrood House during his reign and practised dentistry on the side on some of his willing and unsuspecting subjects. On 9th February, 1511, the records show that he extracted a tooth for one of his subjects, to whom James paid 14 Scots shillings, (worth about one week's wages in those days.) Later that month he extracted two teeth for Kynnard, the Barber, and again paid him for the privilege. He had his own kit of dental instruments. He was, of course, responsible for the founding of the Incorporation of Surgeons and Barbers of Edinburgh, later to become the Royal College of Surgeons of Edinburgh. However, it was James IV's descendant, James

VI of Scotland, son of Mary, Queen of Scots, who had most influence in the West of Scotland, and was responsible for events which led to the founding of the Royal College of Physicians and Surgeons of Glasgow. James was very interested in health matters and his *Counterblast to the Tobacco* written in 1604 must have been the first documented anti-smoking literature. In 1599 he granted a Charter to Maister Peter Lowe. It is thought that Peter Lowe was born in Errol in Perthshire and that he had most of his medical and surgical training in Paris. He had a remarkable breadth of interest, being a brilliant surgeon, a writer, master mariner, as well as the founder of the Faculty, now the Royal College of Physicians and Surgeons of Glasgow. However, his two great accomplishments were that he was granted the Charter by the King in 1599 and that he was the writer of the first textbook on surgery in the English language, the first edition of which was printed in 1597. The second edition of Lowe's book, published in 1612, contains numerous references to dentistry. His concern for correct diagnosis and treatment of dental disease is well documented. He used oil of cloves as a dressing. He advocated a careful and systematic technique for extraction. He made artificial teeth of ivory. He used gold wire clasps and he removed salivary calculus and advocated claret as a preventive mouth rinse afterwards – the efficacy of claret in this regard has not been confirmed in a clinical trial, something I hope to assess when I retire.

The design of his dental instruments is not all that different from those used today.

I would now like to move to the 18th century and to the Old Parish Church at East Kilbride, where in the graveyard there is a simple horizontal stone set in the ground; even after cleaning it, it is difficult to read what it says which is, – This is the burial place of John Hunter of Calderfield and Agnes Paul, his spouse 1751”.

From 1717 John Hunter and Agnes Paul lived in the attractive old farmhouse which still exists today. They produced ten children, seven of whom died of tuberculosis. Two sons and one daughter lived to old age, and the two sons – William, the elder, and John, the younger – were remarkable men who were leaders in medicine and biology during the Age of Enlightenment – they and their contemporaries revolutionised medicine, medical teaching and medical research, nationally and internationally. The Hunters also had a very important influence on dentistry and its development.

William Hunter in his Anatomy School in London, was a pioneer in new methods of teaching, where each student was required to dissect the human body and to use his senses in his training and experience. He wrote “In explaining the structure of the parts, if a teacher would be of real sense, he must take care not merely to describe but to show or demonstrate every part. What the student acquires in this way is solid knowledge arising from the information of his own senses.” This approach was in marked contrast to medical teaching in the classical tradition of Hippocrates and Peter Lowe, where philosophy played a much larger role. Having established a very famous anatomy school, William, of course, became a famous physician and also a fashionable obstetrician. He delivered all thirteen children born to Queen Charlotte and King George III, and also delivered children of most of the celebrities of that time, including William Pitt, the Prime Minister. Hunter was in almost constant attendance at the Palace and became very friendly with the King, as well as the Queen.

He was a great collector, not only of anatomical and pathological specimens, but of coins, rare books, such as the York Psalter, and priceless works of art, from the



“Entombment” by Rembrandt, to the work of artists such as Stubbs who recorded the appearance of rare animals.

He used the engraver Rimsdyk extensively to illustrate his books, the most famous of which recorded the stages of the pregnant or gravid uterus from conception to termination.

There has never been a greater example of art married to medicine than this. He also used new methods in preparation of bodies for dissection, such as infusing arteries and veins. Two hundred years later his magnificent specimens of a young boy, still demonstrates the retention of skin colour and texture. He also revealed the lymphatic vessels by mercury and gold injections and also the salivary ducts. Some of his superb specimens of teeth and jaws have never been equalled for detailed definition.

William Hunter had also an interest in comparative dental anatomy and he used this knowledge to great effect when he supported the theory of extinction, which was against the church’s teaching at that time, and was a prelude to Darwin’s theory of evolution a century later. Indeed, in 1783 Hunter said “The most perfect and sound animals upon the whole, will have the best chance of living to procreate others of his kind, in other words the best breeds will prevail . . . and that which is defective . . . will be cut off.”

William housed his collection in a building off Piccadilly Circus, which became the Windmill Theatre, well known for its chorus girls, thus continuing the anatomical associations. When he died his superb collections were left to the University of Glasgow and many of you will be well acquainted with them.

While William was becoming famous in London as an Anatomist and an Obstetrician, back at the farmhouse at Long Calderwood, the young John Hunter was beginning to react to everything about him. John was averse to book learning, an aversion he never really overcame, but fascinated by country life, and he collected specimens – animals, birds, fish and plants. His interest was clearly investigation and observation of everything around him. However, his mother was convinced that he was wasting his time and she arranged for him to become a carpenter in Glasgow. This did not satisfy him and at the age of 20 he saddled a horse, left the farm and travelled to London, where he joined his brother, William, in the Anatomy school. John Hunter’s subsequent success is now legendary. Indeed, 200 years later John Hunter is regarded as the patron saint of the Royal College of Surgeons of England and his statue dominates the entrance hall. He is widely regarded as the father of scientific surgery. His success was related to a number of factors, not the least the fact that his elder brother paved the way for him. Like his older brother, he observed, recorded and collected everything. But he will always be remembered for the way he described and developed the experimental approach to medical research. “If you do not know the answer, do the experiment”, was his teaching and practice, as he told Jenner, famous for his discovery of vaccination against smallpox. Indeed, this had tragic consequences on one occasion, when he inoculated himself with syphilis in order to record the early signs of the disease, foregoing any treatment to do so. Indeed, that is why the chancre of the primary stage of syphilis is called the Hunterian chancre. This tragic experiment probably led to his death in 1795.

Hunter’s contribution to dentistry was immense. His first textbook in 1771 was *The Natural History of the Human Teeth*.

In this book, which is very beautifully illustrated, he gives superb descriptions of the development of teeth, jaws, articulation, their gross anatomy, histology and physiology.

The dentists among you will have heard of the Hunter-Schreger Bands. In 1778 he wrote another book on diseases of the teeth, *Treatise on Diseases of the Teeth*. In this he described the early carious lesion, gave an excellent description of periodontal disease and tooth deposits, periodontal disease and pregnancy, trigeminal neuralgia, orthodontic problems and their treatment and transplantation. He was very involved with tooth transplantation experiments. At that time, poor people could make some money by selling their healthy teeth to dentists who could then insert them into rich persons with decayed teeth for an appropriate fee. Hunter was troubled by the nature of the transplantation procedure, the technical difficulties and its failure after a period of years. He wondered if it was due to lack of blood supply, so he tried transplanting a cock's comb, the most vascular tissue he could find. The transplantation was successful in this case, but clinically, transplantation was doomed to failure for immunological reasons that Hunter was unable to understand at that time. In 1793 John died at St. George's Hospital. He had had angina for some time and he had a severe heart attack during a dispute with his fellow surgeons. When he died he left his collection to the Royal College of Surgeons of England, where they have been housed since 1830.

There is no doubt that dentistry owes a great deal to the heritage of these two Scotsmen, William and John Hunter, and the fact that John Hunter had been so involved in dentistry and dental research as well as general surgical research, had an important influence in the future development of dentistry in this country through the Royal Colleges of Surgeons, of England in particular, and subsequently via the other Royal Colleges of Surgeons, of Edinburgh, of Ireland and the then Faculty, now Royal College of Physicians and Surgeons of Glasgow.

However, at this time there was still no independent profession of dentistry. It was not possible to distinguish between those who had reasonable training and experience and an ethical approach to practice on the one hand, and others who advertised and made false claims on the other.

The next important milestone in our roots in the U.K. also relates to two members of a family, this time a father and son combination, John and Charles Tomes. John Tomes was born in 1815 before the Battle of Waterloo and Charles, his son, died in 1928, Father and son played major roles in great scientific and technological advances in dentistry during that period. They were both dental practitioners, part-time honorary hospital specialists and dental scientists who were part of the new movement in biology in the 19th century. Both were microscopists, interested in the histology of the hard dental tissues and bone, and their studies in comparative dental anatomy became a key tool in the elucidation of the theory of evolution described by Darwin.

John Tomes, the father, had a remarkable career. He designed many dental instruments, including the dental forceps we use today. He continued the work of John Hunter on madder feeding experiments on bone, where he was able to demonstrate bone deposition and resorption and his work on dentine is known to every dental student, in that he described the dentinal fibrils, the Tomes processes. He was also a superb politician who became the leader of dentists intent on improving their education and training and he was instrumental in the introduction of the first dental diploma, the LDS RCS England in 1858. Furthermore, he was to bring together dentists from all parts of the country who wished to see ethical dental practice and he pursued this objective from 1865 to 1878 when the Dental Act was introduced with registration of dentists. John Tomes was the first name in

the original Dental Register of 1879 and the British Dental Association was founded in 1879 with Tomes as its first President. It is of interest that Tomes had a great regard for John Hunter and he was Treasurer of a Fund which was set up to move Hunter's body on 1859 from St.Martins-in-the-Fields to Westminster Abbey where it is now buried under a brass memorial plaque in commemoration of John Hunter's achievements.

Tomes was helped in these achievements by a number of leading dentists throughout the country who shared his ideals and with whom he corresponded such as John Brownlie of Glasgow, who was involved in introducing the L.D.S. in the then Faculty, now Royal College, of Physicians and Surgeons, following the Dentists' Act of 1878, and in the founding of this Dental Hospital and School. He was the first Dean and one of the first Presidents of the British Dental Association. Another was John Smith, a most colourful and impressive leader of dentists in Edinburgh at that time. He was the Hospital Dentist to Edinburgh Royal Infirmary, and gave the first series of lectures in dentistry in Scotland in the Medical School in Edinburgh in 1856. He was a prime mover in instituting the Edinburgh Dental Hospital and School and the L.D.S. in the Royal College of Surgeons of Edinburgh in 1879. President of both the Royal College of Surgeons of Edinburgh and the British Dental Association, John Smith is worthy of a lecture all to himself. And last, but not least, there was Walter Campbell, who is regarded as the father of dentistry in Dundee and, who, with his two sons, Graham and Gordon, and the Dundee Dental Club, was responsible for the founding of the Dundee Hospital and School, and the introduction of the L.D.S., University of St. Andrews in 1916. Indeed, Walter Campbell's younger son, Gordon, in 1937 became the first Professor of Dentistry in Scotland when he was appointed Professor of Dental Surgery in the University of St. Andrews.

These men were the outstanding leaders who established dentistry as an independent profession in Scotland, setting high standards in practice, education and ethics, as they achieved the objectives they shared with John Tomes.

It has not been possible for me in this short talk to do anything more than touch on the main roots of dental history as I have perceived them. There is much more that is worthy of more detailed consideration, particularly in relation to some of the leading personalities in dental practice in Glasgow and Edinburgh during the 18th and early 19th centuries, but time has caught up with me.

I would like to finish by mentioning Dr. Tom Honeyman, one of the most interesting men I have met. Tom Honeyman was a man who savoured life at so many points – a medical graduate who left medicine for art dealing, where he achieved so much. He focussed attention on the Scottish colourists, artists like Hornell, Cadell and Peploe, and, of course, he will always be remembered for his purchase of the Salvador Dali painting of the Crucifixion. Interestingly, Tom Honeyman's first post was as a Lecturer in Physiology to dental students and he told me how in a histology class he wanted to show the dental students everything. When he came to the ovary he could see there was some unrest among the students, and one of them in the front row stood up and said, "Sir, I don't think we are supposed to do the ovary – you see we're dental students". Tom Honeyman confided in me, "For a few moments I was completely thrown by this comment, but then I pulled myself up to full height and said – 'Students, leave your microscopes for a moment and listen to me – this is a very important lesson which I want you always to remember - the roots of the teeth go very deep indeed'".

I hope I have convinced you that Tom Honeyman was right.

This was followed by a Paper from Dr. Henry Noble, Senior Research Fellow in the History of Dentistry Unit in Glasgow, entitled:

## **DENTAL ADVERTISEMENTS IN THE NINETEENTH CENTURY**

Dental advertisements are not the most accurate form of evidence upon which to base any statement or conclusion concerning the practice of dentistry in the past. They are however typical of the kind of secondary source which is often used by historians who wish to add some light and shade to the official outline. When carefully examined they shed a genuine light in certain directions through the mist which surrounds the origins of the Dental Profession of today. To the vast majority of the population of their day they represented one of the few sources of readily available information about who might provide what sort of dental treatment, when and where.

Advertisements for dental treatment were, however, too easily misused by unscrupulous and unskilled practitioners, to mislead the public by unethical claims and guarantees. The abolition of advertising came to be regarded as an essential step in ridding the emerging profession of those practitioners whose treatment regularly failed to satisfy but who managed to continue in business by the steady stream of innocent patients which their advertisements provided. It was hoped that the members of the dental profession would in future rely entirely upon fidelity, judgement and skill in the treatment of patients as the sole method of advancing their reputation.

The main source of material for anyone interested in Dental Advertisements prior to 1850 is, of course, the Menzies Campbell collection of 1,175 dental advertisements. This collection is now the property of the President and Council of the Royal College of Surgeons of England and is held in the Library of this College. I am indebted to the President and Council for permission to use this material while the volume has been in the hands of Dr Margaret Menzies Campbell for an extended period of loan. I am also happy to record that with the permission of the College, Dr Derek Dow has been able to record the entire collection on microfiche for the records of the Archives and Medical History Unit at the University of Glasgow.

A second most useful source of publicly available information about dentistry in Glasgow throughout the 19th century has proved to be the collection of Glasgow Post Office Directories held in the Glasgow Room of the Mitchell Library.

An album has been prepared of photocopies of references to dentistry in the Glasgow Post Office Directory, 1800 to 1900. This includes the lists of dentists in practice at 5-yearly intervals throughout the century; lists of dental supply firms; advertisements by dentists and the notices of the Glasgow Dental Hospital and School, the Glasgow Dental Students' Association and the West of Scotland Branch of the British Dental Association. This album is available at the History of Dentistry Unit at the Glasgow Dental Hospital and School.

I have used material from these two sources to attempt to answer five questions:-

Who were the Dentists who practised in Glasgow in the 19th Century?  
What was their training?

How was information about dental treatment being obtained and disseminated?

What written material was being produced by Glasgow Dentists?

What information about treatment throughout the century do the advertisements provide?

A first Post Office Directory for Glasgow was produced in 1783 from a survey of its population. Successive enlarged editions appeared for 1787-89, 1790-91 and 1801. While the organisation and arrangement of the listings were improved with each successive edition, that of 1801 still contained no street numbers. It would seem that no edition appeared in 1802. The edition which appeared in 1803 shows marked improvement in the presentation of the information and suddenly we have two 'dentists' recorded as occupying premises at 449 Gallowgate and 9 Miller Street. The latter address belonged to James Scott, a 33 year-old dentist who had previously visited Glasgow at intervals and who announced his intention of taking up residence in Glasgow in the Glasgow Courier of 10th December 1802. At the former address resided an older dentist, John Alexander, who in another five years would introduce his 21 year-old son, James, to the practice and die four years after this. It is rather difficult to believe that John Alexander was not in practice as a dentist in Glasgow before 1803.

These two dentists continue as the only dentists listed in successive annual editions of the Directory for the next 13 years. James Scott died on 2nd September 1828 aged 58 years. John Alexander was succeeded by his son, James Alexander in 1813 and then by a grandson also called James Alexander in 1857. This third generation dentist continued in practice until 1876; completing an unbroken period of at least 73 years service as dentists to the citizens of Glasgow.

The listings of dentists in practice in Glasgow increase dramatically from 1840 onwards until the century ends with a total of 88 dentists recorded.

This striking increase is undoubtedly related to events such as the award in 1859 of a Charter to the Royal College of Surgeons of England empowering the College to award a Licentiate in Dental Surgery; the passing in 1878 of the first Dentists Act; the award in 1878 of a Charter to the Faculty of Physicians and Surgeons of Glasgow empowering the Faculty to award the L.D.S. qualification and the opening in 1879 of Glasgow Dental Hospital and School.

The Menzies Campbell Collection of dental advertisements provides evidence of a further twenty two dentists who visited Glasgow to provide dental treatment. These dentists came in equal numbers from Edinburgh and from London. The addresses provided in the advertisements show that they frequently made use of accommodation in lodgings or inns but also that they were quite prepared to make domiciliary visits upon request.

In the days before the Royal College of Surgeons of England received the charter to enable it to grant a Licence in Dental Surgery in 1859, some emphasis tended to be placed upon the inclusion in an advertisement of an indication of the nature of training or experience which had been obtained in the earlier part of a professional career. This was no problem if one was the son or daughter of an already established and well-known parent. Others had to describe themselves as 'Pupil and Assistant', 'Articled Assistant', 'Practical Operator with -' or 'Manager for many years to -'. Such references varied from

the straightforward statement of fact to flowery exuberances involving reference to 'His Majesty and the Royal Family'. Typical of the latter were the advertisements of Mr Lewellin of 86 West Regent Street who claimed to be a 'Member of the Royal College of Surgeons, London; Member of the Royal Parisian Medical Society, and lately arrived from Paris (where it is well known that Dentistry is studied with the utmost precision and taste).

Occasionally the process worked in reverse and one finds an older practitioner basking in the reflected glory of his offspring such as 'Mr D. G. Gillies, Surgeon Dentist, 67 Oswald Street, – being in constant communication with his sons who hold responsible positions in some of the first Firms in London and Paris, and can command the advantage of the most approved and finished styles of art –'

Advertisements were also used to dissociate oneself from a former assistant such as that on the 18th October 1844 by Mr A. S. Young of 185 Buchanan Street to the effect that '– he ceases from this date to be responsible for any Transactions, whether Professional or otherwise, of his Late Assistant, Mr John Young.' There was, however, more than a tinge of sadness in the advertisement by Mr James Wallace entitled 'Dissolution of Partnership' wherein he stated that the 'Partnership between my Son, Dr William Wallace, and myself was dissolved on 15th May 1899. I beg to intimate that I shall continue to give my personal attendance at 36 Dundas Street.'

The earliest reference to formal education for dental students is to be found in the Post Office Directory for 1880 where the list of Professors and Lecturers in the Anderson's College includes a Lecturer in Dental Anatomy and Physiology, J. Crooks Morison, L.D.S. (Eng.); a Lecturer in Dental Surgery and Pathology, J. R. Brownlie, L.D.S. (Eng.) and a Lecturer in Dental Mechanics and Metallurgy, W. S. Woodburn, L.D.S.(Glasgow). The young Dental School seems never to have been short of willing teachers and between 1880 and the end of the century, thirty six members of the profession would serve on the staff of the dental school for varying periods of time.

Dental advertisement afford some insight into the manner in which learning was disseminated before Dental Schools commenced formal instruction. Dental Lectures commenced at Guy's Hospital in 1799 and an advertisement in the Menzies Campbell collection which is dated 1808 details the Spring Course of Lectures which will commence at the beginning of February. viz. "Practice of Medicine –, Chemistry –, Experimental Philosophy –, Theory of Medicine and Materia Medica –, Midwifery and Diseases of Women and Children –, Physiology or Laws of the Animal Oeconomy and Structure and Diseases of the Teeth by Mr Joseph Fox. Terms and other particulars may be learned from Mr Stoker, Apothecary to Guy's Hospital".

There were also numerous casual lectures such as the "Lectures on the Management of the Teeth by Mr Parmlly from America, with notices on their Diseases and Natural History to be delivered at his residence, 1 St James Street, corner of Pall Mall on the evenings of tomorrow the 14th and Wednesday 16th February 1820. To commence precisely at 8.0 o'clock. Tickets for a single lecture 3s 6d each or for both lectures subscribed for at once 6s."

One learns that "Mr Alexander, Surgeon Dentist, 611 Argyle Street, Glasgow, – has just returned from London, where he has been studying for several months under the most celebrated Professors of his art, particularly their manner of treating the various diseases of the Gums, as well as the best method of extracting, cleaning and fastening Teeth, filling

them with Gold or Silver, to prevent them aching or smelling disagreeably. Artificial Teeth correctly fitted in, from a single tooth to a whole set etc.”

Sometimes we find dentists such as Mr T. D. Kidd “inviting the Gentlemen of the Medical Profession and Dentists, personally to witness his method of preserving teeth and curing toothache” although one wonders if this was merely a ploy to gain the confidence of wavering patients.

Mr Edward Breham, Surgeon and Dentist from Edinburgh was more forthright when on 5th May 1823 he “intimated that he would deliver a very interesting Lecture on the innumerable Diseases of the Teeth and Gums, illustrating the cures and preventives of Tooth-ache and a new mode of treating Infants while teething, to prevent fever and convulsions, which Mr B. flatters himself will give more useful information to the community than has ever been done by anyone. He earnestly solicits the attendance of all Students at Medical Classes and Ladies in charge of children, as by their knowledge, much misery might often be prevented. The Lecture to begin at seven o’clock precisely, at the Black Bull Inn, Glasgow. Tickets 2s 6d each.”

It can be seen from advertisements that Glasgow dentists were not backward at contributing pamphlets or books upon the care of the teeth. In 1838 there appeared “Plain Advice upon the Care of the Teeth” a small volume by Daniel A. Cameron who, we know from an earlier advertisement dated 1828 commenced practice on his own following a period as Articled Assistant to James Scott of Miller Street and upon the latter’s death on 2nd September 1828. This volume gives an interesting and detailed account of the knowledge available to the general public concerning oral hygiene in the earlier part of the century.

Mr I. D. Abernethy produced a “Treatise on the Teeth and Gums” with illustrations price one shilling in 1849.

Later in 1872, Dr Matthew Dickie, Surgeon Dentist, 47 Sauchiehall Street advertises “A popular Treatise on the Teeth” price 10s 6d.

Glasgow dentists were also making more serious contributions to scientific literature and among the earliest are those on dental decay and its treatment by Dr Francis Hay Thomson in the Glasgow Medical Journal between 1855 and 1867.

When one attempts to summarise the information provided by advertisements concerning the treatment which was available; it is convenient to do so under three headings. Pre 1800, followed by the first half and then the second half of the nineteenth century.

#### Pre - 1800

A survey of the dental advertisements from this period would suggest that Apothecaries were as numerous as Dentists in their claims to be able to assist the public with their dental problems. The conditions from which the advertisers offer relief are quite recognisable although the nomenclature and understanding of the condition may have greatly altered.

Children’s Teething	Toothache
Cleaning discoloured teeth	Loose teeth
Bad or offensive breath	Partial loss of teeth
Scurvy of the Gums	Complete loss of teeth.

The great remedy for problems with children cutting teeth seems to have been the Anodyne Necklace – “after the wearing of which but one night, children have immediately cut their teeth with safety, who but just before were on the brink of the grave with their teeth, fits, fevers, convulsions, gripes, looseness &c all proceeding from their teeth.”

Few advertisements by dentists failed to recommend the purchase of their own dentifrice for cleaning and preserving the teeth. There is no indication of the composition of the commonly recommended Essence of Pearl dentifrice or Trotter’s Oriental Dentifrice but at least there seems to have been an awareness that acid would corrode or wear off the enamel, that coarse particles are harmful and that some tooth powders and tinctures which were in common use and famous for whitening teeth were as infamous for destroying both them and the gums.

Scurvy of the gums is obviously where the apothecaries came into the picture with countless remedies, but Mr Woofendale “dentist from Liverpool and pupil of Mr Berdmore commends to the Public his Abstergent Lotion which has ever been found a most efficacious remedy for this condition.”

Regrettably remedies for toothache in the form of tinctures etc. feature as prominently in the advertisements of dentists as those of apothecaries. While several dentists advertise that they perform operations on the teeth, there is no mention of filling as a treatment. Several of these toothache remedies are advocated as a means of avoiding extraction which, perhaps not unnaturally, is referred to as excruciatingly painful and dangerous.

Where teeth have been lost, the dental advertisements offer to “fix in Natural or Artificial Teeth, from one to a complete set”. It must be remembered that in these days, carved ivory was the only satisfactory substitute for the natural tooth. Alternative forms of mineral paste were being developed but an advertisement by Mr T. P. Patence dismissed them in an exceedingly scornful manner.

It is interesting to note, however, that as in Medicine, women dentists were much more to the fore in the 18th than in the 19th century.

#### 1800 - 1850

This period begins with many advertisements announcing the advantages of Improved Mineral Paste Artificial Teeth and Gums and arguing the benefits over Sea Horse Ivory which was previously regarded as the best material available. Gold and Silver base plates are available. There is a gradual movement away from the use of wires, ligatures or springs to retain the artificial denture and there is reference to their retention by “the united principles of Capillary Attraction and Atmospheric Pressure” which seems a very enlightened approach. Improved skill in the construction of plates for normal palates encouraged some dentists to offer assistance to “those who have the misfortune to require artificial palates”.

Stopping decayed teeth was now regularly on offer. Anodyne or Antalgic Cements made their appearance but the year 1828 saw the first reference to a new discovery in the form of a Mineral for filling decayed teeth. The name Mineral Succedaneum appeared the following year and for half a century or so this remained the commonest name for what today we know as Amalgam.



The possibility of regulating children's teeth had been discovered and several advertisements offer to "put children's mouths in order".

Price lists for various dental operations were now proclaimed in detail.

There was no evidence during this period of any regular recall system being in operation in any practice with most patients only attending when some painful condition or accident occurs. There was, however, one reference to "yearly patients" in an advertisement for 1829 which suggests that a regular pattern of attendance may have been developing.

As the middle of the century approached, three advertisements by different dentists appeared in Glasgow newspapers offering anaesthesia by Ether Inhalation with comments upon the problems met with in apparatus designed to administer it. There was also one advertisement by a Glasgow Chemist offering an improved regulating aether-inhaling apparatus and Prepared Ether for inhalation. It is a tribute to the means of communication of new discoveries to remember that these advertisements which appeared on 25th January 1847 and 15th February 1847 followed the first dental operation using ether as an anaesthetic on 19th December 1846.

#### 1850 – 1900

During this period early attempts were made to safeguard the public by the establishment of formal training, registration and improved standards of dental care. The abolition of advertising of dental treatment came to be regarded as an essential step in depriving poorly trained, unregistered and less scrupulous practitioners any easy access to ill-informed members of the public.

Interesting sidelights on dental practice during this period continue to emerge however from the advertisements which did appear.

It was claimed that decayed teeth could be filled without pain, heat or pressure.

Artificial teeth were now so good in quality as to have completely displaced the use of natural teeth. Self-adhesion was always mentioned as the method of retention of a denture with the use of wires, ligatures or springs being universally condemned. The base-plate material may have been of gold or a less expensive white metal; or of india rubber following the discovery of the process of vulcanisation in 1834; or of a material called Coralite.

Improvements in dental instruments were being made and James A. Young of Glasgow developed Patent Forceps which won an Honorable Mention in the Paris Universal Exhibition of 1855.

Mr Wallace of 22 Dundas Street claimed to be the first dentist to introduce Nitrous Oxide anaesthesia to Glasgow and having invited a newspaper reporter to witness a session, quotes the "Evening Citizen" account of the success of the procedure in his advertisement.

There can be little doubt that the abolition of advertising coupled with formal education and compulsory registration was an essential step in the creation of the 'profession' which existed by the end of the century.

These restrictions upon advertising were, however, a double-edged weapon and there can be no doubt that the benefits to the profession were achieved at the expense of the eventual disappearance from the public press of many exhortations to seek dental

treatment, much information about its availability and cost and even criticism of some forms of inferior treatment.

Now that the danger of irresponsible advertising by unqualified and unregistered practitioners has been removed, the denial of such helpful information as the public might receive from advertisements becomes a more serious penalty.

Techniques of advertising have also changed since the early days when the absence of guidelines or controls permitted unethical and misleading wording of advertisements to escape censure. The profession and the news media are now much more aware of the need for care to avoid misrepresentation which could easily form the basis of an expensive legal action. Thus, the new Section 12 of the American Dental Association's code of ethics finds it sufficient to state that: - "A dentist may advertise the availability of his services and the fees that he charges for routine procedures. No dentist shall advertise, in any form of communication, in a false, misleading, deceptive or fraudulent manner"

The General Dental Council has now considered its response to a recent recommendation from the Office of Fair Trading that Dentists in Britain should once more be allowed to advertise what treatment they provide and what charges they make for private treatment and has indicated that Dentists may now advertise in an approved manner. This however opens up a new chapter in the history of Dental Advertising in this country.

## THE ONE HUNDREDTH AND SEVENTEENTH ORDINARY MEETING

The One Hundred and Seventeenth Ordinary Meeting of the Society took the form of a joint meeting with the Pybus Club and was held in the University of Newcastle Medical School on the 17th May 1986. With 45 members of the two bodies in attendance, Dr. Spriggs, President of the Medical Wing of the Pybus Club took the Chair.

The first speaker was Dr. Daniel Reid of the Communicable Diseases Unit at Ruchill Hospital, Glasgow, who presented a paper on:

### ILLNESS AND TRAVEL

As well as broadening the mind, travel can unfortunately also affect other parts of the body. Health and related problems of travellers have of course been recognised for many centuries:

"Travelling is the ruin of all happiness"

Fanny Burney

[Cecilia, Book 1V, 1782]

In particular, infection has always been the potential scourge of those who travel, be they soldiers serving abroad [Delhi belly, Singapore runs, Gippy tummy or Montezuma's revenge), or those in the mission field. Malaria was responsible for the deaths of many missionaries especially those in Africa, but of course there were other hazards – both infectious and non-infectious with which they had to contend.

When considering illness associated with travel to foreign parts it is apparent that as well as exposure to virulent micro-organisms, host factors are also important. A poor diet and the effect of excessive alcohol consumption were [and are] major factors in determining the chances of survival. Dow, in his contribution to a Symposium on Disease and Other Hazards organised by the Royal Society of Edinburgh and the Royal College of Physicians of Edinburgh in 1982, noted that Harry Johnston in his 1894 Commissioner's Report warned that Malawi was not healthy for those of low class or bad morals [Johnston, 1894] and later estimated that whisky was the cause of more than half of all European illness (Johnston, 1897). Later Crawford described Africa as "no land for red tape nor red noses" Dow also drew attention to the problem of alcohol being taken, even by abstainers, for medical purposes – Livingstone, although expressing disappointment with the results, used alcohol as an antidote to fever [Gelfand, 1957] and champagne was advocated by mission doctors in the treatment of fever as a "pick me up".

It could be argued that there was strong biblical precedent for the consumption of alcohol in inhospitable climes. "Take a little wine for thy stomach's sake" said St. Paul but of course there was an opposite point of view. In 1832 a member of the Glasgow University Temperance Society wrote the following lines during the cholera epidemic which raged through Europe in that year

"He who keeps his stomach pure  
And tipples not at whisky toddy  
In spite of cholera walks secure  
No spasms rack his body"

Also in the last century, alcohol-related problems amongst tourists were factors which motivated Thomas Cook to form his travel organisation. Alcohol was frowned upon during the excursions organised by his company because of his dismay at the alcoholic activities of tourists at that time. It would appear that the disapproval of Thomas Cook has still to be heeded to-day!

Travel has, of course, increased tremendously in recent times. In 1948 just 4 million passengers were transported by the world's airlines [Dorolle, 1968]. Nowadays this number is in excess of 750 million, and over 20 million United Kingdom residents went abroad during 1982 [Cossar *et al*, 1985]. Not only has the volume of travel expanded but also the destinations to which passenger aircraft now fly are much more numerous. Moreover, the time taken to travel from one country to another has shortened considerably and this has increased the hazard even more as, paradoxically, the slower sea passages ensured that the incubation periods of many infections were completed during the voyage thus allowing appropriate surveillance measures, immunisation of contacts etc. to be undertaken before the destination was reached. At present an air passenger can arrive from the tropics still asymptomatic even although he has already contracted an infection during his stay abroad. This is rendered even more dangerous by homecoming celebrations as subsequent "peculiar behaviour" may be wrongly attributed to the effect of alcohol rather than the development of a serious condition such as cerebral malaria – a regrettable though understandable and not unknown failure to appreciate a dangerous situation.

The expansion of the tourist trade and changes in the venues of holidays have also had a major effect on the number and type of patients infected abroad. Prior to the 1960s the majority of persons took their holidays in their own country. With more leisure time and

the expansion of the package tour industry, however, this has greatly changed. Many more people are deserting their native resorts and seeking other areas and this has been facilitated by a modern tour industry which specialises in low cost holidays. As a result vast armies of tourists descend on recently developed areas of the world which often have had to rapidly expand their facilities occasionally before adequate preparations have been taken to ensure that appropriate public health measures have been dealt with beforehand. It is, therefore, not surprising that it is now the tourists rather than soldiers, airline staff or missionaries who provide most of the patients with infections derived from abroad.

In Scotland, awareness of the hazard encountered by the overseas holidaymakers was accentuated in 1973 when a 'plane from Alicante in Spain [Figure 1], on which one passenger was already dead and 56 others were ill, landed at Glasgow Airport [Reid, Grist and Najera, 1978]. Two more passengers died within the following week and this led to an extensive investigation involving medical, laboratory and environmental health personnel. Because the patients had all stayed at the same hotel in Benidorm on the Spanish Mediterranean coast an effort was made to contact the hotel guests to obtain information about their illness. Of 251 tourists contacted 158 [63%] stated that they had been ill either during or immediately after their stay in Benidorm. Subsequent investigations revealed that the cause of this outbreak was the hitherto unknown infection, Legionnaires' disease [Grist, Reid and Najera, 1979].

This incident also threw into relief the hazards encountered by the huge numbers of inexperienced travellers who now undertake package holidays as this type of vacation imposes considerable multiple stresses on those involved. This is compounded by the fact that many of these tourists are often unaware of the difficulties associated with foreign travel or the appropriate precautions required.

Following the "Benidorm Episode" surveys have been undertaken by the Communicable Diseases (Scotland) Unit, the University Department of Infectious Diseases and the Department of Laboratory Medicine, Ruchill Hospital, Glasgow, in order to gauge the risks of illness which are hazarded by travellers either from or to Scotland.

### Surveys of illness among travellers

#### [1] *Summer and autumn travel*

A survey of tourists from Scotland was undertaken in 1977 [Reid, Dewar, Fallon, Cossar and Grist, 1980]. Travellers were selected in order to obtain groups of both "experienced" and "inexperienced" tourists. The following personnel who had recently travelled or were about to travel were approached:

- i) passengers on overseas flights returning to Glasgow Airport;
- ii) administrative and clerical staff (Health Service employees and civil servants);
- iii) university staff;
- iv) nursing staff;
- v) medical staff and medical students;
- vi) teachers.

The returning passengers at Glasgow Airport had all been on package tours between May and November 1977. They were contacted at the airport by a team of investigators from the Communicable Diseases (Scotland) Unit and each traveller was given a questionnaire requesting details of age, sex, employment, country, town and hotel visited abroad, illness experienced during or shortly after returning from holiday and any factors to which they might attribute their illness. A stamped addressed envelope was given to each traveller so that the completed questionnaire could be returned to the Unit for analysis.

The administrative and clerical staff, nurses, doctors, and medical students were contacted at their place of work. University staff were conveniently sought via a travel agent who usually arranged their flights. These groups completed and returned travel questionnaires. Blood samples were obtained from 72 of the travellers on package tours who reported respiratory symptoms in order to ascertain if they had serological evidence of Legionnaires' disease. These were examined as described by Fallon and Abraham [1979].

### Results of Survey

Questionnaires were returned from 2,211 travellers. Most [1,961 - 89%] were completed by the returning package holidaymakers who had received them at Glasgow Airport on their return from holiday. Administrative and clerical staff returned 83 questionnaires [4%] and the university personnel 72 [3%]; the remaining 95 questionnaires [4%] were obtained from nurses [57], medical staff and students [30], and teachers [7] [Table 1].

Those surveyed had visited 45 places [Table 2]. Spain was the most frequently visited [619 visitors; 28%] followed by Majorca [563; 25%], Tenerife [549; 25%], Tunisia [106; 5%], Ibiza [71; 3%] and Greece [65; 3%]. Package holidaymakers accounted for 96% of the travellers to Spain, Majorca, Minorca, Ibiza, Tenerife, Tunisia and Greece, whereas the other groups accounted for 82% of the travellers to the remaining locations. The most represented age group was that between 21 and 30 years [613; 28%] [Table 3]; 54 [2%] were under 10 years of age and 165 [7%] were over 60 years of age.

Nine hundred and fifty [43%] stated that they had been ill either during their holiday or shortly after their return [Table 1]. Those in the 21-30 year age group were most affected by illness - 55% reporting symptoms. The least affected group was that aged between 51 and 60 years, 26% being affected. Alimentary symptoms [usually vomiting and diarrhoea] were the most frequently encountered [80% of all illnesses] and respiratory illness accounted for 6%; 10% of ill travellers had both respiratory and alimentary symptoms [Table 3].

The group most affected was that sampled at the airport [i.e. the returning package holidaymakers; 45% reported illness. Those least affected were the university personnel, 24% reporting illness [Tables 1 and 4]. Problems associated with food were blamed by 352 [37%] of the travellers for their illness [Table 5]; 6% associated their illnesses with drinking problems and 6% with excessive sunbathing; 29% mentioned combinations of these factors; 11% other causes and 12% did not know.

Of the 72 serum samples examined for evidence of Legionnaires' disease none indicated recent infection although 6 had a titre of 64. These low titres may well have been non-specific reactions.

Although it is possible that those tourists who had been ill might be more inclined to return questionnaires than those who remained healthy, nevertheless the study revealed that a surprising number of tourists become ill during or shortly after their visits abroad. Although the numbers are small, tourists to Tunisia and Morocco appeared to be least likely to go unscathed – 83% becoming ill after a visit to these countries. It appeared that the risk of illness became greater the further south one travelled from the United Kingdom.

Perhaps not surprisingly, alimentary symptoms predominated. This may have been due not only to infective agents but also to dietary indiscretion and altered intestinal flora. From the previous study it was apparent that many tourists perhaps took too much advantage of comparatively inexpensive alcoholic drinks or of the availability of food to which they were unused. Respiratory illness either as a sole feature or in association with alimentary or other symptoms occurred in 16% of the tourists. The occurrence of respiratory symptoms is harder to understand but the congregation of travellers into planes and hotels may be contributory factors.

It was noteworthy that 15% more illness were recorded by the package holidaymakers compared to the other groups sampled. Most of the package tours investigated had gone to Mediterranean locations where perhaps the risk of infection is higher. It may also be, however, that those on such tours were less experienced travellers and perhaps took greater health risks, e.g. over-indulgence of food, drink and sunshine.

## [2] *Winter Travel*

People mainly travel abroad during the summer months. Package holidays, however, are available throughout the year. A survey was carried out amongst holidaymakers returning to Scotland during the latter half of January 1980 and is an attempt to measure the levels and types of illness experienced by people taking a winter package tour [Cossar, Dewar, Reid and Grist, 1983].

Travellers returning to Glasgow Airport from various destinations in Europe and North Africa were issued with questionnaires by the Environmental Health staff of Renfrew District Council. These forms invited travellers to provide information on age, sex, country visited, hotel and illness experienced during and shortly after their return to Scotland.

Questionnaires were returned from 263 tourists; 54 [21%] had suffered from some form of illness during their trip [Table 6].

One hundred and sixty-nine [64%] of those in the survey had spent their holiday in the southern Mediterranean: Majorca 15%; Tenerife 11%; Tunisia 17% and Malta 21%. Ninety-four people [35%] had gone to the colder parts: Austria 17%; the remainder visited the USSR [19%] for a few days to take part in a Burns Supper. Levels of illness were lower [21%] [Table 7] than those reported by package tourists during the summer months. Of the 54 people who recorded that they had been ill [Table 8], 26 [48%] reported an alimentary upset and 14 [26%] a respiratory problem. Four [7%] had experienced both respiratory and alimentary symptoms. Other vague disorders accounted for the remaining 10 [19%].

The age groups 21-30 and 31-40 [Table 9] accounted for 29 [54%] of the 54 people who had been ill. As noted in previous surveys, those in the older age groups suffered from fewer upsets.

The main reason offered for the cause of illness [Table 10] was drink [various beverages], followed by a combination of food and drink.

In the previous surveys it was found that nearly half of the travellers on package tours during summer months experienced illness during their holiday. In this study of 263 people on winter package tours, 21% had been ill at some time during their trip, alimentary upsets accounting for 48% of the illness. Travellers to the south Mediterranean experienced higher levels of illness than those visiting colder parts.

### [3] *Travel to Scotland*

Until 1980 these co-operative investigations in Glasgow had concentrated on the experiences of travellers from Scotland who had gone abroad, usually for vacation purposes. However, many tourists come to Scotland and from Scottish Tourist Board statistics it is estimated that of the 12.9 million tourists who were recorded in 1980, 1.2 million were from overseas, each spending about five nights in the country.

In order to gain an insight into the experiences of these tourists as regards their health, an arrangement was made in 1980 with the Tourist Information Offices of the City of Glasgow and the Argyll and Bute District Councils so that questionnaires could be issued to those tourists who enquired at the offices about accommodation [Dewar, Cossar, Reid and Grist, 1983].

Of the 355 tourists who returned the completed questionnaires, 67 [19%] reported illness – mostly alimentary or respiratory.

It is reassuring that the illness rates appear to be lower amongst visitors to Scotland rather than vice versa – although the populations sampled may not be strictly comparable – but it is also interesting that approximately a third of the ill tourists attributed their symptoms to that factor which often lets us down in Scotland – the weather!

#### *Some conclusions*

The world has become a smaller place. With modern aircraft two days will take you from Europe to Australia whereas not so very long ago the timing was measured in months by sea. This comparative ease of travel has obvious advantages for education, pleasure and commerce. “No man is an island” wrote John Donne and modern living has meant that we can interact as never before.

However, nature has the knack of countering advantage with disadvantage and the upsurge in the number of travelling people has brought in its wake an increase in the number of travelling infections.

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**TABLE 1****Travellers and reports of illness**

<b>Group</b>	<b>Ill</b>	<b>Not ill</b>
Package holidaymakers	874 (45%)	1087 (55%)
Administrative and clerical staff	25 (30%)	59 (70%)
University staff	17 (24%)	55 (76%)
Nurses	19 (33%)	38 (67%)
Medical staff and students	12 (40%)	18 (60%)
Teachers	3 (43%)	4 (57%)
<b>Totals</b>	<b>950 (43%)</b>	<b>1261 (57%)</b>

**TABLE 2****Illness experienced by travellers according to place visited**

<b>Place</b>	<b>Ill</b>	<b>Not ill</b>
Spain	330 (53%)	289 (47%)
Majorca	216 (38%)	347 (62%)
Tenerife	186 (34%)	363 (66%)
Tunisia	88 (83%)	18 (17%)
Ibiza	36 (51%)	35 (49%)
Greece	31 (48%)	34 (52%)
Minorca	11 (42%)	15 (58%)
France	6 (27%)	16 (73%)
Italy	3 (21%)	11 (79%)
USA	3 (27%)	8 (73%)
Canada	1 (10%)	9 (90%)
Switzerland	1 (14%)	6 (86%)
Morocco	5 (83%)	1 (17%)
Other	33 (23%)	109 (77%)

**TABLE 3****Age of travellers and type of illness**

Age group (years)	Alimentary	Respiratory	Alimentary and respiratory	Other	Alimentary and Other	Respiratory and Other	Not ill	Totals
<10	19	1	1	1	1	–	31	54
30 10-20	131	13	30	13	5	–	189	381
21-30	261	21	31	20	4	2	274	613
31-40	88	4	5	5	–	–	130	232
41-50	79	9	8	14	–	–	180	290
51-60	60	5	10	6	–	–	231	312
>60	40	–	3	2	2	1	117	165
Not known	39	5	6	4	–	1	109	164

**TABLE 4****Category of travellers and type of illness**

Category	Alimentary	Respiratory	Alimentary and respiratory	Other	Alimentary and other	Respiratory and other	Not ill	Totals
31 Package holidaymakers	675	54	84	51	7	3	1087	1961
Administrative and clerical staff	15	1	3	4	1	1	59	84
University staff	10	3	1	3	—	—	55	72
Nurses	10	—	4	2	3	—	38	57
Medical staff and students-	4	—	2	5	1	—	18	30
Teachers	3	—	—	—	—	—	4	7

**TABLE 5****Factors attributed by the travellers to their illness**

<b>Factors</b>	<b>Group</b>	
	<b>Package holidaymakers</b>	<b>Others</b>
Food problem	332	20
Drink problem *	55	6
Excess sunbathing	50	4
Food and drink problem	182	14
Food problem and excessive sunbathing	36	2
Drink problem and excessive sunbathing	15	2
Food problem, drink problem and excessive sunbathing	24	1
Other	75	16
Not known	105	11

\* a wide variety of fluids were implicated including alcohol and suspected water supplies

**TABLE 6****Winter holidays: illness according to sex**

	<b>Well</b>	<b>Unwell</b>	<b>Total</b>
<b>Male</b>	87 (76%)	28 (24%)	115 (44%)
<b>Female</b>	122 (82%)	26 (18%)	148 (56%)
<b>Total</b>	209 (79%)	54 (21%)	26 (100%)

**TABLE 7****Winter holidays: illness according to place visited**

	<b>Well</b>	<b>Unwell</b>	<b>Total</b>
Majorca	34	5	39 (15%)
Tenerife	21	8	29 (11%)
Tunisia	30	14	44 (17%)
Malta	45	12	57 (21%)
Austria	35	9	44 (17%)
USSR	44	6	50 (19%)
<b>Total</b>	<b>209 (79%)</b>	<b>54 (21%)</b>	<b>263</b>



**TABLE 8****Winter holidays : illness experienced according to place visited**

	Not ill	Alimentary	Respiratory	Alimentary and respiratory	Other	Total ill	Total
3 Majorca	34	4	1	–	–	5	39
Tenerife	21	4	1	–	3	8	29
Tunisia	30	6	4	1	3	14	44
Malta	45	5	6	–	1	12	57
Austria	35	3	1	3	2	9	44
USSR	44	4	1	–	1	6	50
<b>Total</b>	<b>209 (48%)</b>	<b>26 (48%)</b>	<b>14 (26%)</b>	<b>4 (7%)</b>	<b>10 (19%)</b>	<b>54 (20%)</b>	<b>263</b>

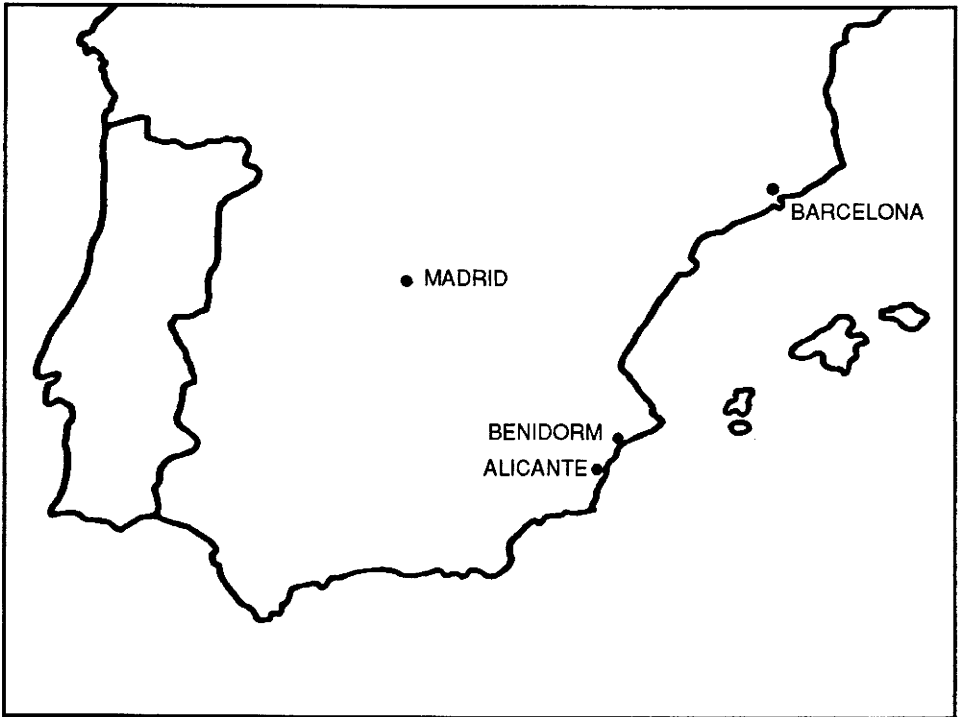
**TABLE 9****Winter holidays: illness experienced according to age group**

	Not ill	Alimentary	Respiratory	Alimentary and respiratory	Other	Total ill	Total
<10	5	1	1	–	–	2	7 (3%)
10-20	13	2	1	1	–	4	17 (6%)
21-30	34	6	5	1	5	17	51 (19%)
31-40	25	7	2	1	2	12	37 (14%)
41-50	29	3	2	1	2	8	37 (14%)
51-60	40	4	1	–	1	6	46 (17%)
>60	46	2	1	–	–	3	49 (19%)
Not known	17	1	1	–	–	2	19 (7%)
<b>Total</b>	<b>209</b>	<b>26 (48%)</b>	<b>14 (26%)</b>	<b>4 (7%)</b>	<b>10 (19%)</b>	<b>54 (20%)</b>	<b>263</b>

**TABLE 10**

**Winter holidays: travellers' suggestions for the cause of illness**

	<b>Total</b>
Food problem	5 (9%)
Drink problem	12 (22%)
Excessive sunbathing	4 (7%)
Food and drink problem	11 (20%)
Food problem and excessive sunbathing	2 (4%)
Exercise problem	2 (4%)
Other	8 (15%)
Not known	10 (19%)
<b>Total</b>	<b>54</b>



**FIGURE 1**

Map of Spain and Portugal showing the holiday resort of Benidorm

This paper was followed by a paper from Dr. Ann Holohan from the Department of Social Policy at the University of Newcastle-upon-Tyne on:

### ST KILDA: EMIGRANTS AND DISEASE

When Martin Martin (1) visited St Kilda in 1697, a small island, 40 miles west of Harris in the Outer Hebrides, he reported that the islanders:

“are not infested with several diseases which are so predominant in other parts of the world; the distemper that most prevails here is a spotted fever and that too confined to one tribe, to whom the disease is as it were hereditary”.

He was not impressed with the local remedies, “to relieve stitches and the wind they lie upon a warm hearth and the inhabitants are ignorant of the virtues of herbs”.

He was, however, the first writer to describe a cough which affected the inhabitants when the steward or factor visited the island (1):

“They always contract a cough when the steward lands, and it proves a great deal more troublesome to them at night time they then distilling a great deal of phlegm. This indisposition continues for some ten, twelve or fourteen days and the most sovereign remedy against the disease is their beloved catholicon the giben, that is the fat of their fowls, with which they stuff the stomachs of the solan goose in fashion of a pudding; it is then put in the infusion of oatmeal which in their language they call brochan; but it is not so effectual now as at the beginning because of the frequent use of it. I told them plainly that I thought all this notion of infection was but a mere fancy and that at least it could not always hold; at which they seemed offended, saying that ‘never any, before the minister and myself was heard to doubt the truth of it’.

The St Kildans were later to insist that even babies at the breast were at risk “from those as lodged in their houses” (1).

This disease, later to be known as the “boat cold” or ‘cneatan nan gall’ (the strangers’ cold) aroused incredulity and ridicule in both lay and professional circles, and was dismissed as primitive superstition. In the Reverend Neil Mackenzie’s (2, 3, 4) register of baptisms, marriages and deaths in St Kilda he records three deaths from “boat-cough” from a total of sixty-eight deaths between 1830 and 1846. A Dr. John Morgan (5) visited St Kilda in 1860 and he refers to the ‘boat cough’ and in giving some credence to this disease suggested that “he is dealing with the marvellous”. Dr. Morgan’s scepticism was allayed however when he heard personally “the short hacking coughs resembling the monotonous and gloomy sounds which echo from the wards of a consumption hospital” and he was to pose this penetrating question concerning the nature of the disease and the susceptibility of the islanders:

“Is it supposable, from what has been said in regard to the suddenness of the attack that when men live for a long time entirely shut out from the rest of the world under conditions altogether exceptional, both as regards occupation and diet, the mere fact of their coming in contact with strangers should exercise a sort of infectious influence in the more susceptible of the two?”

George Seton (6) after a short visit to St Kilda in 1877 reviews the evidence for the “strangers’ cold” and describes the symptoms as:

“A cold sensation, pain and stiffness in the muscles of the jaw, aching in the head and bones and great lassitude and depression – the ordinary symptoms of catarrh in an aggressive form – and is accompanied by a discharge from the nose, a rapid pulse and a severe cough which is particularly harassing during the night. The malady first attacks those persons who have come most closely into contact with strangers and then extends itself over the whole community.”

Seton went on to suggest that this “seizure” may be due to the islanders exposing themselves to cold and the easterly wind rather than the arrival of visitors.

These nineteenth century writers, without agreeing about the etiology of the “boat-cold”, were beginning to put forward the view that the very isolation of the St Kildan community (the island was cut off from the mainland for approximately nine months of the year) was in some way responsible for this apparently virulent illness. Some writers (6, 7) were to comment, on the other hand, about the possible benefits of isolation; the absence of tuberculosis and the great epidemics of typhoid and typhus, which were to prove fatal in the less remote islands of Mingulay and Lewis in the Outer Hebrides. It was in this climate of opinion, with the islanders adamant that they suffered from an influenza-like disease, “the strangers” cold’, and medical science yet to fully understand the germ theory and the nature of immunity, that thirty-six St Kildans emigrated to Australia in October 1852 (8, 9). It would be reasonable to suggest that if the islanders’ beliefs concerning their peculiar susceptibility to disease on contact with strangers were true, they would be at special risk on the over-crowded disease-laden ships on the voyage to Australia. If this were the case such research would serve as an early historical study of the importance of indigenous beliefs and practices, and the necessity for their incorporation in scientific medical innovations in a culturally meaningful and acceptable way (10).

It is also important to note that in the island’s fight for survival the community was never to recover from the loss of these thirty-six, mainly young, St Kildan adults and children; the population in 1830 was 110, falling to 73 in 1856, mainly as a result of the 1852 emigration and an excessive neonatal mortality rate (11). Yet the evacuation of thirty-six islanders to the mainland of Scotland in 1930 was the exodus to capture the public imagination (12); the Australian odyssey was to remain a forgotten chapter in the island’s history.

In 1852 the Highland and Island Emigration Society (13) listed 17 ships and 2,605 passengers who were to leave Liverpool for Australia, many assisted by the Highland and Island Emigration Society. Included among these 17 ships was the barque Priscilla, which departed from Liverpool on 13 October 1852 with 298 passengers on board including 36 St Kildans. The bedding and clothing requirements included (14):

“Six shifts, two warm and strong flannel petticoats, six pairs of stockings, two pairs of strong shoes, two strong gowns one of which must be warm; three sheets, four towels, one comb and one hair brush and 4 lbs of marine soap. The larger the stock of clothing the better as the voyage lasts four months”.

In the first table the 2605 Highland and Island emigrants are classified according to age, sex and marital status (13).

Table I. Social characteristics of 2605 Highland and Island emigrants to Australia 1852

Social characteristics	Males	Females	Total	%
Married	380	379	759	29.1
Single	417	490	907	34.8
Children 1-14 years	464	415	879	33.7
Children under 1 year	33	27	60	2.3
Total	1294	1311	2605	

It is worth noting that children under fourteen years formed thirty-six per cent of the passenger lists. For comparison, a similar classification of the 298 Inverness-shire emigrants on board the *Priscilla* is given in table II.

Table II. Social characteristics of 298 Inverness-shire emigrants on the *Priscilla* 1852.

Social characteristics	Males	Females	Total	%
Married	40	40	80	26.8
Single	45	70	115	38.6
Children 1-14 years	43	52	95	31.9
Children under 1 year	4	4	8	2.7
Total	132	166	298	

There was very little difference in the social composition of the passengers aboard the *Priscilla* compared with the total number of Highland emigrants carried in 1852 and in the St Kildan group, 12 of the 36 islanders were children under 14 years of age, again similar to the age distribution in the tables previously mentioned. The mortality on the *Priscilla* was as follows (15):

Table III. Deaths by sex and marital status on the *Priscilla* (Melbourne 1853)

Social characteristics	Males		Females		Total
	Survived	Died	Survived	Died	
Married	37	3	35	5	80
Single	45	0	66	4	115
Children 1-14 years	37	6	37	15	95
Children under 1 year	1	3	3	5	12
Total	120	12	141	29	302

The Priscilla passenger list, on arrival in Melbourne on 24 February 1853, after a voyage of over four months, had increased from 298 to 302 with the births of at least four infants, and there were 41 deaths (17.6 per cent); female children were at greatest risk. This percentage was greater than on any of the other 1852 emigrant ships; for example in the Marco Polo (14), which also contained emigrants from the Highlands and Islands, 52 passengers were to die, from a total list of 887. Who were these thirty-six St Kildans who decided to make this epic journey to the Australian gold fields, so peculiarly alien to their island beliefs and life-style? Were they at special risk to disease and death on the voyage? Scrutiny of both the emigration and immigration lists provides the following information (13, 15):

Ferguson	Malcolm	31 – survived
	Catherine	23 – died, scarlatina 9 February 1853
	Mary	3 – died, dysentery after measles 6 December 1852
Morrison	Mary	57 – died, gastric fever 9 November 1852
Ferguson	Hector	35 – survived
	Mary	22 – survived
Gillies	Ewan	27 – survived
	Margaret	28 – survived
	Mary	1 – died, dysentery after measles 3 December 1852
McCrimmen	Donald	32 – died, diarrhoea 14 November 1852
	Ann	32 – died, debility 25 January 1853
	Marion	9 – died, dysentery after measles 22 November 1852
	Mary	6 – died, dysentery after measles 23 November 1852
	Donald	5 – died, dysentery after measles 22 November 1852
	Chirsty	1 – died, dysentery 27 November 1852

(McCrimmen was spelled later as McCrimmon)

Macdonald	Roderick	47 – died, diarrhoea after measles 11 November 1852
	Marion	48 – died, diarrhoea after measles 14 November 1852
	Chirsty	18 – survived
	Neil	15 – survived
McQueen	Finlay (senior)	58 – survived
	Chirsty	50 – survived
	Malcolm	24 – survived
	Rachel	19 – died, measles 6 November 1852
	John	13 – survived
McQueen	Finlay (junior)	44 – died, dysentery November 26 1852
	Catherine	44 – died, mesenteric fever November 30 1852
	Donald	18 – survived
	Marion	16 – survived
	Catherine	12 – survived
	Ann	9 – survived
	Neil	7 – survived
	Finlay	4 – died, marasmus 21 February 1853
Mary	1 – died, dysentery after measles 2 December 1852	

Macdonald	Neil	22 – survived
	Catherine	51 – died, dysentery after measles 17 November 1852
	Ann	15 – survived

In this carnage, eighteen of the thirty-six St Kildans were to die on the voyage, the majority from an epidemic of measles, which raged on board the *Priscilla* in November 1852, and these 18 deaths contributed disproportionately to the total of 41 deaths aboard the *Priscilla*. Both St Kildan adults and children fell victims to disease, contrary to the deaths on other ships, where adults were less susceptible than children; of the total of 12 adults who were to die on the *Priscilla*, 10 were from St Kilda and of the 29 children to die, 8 were from the island. The fate of the McCrimmen family makes sorrowful reading, even more poignant in that this famous Skye name was to end on St Kilda with the death of a Rachel McCrimmon, in 1914. The first of the McCrimmen family to die was the father, Donald, from diarrhoea after measles on 14 November 1852, followed in quick succession by his four children who died between 22 and 27 November from diarrhoea, dysentery and measles. Ann, his wife, was to survive, without doubt, grief-stricken and distraught until 25 January 1853 when she too died of debility. The islanders' much ridiculed belief to their susceptibility to the "strangers" cold' was to prove deadly in the fetid miasma aboard the *Priscilla*.

When Osgood Mackenzie (16) visited St Kilda in early June 1853 he had this to say of his arrival:

"Nearly all the male inhabitants of the island were assembled to meet us when we landed, as well might they welcome us, for they had not seen a creature but themselves for nine long months and they were very anxious for news from Australia about their friends who had emigrated the previous autumn. Eight families containing thirty-six souls had then gone".

We can only guess at the sorrow and anguish the community was to suffer when the news arrived of the deaths of so many friends and relatives.

In 1927, an islander, Finlay Gillies (17) preached a sermon in the St Kildan Church, and his text from Hebrews (18) 'But now they desire a better country' anticipated the evacuation of thirty-six islanders to the mainland of Scotland in 1930. In retrospect, his words could also serve as an epitaph for these islanders who died in their search for land and a new beginning in Australia. It is even a greater irony that this text was also to act as a valedictory for many who settled on the mainland of Scotland; the "Creatan nan Gall" was still to play a sinister role in the islanders' health and survival. The Medical Officer in Oban (19) noted in January 1937 'all of them have a tendency to tuberculosis' and he had this to say of the Mackinnon family 'after leaving St Kilda four of this family became affected with tuberculosis and all succumbed. One girl is in a sanatorium in Oban'. When the Reverend Neil Mackenzie (4), minister in St Kilda noted the death of a Donald McQueen in 1839 from 'cold in addition to the boat-cough' he was not to know in St Kildan terms 'There died a myriad and of the best among them' (20).



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## THE ONE HUNDREDTH AND EIGHTEENTH ORDINARY MEETING

The One Hundred and Eighteenth Ordinary Meeting of the Society incorporated the Eleventh British Congress of the History of Medicine. Organised by the Scottish Society on behalf of the British Society, the Congress took place in the Royal College of Surgeons of Edinburgh over the weekend of the 22nd to the 24th August 1986.

The programme, enjoyed by 119 members and guests, consisted of 12 Papers on a common theme "Medicine Furth of Scotland". The highlight of the Friday evening reception, which marked the beginning of the Congress, was a witty and provocative address by Dr . Michael O'Donnell, entitled "Did History Really Happen?". The social aspect of the weekend was further enhanced by a Reception and Dinner on the Saturday evening attended by almost 100 guests.

The Proceedings of the Congress have since been edited by Dr. Derek Dow and published as "The Influence of Scottish Medicine". Copies of this are available from the Secretaries of the Society at a price of £10 + £1.50 postage and packing (£3 for overseas orders).

This meeting brought to a very satisfactory conclusion the Proceedings of the Society for 1985/86.

# The Scottish Society of the History of Medicine

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## 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.

