

CONCLUSION

At the beginning of time there were no predictions as to chance and opportunity that lay waiting. Chance and opportunity awakened humankind and over the last 10,000 years has so directed its destiny and written its history that evolutionary chance lies concealed within technological certainty. As civilization and its inhabitants continue the 'progress' which has led to the burgeoning of human population and the destruction of habitat essential for the survival of species, the common sense of Darwin's theory of natural selection, explain much of what has happened over the last 10,000 years and therefore biological studies should be an integral part of history courses in our universities.

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THE ROYAL MEDICAL SOCIETY AND MEDICAL WOMEN

Margaret Ross*, 12 Wrenscroft, Ridings Mead, Salisbury SP2 8ET

In the second half of the nineteenth century Edinburgh was the scene of the first major attempt by British women to break into the exclusive male world of medicine. Edinburgh University was the chosen target because of its enlightened admission policy and the high reputation of its medical school, the first in the English-speaking world to provide a complete range of medical education. It was also known that Professor Sir James Young Simpson, the most eminent obstetrician of his time, believed that women could very successfully become doctors and should be helped to do so. In 1854 Simpson had caused a stir among his Edinburgh colleagues when he employed Emily Blackwell as his assistant in his practice. She was a young lady who had obtained her medical degree in Cleveland, Ohio, and she was the younger sister of Elizabeth Blackwell, the first woman to qualify in medicine in the United States and to gain medical registration in Britain. In writing a testimonial letter for Emily, Simpson observed

I have rarely met with a young physician better acquainted with the ancient and modern languages, or more learned in the literature, science, and practical details of his profession.¹

Simpson supported Elizabeth Garrett (later Mrs Garrett Anderson), the first woman to try to gain admission to Edinburgh University as a matriculated medical student in 1862. Although a motion to consider admitting her was 'negatived by 18 votes to 16', this result was encouraging.² Garrett had previously made unsuccessful attempts to enrol as a medical student in London but had managed to obtain some clinical instruction on a grace and favour basis at the Middlesex Hospital after working there for a period as an unpaid nurse. Her instruction was terminated after she alone had provided the answer to a difficult question posed by a visiting physician, thereby provoking the enmity of her male fellow students.³ Garrett was forced to purchase private medical tuition which she pursued with marked determination. Further obstacles were encountered when she applied to sit the examination of the Society of Apothecaries of London.⁴ After these had been overcome by the discovery of a loophole in the wording of the Society's charter, and a threat of legal action, she passed the examination with credit in 1865 and thus became eligible to practice under the provisions of the Medical Registration Act of 1858. Measures were soon taken by the Apothecaries to close off this route of entry into the medical profession by women.⁵

This was the position when Sophia Jex-Blake (Fig 1) made her first attempt in March 1869 to persuade the University of Edinburgh to admit her as a student of medicine. She had been taking medical classes in New York organised by Drs Elizabeth and Emily Blackwell when family responsibilities arising from the sudden death of her father required her to stay in Britain.⁶ The Dean of the Medical Faculty objected that among other things women would never be strong-stomached enough to dissect, and was discomfited when she revealed that she had been carrying out dissections for months! Her great persistence bore

*Retired Assistant Archivist, Royal Medical Society.



FIGURE 1

Sophia Jex-Blake at age 25. Crayon drawing by Samuel Laurence (Lothian Health Services Collection, Edinburgh University Library).
(Photograph by courtesy of the National Museums of Scotland)

down the authorities to the extent that after a second application they allowed her, along with four equally determined companions, to matriculate in July 1869, and to start medical studies. The five women accepted the University's resolution that they should receive instruction in separate classes and only from such professors as were willing to teach them.⁷

The income of medical teachers was then largely dependent on the number of students in their classes and the women were charged considerably higher fees than their male counterparts. In the light of the virulent bitterness which later emerged against the admission of these women who were the first to gain entry to a British University, it seems surprising that permission was ever granted. The strong support of Sir James Young Simpson was probably a determining factor. His death at the age of 58 in May 1870 was followed by increasing University opposition.

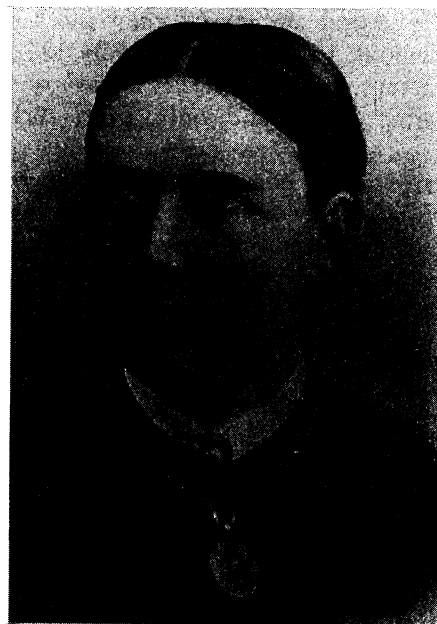
During this period the Royal Medical Society, which had been founded by Edinburgh medical students in 1737,⁸ held its meetings from October to March where a forum was provided for debate and discussion of dissertations. Towards the end of the 1868-9 session the Society took the unusual decision to continue meeting on a voluntary basis throughout the summer term.⁹ This enabled Mr Robert Wilson to organise a debate on 5th May, 1869 on the highly relevant topic 'Should women be admitted to the medical profession?'¹⁰ Unfortunately we only have the fact that such a debate took place and know nothing about what was said or decided. It indicated however that the students were well aware of the changes ahead. Wilson tried to institute another discussion on 21st May on the subject of 'Mixed education' but had to abandon it as only seven members turned up.¹¹ Robert Wilson had joined the Society in November 1867 and in October 1868 he was elected Junior President, but stood down in favour of his nearest rival Dr Cameron. He did, however, accept the Secretaryship for 1869-70. Although he shared the view of the Society's distinguished past President, Sir James Young Simpson, of a woman's right to a medical education, this was not accepted by the majority of his fellow students.

The recently admitted women students worked steadily and as unobtrusively as possible during the first winter of their medical studies and four out of the five passed with honours in the spring examinations. Edith Pechey (Fig 2a), who came first in chemistry, was eligible for the Hope Medal and Scholarship but was passed over by Professor Crum Brown (a Royal Medical Society member) with the support of the University Senate in favour of a male student.¹² The outcry against this injustice is exemplified in a contemporary poem published in a London review magazine:

Shame upon thee, great Edina! shame upon thee, thou hast done
Deed unjust, that makes our blushes flame as flames the setting sun.
You have wrong'd an earnest maiden, though you gave her
honours crown,
And eternal shame must linger round your name, Professor Brown.

And I blush to-day on hearing how they've treated you, Miss P.,
How that wretched old Senatus has back'd up Professor B.
Ah! the 'Modern Athens' surely must have grown a scurvy place,
And the 'Varsity degraded to incur such dire disgrace.¹³

Professor Sir Robert Christison¹⁴ (Fig 2b), past president and honorary member of the Royal Medical Society, was a much respected man and a member



(a)



(b)



(c)



(d)

FIGURE 2

(a) Edith Pechey at age 38. (Photograph by courtesy of Edinburgh University Library) (b) Sir Robert Christison. Lithograph by F. Schenck after a drawing by W. Stewart. (Photograph by courtesy of the Scottish National Portrait Gallery) (c) Patrick (later Sir Patrick) Heron Watson, surgical pioneer and a staunch supporter of medical education for women. (Photograph by courtesy of the Royal College of Surgeons of Edinburgh) (d) Edward Fowler Scougal. (Photograph by courtesy of the Royal Medical Society)

of every body which had power over the women's future in medicine—the Medical Faculty, Senate, Court and General Council of the University, the Infirmary Board of Managers and the General Medical Council. Unfortunately for the female students, he was strongly opposed to women becoming doctors. At a meeting of the University's General Council in October 1870 Christison stated that, as the Queen's Physician in Scotland, Her Majesty had informed him of her disapproval of women doctors.¹⁵

In spite of such discouragement the second winter session started hopefully with two past presidents of the Royal Medical Society, Dr P. D. Handyside in anatomy and Mr Heron Watson (Fig 2c) in surgery, allowing the ladies to attend their extra mural classes along with the male students. But on 18th November, 1870, as the women proceeded to an anatomy class examination in Surgeons' Hall, a large crowd of students and onlookers surrounded them, shouting obscenities and throwing rubbish and barring the gates to the Hall.¹⁶ One student, Tom Sanderson, seeing their predicament, rushed out and managed to get the gates open and escorted them inside, where they sat the exam in spite of the continuing noise outside and the forcible intrusion of a poor bewildered sheep, which was pushed in by the rioters. When the exam was over Dr Handyside wished to let them out by a back door, but Jex-Blake called upon any gentleman present to see them to safety and Mr Sanderson, Mr Macleod and Dr Handyside's demonstrator Mr Hoggan, with several others, escorted them home through the still howling crowd without harm except for the mud on their clothes. Jex-Blake reported some of the kinder comments of the onlookers—'You know they'd never do it if they could get married.'¹⁷ The chivalrous men named by Jex-Blake were all members of the Royal Medical Society.

Mr Hoggan in particular was a determined man who persisted in what he believed to be right in the face of considerable discouragement from fellow members of the Society. After he qualified he arranged to teach the women practical anatomy and this was gratefully accepted even though the University, by this time doing everything in its power to discourage female aspirations, poured scorn on his qualifications and refused the recognition necessary for his instruction to count towards a degree.¹⁸ Later he carried his zeal for the cause even further by marrying a lady doctor, Frances Elizabeth Morgan,¹⁹ who worked with Elizabeth Garrett Anderson at her dispensary looking after poor women and children in London.

The infamous attempt to intimidate the women by direct physical attack became known as the Surgeons' Hall Riot. At a regular weekly meeting of the Royal Medical Society held a few hours after the incident, James Muir Howie supported by Robert Wilson presented a motion during private business 'That the Royal Medical Society of Edinburgh desires to express its entire want of sympathy with the personal demonstration against the female students of medicine on the afternoon of 18 November last'. The motion was lost by a one vote majority.²⁰

The following Sunday Robert Wilson wrote to Miss Pechey:

I wish to warn you ... that you are to be mobbed again on Monday. A regular conspiracy has been, I fear, set on foot for that purpose ... I have made what I hope to be efficient arrangements for your protection. ... I had a meeting with ... Micky O'Halloran who is leader of a formidable band, known in College as 'The Irish Brigade' and he has consented to tell off a detachment of his set for duty on Monday. Micky was the formidable hero

with the big red moustache who stood by us on Friday and whose presence with us rather disappointed the rioters who, I think, calculated on the aid both of himself and his set. ... May I venture to hint my belief that the real cause of the riots is the way some of the professors run you down in their lectures. They never lose a chance of stirring up hatred against you. ... However ... you and your friends need not fear, as far as Monday is concerned. You will be taken good care of.²¹

The Irish Brigade did indeed rally to the cause and regularly escorted the women until this particular trouble died down.

Wilson's suspected origin of the riot is supported by another contemporary account of events in *The Scotsman* newspaper:

... the rioters were called together by a missive circulated by the students of the *Chemistry Class of the University* on Friday morning ... called upon petitioners to assemble at the College of Surgeons before 4 o'clock ... their respected Professor meanly takes advantage of his position as their teacher to elicit their mirth and applause, to arouse their jealousy and opposition by directing unmanly innuendoes at the lady students ... whose students crowd the academic precincts to hustle, hoot at, cover with mud, and even to strike at the ladies who have always shown themselves to be gentle and noble women.²²

In January 1871 William Law, the Lord Provost of Edinburgh, called a meeting and set up a Committee for Securing a Complete Medical Education to Women in Edinburgh.²³ This body instantly attracted wide interest and continued to grow, with subscriptions coming from liberally minded people all over the country including Charles Darwin who had been a member and Sir Henry Holland who had been a Senior President of the Royal Medical Society. Two months later public feeling was again roused in favour of the women when it was reported in *The Scotsman* that the Presidents of the Royal Colleges of Physicians and Surgeons would not preside at the public prize-giving ceremony of the extra mural schools 'if lady members were to be present to receive their prizes on the occasion'.^{24,25}

Though nothing about women's education is mentioned in the minutes of the Royal Medical Society for some time, much was happening outside. Jex-Blake had stated in public that she believed Professor Christison's class assistant, Edward C. Craig, had been the ring-leader in the Surgeons' Hall riot and was, in consequence sued by him. The jury found her guilty, but believing that she would not be charged costs awarded her adversary the derisory sum of one farthing. The judge however declared costs against her to the tune of £900, a sum which was quickly raised by a public appeal.²⁶

Shortly after Jex-Blake's trial Miss Pechey wrote bitterly to *The Scotsman*. ... The medical students of Edinburgh have received a hint by which some of them seem well inclined to profit. They have been told pretty plainly that it is possible that there should be a riot got up for the express purpose of insulting women, for one of the very women insulted to be accused of libel when she complains of such conduct, and then for the insulters to escape scot-free, and the complainer to be mulcted in expenses. In fact, the moral seems to be that, unless a woman is willing to be saddled with costs to the amount of several hundred pounds, she had better resolve to submit to every kind of insult, without allowing herself to mention the fact.²⁷

In January 1872 the Royal Medical Society considered the following clumsily worded motion which was introduced by Lewis Shapter, one of its Presidents:

That a committee of twelve members be appointed to consider whether, and how far, it would be advisable for the Society to take the initiative in stating publicly the reason why the so-called 'Medical education of women' as it is at present attempted to be carried out is objected to. And that the same committee be empowered on coming to an affirmative decision on the above, to draw up those resolutions embodying such reasons and to

instruct the Society as to the best mode in which effect might be given to such resolutions.²⁸

After much discussion the Society backed (by a one vote majority) the counter motion of Mr D. MacDonald:

That seeing the question of Medical Education of women in no way affects the Society as a Society no action be taken on the subject.

Foiled this time, Mr Shapter vented his spleen in a speech which he gave at the President's Annual Dinner in February 1872, before he proposed the toast of the University of Edinburgh:

... we may well ask, is all this [the academic reputation and well-being of the University], to be, perhaps, shaken to the very foundation on account of some miserable bubble of reform, which, however dazzling may be its first effects, is, after all, only made to burst and vanish into that air which brought it forth?²⁹

At the same function, in replying to the toast of Sister Universities, Professor Joseph Lister said

... I confess that I regret it as a matter of extremely serious character for our University ... with practical facilities for our enormous classes ... far too scanty as they are ... to be invaded by the ladies—which is much to be lamented.³⁰

It is not surprising that the women found increasing difficulties in pursuing their education when opinions of this nature were so openly expressed by the elite of the medical profession in Edinburgh. Attempts were made by the University to prevent the women sitting their professional examinations at the end of the first two years of medical studies but recourse to law allowed them to proceed and they all passed.³¹ Professor Christison, however, refused to teach them himself or to allow anyone else to do so on his behalf. Since they had completed all the classes available to them in the University and those which they were allowed to take extra-murally, their next need was for clinical instruction in the Infirmary. An initial attempt by the women to gain admission to the hospital was defeated after 500 students signed a petition opposing their entry.³² Popular reaction to this event is portrayed in the following verses from a contemporary ballad, 'The Charge of the Five Hundred: a Lay of Modern Athens':³³

What mean the rushing footsteps fleet?
What mean the squadrons in the street?
'Five hundred specials' now appearing—
Five hundred voices hoarsely cheering.
Wild and disorderly!
Strange oaths pollute the evening air,
Foul jests the banners proudly bear;
What mean these bands in fierce array?
Champions of 'delicacy' they,
And manly modesty.

Then marked the bard who stood afar
The gallant leaders of the war—
The plumèd crest of Andrew Wood,
Who for his sons in battle stood,
A Christison hard by!
A Turner, Laycock, Lister too,
All met for deeds of derring-do;
Gillespie, Douglas (O, that shame
Should fall on that time-honoured name!),
Dunedin's chivalry.

To arms! to arms! the foe is nigh,
 'Five hundred specials' do or die!
 Admiring Europe's eyes are cast
 On Scotia's greatest fight, and last,
 O'er her Infirmary!
 Press on! Press on! Immortal gods!
 What matter if o'erwhelming odds
 Makes others blush—they know no shame,
 'Brave boys!' led on by chiefs of name
 To glorious victory!

The foe at last! With modest mien
 And gentle glance, at length are seen
 The seven women, whom to crush
 The noble hundreds onward rush,
 Undaunted to the fray!
 What if in idle tales of yore
 The man to guard the woman swore!
 Such trash is bygone! *now* men stand
 To guard their *craft* from female hand,
 In nineteenth century!

Further efforts by the women's friends and supporters to elect a new Board of Management of the Infirmary, favourable to their cause, eventually succeeded. Despite the countless delaying tactics employed by the opposition, the first women students entered the hospital in January 1873, after it had been agreed that they would receive tuition in separate classes from the male students. Dr George W. Balfour provided instruction for them in his medical wards and the surgeon Mr Heron Watson gave up his only free time on Sunday mornings to teach them without fee and had as a result to endure taunts from his colleagues about Sabbath-breaking.³⁴

In 1871 and early 1872 the women made a number of unsuccessful attempts to obtain an assurance from the University that it would enable them to complete their studies and proceed to a medical degree.³⁵ Failure to gain such an assurance led Jex-Blake and her small band to raise a legal action (of Declarator) against the Chancellor and Senate of the University. Jubilation followed the decision which was given in their favour by Lord Gifford but this was short lived because in July 1873 the University won its appeal in the Court of Session against the Lord Ordinary's judgment by a seven to five majority decision.³⁶ This was based mainly on the opinion that the University had no power to admit women and that it had acted illegally in doing so in 1869. On this ground the University was held excused from all responsibility towards the women themselves. In view of the narrowness of the majority decision an Appeal to the House of Lords was considered but the Committee for Securing a Complete Medical Education to Women in Edinburgh, who had again met the legal costs from public donations, decided not to proceed. There was now increasing agreement among the women and their supporters that there was need to widen their appeal, to base it on the ground of right, and to address it to Parliament and to public opinion.³⁷

Although the final law court defeat was a serious set-back, the Edinburgh campaign had clearly demonstrated the ability of women to meet the demands of medical training even under the most adverse conditions. It had also created much public interest in the issues involved which led to the recruitment of many influential supporters. The time had now come for political action in London.

The first attempt by Jex-Blake's supporters to promote an appropriate Bill failed because the fall of the Liberal Government ousted the issue from Parliamentary consideration. The second attempt, in 1874, got as far as a second reading before foundering.³⁸ In the meantime the ever indefatigable Jex-Blake and her colleagues opened the London School of Medicine for Women³⁹ on the sunny side of Henrietta Street, in Bloomsbury, with a staff of well qualified lecturers. Three years later she secured the cooperation of the Royal Free Hospital for clinical training.⁴⁰

In 1875 the Government approached the General Medical Council for its opinion on the whole question of admitting women to the profession. After three days of exhaustive debate the Council reported that they 'are of the opinion that the study and practice of medicine and surgery, instead of affording a field of exertion well fitted for women, do, on the contrary, present special difficulties which cannot be safely disregarded; but the Council are not prepared to say that women ought to be excluded from the profession'.⁴¹ Following this decision Mr Russell Gurney submitted to Parliament his private member's Enabling Bill which would give medical examining bodies the power to admit women as candidates, subject to the same conditions and requirements as those already imposed on men. It was made clear that the purpose of the proposed legislation was to enable and not to compel examining bodies to admit women; but it had a very wide scope operating permissively upon every one of the nineteen examining bodies in the United Kingdom. After passing its various stages without serious opposition this historic Bill⁴² was given Royal Assent on August 11, 1876.

The pioneering group of women from Edinburgh managed to complete their education in Switzerland where they obtained their MD degrees. In 1877, they passed the examinations for the Licentiate of King's and Queen's College of Physicians in Ireland, the first institution to act on the powers granted in the Enabling Bill; they were thus able to enter medical practice having obtained a qualification recognised for entry to the British Medical Register. It is probable that these events did not pass unnoticed in the Royal Medical Society but there is no mention of any reaction until November 1878, when one of the joint secretaries Edward Scougal, subsequently President and Life Member, (Fig 2d) gave a dissertation 'On the admission of women to the medical profession' (Fig 3). He looked at the subject from a variety of aspects—legal, physical, mental, moral, social etc, and in each category cleverly demolished the case against admitting women which male doctors had been making and continued to make for some time after. He had no hesitation in admitting that he was aware that the majority of his audience didn't agree with him, and that he too had been unconvinced, until he had thoroughly examined the relevant arguments.⁴³ In the discussion which followed there were twelve participants.⁴⁴

In 1878 Dr Jex-Blake returned to Edinburgh to further the good work in that still unregenerate city. She set up a successful medical practice, and also established the Edinburgh Hospital and Dispensary for Women and Children⁴⁵ which later became Bruntsfield Hospital.⁴⁶ The opening of the Scottish Royal Colleges' licentiate examination ('Triple Qualification') to women in 1886⁴⁷ encouraged Scots women to study medicine in their own country. When it emerged that the majority of extra mural teachers were unwilling to admit women to their ordinary classes Jex-Blake founded the Edinburgh School of

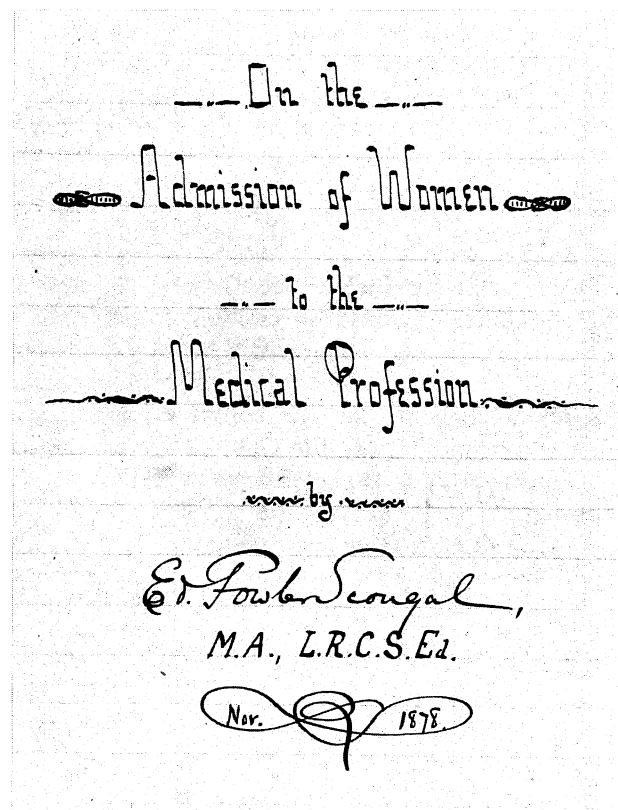


FIGURE 3

Inscription on title-page of Royal Medical Society Dissertation, given in 1878, on the case in support and against women becoming doctors.
(Photograph by courtesy of the Royal Medical Society)

Medicine for Women⁴⁸ which was granted clinical teaching facilities in Leith Hospital.⁴⁹

A detailed review of the movement in favour of the medical education of women was published in 1886 under the title of *Aesculapia Victrix* by the *Fornightly Review* in London. The author was the former Royal Medical Society Secretary, Robert Wilson, who had actively supported the cause of the pioneer students in Edinburgh. After he qualified in medicine, practice in London enabled him to make close observations on subsequent progress in the metropolis. The review, later circulated as a pamphlet, attracted wide attention and was of particular interest to prospective applicants for entry to the new medical schools for women because it included an account of the London School and an assessment of the doctors who had received their training in this institution. In summing up Wilson wrote:

For eleven years ladies have been studying and practising medicine in England encouraged by a great deal of popular patronage, but without in any degree forfeiting respect in society as daughters, wives and mothers, or displaying the least trace of deterioration in the finer qualities of mind and heart. ... Whenever a woman has a real love of learning ... and a genuine aspiration after an independent and self-maintaining position, she should have at least as fair a chance as a man of using her talents to the utmost.⁵⁰

Within three years of the foundation of Jex-Blake's Edinburgh School of Medicine for Women, in 1887, two other schools were opened in Scotland—The Medical College for Women,⁵¹ also in Edinburgh and St Margaret's Medical School for Women in Glasgow.⁵² On the completion of their studies most of their students sat the Triple Qualification examination of the Scottish Royal Colleges until the Universities (Scotland) Act of 1889 and the approval of the Scottish University Commissioners' Ordinance No. 18, three years later, enabled each University 'to admit women to graduation in one or more Faculties, and provide for their instruction'.⁵³ In medicine the first women graduated at Glasgow University in 1892 and at Edinburgh University 1896 whereas in England the medical graduation of women had begun much earlier at London University in 1882. Jex-Blake decided to close her Edinburgh school in 1898, mainly on account of increasing competition from the two newer Scottish schools for women which had acquired a distinct advantage after concluding agreements for clinical training in the Royal Infirmarys of Edinburgh and Glasgow. For many years medical women in Edinburgh continued to obtain most of their education in extra-mural classes, though they graduated from the University. It was not until 1916 that the exigencies of World War I compelled the University to effect as large a reduction as possible in the provision of separate classes for women and to teach them on the same footing as men.⁵⁴

Though Edinburgh University started to succumb to popular pressure by opening its doors to women towards the end of the nineteenth century, there is scant evidence of similar progress having occurred in the Royal Medical Society. In 1896 we find the members debating: 'That it is inadvisable for women to enter the Medical Profession except for the purpose of becoming Medical Missionaries'. The motion was moved by Mr W. T. Ritchie and despite able opposition by Mr A. H. Watt and Mr Edwin Bramwell it was carried by 16 votes to 13.⁵⁵ During the last quarter of the nineteenth century there was a vigorous movement, supported by Queen Victoria, to provide women doctors for Moslem and Hindu women whose religion and customs did not permit them to be examined by men,⁵⁶ and Dr Edith Pechey, later Mrs Pechey Phipson, spent most of her professional life in India to this end. Obviously the Royal Medical Society had still a considerable way to go. More than sixty years later an explanation for remaining an all male Society was given by one of the senior secretaries:

With its own premises and the spirit which they preserve, the Royal Medical has the atmosphere of a club (Fig 4). Fear of the destruction of this atmosphere is the basic reason for our attitude ... we are aware of ... the ethical rights of all to a full share in the benefits of education, and the increasing tendency of women towards social and professional equality with men are certainly worth attention and cause us much heart searching.⁵⁷

This was not another false dawn—the Royal Medical Society opened its doors to women in 1964!⁵⁸

It is not difficult to understand why Victorian medical men had doubts about welcoming ladies into the profession when their views on women are considered in relation to the historical events which have been narrated. Middle class women were expected by men and society to confine their attentions to the home in the idealised roles of wife, mother and daughter. This view was reinforced by the majority of doctors who claimed that those women who ventured beyond their domestic sphere risked serious damage to their health, though such concerns were

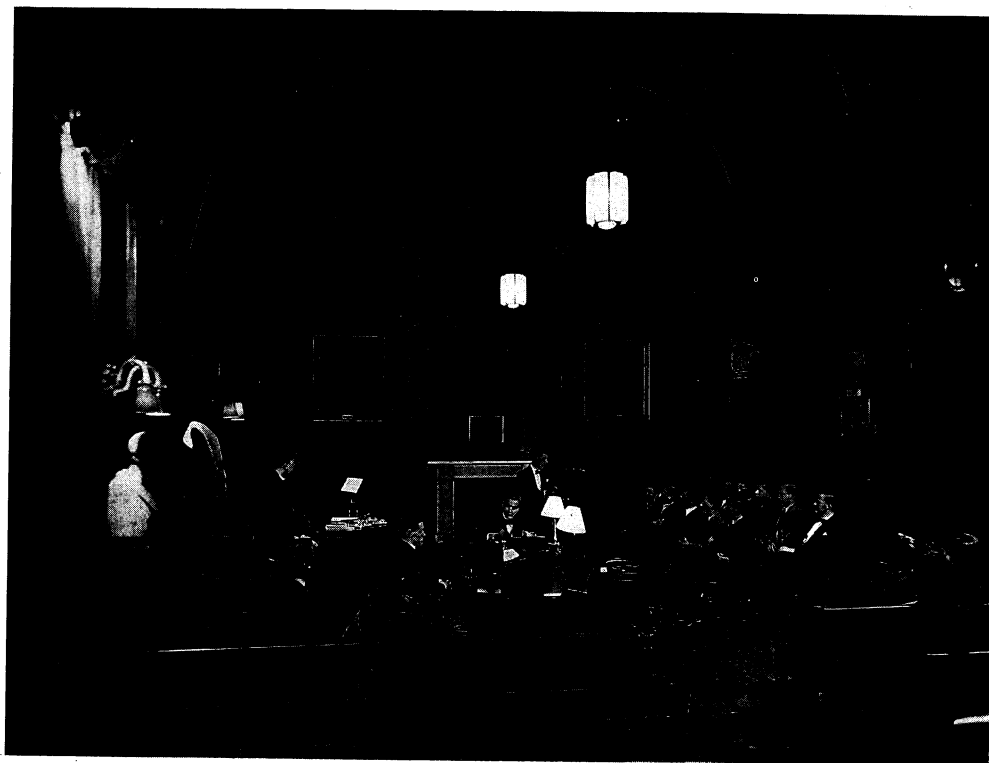


FIGURE 4

Meeting of the Royal Medical Society during the 1953-54 session in its Hall at Melbourne Place.
(Photograph by courtesy of the Royal Medical Society)

seldom expressed about working class women who were drawn into the industrial economy. The view was generally held that women were intellectually inferior to men and could not think logically. Few related this to the inferior education usually doled out to girls. William Turner, the Edinburgh professor of anatomy, stated that women had smaller brains than those of men⁵⁹ so they were incapable of sustained intellectual effort! After it had been pointed out to the professor that the ratio of brain size to body size was the same in women as it is in men a wit observed that according to Turner's reasoning the best students of medicine would be elephants and whales. Doctors also argued that the problems experienced by normal women during the menstrual cycle would make it difficult for them to meet the demands of prolonged study and medical practice.⁶⁰

In addition to those who were of the view that women did not possess the stamina and intellectual capability to pursue medical studies, there were others who felt that middle class ladies were too refined to become doctors because their female innocence, then believed to be the source of woman's moral superiority, would be fatally damaged by studying subjects such as anatomy and witnessing the horror and distress often associated with injury and disease. Hospitals at this time were frequently fearful places. Though anaesthetics were now generally employed effective methods of treating wound infections still lay in the future.

Dreadful smells of suppurating and putrefying flesh haunted all hospitals and death after operation was still distressingly common. Robert Adam from Canada, who joined the Royal Medical Society in 1868, could write in his diary that when he was acting as a dresser in the Royal Infirmary the removal of bandages released such a stench as to make him almost vomit. When assisting at operations, dressed of course in his ordinary clothes, he would be covered with blood up to his elbows.⁶¹ Presumably it was with some such picture in mind that Sir William Jenner, Physician in Ordinary to H.M. Queen Victoria, could raise his hand to heaven and testify that he had but one dear daughter and that he would rather follow her bier to the grave than allow her to go through such a course of study. (Jenner's dear daughter, denied medical training, became a forceful and resolute suffragette).⁶²

Perhaps these matters weighed with Lister also for his implacable opposition to women becoming doctors seems somehow alien to the rest of his personality. He accepted the Victorian image of 'a lady' and the need to protect her innocence and modesty but he did not have the charity of Dr Norman Kerr who made himself unpopular by insisting 'how could that be immodest in a female physician which was modest in a female nurse?'⁶³ and he never seems to have considered that a similar indelicacy might result from young men studying in female wards.

All but three of the nineteen physicians and surgeons in the Royal Infirmary of Edinburgh when asked in 1872 whether they would admit female students to their wards along with the men found sex the limiting factor.⁶⁴ 'The thorough examination of a large proportion of cases could not be effected in the presence of male and female students'. '... the question of venereal disease as a cause or complication of medical disease of the lungs, liver, brain etc. is constantly arising, and often in a most unexpected way ... it is plain that they could not be entered into before a company of young ladies and gentlemen without such violation of propriety as would not be tolerated.' And there was a further fearful possibility '... if the hospital were to be freely opened to female students ... what security [do] we have against the possibility of some female, whose moral sense has been blunted ... presenting herself as a student ... and becoming a very dangerous neighbour to the young men with whom she would then be brought into contact'. And if they were actually to qualify as doctors 'the fact that these young people [House Surgeons and House Physicians] residing under the same roof with the corresponding officers of the other sex, and being thrown into intimate association with them for consultation and aid in professional emergencies would ... lead in the long run to great inconvenience and scandal'. The clinical staff's second main objection to women joining the men for instruction was based on the hospital's already overcrowded classes and it becomes more understandable when the alternative of segregated teaching is considered. The staff pointed out that the problem would not be solved by providing separate instruction for the women because 80 beds would require to be set aside for the purpose which, in turn, would aggravate the overcrowding in the men's classes and place unacceptable teaching demands on the clinicians and their patients.

Finally and perhaps most tellingly, the danger to jobs and financial prospects, were women successful, does emerge as an excellent reason for keeping them out, though often wrapped up in higher-sounding motives. In the 1870s there was probably an excess of doctors in Britain⁶⁵ but few were as forthright as Dr

Andrew Wood who protested that he had too many sons to acquiesce in the education of women for the medical profession.⁶⁶ Obstetricians and gynaecologists were, in general, the most vociferous opponents of the women's cause because it was assumed that female doctors would treat mostly women. In a letter to the *Lancet* the writer commented that 'It will be a most serious evil, if, when a young lady is asked ... to consult some eminent physician, she takes it into her head that some lady doctor will do equally well.'⁶⁷

Much of Sir Robert Christison's declared opposition was founded on financial considerations of a different sort. He stated that 'there is no evidence of any adequate demand among females to be educated in medicine' or any similar demand 'for lady-doctors when they are made' and he pointed out the high extra costs of providing separate instruction for women.⁶⁸ Most medical men did not accept Christison's assumption that the number of women seeking admission to the profession would remain small.

The pioneer group of female, Edinburgh students frequently ignored the excuses used to justify their exclusion from the medical tuition and examinations accorded to their male counterparts. Their leader, Sophia Jex-Blake, refused to be drawn into arguments about women's intellectual ability and requested instead that women be examined and tested according to the same standards as men and that they be either accepted or rejected on the basis of the results. If the standard attained equalled that of the men the question of mental equality would be settled practically, leaving the question of the women's ultimate success or failure in practice to be decided by themselves and the public.⁶⁹ Although the female students were obliged to accept segregated teaching they believed that this was unnecessary. Their contemporaries in Zurich and Paris had survived the experience of co-education in medicine!^{70,71} The women's case for admission to the medical profession was principally based on the growing demand by the public for female doctors and their desire to serve the community in this capacity.

It is ironic that the 'defeat' of Jex-Blake's campaign in Edinburgh led to a more important outcome than she had hoped to achieve. The need to pursue her campaign in London, brought about the changes in legislation which later enabled the various faculties of British Universities to admit women to their degree courses and examinations. It is difficult to realise that the legislation which secured the entry of women to the British medical profession was passed 42 years before women obtained the right to vote in Parliamentary elections.

ACKNOWLEDGEMENT

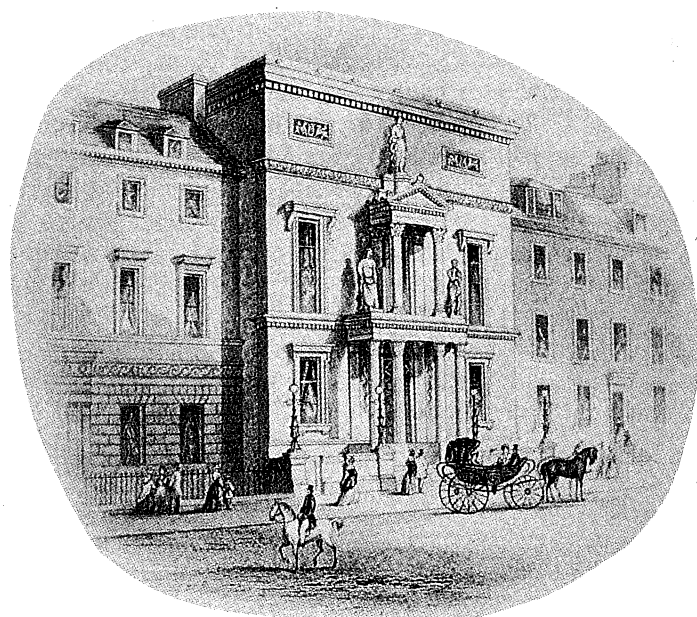
I wish to thank Drs Jack Cormack and Andrew Doig for their help and advice in the preparation of this paper.

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One hundred and fifty years ago: The Physician's Hall in Queen Street shortly after its opening on November 27, 1846.
Engraving by W. H. Lizars

Book of the Quarter

THE COMING PLAGUE: NEWLY EMERGING DISEASES IN A WORLD OUT OF BALANCE

L. Garrett, Virago Press, 1995 pp 750 £20.00

D. M. WEIR, DEPARTMENT OF MEDICAL MICROBIOLOGY, UNIVERSITY OF EDINBURGH MEDICAL SCHOOL

This book by a former fellow of the Harvard School of Public Health challenges the complacency of every politician and health professional. It is accepted that scientific progress over the last century has brought standards of material well-being unimagined in earlier times. Every dimension of life—health, physical security, economic and educational opportunity appears to have been transformed for the better, at least in Western societies. But things are not quite as we would like to believe. *The Coming Plague* in 622 pages of text and over 100 pages of detailed notes and references, is an attempt to identify emerging diseases in a world out of balance as a result of less successful aspects of our rapidly developing societies. It is both fascinating and terrifying. The thesis is that the world has become vulnerable to outbreaks and spread of both old and new infectious diseases and the author assesses the major factors that have contributed to this state.

Population movement

A major cause of the imbalance referred to in the title is the dramatic increase in worldwide movement of people, both refugees and tourists. Between 1980 and 1989 'the number of refugees fleeing from natural disasters, wars, famine, or oppression increased by 75 per cent every year'. According to the United Nations there were 17.5 million refugees by 1992, most of them living in squalor in the world's poorest countries. The author notes that 'millions of abandoned children roam the streets of the world's largest cities, injecting drugs, practising prostitution, and living on the most dangerous margins of society... Studies demonstrate the rapid spread of disease among refugees and the emergence of antibiotic-resistant bacteria and drug-resistant parasites in such clusters of humanity'. Another indicator of population movement that can lead to the spread of infectious agents is illustrated by the dramatic increase in commercial air travel. Few areas of the globe remain isolated, and insects and infectious agents can be carried into previously unaffected environments. Between 1950 and 1990 the number of passengers aboard international commercial air flights has soared from 2 million to 280 million and the numbers are estimated to increase to around 600 million by the year 2000.

Urbanisation

Urbanisation has provided a setting, particularly in the poorer countries, in which poor hygiene and overcrowding give easy opportunities for infectious agents to spread from person to person. Once microbes reach new locales, increasing human population and urbanisation ensures that even relatively poorly transmiss-