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INFLUENCE OF THE SOCIETY OF APOTHECARIES UPON MEDICAL EDUCATION*

BY

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Gideon Delaune is justly honoured for the large part he played in establishing the independence of the Society of Apothecaries, and for the great benefactions which he made to the Society. His father, William Delaune, was a French Protestant divine who, after studying medicine at Paris and Montpellier, came to live in England to escape religious persecution. He practised in London as a licentiate of the Royal College of Physicians. His eldest son, Gideon, was born at Rheims in

Gideon Delaune, taken from the portrait at the Apothecaries Hall.

1565, was trained as an apothecary, and became attached to the court of James the First as apothecary to the Queen, Anne of Denmark. No doubt his influential position was of great assistance in the negotiations which led to the separation of the apothecaries from the Company of Grocers. Gideon Delaune was master of the

Company of Apothecaries in 1637. He was a prosperous practitioner and generous with his benefactions. It is fitting that he should be commemorated by the Society which he so greatly helped.

The subject of this lecture is one which seems to call for discussion. There are few of this generation who realize what an important part the Society of Apothecaries has taken in the development of medical education in this country, and in creating the type of practice which is a cause for legitimate pride. Many hours could be well spent in telling this fascinating story, but on this occasion we can but touch on the main events.

A Formative Influence

From the time of the obtaining of the charter in 1617, when King James thought it wise to "disunite, disjoin, separate and dissociate the apothecaries of our city of London from the Freemen of the Mystery of Grocers of the same city," until the year 1858, in which the

General Medical Council was established, the Apothecaries' Society had the chief formative influence on the medical profession in England and Wales. From the very beginning of its existence the Society brought something new into medical practice. It came into being at the very moment when science was about to begin its insistent impact upon medical education.

The dissolution of the monasteries had ended the age-long control of medicine by the clergy; the publication of elaborate herbals and of books on surgery in the English tongue had opened the therapeutic knowledge of that time to everyone, but particularly to the apothecaries, who not only compounded medicines for the physicians but incidentally learnt a great deal about the use of herbs and other drugs. The College of Physicians comprised a small band of men who had been trained in Galenic lore but received little bedside or clinical training. The barber-surgeons knew very little medicine. Was it any wonder that the majority of the people in sickness went to the apothecary for advice? In the original charter of the apothecaries there was nothing which forbade them to examine and treat a patient who was sick with an internal complaint. The physicians had tried hard to get such a forbidding clause put into the charter, but had failed. The fight between the two bodies continued for a century, but for the physicians it was a losing fight, for as the population increased the number of physicians did not increase in proportion, while the number of apothecaries rapidly grew.

One could not expect a body such as that of the apothecaries to be able to make any great educational advance while it was struggling for the right to treat patients. Yet it is interesting to note that from an early date efforts were made by the Society to maintain a good educational standard. We find, for example, that on August 22, 1622, "two boys brought to be bound apprentices were examined and were both found defective in learning; one was entirely dismissed, the other referred back to his studies for a month." From 1633 onwards the physicians were invited to be present at the examination of those made freemen. From the first the Society encouraged the study of botany and arranged excursions for gathering herbs. After 1633 fines were imposed on those members who failed to attend these excursions. Knowledge of Latin was insisted on, and in 1683 a note was made that a would-be apprentice was rejected on account of his ignorance of that language.

Apprenticeship System

The main educational advance in the seventeenth century, however, was the establishment of an efficient

*The Gideon Delaune Lecture delivered to the Society of Apothecaries on November 16, 1955.

system of apprenticeship. The apothecary-apprentice was bound for seven years, and, unlike his surgical counterpart, was well trained in the pharmacy of that time. He prepared and sold medicines in the shop, and sometimes accompanied his master to see patients. By making up prescriptions for the physicians he soon learnt the current remedies. The practical nature of this training can be best appreciated by noting that academically qualified physicians actually went to the apothecaries to learn something about medicines and their uses. Robert (afterwards Sir Robert) Sibbald studied at Leyden, Angers, and Paris, and obtained his doctorate of medicine; after his return home to Edinburgh he made it his business to visit some of the local apothecaries and surgeons "to inform myself of the method of practice in use among the physicians." We fully agree with Cameron's judgment of the educational value of the apprenticeship at this time: "Their care in this respect constituted the most notable attempt in England to supply a comprehensive vocational training." The apprenticeship system lasted 200 years and left an indelible and beneficent impress on English medical education. We have the testimony of the well-known surgeon Guthrie that the apprenticeship of the apothecaries was more strictly insisted on than that of the Company (and later College) of Surgeons.

Steps Forward

An important step forward was taken in 1704, when the House of Lords decided in favour of the Society and against the Royal College of Physicians to the effect that an apothecary could, without the advice of a physician, prescribe for a sick patient who sought his advice. From that time apothecaries could legally treat patients in addition to making up and selling drugs. Strangely enough, they were not allowed to charge for the advice they gave, but only for the medicines they made up for the patient. This limitation, which lasted for many years, was probably the cause of that habitual expectation of medicine which has been ingrained in the English people.

From the time when the apothecary was thus permitted to give advice and medicine to patients, the general practitioner or family doctor may be said to have come into being, though he was not called by that name for many years to come. After the separation of the barbers from the surgeons in 1745, many of the latter also did medical work, but their training did not make them experts in pharmacy. The number of physicians licensed by the College of Physicians still remained very small, but more apothecaries practised medicine and fewer apothecaries kept shops, for they found they had enough medical work to occupy their time. In 1774 the final step was taken, for in that year the Society passed a resolution limiting the livery to those who were practising apothecaries—that is, medical practitioners.

It was in the second half of the eighteenth century that scientific knowledge increased to such an extent that it pressed urgently for inclusion in medical training. Save for the few anatomical demonstrations at the Colleges there was no regular teaching given either by the College of Physicians or the College of Surgeons. The need for knowledge caused private schools to arise. The most famous of these—the Great Windmill Street School of William Hunter—began about 1746, and in the course of seventy years trained several thousand students. Yet there was still no standard of medical training formulated, no curriculum laid down, no test of efficiency established. Though there were individual physicians—like Thomas Young—who were brilliant scientists, yet as a body the Royal College of Physicians was conservative and unenterprising, and appeared indifferent to that numerous body of men who were at that time

looking after the majority of sick people in this country. It must be confessed, indeed, that neither the College of Surgeons nor the Society of Apothecaries at that time showed much educational enterprise. The stimulus that was destined to move them came from the rank and file of the profession.

Edward Harrison's Scheme

We see, therefore, that towards the end of the eighteenth century medical work was chiefly done by apothecaries, or by men possessing the membership of the College of Surgeons who also practised medicine, and often also took the apothecaries' licence. These men began to form medical societies. When the Medical Society of London was founded in 1773 the original membership consisted of 30 physicians, 30 surgeons, and 30 apothecaries. Medical journals were started and formed another medium of communication amongst those who practised medicine. There was a growing feeling that there should be a more regular education of those who were to practise medicine. The first overt act towards an improvement in medical education and professional organization was taken by Edward Harrison, an Edinburgh graduate who was in practice in a small village in Lincolnshire. At a meeting of the Lincolnshire Medical Benevolent Society in 1804 he raised the question of medical reform, and, encouraged by the reception his proposals met with, he went to London, gained the support of the President of the Royal Society, and sent his proposals to the Royal College of Physicians, the College of Surgeons, and the Society of Apothecaries with a view to obtaining their support. He also approached the corporate medical bodies in Edinburgh, Glasgow, and Dublin, and circularized the medical practitioners throughout the country. He gained great support from practitioners but merely formal and non-committal replies from most of the corporate bodies. On March 6, 1806, the following letter was sent to Harrison from the Society of Apothecaries:

Sir,

I am this morning favoured with your letter which I shall take an early opportunity of submitting to the Wardens and Court of Assistants of the Society of Apothecaries. (Signed, A. Moore.)

The Society, however, took no further action at this date. When, however, in 1810, a request came from the Treasury asking their views on medical reform in general and Dr. Harrison's Bill in particular, a committee was deputed to consider the matter. The committee reported that there was indeed need for reform, that the proposed Bill would be of benefit, but that the Society was able to control the abuses in its own branch but did not presume to give an opinion "what reform may be necessary in the other parts of the science." Very non-committal.

The Royal College of Physicians gave a colourless reply to Dr. Harrison as follows: "The President and Fellows of the Royal College of Physicians have directed me to acquaint you that they have been occupied for some time past in the consideration of the subject of your letter, and that they will at all times be ready to give attention due to any information that may be submitted to their consideration." In spite of this the College of Physicians entirely ignored the proposals of Harrison, but put forward a grandiose scheme of their own which deserves to be mentioned. The College proposed to divide England into sixteen districts, in each of which there should be a resident physician, taken from the Roll of Fellows in order of seniority (with the exception of the President). Each resident physician was to be paid £500 per annum and to reside for at least eight months of the year in his allotted district. His duties were to examine (with the aid of suitable assessors) each practitioner in his district who had no recognized qualification, and, if approved, to grant him permission to practise. There was no mention of any curriculum or of any alteration in the system or lack of system of education. Since there were at this time only about 50 Fellows of the College, it was provided that, if there were not enough Fellows to fill the

posts, then licentiates of the College, and they were few in number, might be called upon. This ambitious scheme came to nothing.

The scheme put forward by Harrison and embodied in a Bill was very comprehensive and attempted too much. It provided for the establishment of a medical register on which should be the names of all those qualified as physicians, surgeons, midwives, apothecaries, and veterinary practitioners; each one on the register was to pay an annual fee, and only those on the register were to be allowed to practise. Special commissioners were to be appointed to carry out the provisions of the Act, and would be entitled, if they wished, to set up hospitals, medical schools, etc. Though Harrison had the support of William Pitt, and later of Spencer Perceval, he did not get support from the corporate bodies, and, after struggling hard for six years, he gave up his brave attempt to reform the profession. A Scottish physician whom he consulted told him that "before your proposed reform can be accomplished physic must be made more perfect, physicians more honest, statesmen more enlightened, and the bulk of mankind much wiser and better than they are at present, or have ever been, or are likely to become in our time." Perhaps in the end Harrison adopted this view.

George Man Burrows

Harrison laboured under the handicap that he had no English qualification, and therefore could not approach any of the English corporate medical bodies as one of their alumni. The movement he had started did not cease, but was taken up by a remarkable man—George Man Burrows—who was a qualified apothecary. He saw the need for reform, but had not entirely approved of the proposed scheme of Harrison. He waited his opportunity. This came when, in 1812, the Government put a heavy tax on glass, which hit the apothecaries hard, since they used many medicine bottles. A protest meeting against the tax was arranged for July 3, 1812, and the opportunity was purposely taken to bring up once more the project of medical reform. An Association of Surgeons and Surgeon-Apothecaries was formed, a committee of 20 members was appointed, and they presented their report on November 6, 1812. This report detailed the grievances of the apothecaries and insisted on the necessity of placing the apothecary, the surgeon-apothecary, and the practitioner in midwifery under the direction of a suitable controlling body. Burrows was the chairman of the committee. He was a man of immense energy, clear common sense, strong determination, and great ability in negotiation. He tried to obtain the support of the Royal Colleges and of the Society of Apothecaries, but they would not join in the campaign. In spite of this the committee sent a petition to Parliament for leave to bring in a Bill. This was granted.

The Bill, which dealt only with England and Wales, was introduced on March 8, 1813. It provided for the setting up of a central body with representatives from the Royal College of Physicians, the Royal College of Surgeons, and

the Society of Apothecaries to carry out the provisions of the Act; there was to be a register of practitioners; every would-be practitioner in future was to serve an apprenticeship and to pass an examination; apothecaries and surgeon-apothecaries were to be permitted to charge a fee for their (medical) services. This Bill unfortunately got no support from the corporate bodies. It was watered down by withdrawing the proposal for a central controlling council and was withdrawn on March 26, 1813.

Burrows and his committee reconsidered their position. Since no support was forthcoming from the Royal Colleges and the Society of Apothecaries, there was a short-lived suggestion that an independent fourth body, a sort of college of general practitioners, should be set up to regulate medical

education and practice, but this proposal was soon dropped. Undeterred by failure, the London Committee of the Associated Apothecaries modified their proposals and on September 4, 1813, issued another report, which, as in the case of the former report, was sent to the Royal Colleges and the Society of Apothecaries. For a time none of them gave any support. For once the Apothecaries' Society seemed subdued, for they replied on October 29 to the effect that they could not enter into measures for any improvement in pharmacy save in conjunction with the Royal College of Physicians. The College delayed its reply. At that time Dr. Latham was President of the College. Burrows had diplomatically approached the Hon. George Rose, a prominent Member of Parliament who had interested himself in the subject of medical qualification, and persuaded him to write to Dr. Latham on the subject. A committee of the College met to consider the question, and on January 24, 1814, the Hon. George Rose received the following letter from Dr. Latham.

Sir,

I have the honour of transmitting to you the report of the Royal College of Physicians as laid before the College at the last Comitæ, and am sincerely happy in the prospect afforded of matters being at last satisfactorily adjusted. For, although the College did not agree with the committee on one point, you will see that it is a point not at all affecting the material provisions of the Bill.

The report of the committee thus referred to asked the Comitæ to agree to the following resolution:

Resolved that the President be empowered to inform the Right Hon. George Rose that the Royal College of Physicians have no objection to the formation of a Bill to be brought into Parliament by the London Committee of Apothecaries, upon the basis of certain resolutions published by the said committee and dated the 4th September, 1813, provided the powers therein contained be vested in the Society of Apothecaries as established by the Charter of King James; and provided the Bill, before it shall be brought into the House of Commons, be submitted to the consideration of the College of Physicians for their examination and approval.

George Man Burrows. From the portrait at the Apothecaries Hall.

The report of the College and the letter from Dr. Latham were sent on to the Society of Apothecaries, who must have been surprised and delighted to receive such a mark of esteem from the Royal College. Action was taken at once. On February 17, 1814, a special court of assistants met and set up a committee to confer with the committee of the Associated Apothecaries, of which Burrows was chairman, and together they drew up the provisions of a Bill. Within a month the draft of a Bill had been prepared. But in April a new obstacle appeared. The College of Physicians had been reconsidering the matter and now asked for a clause to be inserted in the Bill which made it a penal offence for any apothecary to refuse to make up any physician's prescription. The Associated Apothecaries were unwilling for this clause to be inserted, but in a slightly modified form it remained in the Bill. Nevertheless the physicians took umbrage that it was not exactly as they wished, and decided to oppose the Bill. In spite of the fact that their interests were scarcely affected by the Bill, the chemists and druggists also sent in a petition against it.

Apothecaries Act of 1815

It was found impossible to introduce the Bill in 1814, but on February 27, 1815, it was read in the Commons for the first time. The petitions sent in by the College of Physicians and by the chemists and druggists were considered by a committee of the House of Commons and were rejected. On April 18, 1815, the Bill was read for a second time, and on May 11 it passed the Commons. Unfortunately the House of Lords made so many trivial and unessential alterations that the Commons would not go on with it, but permission was given to reintroduce the Bill, which this time passed the Commons on July 5, was agreed to by the Lords on July 11, and received the Royal Assent on July 12, 1815.

The Apothecaries Act of 1815 made no change in the charter or the usages of the Royal Colleges, nor did it interfere with the chemists and druggists. It contained no regulations about midwifery. The main change was an astonishing increase in the powers of the Society of Apothecaries, which at once became the controlling body in medical as opposed to surgical education. Though the College of Physicians retained its privileges in and around London, in all other parts of England and Wales from the date of the passing of the Act no new aspirant for medical practice was to be allowed to practise without fulfilling a certain minimal curriculum (including an apprenticeship) and undergoing an examination conducted by examiners appointed by the Society. The Society had greatness thrust upon it. The position was of course anomalous. While possessing such controlling power the apothecaries themselves were still compelled, under penalty, to sell medicines to anyone who demanded them, and to make up prescriptions for any physician. Though surgeons could still practise surgery, yet in family practice medical complaints demanding internal remedies were often met with, and in the future surgeons would have to gain the Society's diploma before they could in accordance with the Act conduct family practice. Naturally enough, the surgeons very soon tried to get an Act passed which should give them a similar controlling jurisdiction in surgery, but they failed in their quest.

The Associated Apothecaries, who represented the family doctors of the whole country, were not satisfied with the Act, and agitated for the speedy bringing in of an amending Act, but the Society of Apothecaries preferred to wait a while and see how the new Act worked before trying to make changes. The Society took its responsibilities seriously. It very promptly appointed twelve examiners, of whom one was the energetic George Man Burrows. Five of the twelve were members of the Court of Assistants of the Society. Burrows thought this a bad precedent and urged that the Court and the Examiners should be kept quite distinct. This indeed became the practice in succeeding elections of examiners. Apprenticeship remained compulsory and was destined to create many difficulties in the

working of the Act. On the recommendation of the Hon. George Rose, apprenticeship had not been a provision of the first draft of the Act, but unfortunately the House of Lords inserted a clause requiring apprenticeship, and in some unaccountable way the clause was passed and appeared in the final draft of the Act. Yet, as we shall see, this was not without some benefit.

A Crucial Period

The period 1815-58 was a crucial time in the history of English medical education, for it constituted the connecting-link between the period of relative chaos and that of comparative order. During this 43 years the Society of Apothecaries exerted a powerful and formative influence on medical training and practice throughout the country. The examiners they appointed worked conscientiously, cautiously, and patiently. They were sound practical men, not so erudite as the Fellows of the College of Physicians, but more in touch with the requirements of family practice. The lives of few of them are found in the *Dictionary of National Biography*. They were modest men, and it is likely that few of them realized that they were forming the pattern of clinical medicine which was to be the characteristic of this country for a century to come. They builded better than they knew. The main features in which they were, educationally, so successful can be briefly enumerated. In the first place they endeavoured to maintain a fair standard of general education. They could not, of course, expect anything like the high standard of a degree in arts demanded by the College of Physicians, but they insisted upon an elementary knowledge of Latin, and would not begin the qualifying examination of a candidate unless they were satisfied in that respect. At a later date they considerably stiffened this requirement, so that when they gave up their stewardship the general educational standard of the general practitioner had risen considerably.

Every authority agreed, and agrees, that the level of medical education was directly raised as a consequence of the efficient way in which the Society increased and improved the curriculum, encouraged the formation of medical schools in the provinces, insisted upon a high level of teaching, and conducted qualifying examinations which were everywhere regarded as fair, comprehensive, and appropriate. In addition, by a perfectly legal and certainly wise interpretation of the requirements of apprenticeship, they encouraged longer hospital training by permitting the time spent at hospital to count as part of the period of apprenticeship. They thus spread more widely the field from which they could attract candidates for their medical qualification.

Requirements for Medical Qualification

When the Act of 1815 came into force the requirements which each candidate had to fulfil before he could enter for the qualifying examination were: a competent knowledge of Latin; two courses of lectures on anatomy and physiology; two courses of lectures on the theory and practice of medicine; one course of lectures on chemistry; one course of lectures on *materia medica*; six months' attendance at hospital, infirmary, or dispensary. From 1815 to 1840 the examination was oral only. The candidates were examined in the theory and practice of medicine, pharmaceutical chemistry, and *materia medica*. They also had to translate parts of the *Pharmacopoeia*. As the years went by additions were made to the curriculum and to the examination. They were as follows:

1816.—Additional examination in physiology and medical botany.

1824.—Candidates had to obtain a ticket at the Hall and to sign their names before they started their medical course.

1827.—Compulsory attendance on two courses of lectures on midwifery and diseases of women and children. The candidate was directed to attend the courses on chemistry and *materia medica* and at least one course of anatomy before he attended the lectures in medicine. The six months in hospital were to be taken after the first course of lectures

in medicine. There was to be an examination in midwifery and diseases of women.

1828.—Certificates of attendance at hospital or dispensary had to be signed by all the physicians on the staff of the institution. It was also laid down that the student must attend two courses in chemistry and two courses in materia medica and at least one course of anatomical demonstrations. After October 1, 1828, the student also had to attend nine months at a hospital (of at least 60 beds) or 12 months at a dispensary. A special "signing up" form was issued.

1830.—Two years were to be spent on lectures and hospital or dispensary practice. This could be either twelve months at a hospital where clinical lectures were given, or fifteen months at a hospital where there were no clinical lectures, or at a dispensary connected with a medical school.

1835.—The curriculum was now more orderly and began to look modern.

First Year

Winter session.—Chemistry. Anatomy and physiology. Anatomical demonstrations. Materia medica and therapeutics.

Summer session.—Botany and vegetable physiology.

Second year

Winter session.—Anatomy and physiology. Anatomical demonstrations. Dissections. Principles and practice of medicine. Medical practice.

Summer session.—Medical practice. Forensic medicine and practical chemistry. Morbid anatomy. Clinical medicine.

Third Year

Winter session.—Dissections. Principles and practice of medicine. Medical practice. Morbid anatomy and clinical medicine.

Two courses of lectures on midwifery and diseases of women and children were to be taken after the first winter session. These were to be followed by practical midwifery.

It will be seen that the range of the examination and of the course of training increased to keep pace with the rapidly increasing body of scientific knowledge. The curriculum did not alter much from the above until 1858, when the Society gave up its privileged position.

The examinations were fairly conducted. There were twelve examiners, who met every Friday throughout the year to examine candidates. It was rare for any of the examiners to be absent. At first the number of candidates was under two hundred per annum, but in a few years as many as four or five hundred passed the examination each year (see Chart). In the examination the examiners divided into groups of three. One of the three was examiner-in-chief for any particular candidate, but the other two if they wished could also take part in the questioning. The records always give the name of the chief examiner. If the result of

Chart showing number of successful candidates at the Apothecaries examination during the years 1815-85.

the examination by the group was satisfactory the candidate was passed, but, if it was unsatisfactory, then examiners from the other groups came over to take part in the examination, and no candidate was failed unless a majority of the total number of examiners agreed that he did not come up to the required standard. The time taken over the examination of each candidate was between an hour and a half and an hour and three-quarters, and all the subjects of the curriculum were dealt with during that time. Only one instance of disorderly conduct by the candidates is recorded. This occurred in 1835, when, following the rejection of a candidate in January of that year, "an attempt was made to influence the decision of the court by a tumultuous assemblage of students at the Hall, as well as by a threatened appeal on their part to the House of Commons. This attempt at intimidation failed entirely in its object and the court had the gratification to receive from various bodies of students the most pleasing and unsought-for testimony of their unaltered confidence."

A Great Stimulus

The establishment of a standard examination in medicine open to students from all parts of the country had a great stimulating effect on the teaching of medicine everywhere. As a direct consequence of this there sprang up new medical schools in many provincial centres. John Ridout, in his evidence given before the Select Committee of 1834, considered that they arose in response to the policy pursued by the Society of Apothecaries. His words were:

So soon as we required an additional length of study and added to the strictness of the examination, and when we found that an apprenticeship was indispensably required under the Act of 1815, we were most anxious to encourage the establishment of schools in the great provincial towns, to afford every facility for the acquisition of professional knowledge, at as easy a rate of expense, and at as early a period, as could be obtained with advantage by students. We have reason to believe that the establishment of those provincial schools has been of considerable advantage, not only to the students but to the practitioners of medicine living in the neighbourhood of those schools.

This is an effect of the Society's activities to which little reference has hitherto been made. That it was a definite policy on the part of the Society is sufficiently proved by the report of the examiners in 1828:

The establishment of medical schools in provincial towns where large and well-regulated hospitals exist appearing to the court to be of great importance by affording opportunities to students in the country for prosecuting their professional studies with effect during their apprenticeship, and the court are happy to be able to state that the candidates from these schools have in their examinations shown themselves to be among the best-instructed who have come before the examiners.

The requirements of the curriculum also made every London medical school put its house in order. Lectureships and museums which had previously been in private hands were handed over to the hospital authorities, and the regular foundation of several of the London medical schools virtually dates from this period and emanates from this cause.

The court of examiners, with the authority of the Society behind it, insisted upon a high level of instruction. This was guaranteed by strict scrutiny of the qualifications of those who applied for the recognition of their courses of lectures, and by the careful inspection of the schools both in London and in the provinces. In 1833 about a hundred hospitals and forty-three different schools of instruction were on the Society's educational list. The tightening up of the quality of instruction led to the gradual fading out of the private medical schools which were unattached to hospitals. A small detail may serve to show the keenness of inspection. When St. Mary's Hospital was opened in 1851 with 150 beds and a distinguished staff, it was at first refused recognition by the Society because there was not a resident qualified apothecary. Fortunately this deficiency was soon rectified.

When in 1828 University College was opened as the beginning of a University of London, it had some difficulty in arranging its medical courses. Until 1836 the university students used to take the L.S.A. The secretary or warden of University College wrote to the Society of Apothecaries, and a special meeting of the court of examiners was held on April 14, 1829. Another meeting took place on April 28 and resolved "that a committee consisting of four members of the court be appointed for the purpose of arranging with the Council of the University of London a plan of medical study to be pursued in that institution, so that both the views of the medical professors of the University and the spirit of the regulation of this court may be fulfilled." The University welcomed the proposal, and a useful conference was held to consider the matter. Later two representatives of the Society were put on the Senate of London University.

Testimonies to the Society's Work

The great effect upon medical education produced by the painstaking work of the Society of Apothecaries was praised by all informed opinion of the time. It improved medical practice and raised the status of the practitioner; it was instrumental in causing many provincial medical schools to be founded and beneficially influenced the London medical schools. Let us listen to some of those who had been opposed to the Act of 1815, but changed their minds when they saw how it was administered. They gave evidence before the Select Committee of 1834.

Sir Henry Holford, President of the Royal College of Physicians, was quite definite and explicit in his evidence: "I was one of those that was sorry that the power was ever given out of the hands of the physician to license practitioners of that description; but since they have had it I must do the apothecaries the justice to say that they have executed that Act extremely well; and that the character of that branch of the profession has been amazingly raised since they have had that authority; I only do them justice when I state that, though I was very much against it in the first instance."

Sir David Barry testified that "the examination now given at the Apothecaries Hall is by far the best and the most likely to produce the stimulus to study and emulation among the pupils of any at present in London."

Finally, hear what the President of the Royal College of Surgeons of that time said to the Committee. "I beg to say that the Court of Examiners of the Apothecaries' Company have done their duty admirably and for the advantage of the public; and I would let no surgeon take out his diploma at the College of Surgeons till after he had been examined by the board appointed by the Society of Apothecaries."

These testimonies, given by those who were convinced against their will of the remarkable work in medical education performed by the ancient and honourable Society, are sufficient to place the role of the Society in fashioning medical practice in this country in its correct and important position.

When in 1858 was passed the Medical Act which created the General Medical Council and organized medical education on a broader basis, the Society of Apothecaries raised no objections, but helped in every possible way to bring about the change. The gracious way in which they relinquished their responsible task did them as much honour as the readiness with which they performed the difficult duty put upon them 43 years previously. Since that time they have maintained their position as a responsible qualifying body, sustained and encouraged by the records and memories leading back to the golden age when they wielded such a benevolent control over medical education in this country.

I wish to express my thanks to the Society of Apothecaries for permission to consult their records, some kept in their own building and others at the Guildhall. My gratitude is also due to Dr. H. C. Cameron, who kindly allowed me to read the proofs of his forthcoming book on the history of the Apothecaries' Society.

ANTICOAGULANT THERAPY IN CARDIAC INFARCTION

BY

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Although the efficacy of the anticoagulant drugs in reducing mortality in the few weeks immediately following cardiac infarction is now conceded by most authorities, there still exists some difference of opinion. For example, Evans (1954) has expressed the view that they have no useful place in treatment, while Russek and Zohman (1952) considered their use justified only in "poor risk" cases. Wright *et al.* (1954) in America, and Gilchrist and Tulloch (1954), in Great Britain, have been the most enthusiastic advocates of this form of therapy in all patients admitted to hospital with cardiac infarction, and they claim mortality rates of 16% (Wright *et al.*, 1954) and approximately 15% (Gilchrist and Tulloch, 1954) with therapy as compared with 23.4% and approximately 28% respectively with the conventional treatment without anticoagulants.

The subject is one of such importance that the publication of further series is still justified, and this consideration has stimulated us to analyse our figures for the period 1949-54. An opportunity was also afforded to us of analysing a series of patients treated for a few weeks with heparin intramuscularly. This form of treatment is often used for a few days after cardiac infarction, but the period of observation is usually too short to allow valid conclusions to be drawn. It was felt that the figures for the long-term heparin series might provide clearer information about a form of treatment which is expensive and, at the same time, usually causes considerable discomfort or pain to the patient.

Material

The material for this study comprised patients with recent myocardial infarction admitted to the wards of Aberdeen Royal Infirmary and Woodend Hospital during 1949-54. Electrocardiographic confirmation of the clinical diagnosis has not been regarded as essential in all cases included in the survey, since the frequency with which electrocardiograms could be obtained varied somewhat in the different wards and at different times throughout the period of the survey.

The following groups were excluded from the survey: (1) all patients who died within 24 hours of admission to hospital, because it was felt that this period was too short for effective action of the oral anticoagulants; (2) patients who had sustained the infarction more than 48 hours before admission to hospital, as judged by the history; (3) patients whose period of observation in hospital was less than three weeks; and (4) patients under 40 and over 70 years, since the numbers of these younger and more elderly patients were small.

The cases are divided into three groups, as follows.

Group I consists of patients admitted to one of the wards of Aberdeen Royal Infirmary who, in addition to conventional treatment, had anticoagulant therapy with ethyl biscoumacetate ("tromexan") for a minimum of three weeks and an average duration of four weeks. This treatment has been used routinely in this ward in patients with cardiac infarction except for the very small number with an