The Progress of Pharmacy in Great Britain

*By Leslie G. Matthews**

"To be accounted a gentleman one must have ancestors."

The longer the line of ancestors the more honorable their descendant. The pharmacist of to-day in Great Britain in tracing his descent from the medieval apothecaries has some regard for that less august body of dispensers who in the late 18th century styled themselves "Chemists and Druggists" and practiced as such.

THE APOTHECARY—1180 to 1606

Early authentic records of the apothecary in England are rare. While mention is made of an apothecary to Henry II (1180) there is, except for occasional references, no consecutive record till about the 14th century when the apothecaries were associated with the Pepperers (later called the Grossarii or Grocers), a guild trading in drugs and spices from the Near East, who are mentioned in the Pipe Rolls of 1180. From 1290 (when Henry Montpellier was apothecary to Queen Eleanor) Royal Court apothecaries were regularly appointed. Between 1329 and 1360 several of these are named, notably Pierre de Montpellier, Apothecary to King Edward III. Chaucer in the celebrated "Canterbury Tales" refers to a Doctor of Physic who had apothecaries to supply drugs and electuaries.

Although barbers and surgeons had been formed into guilds during the 14th and 15th centuries it was not until the beginning of the 16th century in the reign of Henry VIII that an attempt was made to regulate by statute the practice of medicine in England and Wales.

In 1511 was enacted a law which for the avoidance of the "grievous hurt, damage and destruction of many of the people" allowed no person to practice as a physician or surgeon either in the City of London and environs or elsewhere within the Realm unless he were first examined by the Bishop of London (or the Dean of St. Paul's) and four doctors of physic and experts in surgery or by the Bishop of the Diocese or his Vicar-General and expert persons.

"This set up one body of practitioners who practised Medicine, Surgery and Pharmacy. The Physicians' assistants were styled Apothecaries and they gradually acquiring information respecting the properties of drugs, began to transact business on their own account." (Jacob Bell.)

In 1518 Thomas Linacre, physician to King Henry VIII, was instrumental in securing the incorporation of the physicians in a "College of Physicians." Its powers were extended by a Charter of 1540, authority being given to "search, view and see the Apothecary wares, drugs and stuffs" and to destroy those which were unfit for use.

The surgeons had been incorporated in one Company (Guild) with the barbers in 1467, when their respective duties were defined. They, having meanwhile abused their powers, were censured in the Act of 1542, which at the same time authorized irregular practitioners who had been freely treating the poor with simple remedies to continue administering external medicines and simples.

That there was growing up a class of traders tending to make the selling of drugs and medicines their principal concern, whether styling themselves apothecaries or not is shown by the Act of 1533 enlarging the physicians' powers to "govern, correct and punish Physicians, Apothecaries, Druggists, Distillers and sellers of waters and oils, and preparers of *chemical* medicines." The records show that some unqualified practitioners were arrested; one who persisted in practice had his ears cut off. Between this date and 1600, physicians who had themselves prepared and compounded their medicines began to give up this work, relying more and more on apothecaries or grocers specializing in drugs.

THE SOCIETY OF APOTHECARIES—1617 TO 1841

Early in the reign of King James I (1606) the apothecaries were incorporated with the grocers in a company (Guild). This proved unsatisfactory to the apothecaries, if not also to the grocers. The King was petitioned by a number of influential physicians and

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apothecaries and in 1617 he granted the apothecaries a separate Charter of Incorporation as a Company (Guild) which shortly afterward became known as the *Society of Apothecaries* (the only Company in the Guilds of London to be known as a Society).

The year 1617 is a landmark in the history of pharmacy in Great Britain. Henceforward it was intended the specialist in the preparation of medicines whether of animal, vegetable or mineral orgin should be set apart, his practice regulated and his obligations to the community fixed. Though many turns and twists were to come in the succeeding centuries, even a divergence of ways—the apothecary to practice medicine and to forsake pharmacy—yet the course was set and there was no looking back.

It is worth while spending a little time on the Charter granted by King James on the petition of "Theodore de Mayerne[1] and Henry Atkins, Doctors of Physic—our discreet and faithful Physicians . . . to promote the state of our Commonwealth and to procure the Public Good, that the ignorance and rashness of Presumptious Empirics and ignorant unexpert men may be restrained"—so runs the charter. No less than 114 apothecaries were charter members of the Company.

No surgeon was to sell medicines and no grocer to be allowed to keep an apothecary's shop or to compound and administer medicines or to exercise "the Art, Faculty or Mystery of an Apothecary" within the City of London and seven miles thereof.

Apprentices to apothecaries were to serve seven years, then to be examined (by apothecaries and a physician) in their knowledge and election (choice) of simples, and the preparing, dispensing and compounding of medicines. If approved the apprentice might then set up an apothecary's shop.

An important right and duty of *search* was laid on the Master and Wardens of the Society to search shops, cellars, etc., of any apothecary or others and to survey and test whether drugs offered were fit for the purpose or not. They were to prohibit from practice unfit persons and to burn unwholesome or improper drugs before the offender's door and fine the offender. (They could invoke the aid of the magistrates for this.) The rights of physicians (including that of search) were not curtailed although surgeons were restricted to supplying external medicines and salves and were not to sell these as the apothecaries did.

Notwithstanding the charter and the privileges conferred on Freemen of the Society a number of apothecaries remained outside and as time went on they became a source of vexation to the Society. Some of these free-lances desired reincorporation with the grocers—which the Society stoutly resisted. Indeed, turning the tables they proceeded to take action against those grocers who continued to sell drugs.

Soon a schedule was made of all medicines that should be stocked by apothecaries; apprentices were examined; and in 1620, the apothecaries' status improved by a proclamation which forbade the compounding of medicines in London except under the Society of Apothecaries and according to the London Pharmacopœia.

(It may be mentioned that the Colleges of Physicians of Edinburgh, Dublin and London issued separate pharmacopœias which remained in current use until 1864 when the first British Pharmacopœia was issued by the General Medical Council, set up under the Medical Act of 1858.)

Searches of drugs continued, the Master and Wardens of the Society starting out at 5 A.M. on set days for the purpose. "Herbor-

[1] Theodore de Mayerne (Sir Theodore Turquet de Mayerne—but known in France as de Turquet) was born in Geneva 1573. He studied at Heidelberg and Montpelier and became first a lecturer to apothecaries in Paris, then a physician to Henri IV (under Riverus) where his protestantism finally brought him into disrepute and led to his dismissal. This is said to have been due mainly to Marie de Medici and the Faculty of Paris. On being invited to London his reputation caused him to be introduced to Court, when he became first physician to King James I and his Queen, then to Charles I, later to Charles II. He died in London in 1655 leaving a fortune of £140,000. He was a man of energy and was largely instrumental in getting the College of Physicians to publish the first London Pharmacopœia (1618) for which he wrote the dedication to King James I.

Another foremost apothecary of the time and a signatory to the petition for a charter, again trained in France, was Gideon de Laune who became Master of the Society, honored and revered by the craft so much that in 1675 his bust was set up in the Society's Hall.

isings" and "Simplings" (gathering of herbs locally) for the benefit of apprentices—and intended as botanical excursions—degenerated into holiday pursuits; the apprentices who had usually long hours and few holidays were admonished for this levity.

Toward the middle of the 17th century druggists, chiefly importers or wholesale dealers, became a loosely associated body sometimes styled the Company of Druggists but there is no record of their having been incorporated. Later, when the selling of chemicals became more general, merchants, both wholesale and retail, sold both drugs and chemicals, largely for the preparation of medicines and simples. These vendors became known as "Druggists" or "Chemists & Druggists." Many years were to pass, however, before the title "Chemist & Druggist" became legally protected and its use restricted to trained and qualified pharmacists.

As apothecaries became better trained and better able to distinguish between good medicines and those not so good, some commenced to give advice to patients and to prescribe medicines.[2] This may have been caused partly by the scarcity of physicians during the Plague (1660). It led to trouble with the physicians and was for years a thorny and oft-debated question. The physicians retaliated at first by charging the apothecaries with selling bad and unfit drugs; then they said they would do their own dispensing—some of them did so to the great hurt of the apothecaries' business—prescriptions sent to the apothecaries omitted dosage, which the physicians gave separately to their patients, but in the English language as their patients would not have understood Latin. For a time things settled down, the apothecaries agreeing not to prescribe and the physicians not to dispense, but the physicians felt they had a grievance when (in 1696) they found the apothecaries charging so much for made-up medicines and repeating the prescriptions so often that there were complaints that few people except the wealthy could "afford" to be ill.

The physicians decided to set up three dispensaries where the poor were to be assured of ample, cheap and proper medicine. This annoyed the apothecaries who said the physicians' drugs were bad and their dispensers unqualified, and that their own livelihood was threatened. To these dispensaries people came nevertheless to get their prescriptions dispensed and to buy medicines by retail.

This incensed the apothecaries who decided the public must be educated in the wisdom of buying medicines from those specially trained to handle them—how often in England is this plea to be heard!—and the apothecaries advertised their lengthy training, their scientific knowledge of drugs and chemicals and especially their fine Hall where "all may see the necessary processes of chemical preparations." For by this time (1700) a well-equipped "Elaboratory" had been set up, where all the galenical and many chemical operations were daily performed. Chemicals made there were to be sold only to physicians, surgeons, druggists and to those apothecaries who were members of the Society.[3]

They had just previously negotiated with Lord Cheyne of Chelsea for the purchase of Chelsea Physic Garden, which they had apparently held on lease, and where they conducted the "herborizings" or botanical walks and grew specimen drugs, herbs and fruits. Through Sir Hans Sloane (physician), a munificent benefactor to science and arts in this country—one of the principal founders of the British Museum—the Society acquired a perpetual lease of the Garden[4] in 1722 for £5 a year.

During the first half of the 18th century the Society, which had relied upon its mem-

[2] The motto of the Society—"*Opiferque per Orbem Dicor*"—suggests their proper sphere in the early days was clearly considered to be that of physicians' assistants.

[3] About this time the Society obtained the privilege of supplying all medicines for the Fleet and established a special stock called "The Navy Stock." Later (1801) they supplied the East India Co. and in 1822 opened a retail department for supplying the public—this department was continued until 1922.

[4] The Physic Garden is still maintained by the voluntary subscriptions of a number of bodies including the Society of Apothecaries and the Pharmaceutical Society, the students of whom have the privilege of admission.

bers to train their apprentices prior to examination, made plans for giving systematic instruction. A Repository (Museum of Reference) for drugs and materia medica was formed, the institution of botanical lectures as well as lectures in materia medica and chemistry was considered, though it was not until about 1800 that these lectures formed part of routine training.[5]

In 1785 when a sixth edition of the London Pharmacopœia was under consideration—by the College of Physicians—the help of the apothecaries was invited and was readily given. The resulting volume in 1788 was distinguished by the inclusion of chemical medicines, foreshadowing the reliance to be placed upon the growing science of chemistry.

The previously mentioned attempts by the chemists and druggists to establish themselves side by side with the apothecaries could not be ignored by the latter—it was too severe an encroachment upon their legal privileges and livelihood. A determined inquiry was instituted throughout the country by an unofficial association of apothecaries, The General Pharmaceutical Association of Great Britain, and the illegal practices of the druggists condemned, stress again being laid on the classical education and training of the apothecaries opposed to the ignorance and nefarious ingenuity of their competitors. The chemists and druggists established themselves as dispensers of medicine, however, so much so that in 1802 the apothecaries sought aid from them in protesting against the Medicine Act, then passed, which made the selling of even common remedies subject to licenses, fiscal stamps and duties.

As the chemists developed dispensing so the apothecaries reverted to prescribing and to surgery, again bringing themselves, as may be supposed, into conflict with the physicians and surgeons. Medical reform became a burning question—it was the Age of Reform—and apothecaries, surgeon-apothecaries, accoucheurs, dispensing chemists and assistants wanted an Act passed, setting up a new medical body to examine and licence competent persons and, *inter alia*, "prohibit the practice of pharmacy . . . by uneducated persons." This at once brought all the established bodies into the field, physicians, surgeons and the Society of Apothecaries all being fearful of losing existing privileges or of assuming new responsibilities.

The chemists and druggists, having now formed an association to protect their interests, held meetings attended by many pharmacists whose names or those of their firms have become household words in pharmacy—thus William Allen, Fellow of the Royal Society (of Allen & Howard, later Allen & Hanbury), John Bell, John Savory (Savory & Moore) were all staunch supporters of the new cause.

Here, except to mention the apothecaries' regular courses of instruction in botany, materia medica and pharmacy and their examinations which later included medicine, surgery and midwifery, we have reached the parting of the ways. The apothecaries had long sustained the practice of pharmacy in Great Britain but the majority of them gradually veered toward the practice of medicine and surgery. The Society was confirmed as a licensing body under the 1858 Medical Act. It is still a flourishing corporation, its licenciates spread far and wide, and it remains one of the Companies (or Guilds) of the City of London. Save that the Society retained an examination for dispensers—not recognized as entitling to registration as a pharmacist—the apothecaries' preoccupation with pharmacy ceased.

THE PHARMACEUTICAL SOCIETY OF GREAT BRITAIN—1841 TO DATE

Our concern is now to follow the fortunes of the chemists and druggists in the establishment of the Pharmaceutical Society of Great Britain in 1841.

The prompt action taken by the principal chemists and druggists of London in 1813 was successful in preventing the passage of restrictive legislation; perhaps, more important, it knit them together and showed the need for corporate action. When a new Bill was introduced into Parliament by the

[5] *Note:* We have so far considered mainly developments in the London area—there are few records made accessible at present which give information about any show of interest in the sciences relating to pharmacy by the Universities of Oxford and Cambridge—and as yet the University of London was not established.

apothecaries which appeared to harm the chemists and druggists, the latter advertised in the newspapers their intended opposition, continued the meetings, took Counsel's opinion, and presented a petition to Parliament. The existence of the chemist and druggist (or "old" apothecary, as he was called; the "new" apothecary prescribed and visited patients) became recognized.

The next thing that called for attention was the widespread sale of poisons, especially of arsenic, by grocers, oilmen and indeed by all kinds of shopkeepers who had no knowledge or training in handling or storing them. Poisoning fatalities were numerous. The chemists and druggists pointed out the need for restricting the sale of poisons to trained persons who had knowledge of their properties and asked for legislation that should give proper protection to the public. It was not until 1851, however, that the Arsenic Act was passed.

In 1841 a Government Bill was introduced which threatened to restrain anyone from carrying on the trade or practice of a chemist and druggist unless he was licensed, the license to be renewed annually. The Bill also would have made it an offense for a chemist to bandage a finger or to recommend a dose of black draught. All chemists and druggists, their assistants and apprentices were to be controlled by a Medical Council on which they were to have no representation—entirely contrary to the English idea of fairness. The principal chemists from all parts of the country met to protest against this. Reports were sent to every member of the drug trade, a committee was set up and petitions against the Bill presented to Parliament. The object aimed at was the safeguarding of the chemists' and druggists' rights.

A few of the committee led by John Bell, of London (father of a more distinguished son, Jacob Bell), saw further than this. They realized that what prevented real recognition of their value to the community was the absence of proper qualification—to be attained only by systematic education. The outcome of further meetings was a proposal that in their permanent interests chemists and druggists should form a Society to be called the Pharmaceutical Society of Great Britain to benefit the public, to elevate the profession of pharmacy and to assist the needy.

On the April 15, 1841, at the Crown & Anchor Tavern in the Strand, London, was held the now historic meeting at which the Pharmaceutical Society of Great Britain was formed, there being over 100 signatories. The first elected president was William Allen, F.R.S., chemist, pharmacist and philosopher, who among his widespread interests gave the time to this work. The Society quickly became known—by the end of 1841 it had about 800 members and associates and in a year's time there were nearly 2000. Regulations were framed and examiners appointed for the first examinations in 1842. Both the College of Physicians and the Senate of London University gave their blessings but declined to coöperate in the examinations.

In January 1842 rooms were taken at 17, Bloomsbury Square. A petition for a Charter of Incorporation, to secure both public and royal approval, was later presented to the Crown; this was granted on February 18, 1843. The avowed objects of the Society were to advance chemistry and pharmacy, to promote the education of pharmacists, to protect their interests, and to grant benevolence to needy members, their widows and orphans.

The affairs of the Society were in the hands of a President, Vice-President and Council—21 in all. Jacob Bell, one of the most distinguished members, organized scientific meetings, made known the aims of the Society up and down the country and commenced (in 1841) the monthly issue of the *Pharmaceutical Journal*. (The Journal was continued as a privately owned publication until his death in 1859 when the copyright in it passed under his Will to the Society, which to this day continues its circulation as a weekly journal.)

The lamentable state to which pharmacy had fallen was shown by the lack of books on the subject. The London Pharmacopœia, still in Latin, contained much that needed revision by pharmacists. Systematic teaching was soon to come. The Society ap-

pointed professors of botany, chemistry, materia medica—the celebrated Dr. Pereira—and pharmacy. Lectures were crowded and classes grew rapidly when in the newly established School of Pharmacy there was set up a laboratory for practical instruction in chemistry and pharmacy. The enlarged laboratory of 1845, the first of its kind in England, was adopted as the pattern for others. Scientific papers appeared in the *Pharmaceutical Journal* (with Jacob Bell as editor) and the discussions they provoked stimulated interest in the professional and scientific side of pharmacy. Mr. Peter Squire (President, 1859, later editor of Squire's *Companion to the British Pharmacopœia*) was associated with the first use of ether in operations in England (1864) and shortly afterward with the newly tried anesthetic—chloroform.

The Society assisted in the production of the first British Pharmacopœia—1864, first revision 1867—issued under the General Medical Council to supersede the separate pharmacopœias of London, Edinburg and Dublin. In all subsequent editions pharmacists whether as advisers or joint editors have assisted. The present secretary of the Pharmacopoeial Commission is the distinguished pharmacist (and physician), Dr. C. H. Hampshire.

As the need for protecting the health of the people became better understood the wrongful use by unqualified and untrained persons of titles suggesting qualification in pharmacy was suppressed. The Pharmacy Act of 1852 required the Pharmaceutical Society to maintain a Register of persons qualified to be registered as Pharmaceutical Chemists or Pharmaceutists and of those who were members of the Society, of Assistants and Apprentices. The examinations were confirmed including knowledge of the Latin language, botany, materia medica and of pharmaceutical and general chemistry—a separate Board of Examiners to be appointed for Scotland.

The outstanding Act, however, was that of 1868. It regulated the sale of poisons and altered the previous Pharmacy Act—a truly British foible, to compress two measures into a single Act. Far better had the two been kept separate for their combination at this date has beclouded pharmacy legislation ever since.

The selling or compounding of poisons in open shop was restricted to pharmaceutical chemists and to chemists and druggists—a newly examined class, formerly styled assistants. Henceforth no unqualified and unexamined person (except certified as already in business as a pharmacist) could practice as a pharmacist. For the successful passage of the Act Jacob Bell, who had become a Member of Parliament, worked untiringly. A number of pharmacists who formerly had complained of the Society's actions and had formed an association of their own were reconciled because of the protection obtained under this Act.

Pharmacists suffered two setbacks in 1908. A new Act authorized the sale of agricultural and horticultural poisons by shopkeepers who should be licensed in their municipalities, and limited liability companies were permitted to own pharmacies if they employed qualified pharmacists as superintendents in them. (This concession was largely due to the influence of the limited companies at a time when the views of Members of Parliament were especially favorable to such companies.) These companies who actually owned drug stores wanted the right to dispense and to sell poisons and to use the personal title, "Chemist." The effect of this concession is marked to-day, when two organizations of "Company Chemists" own between them no less than 1900 pharmacies—about 8% of the total number in Great Britain. Alas, there is no way back to the earlier phase of "one man, one shop," for so long discussed and, since this Act, so ardently desired!

We can only glance at the further growth of the Society, whose membership was still voluntary, but to whose efforts the pharmacist of to-day owes so much—higher professional standing; better education, linking him with the universities many of which have granted degrees in pharmacy. Thanks largely to the late Professor Henry Greenish the Society's School of Pharmacy became a School of London University (1924) and with the Pharmacological Research Labora-

tories is now incorporated as a college of the university, professors in the school of pharmacy becoming professors in the university.

One other development remains to be noticed—the Pharmacy and Poisons Act of 1933, the outcome of a four-year inquiry—1926 to 1930—by a government-appointed committee to inquire into the practice of pharmacy and the sale of poisons. Some of the fruits of this Act are being gathered; the full harvest is to come. In addition to regulating further the sale of poisons and the manufacture of medicines containing them, the Act now makes the entire profession self-governing, subject to its own inspectorate and disciples, with minimum official supervision.

There are now few pharmacists who are not members of the Society—at the end of 1939 membership exceeded 24,500; about 600 apprentices enter the profession yearly. Two years' pupilage or apprenticeship is the minimum, with three academic years' training in botany, chemistry, zoology, pharmaceutics, pharmacognosy and physiology, the object being either the attainment of a university degree (B.Sc. or B.Pharm. = licencee) or qualification as a Pharmaceutical Chemist (3 years' training) or (2 years) Chemist and Druggist.

Education and practice in Great Britain has long since overflowed into all the British Dominions and Colonies were pharmaceutical societies and legislation on English lines have come into being.

Thus far has the practice of pharmacy progressed from the days of the Apothecaries Guilds and the unorganized Chemists and Druggists of the 18th century. Next year the Centenary of the Pharmaceutical Society will be celebrated. But for the war it would have been a royal celebration in the Society's new building now being completed in Brunswick Square, London, not far from the more familiar Bloomsbury Square which has housed pharmacy for almost a century.

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Book Reviews

Dissertation on *Solidago virga aurea L.*—a monograph based on research carried out for the Ph.D. degree at the University of Hamburg by ROLF GNEKOW of Wandsbek, near Hamburg, June 25, 1938.

This thesis of 100 pages divided into 8 parts begins with an introduction and is followed by sections on botany, systematic arrangement, habitat, growth, morphology, anatomical description, parts of the plant, germination and development. Synonyms, commercial distribution, etymology, etc., are discussed. The chemical part embraces the results of investigation of moisture, ash, tannin, ethereal oil and other constituents. Other subjects considered are extraction of the drug, history, pharmacology, therapeutic preparations, prescription uses and other combinations. Ten pages of illustrations show the structure of plant parts. The references might have been somewhat extended by including the U. S. Pharmacopœia of 1850, 1860 and 1870, and references to uses by early settlers in the United States and to the substitutions which were made when there were shortages of more commonly used drugs.—E. G. E.

Fruit Pectins. Their Chemical Behavior and Jellying Properties, by C. L. HINTON. Department of Scientific and Industrial Research (Great Britain), Food Investigation Special Report No. 48. vii + 96 pages. Chemical Publishing Co., Inc., 148 Lafayette St., New York, N. Y., 1940. Price, $1.75.

The material presented in this book is based on the work carried out by the staff of the British Association of Research for the cocoa, chocolate, sugar confectionery and jam trades. Twenty-five laboratory-prepared pectins from oranges, lemons, apples, gooseberries and strawberries by different extraction methods were studied and their physical and chemical properties reported on. Factors affecting the jellying powers of pectins are discussed as follows: chemical composition, effect of heating, changes caused by the action of pectase, effect of alkalies and acids, effect of salts and effect of extractive process. There are 13 figures, 42 tables and 45 references to the literature.—A. G. D.