

PHARMACEUTICAL HISTORY AND ITS SOURCES IN THE WELLCOME COLLECTIONS

I. THE GROWTH OF PROFESSIONALISM IN NINETEENTH-CENTURY BRITISH PHARMACY*

by

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WHILE the theme of this article is professionalism in nineteenth-century British pharmacy¹ its chief purpose is to draw attention to the pharmaceutical and associated collections in the Wellcome Historical Medical Museum and Library which are of value for studying this topic². I will be stressing items other than printed books for it is often forgotten that objects and ephemera are as much historical documents as books.

Nineteenth-century British pharmacy underwent even more radical changes than pharmacy is undergoing today and shows many contrasting features. Some of these I intend to emphasize not because they offer solutions for today's problems, but because they can help to highlight and define them.

These radical changes were largely due to the curious situation which allowed the traditional pharmaceutical practitioners—the apothecaries—to become general medical practitioners who took less and less interest in pharmacy. This transition, which developed in the seventeenth century, was quickened by the 1815 Apothecaries Act. By 1858 it was merely a triumph of commonsense that a new Medical Act, in creating one register of medical practitioners, undermined the distinction between university-trained physicians (who generally treated the upper-class patient) and the apprenticeship-trained apothecary general practitioner. But this did not mean that pharmacy passed entirely out of the hands of the medical profession for even towards the end of the century there were large numbers of 'dispensing doctors'.³ It is of interest that the Society of Apothecaries did not give up its commercial activities in retail and manufacturing pharmacy until 1922.^{4*} The full story of the nineteenth-century

* Based on a lecture given to the Western Pharmacists' Association and Chelsea School of Pharmacy, 8 February 1967.

¹ No account, however, has been taken of differences in the development of pharmacy in Scotland. For instance, C. G. Drummond in 'Pharmacy and medicine in Georgian Edinburgh' (*Pharm. J.*, 1964, 192, 287-93) emphasised the close connection between pharmacy and surgery in Scotland when he stated that in 1833, out of 70 chemists, druggists and apothecaries no fewer than 43 were still practising surgery as either surgeon-druggists or surgeon-apothecaries.

² See asterisked footnotes for information on the collections. The notes accompanied slides of objects, pamphlets and illustrations etc., all in the Wellcome Historical Medical Museum and Library. The extensive Wellcome collection of illustrations—built up over many years—provides a valuable stimulus for historical research.

Lists of the museum holdings of the objects mentioned are available, or in the course of preparation.

³ Writing on the 'Jubilee of the National Insurance Act' (*Pharm. J.*, 1962, 189, 33-35) J. A. Stewart noted that before 1913, around 90% of all dispensing took place in doctors' surgeries, and that one provincial chemist reported only 43 prescriptions in nine years.

^{4*} Two photographs were shown of the Society of Apothecaries' laboratory before its closure in 1922.

reputation and influence of the Society's manufacturing activities has not yet been told, but it was undoubtedly important; a number of chemists and druggists, for instance, advertised that their drugs and chemicals came from Apothecaries Hall.^{5*}

Chemists and druggists—a diverse group of pharmaceutical practitioners—whose increasing influence on pharmacy started, in the seventeenth century, with specialization in chemical remedies and the wholesaling of crude drugs, increased rapidly in numbers during the first few decades of the nineteenth century. The developments from 1800, to take a convenient date, that led to the chemists and druggists forming, in 1841, the Pharmaceutical Society of Great Britain, are probably more complex than is generally realized. While the Society's foundation was almost certainly precipitated by a Bill which proposed putting the control of chemists and druggists in the hands of the apothecaries, the time had become ripe for an organization devoted entirely to the interests of pharmacy.

Since 1794 numerous short-lived organizations of chemists and druggists had been formed when attempts were made to impose outside control on them.⁶ By 1839 the comparative strength and stability of chemists and druggists as a group was reflected in the formation of 'The Druggists' Provident Association', not formed to combat outside interference, but 'for the purpose of affording relief and assistance to its members, in cases of sickness and distress, and of giving information to persons seeking to obtain situations in the trade.'^{7*}

But more significant and lying behind this attempt at limited self-government there had developed a need for specialist practitioners of pharmacy who were distinctly separate from medical practice. Apart from the necessity of overcoming such practices as the widespread indiscriminate sale of drugs by quacks and grocers etc., there was a need for specialist pharmacists to assimilate and to put into practice the changes in materia medica and improvements in dispensing which were created by advances in botany and chemistry.

Yet at this time apothecaries were devoting more time to medicine than to pharmacy, a situation not conducive to improvements in dispensing practice. In 1834 a Select Committee on Medical Education heard that dispensing in apothecaries' shops was often done by a 'raw boy [an apprentice], just taken from school'.⁸ Offsetting this the apprentice apothecary was occasionally under the supervision of a 'dispenser' employed by the apothecary, but this only serves to illustrate the growing separation of pharmacy and medicine.

THE INFLUENCE OF THE PHARMACEUTICAL SOCIETY, INDIVIDUAL CHEMISTS AND DRUGGISTS, AND INDUSTRY IN PROFESSIONALIZATION

The growing need for specialist pharmaceutical practitioners undoubtedly helped the success of the Pharmaceutical Society in unifying the chemists and druggists into

^{5*} Two examples of chemists and druggists' trade cards stating that their chemicals and drugs came from Apothecaries Hall were shown. The Wellcome collection of over two hundred trade cards throws much light on nineteenth-century pharmaceutical practice.

⁶ See, for example, L. G. Matthews, *History of Pharmacy in Britain*, Edinburgh, 1962, pp. 117–120.

^{7*} The first page of a leaflet describing the Association was illustrated. No study ever seems to have been made of this Association. The leaflet is one of a collection dealing with the organization of pharmacy in the nineteenth century, especially with the formation of the Pharmaceutical Society.

⁸ *Report from the Select Committee on Medical Education*, London, 1834, Part 3, p. 29.

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a recognized professional body. Its method was to promote education and the pharmaceutical sciences by opening a school (which encouraged research), by creating a museum and library, and by providing facilities for evening scientific meetings, conversaciones and research groups.⁹ The *Pharmaceutical Journal* echoed: 'professional character *primâ facie* is supposed to result from liberal and scientific education'.¹⁰ Additionally the Society endeavoured, with only partial success, to obtain the backing of legal safeguards.¹¹

Behind these activities lay the aim of making pharmacy a completely separate occupation from medicine, a point I will mention again. By so doing the pharmaceutical practitioner would be seen to have a clear-cut, essential and socially important function for which he had to use his specialist training—all features which must be considered characteristic of a profession.¹²

It was believed that the activities of the Society, besides their tangible role in promoting the interests of members, would have a 'moral influence' which could help to enhance professional standing. Jacob Bell writing on ethics stated:

It was thought that any officious interference with the private arrangements of individuals would be inconsistent with the functions of the [Society's] Council, and likely to frustrate the [Society's objects] by giving offence.

That which the law of the land or the laws of an association cannot effect, may be brought about by the moral influence of a code of ethics voluntarily subscribed to, and recommended for general adoption. The Chemists having until lately been disunited, and ranked rather with the trades than the professions, have not had the advantage of that discipline which is the natural result of organization and professional intercourse.¹³

It is often wrongly thought that the young Pharmaceutical Society was not concerned with the trading aspects of pharmacy. But what the Society hoped was that these aspects would be checked by a professional conscience brought about not only by education but also by the 'force of example and precept, as set forth by the leading and most influential members of the Society'.¹⁴ This may seem to have been a Utopian dream, but it should be remembered that sidelines, though extremely diverse, did not often extend outside the fields of chemistry, food and health. At the same time nineteenth-century pharmacy did not have the problem of chainstore pharmacies influenced by non-pharmacist directors. Pharmacy too was unfortunate in that, amid a background of *laissez-faire* and free trade, strong legislation to help the Society's efforts was not forthcoming.

The Society's educational activities were to the forefront of its endeavours and, by and large, extremely successful. Most conspicuous was its School of Pharmacy, opened in 1842, which had, throughout the century, many authorities on its staff, for

⁹ One such research group was the Phytological Club, formed in 1853, for the promotion of pharmaceutical botany. See, for instance, *Pharm. J. & Trans.*, 1852–53, 12, 486.

¹⁰ *Pharm. J. & Trans.*, 1849–50, 9, 345.

¹¹ There have been many straightforward accounts of pharmaceutical legislation, but one of the most stimulating discussions is still that by A. M. Carr-Saunders and P. A. Wilson in *The Professions*, Oxford, 1933, pp. 132–141.

¹² A very helpful introduction to the subject of professionalism in pharmacy is G. Sonnedecker's 'To be or not to be . . . professional', *Am. J. Pharm.*, 1961, 133, 243–54.

¹³ *Pharm. J. & Trans.*, 1852–53, 12, 369.

¹⁴ *Pharm. J. & Trans.*, 1868–69, 10, [2], 117.

example, Anthony Todd Thomson, George Fownes, and Jonathan Pereira.¹⁵ In 1844 the School became the first in Britain to supplement chemistry lectures for full-time students with practical work in its own laboratory.^{16*} The School soon achieved marked success even though there were no compulsory examinations for entrance into pharmacy until the 1868 Pharmacy Act. But in an age when educational attainments were becoming more important the far-sighted student chemist and druggist could see that advanced education offered advantages if only by looking at the success of the more prominent chemists and druggists.^{17*} Many, too, capitalized on their studies at the Society's school by mentioning them on their trade cards and advertisements.^{18*}

The professional image of pharmacy was, of course, very much dependent on the calibre of individual practitioners. A strong core, especially in London, played their part to the full in acquiring specialist knowledge and creating first-class establishments. By so doing they underlined pharmacy's important function in Society and at the same time emphasized its professional status. I think it is thought-provoking that the present-day retail pharmacist who is so frequently occupied with mechanical operations, such as tablet counting and National Health Service administration, does not appear to be so irreplaceable as the nineteenth-century chemist and druggist with his wide-ranging dispensing activities—activities that can be readily seen from the numerous prescription books that have survived.^{19*} In his striving for professional standing the nineteenth-century chemist and druggist was also favoured by factors such as the absence of a dominant pharmaceutical industry and by the fact that he could, with relatively little effort, make practical contributions to the improvement of pharmacy.

This last factor undoubtedly helped to create interest and raise pride in the profession and deserves closer study. It is important to remember that shops, especially the better ones, were equipped with quite elaborate laboratories.^{20*} The following description of a laboratory is taken from Mohr and Redwood's *Practical Pharmacy* (1849),²¹ a book which the *Pharmaceutical Journal* enthusiastically recommended to the young chemist about to open a shop:²²

¹⁵ See, for example, T. E. Wallis, *History of the School of Pharmacy, University of London*, London, 1964.

^{16*} Facilities for private lessons, were, of course, available, before this. An undated advertisement from the Aldersgate School of Medicine (ca. 1841) was shown. This announced a chemistry course for 'Chemists and Druggists, as well as Amateurs', which included practical work.

^{17*} Illustrated was the examination certificate, dated 1864 (i.e. before compulsory examinations) of one student who made splendid use of his training, E. M. Holmes. Much of the personal material of this eminent botanist/pharmacognosist is in the Wellcome collections.

^{18*} A bottle label of P. Dowdeswell of 39 Dudley Street, Wolverhampton was shown, bearing the words 'formerly student in the laboratory of the Pharmaceutical Society of Great Britain under Professor T. Redwood.'

^{19*} Pages from a prescription book were illustrated. A useful survey of the entries in a series of prescription books can be found in 'Early nineteenth-century pharmacy' by A. E. Bailey, *Pharm. J.*, 1960, 185, 208–12.

^{20*} Illustrations of nineteenth-century laboratories were shown, including many of the laboratory of John Bell's famous establishment in Oxford Street. The front of Bell's shop was purchased by Sir Henry Wellcome in 1909 and is now reconstructed in the Wellcome Museum.

²¹ F. Mohr and T. Redwood, *Practical Pharmacy: The Arrangements, Apparatus, and Manipulations, of the Pharmaceutical Shop and Laboratory*, London, 1849, p. 21.

²² *Pharm. J. & Trans.*, 1848–9, 8, 402.

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The essential fittings of the laboratory are—the furnaces, stills, steam apparatus, refrigerators, and presses . . . a capacious sink, with water laid on, and perforated shelves fixed over it, for draining bottles; a fixed side table, for performing the smaller operations upon, and, above this, a set of tests, test glasses, funnels, glass measures, and a perforated shelf, for supporting funnels . . . a strong moveable table, which may be placed in any part of the laboratory; a druggist's root-cutting or slicing knife . . . a large marble mortar, and an iron or bell-metal mortar.

Many shops did not possess these ideal conditions and many had no laboratory at all. The eminent scientist Edward Frankland recalled his apprenticeship days around 1840 with horror, especially his job of powdering cantharides with a large pestle and mortar in a dark cellar.²³

This operation had to be performed with a linen bag over my head and tied tightly round my neck. Thus protected, I pounded away and sifted the fly dust through a sieve until, after five minutes or so, suffocation became imminent and the bag had to be removed for a few minutes. Then, replacing it, I started again. Of course, no one could be in the cellar to help if I had fallen down in a faint, because they would also have required bags on their heads to protect them from the poisonous dust.²⁴

It was from the laboratory and from 'working at the bench' that problems frequently presented themselves. An excellent example of a forgotten figure who made significant contributions to pharmacy is Robert Alsop (1803–1876). Like so many who helped in the professionalization of nineteenth-century pharmacy, he was a quaker.^{25*} After an apprenticeship and assistantship with John Bell he established himself, in 1826, as a chemist and druggist in what was remembered as an 'old-fashioned shop at the corner of Sloane Square, Chelsea, with its palms, ferns, and tree-frogs in the window'.²⁶ The business prospered with an extensive side-line of soda and mineral water production.^{27*} Alsop's contributions to pharmacy were all of a practical character. For example he introduced an infusion jug,²⁸ and a minim measure,^{29*} while his methods for preparing mercuric nitrate ointment and spirit of nitrous ether³⁰ were used for many years. Space does not allow me to say more about this fascinating figure except that it was a loss to pharmacy when he gave up practice in 1855 to devote himself to philanthropic and religious activities.

Other chemists and druggists made more widely known contributions to pharmacy and medicine. For instance, Peter Squire made the ether inhaler^{31*} used in the first surgical operation under ether to be performed in this country, by Robert Liston on

²³ Frankland, E., *Sketches from the Life of Edward Frankland*, London, 1902, p. 26.

²⁴ Drug grinding played a significant part in nineteenth-century pharmacy because of adulteration practices by drug grinders. An illustration of drug grinding apparatus from Mohr and Redwood's *Practical Pharmacy* was shown along with a small drug or spice mill from the Wellcome collection of over 70 mills. Also available are small collections of root-cutters and tincture presses etc.

^{25*} A portrait of Robert Alsop was shown, taken from C. R. Alsop *A Tribute to the Memory of Robert Alsop*, London, 1879. The book is almost wholly concerned with his non-pharmaceutical life.

²⁶ *Pharm. J. & Trans.*, 1875–76, 6, [3], 620.

^{27*} A blank invoice slip of 'Robert Alsop, Chemist, Soda and Mineral Water Manufacturer' listing various waters was shown.

²⁸ *Am. J. Pharm.*, 1836, 2, 89–91. See also *Pharm. J. & Trans.*, 1841–42, 1, 56–60. Peter Squire (see below) produced a modified version of Alsop's pot (see Mohr and Redwood, *Practical Pharmacy*, London, 1849, p. 39.)

^{29*} An advertising leaflet describing the minim measure was shown. Cf. also *Pharm. J. & Trans.*, 1841–42, 1, 326–27.

³⁰ 'On the preparation of Unguentum Hydrargyri Nitratiss', *Pharm. J. & Trans.*, 1841–42, 1, 100–105; and 'On Spiritus Aetheris Nitrici', *ibid.*, 1843–44, 3, 425–28.

^{31*} A facsimile of Squire's inhaler was shown, part of a large collection of anaesthetic apparatus in the Wellcome Museum.

21 December 1846. Squire's interest in ether inhalation reflected the contributions of a number of chemists and druggists to this subject.³³ Peter Squire also deserves to be mentioned as being the first chemist and druggist to replace an apothecary in holding the Royal Warrant—awarded to him in 1837—for supplying medicine. Squire's appointment owed much to the influence of Queen Victoria's physician Sir James Clark and further exemplifies the debt pharmacy owed to the individual first-class chemists and druggists in raising its prestige. A revealing letter in the Wellcome Collection³⁴ from Clark to Squire about his appointment illustrates that the change from apothecaries to chemists and druggists was not taken lightly:

Monday evening

My Dear Sir,

It has afforded me great pleasure to be useful to you, because I believe you to deserve it. The only return I ask is a rigid attention to the preparation & dispensing of the Queen's medicines. You know the responsibility that attaches to me in appointing you, & the objections that might, & would be made, if any serious mistake occurred, in the shop of a *public chemist* over the private & well conducted shop of an apothecary. It will be [to] your interest as well as your duty to have at all times *one man* of the best of character in your shop—one trustworthy man on whom you could place complete dependence when you happened to be absent yourself. I entreat you to take every precaution to secure accuracy and uniformity in the preparation of Her Majesty's medicines. Think if some particular mode might not be adopted to prevent the possibility of any mistake, [then] I will not imagine an error.

I am Dear Sir,

Very truly yours
Ja. Clark

The scientific and technical activities of nineteenth-century chemists and druggists, many of them relatively unknown like Alsop, need to be fully studied, as well as their civic and community activities, before we can obtain a full picture of the standing of nineteenth-century pharmacy.³⁴ Such studies, too, should give us a fuller picture of developments in dispensing techniques, for example percolation,^{35*} the making of plasters,^{36*} pills,^{37*} suppositories,^{38*} and cachets.^{39*}

While it is right that we stress the contributions of conscientious individuals to the improving image of chemists and druggists, and hence pharmacy, the significance of the slowly growing pharmaceutical industry must not be forgotten. Many shops, of

³³ See, for instance, *Pharm. J. & Trans.*, 1846–47, 6, 350–59. B. M. Duncum (*The Development of Inhalation Anaesthesia*, London, 1947, p. 18) quotes a statement that the 'ether practice' of a druggist was a stimulus to the important studies of John Snow.

³⁴ The manuscript letter collection contains approximately 100,000 items.

³⁵ Some attempt at examining the standing of Leicester chemists and druggists has been made by J. K. Crellin, 'Leicester and nineteenth-century provincial pharmacy', *Pharm. J.*, 1965, 195, 417–20.

³⁶ Nineteenth-century percolation tubes were shown. A useful introduction to this subject is in G. Griffenhagen's *Tools of the Apothecary*, Washington, 1957, a documented booklet which includes material on other apparatus mentioned in this article such as pill-making machines and suppository moulds.

³⁷ The small Wellcome collection of plaster spreaders was shown. Also advertisements for machine-spread plasters.

³⁸ Examples of early nineteenth-century English pill-making machines were shown. Also six unusual pill-dividers (eighteenth-nineteenth century). These ranged from knife-like implements to comb-like apparatus and a folding metal mould.

³⁹ A presentation case advertising Henry Wellcome's (later Sir Henry) torpedo-shaped suppositories was shown. (Cf. *Proc. Am. Pharm. Assn.*, 1893, 41, 103–104). The collections also include two wooden suppository moulds, an early nineteenth-century metal one, and early commercial apparatus for preparing suppositories, used by Burroughs, Wellcome and Co.

⁴⁰ A cachet-making apparatus made to the specifications of Limousin's patent was shown. Limousin was the inventor of cachets.

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course, had, in effect, small-scale manufacturing laboratories. John Bell's, which I have already mentioned, approached such proportions, and in fact, almost all the industrial concerns of the nineteenth century developed from retail establishments.⁴⁰

I will, however, only mention here T. N. R. Morson who developed his shop into a manufacturing business following the realization of the commercial potential of the newly isolated alkaloids around 1820.^{41*}

It was partly industrial practice that highlighted, during the early years of the century, the need to separate pharmacy from medicine. Jacob Bell, in 1841, when commenting on Richard Phillips' just criticisms of the *London Pharmacopoeia* remarked

Dr. Powell, as a Physician, [and translator of the 1809 *London Pharmacopoeia*] could not be expected to compete in practical experience with the manufacturing Chemists, many of whom devoted their whole lives to a small section merely of the art of pharmacy.⁴²

The rise of industrial pharmacy also spotlighted the need for tests to determine the quality of their products. In fact attempts to control adulteration provided pharmacy with an important role in nineteenth-century science. Some industrial companies, of course, had an excellent reputation for the quality of their products.⁴³ It is interesting that, judging from trade cards and advertisements, many chemists and druggists supplied chemicals for the increasing numbers interested in practical chemistry.^{44*} Many in fact made either the laboratory or a variety of chemical apparatus a feature of their trade cards, a reminder of their close connection with chemistry.^{45*}

The industry slowly expanded during the century and one consequence deserving special mention was its significant contributions to developments in single dose preparations. This is a reflection of the increasing concern with dosage which is also mirrored in the number of medicine measures that were produced.^{46*} The most far-reaching single dose preparation was the compressed tablet which was patented by the artist/inventor William Brockedon^{47*} in 1843, but probably only fully commercially developed about thirty years later. In fact many details of the nineteenth-century development of compressed tablets remain to be told.^{48*}

There is little doubt that many individual chemists and druggists, from the academic world, from industrial, retail and hospital practice—though the contributions of

⁴⁰ See G. Urdang, 'Retail pharmacy as a nucleus of the pharmaceutical industry', *Bull. Hist. Med.*, 1944, Supp. No. 3, 325–46.

^{41*} Illustrated were some specimen tubes containing samples of alkaloids prepared by pioneers in alkaloid studies.

⁴² J. Bell and T. Redwood, *Historical Sketch of the Progress of Pharmacy in Great Britain*, London, 1880, p. 44.

⁴³ See, for example, D. Chapman-Huston and E. C. Cripps *Through a City Archway, the Story of Allen and Hanburys 1715–1954*, London, 1954, p. 55.

^{44*} Illustrations of portable chemical chests, for which many chemists and druggists supplied materials, were shown. There is a small collection of nineteenth-century chemical chests in the Wellcome collection.

^{45*} Examples of such trade cards were shown.

^{46*} Graduated medicine spoons and Proctor's graduated measures were illustrated.

^{47*} A portrait of W. Brockedon was shown. See *Chem. & Drugg.*, 1954, 162, 209.

^{48*} Brockedon apparatus, consisting of die and punch, and an implement for measuring the amount of powder to be compressed, was shown. There is much material in the Wellcome collection relevant to the story of tableting, including early commercial machines.

hospital pharmacists were disappointing until this century⁴⁹—did a great deal to enhance the standing of pharmacy on the scientific and technical level in the decades following the formation of the Pharmaceutical Society. But the problem remained of extending the improvement to the whole of retail pharmacy.

PROFESSIONALIZATION OF GENERAL PHARMACEUTICAL PRACTICE

I have already indicated that the Society hoped 'improved education, and the moral influence of a properly regulated Pharmaceutical Institution over its members' would be the most important force in improvement. It also stressed the invaluable influence of conscientious individuals and that pharmacy should be for qualified pharmacists only and medicine for qualified physicians only.

But the problems to overcome in raising the general standard of retail pharmacy were truly enormous. Even apart from the stigma of it being associated with a trade, pharmacy had, for the benefit of the public, to clarify its function and to underline the necessity of specialist pharmaceutical practitioners. One of the biggest problems was the extensive counter prescribing which, it must be said, seems to have supplied a social need.⁵⁰ This coupled with the dispensing of medicines by apothecaries created a confusing and unsatisfactory situation which, in the interests of both medicine and pharmacy had to be altered. The Society's clear and laudable view was shown by the *Pharmaceutical Journal* firmly announcing, in 1845, that

We look forward to the time, when it will be considered as much beneath the dignity of a Pharmaceutical Chemist to become an irregular Medical Practitioner, as it would be derogatory to a Physician to practice Pharmacy.⁵¹

A greater problem—which again needed to be resolved by specialization—was the enormous variety of practitioners calling themselves chemists and druggists, which, if nothing else, led to problems over price-cutting. The difficulty of the problem is well summarized in the following passage from the *Pharmaceutical Journal* although other occupations such as book selling—admittedly not so common—might have been mentioned:

The indiscriminate sale of drugs by unqualified persons would produce much less injury to the credit and interests of the regular Druggists, if the public had the means of forming a correct estimate of the value of the articles they purchase, and of the qualifications of the parties concerned. But unfortunately in most country towns not only is every Grocer and Oilman a Druggist, but almost every Druggist is a Grocer and Oilman. The Druggist has no badge or credentials to designate his superior qualification; in fact, he is not of necessity more qualified than the Grocer. The blue and red bottles in the windows are common to all; and this is the criterion understood by the public as indicating what is called 'a doctor's shop'.⁵²

Nevertheless there is little evidence that, unlike nowadays, there was an extensive

⁴⁹ There were of course exceptions; see H. Skinner 'Hospital pharmacy in the centennial period', *Pharm. J.*, 1941, 146, 145–46. T. D. Whittet, ('A history of pharmacy at University College Hospital', *Chem. & Drugg.*, 1953, 159, 619, 644, 670; 160, 17, 43) describes the work of the nineteenth-century eminent pharmacists at that hospital.

⁵⁰ This question has not been fully studied as it deserves; there are numerous statements in the press, and pharmaceutical journals, indicating the value of chemists and druggists' moderate counter prescribing.

⁵¹ *Pharm. J. & Trans.*, 1844–45, 4, 251.

⁵² *Pharm J & Trans.*, 1843–44, 3, 101.

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range of sidelines outside the health, food and chemistry fields.⁵³ Certainly in London with its large number of first-class establishments there was a clearer demarcation of pharmacy.

There was, too, the enormous problem of quackery:

as the law now stands [stated the *Pharmaceutical Journal*], every man who has a 'doctor's shop,' with coloured bottles, is a Chemist and Druggist. The itinerant quack doctors . . . are, according to law, Chemists and Druggists. Although they periodically frequent the markets, they [also] have Druggist's shops, and enjoy the same legal privileges as a Member of the Pharmaceutical Society.⁵⁴

Quackery was in many ways a greater source of confusion than the problems of counter prescribing and uneducated chemists and druggists. It created, for instance, strains of conscience over the sale of certain 'patent' medicines, sales of which were undoubtedly encouraged by high profit margins.^{55*} The story of how quackery affected nineteenth-century pharmacy remains to be told, and I can do no more here than outline the problem. It must be remembered that the limitations of nineteenth-century medicine allowed much headroom for irregular medicine. These limitations were highlighted, for example, by the tragic cholera epidemics. The horrors created by these outbreaks is reflected in historical sources such as illustrations,^{56*} posters,^{57*} and the cholera medicine chests sold by Godfrey and Cooke in 1848–49.^{58*} The contents of these chests were undoubtedly believed to be effective, as were many of the widely used domestic remedies.

Herbal and domestic remedies rarely perturbed the medical profession, for, at least, they rarely did conspicuous harm. But herbalism sometimes bordered on rampant quackery as when it was promoted by A. I. Coffin in the 1840s and 1850s.^{59*} In his popular teaching known as Coffinism he advocated two main remedies only, *Lobelia*^{60*} and Cayenne pepper, but deaths following the use of *Lobelia* helped to bring the movement into disrepute.

In retrospect the dividing line between quack preparations and preparations of doubtful value, but sold in good faith is not always easy to draw. The bottling of sea-water^{61*} and packaging of sea and mineral salts^{62*} for medicinal use, for example, were probably well intentioned, but the full, fascinating story of their use remains to be told.

⁵³ Firm evidence on the introduction of non-traditional sidelines is not easy to gather. However, A. M. Carr-Saunders and P. A. Wilson in *The Professions*, Oxford, 1933, p. 137, quotes a 1919 Memorandum by the Scottish Pharmaceutical Federation to the effect that the scope of sidelines had widened.

⁵⁴ *Pharm. J. & Trans.*, 1845–46, 5, 193.

^{55*} An early nineteenth-century satirical print on the sale of 'patent' medicines was shown. 'Patent' medicines were widely sold and advertised by chemists and druggists.

^{56*} An illustration of burning clothes during the 1832 Exeter cholera outbreak was shown.

^{57*} Illustrated was a poster, dated 1831, addressed to the inhabitants of the Parish of Clerkenwell warning about the 'alarming approach of the Indian Cholera'.

^{58*} Two such chests were exhibited. The contents were mostly draughts and powders of astringent and opiate preparations. Descriptive leaflets, describing the chests were also shown.

^{59*} Illustrated was Coffin's portrait. Also shown was a bronze medal advertising Coffinism.

^{60*} *Lobelia inflata* was illustrated to draw attention to the large materia medica collection—over 6,000 specimens—in the Wellcome Museum.

^{61*} A siphon of sea-water and seaweed from a nineteenth-century sea-water clinic was shown.

^{62*} A bottle of 'Natural Karlsbad Sprudel Salt' was shown.

Related to the use of sea-water is the nineteenth-century popularity of spas for treatment and for convalescence. Charles Darwin—who was virtually a semi-invalid from about the age of thirty^{63*}—gives us some idea of the reasons for their popularity. Writing to J. D. Hooker in 1849 he remarked:

having heard, accidentally, of two persons who had received much benefit from the water-cure, I got Dr. Gully's book, and made further enquiries, and at last started here [at the Malvern Hydropathic Institution] with wife, children and all our servants. We have taken a house for two months, and have been here a fortnight. I am already a little stronger . . . Dr. Gully feels pretty sure he can do me good, which most certainly the regular doctors could not . . . I feel certain that the water-cure is no quackery.⁶⁴

Darwin's career was almost changed by another popular school of thought—Lavater's idea that facial features revealed character. When Darwin was interviewed by Captain FitzRoy about his wish to become naturalist on the sailing ship the *Beagle*, FitzRoy had qualms about the shape of Darwin's nose thinking it suggested he would be a bad companion on the voyage. Fortunately for science FitzRoy decided his fears were groundless and Darwin went on the voyage that was to lead him to his theory of evolution. Similar to Lavater's physiognomy was phrenology whereby character was thought to be indicated by cranial features. Phrenology achieved considerable popularity in the first half of the century partly through the use of teaching aids such as charts^{65*} and marked heads.^{66*}

One unorthodox system—homeopathy—founded by Hahnemann became especially popular in Britain from the 1840s and 1850s, noticeably amid the middle and upper classes. Judging from advertisements and homeopathic medicine chests that have survived^{67*} it is clear that many chemists and druggists soon dealt in homeopathic remedies. One squabble over the sale of these medicines developed when the *Lancet* grumbled that Lea and Perrin (the chemist and druggist originators of Worcester sauce) were supplying homeopathic remedies at Malvern, around the time of Darwin's visit to the spa, but the *Pharmaceutical Journal* rightly stated that the blame should be placed at the feet of the physicians who prescribed the remedies.⁶⁸

I have already indicated the various forces for improvement of pharmacy amid this diverse background, and I have stressed the important role of the responsible, conscientious chemist and druggist. But the style and appearance of his establishment was obviously of great importance to the question of public image.

It is certain that the better class establishments were extremely elegant; they reflected the pharmaceutical activities of the proprietor and did much to enhance the image of pharmacy. Just how many first-class establishments there were is difficult to say, but, judging from surviving illustrations—such as cartoons, trade card engravings, paintings and photographs, there were a sufficient number, at least in

^{63*} A manuscript postscript from a letter written by Darwin was shown which begins: 'My health keeps much as it was: I never escape for a whole day without much discomfort'.

⁶⁴ F. Darwin, (ed.), *The Life and Letters of Charles Darwin*, 1888, vol. 1, p. 373.

^{65*} Examples of charts were shown; for example those issued by F. Bridges, a well-known phrenologist.

^{66*} Examples from the large collection of pottery phrenological heads were illustrated.

^{67*} Chests from the Wellcome collection were shown.

⁶⁸ *Pharm. J. & Trans.*, 1851–52, 11, 290–91.

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London, to remind the public of the true function of pharmacy.^{69*} Illustrations invariably indicate that the windows of the shops were dressed by specie jars and carboys only—the two popular symbols of pharmacy.^{70*} The shops had undoubtedly changed from the earlier eighteenth-century apothecary shops if only because the well-known ‘blue and white’ delftware jars with their playful, individually painted cherubim and angels had disappeared.^{71*}

Largely instrumental in this change was Josiah Wedgwood who, in the 1760s, pioneered the more serviceable ‘creamware’ pottery. Although creamware was widely used for a time—at least for making syrup jars^{72*}—the most common pottery storage vessels of the nineteenth century were in coloured earthenware or stoneware. Nevertheless it must not be forgotten that glass containers became more and more predominant.^{73*} Though the nineteenth-century pottery vessels were rarely decorated^{74*} many of them had a sturdy elegance which was perhaps more suited to the scientific trends of the nineteenth-century than the individually decorated delftware jars.^{75*}

A further word should perhaps be said of the important contributions of Josiah Wedgwood to pharmacy. In 1779 he started to produce the now celebrated composition mortar which created such a revolution in pharmacy.^{76*} It was not long too before he started to produce a wide range of chemical apparatus such as crucibles and retorts.^{77*}

The only ‘frills’ in the nineteenth-century pharmacy were the sets of jars for leeches, tamarinds and honey.^{78*} Leeches, of course, are a reminder of the heroic treatment of bleeding frequently sustained by the nineteenth-century patient. The numbers of leeches used reached phenomenal proportions and must certainly have provided the chemist and druggist with a healthy income. Many homes possessed their own leech tube for domestic application of leeches.^{79*} Other methods of the popular practice of bloodletting were by the lancet,^{80*} by a mechanical leech^{81*} and by

^{69*} Many examples of the various types of illustration were shown including four photographs (ca. 1870) of Leicester chemists and druggists’ shops which strongly suggest that provincial shops were not always so elegant as the better ones in London. A little-known impressionist painting by J. Whistler of a chemist and druggist’s shop in an industrial background was also shown.

^{70*} A slide of specie jars was shown. Two of the jars were unusual in that they were used for advertisement purposes (Winter’s Bears’ Grease and Winter’s Quinine Balsam for the Hair). How common this was is unknown.

^{71*} Close-up views of the cherubim and angels appearing on the jars were shown.

^{72*} Examples from the large Wellcome collection were illustrated.

^{73*} Glass jars and bottles were illustrated. There is an extensive range of nineteenth-century English glass storage jars (and wooden containers) in the Wellcome Museum, which throw light on the elegance of nineteenth-century pharmacy.

^{74*} Exceptions were shown such as the embossed Royal Coat of Arms on stoneware storage jars and Galen’s head underneath the spouts of a set of creamware syrup jars.

^{75*} Examples of nineteenth-century coloured pottery vessels were shown.

^{76*} A Wedgwood composition mortar dating from 1779–1780 was shown, one of the earliest Wedgwood produced. A large collection of over 550 mortars in the Wellcome Museum, made from a variety of materials, is available for study.

^{77*} Examples of these were shown, part of the very large Wellcome collection of nineteenth-century chemical apparatus.

^{78*} Examples were illustrated. For a useful introduction see A. Lothian, ‘English leeches and leech jars’, *Chem. & Drugg.*, 1959, *Centenary Number*, 153–58.

^{79*} Examples of leech tubes were shown. These are frequently found in the large collection of nineteenth-century domestic medicine chests in the Wellcome Museum. They were used for applying the leech to a precise spot on the body and seem to have been first described in *Mon. Gaz. Health*, 1824, 9, 943–44. Also illustrated were perforated gauze wire cages used for similar purposes.

^{80*} Examples from the large collection of nineteenth-century lancets were shown.

^{81*} Examples of ‘mechanical’ leeches made by Kidston and Co., and Weiss and Co. were shown. The extent of the use of the mechanical leech remains to be studied.

cupping.^{82*} It is of interest that it was not unknown for a chemist and druggist to add cupping to his sidelines.^{83*}

In considering the prestige of nineteenth-century shops we must remember that this partly depended on the clientele. It could range widely from the wealthy patients of a physician to the sick poor requesting help. Many customers certainly came in to have family prescriptions dispensed and for the purchase of and refilling of home medicine chests. This feature of the chemists and druggists' activities must not be forgotten for it greatly contributed to the amount of pharmacy they practised. Evidence of this comes from the many domestic medicine chests that have survived and the fact that chemists and druggists generally advertised their services for the dispensing of family recipes.^{84*} The home medicine chests seem to have become popular during the second half of the eighteenth century, a time when many Family Recipe Books were still widely used.^{85*} The beautifully polished medicine chests, many of which bear the vendor's label such as John Bell, Savory and Moore, and Apothecaries' Hall, must have been widely sold.^{86*} Booklets accompanying these chests described the contents and their use.^{87*} Particularly important, I think, was the precise advice the booklets gave about dosage. It is probable that the nineteenth-century patient was generally more lax than the modern patient. In 1866 the writer of the annual report of the Leicester Domestic Mission noted:

I once knew two women who used to go halves in the medicine procured by ticket from the Dispensary. When the ticket of one had expired the other would obtain a fresh ticket, and so they went on sharing each other's physic for a long time, one to get well, the other that she might not be ill.⁸⁸

But apart from advice on dosage the medicine chests and booklets, by largely providing and discussing the preparations used in regular medical practice, did a useful service against the background of unorthodox medicine we have discussed. But just how valuable a service remains to be studied. At the same time we need more studies on individual shops along with, as we have mentioned, studies on individual proprietors, especially in the provinces, before we can get a clear idea of the success of the forces of professionalization.

In this paper I have tried to give some idea of the forces affecting pharmacy. I have tried to show that nineteenth-century chemists and druggists were fortunate in that, while they had enormous problems, they had a well-defined place in the medical team and were not beset with such problems as a dominant pharmaceutical industry

^{82*} Examples of the many cupping sets in the Wellcome collection were shown.

^{83*} Trade cards advertising this service were shown.

^{84*} Examples of trade cards mentioning both the sale of medicine chests and the dispensing of 'family recipes' were shown. In 1844 the *Pharmaceutical Journal* (1844-45, 4, 148) commented on windows being adorned 'with coloured show-bottles, cut smelling-bottles, medicine chests, tooth-brushes, and perchance a few proprietary medicines'. A list of over 250 names of chemists and druggists who supplied preparations for the chests in the Wellcome collection has been compiled.

^{85*} Pages from the large collection of Family Recipe books in the Wellcome library were shown. The wide variety of recipes from these volumes for the 'bite of the mad dog' was emphasized.

^{86*} Examples of chests with these labels were shown.

^{87*} Examples of the booklets were illustrated. Over fifteen of these uncommon items are in the Wellcome collection.

⁸⁸ *Annual Report of the Leicester Domestic Mission Society*, Leicester, 1866, p. 8.

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and the proliferation of chain stores. While twentieth-century pharmacy is clearly beset with new problems, many of its difficulties are analogous to those of the nineteenth century. But it must not be forgotten that in looking for solutions to these problems the question of the role of pharmacy in present-day society needs to be settled. After all, the founders of the Pharmaceutical Society decided on the role in the context of nineteenth-century conditions, before they embarked on their attempts at professionalization.