

# THE EDINBURGH PHARMACOPOEIA

BY

DAVID L. COWEN, M.A.\*

## I. HISTORICAL DEVELOPMENT AND SIGNIFICANCE

THE Royal College of Physicians of Edinburgh, after an abortive attempt in 1683,<sup>1</sup> issued its first *Pharmacopoea Collegii Regii Medicorum Edimburgensium*<sup>2</sup> in 1699. By 1817 the College had made nine significant revisions and published its last (tenth) edition in Latin. In 1839 and 1841 it presented two editions of its Pharmacopoeia in English, under the title *The Pharmacopoeia of the Royal College of Physicians of Edinburgh*. Thereafter, the Edinburgh Pharmacopoeia lost its identity, as it, and the London and Dublin Pharmacopoeias, were merged into the *British Pharmacopoeia*, which was first issued in 1864.

The Edinburgh Pharmacopoeia thus presents a long, unbroken source for the study of the history of medicine and pharmacy, covering the very significant period when these were being subjected to the impact of the emerging chemical and biological sciences.

It has been suggested that the first Edinburgh Pharmacopoeia was issued to meet the need that developed as the apothecary 'confined himself to the preparation and composition of medicines which the physician prescribed'.<sup>3</sup> More probably, however, the Pharmacopoeia was first conceived—and it is significant that the first recorded item of business in the extant minutes of the Royal College (1682) was concerned with a committee on a Pharmacopoeia<sup>4</sup>—as a weapon in the struggle then going on between the Physicians and the Chirurgeon-Apothecaries of Edinburgh. The Physicians sought to separate these two branches of the profession, and wished to regulate the practice of pharmacy themselves.<sup>5</sup> The College of Physicians claimed certain supervisory and licensing powers over the apothecary by virtue of its Charter and of an Act of Parliament,<sup>6</sup> and tried diligently to implement them.<sup>7</sup> Oddly enough, the first Pharmacopoeia appeared during a ten-year lull in these hostilities,<sup>8</sup> and the first edition barely hinted at these powers. But by 1721 the quarrel blazed brightly again,<sup>9</sup> and the three subsequent editions of the Pharmacopoeia (1722, 1735, 1744), all explicitly referred to them in their prefaces. (Later the eighth, ninth, and tenth editions—1792, 1803, 1817—not only repeated the 1722 preface, but also added a footnote reference to the Act of Parliament involved. This was very

\* University College, Rutgers University, New Brunswick, New Jersey.

likely intended to emphasize the College's superior legal and professional position.<sup>10</sup>)

In addition, the suggestion that the Edinburgh College wished to emulate the London College cannot be entirely discounted in assessing the motivations behind the publication of the first Edinburgh Pharmacopoeia.<sup>11</sup>

Finally, it needs to be pointed out that the strong language used in the 1699 Preface (the opponents of the Pharmacopoeia were called heedless, malevolent, yelping men who *dente rodant maligna*) does not indicate that the Pharmacopoeia was a by-product of what Sir Robert Sibbald called the 'match of Scoulding here betwixt some of our young physitiens'.<sup>12</sup> As a matter of fact, the events of 1683 demonstrate (see note 1) that controversy delayed, rather than brought forth, the Pharmacopoeia.

There is, however, much more of historical interest in the Edinburgh Pharmacopoeias than their role in the now classic struggle of the physicians, surgeons, and apothecaries. In these Pharmacopoeias, through the changes in their form and arrangement, through the changes in the materia medica, and through the changes in pharmaceutical nomenclature, are revealed the impact of the new science on medicine and pharmacy.

### *The arrangement of the Pharmacopoeia*

The early editions of the Edinburgh Pharmacopoeia followed seventeenth-century patterns and were arranged essentially in three parts. First there was a list of 'Simples', usually of about 50 pages, subdivided into those of vegetable, animal, and mineral sources, in that order. This was followed by about 150 pages of preparations, subdivided into 17 or 18 such categories as tinctures, powders, and electuaries. Finally, there were about 50 pages of chemical medicines, subdivided into those made from animal, vegetable, and mineral sources.<sup>13</sup> This remained the basic organization through the fifth edition (1756), which commented that, 'The old arrangement of medicines is retained, as appropriate enough.'<sup>14</sup>

In the sixth edition (1774), however, significant changes were made. In the first part the term 'Simples' gave way to 'Materia Medica', and the old subdivisions were discarded. The new alphabetical list included not only the simples but also 'those preparations which are not prepared by the apothecary but ought to be always on hand in his shop'.<sup>15</sup> The second and third parts were merged into one called 'Preparations and Compositions', now divided into 24 groups. In this latter change there is evidence of the direct influence of Sir John Pringle, then approaching the height of his eminence in London, and one-time (1732) member of the Pharmacopoeia Committee of the Edinburgh College.<sup>16</sup> At the request of the President (John Boswell), Pringle set forth his views on the revision of the Pharmacopoeia in a voluminous string of letters. In 1771 he wrote:

### *The Edinburgh Pharmacopoeia*

Further, as to the arrangement of the compound medicines, all that I can say at this time, is that I am not satisfied with our present form. We make a division, but only give a title to the last part of it viz. *Medicamenta Chemica*, p. 153. Now if it should be asked by what name we call the *Medicamenta* preceding this class, we should be at a loss what to answer. . . . Galen knew nothing of distillations & I fancy very little of our Tinctures & Elixirs, which all come under this anonymous class of medicines. And indeed I cannot see that with any propriety we can separate those very processes from Chemistry.<sup>17</sup>

Sir John suggested a completely alphabetized arrangement of the Pharmacopoeia at the same time,<sup>18</sup> but he was far in advance of his colleagues, for the dichotomy between 'Materia Medica' and 'Preparations' thus begun in 1774 was not done away with during the life of the Edinburgh Pharmacopoeia.

(The changes made in 1774, it needs to be pointed out, were not without their critics. One deprecated the fact that 'the slightest shadow of a sound classification system could not be found in the materia medica. The animals, plants, and minerals are thrown together in the irritating fashion of the horn-book.'<sup>19</sup> Another, much later, decried the fact that the preparations showed no special order.<sup>20</sup>)

### *The Materia Medica*

The first edition of the Edinburgh Pharmacopoeia was 'according to the notions of the times . . . overloaded with a variety of useless and disgusting substances, such as *Cranium hominis violenta morte extincti*, *Secundia humana*, [and] *Stercus humanum*'.<sup>21</sup> Such inelegant materia were retained for a long time, and the perseverance of some of them in the face of the growth of reason and science indicates the tenacity of folk medicine and the power of authority and tradition.

This is particularly indicated by the changes that took place with regard to the animal simples in the Edinburgh Pharmacopoeia. For example, the fourth edition (1744) still listed among the simples, the blood, urine, fat, milk, cranium, and mummy of man.<sup>22</sup> Indeed it was not until the fifth edition (1756) that a semblance of a rational cleansing of the materia medica was to be found. The College then 'banished' certain medicines that had been retained unchanged through 'superstition', or 'credulity', or 'established custom'.<sup>23</sup> *Homo* and his parts were completely removed and the whole list of animal simples reduced from 47 to 27. In the sixth edition (1774) these were reduced to 10 (most of which remained in the Pharmacopoeia for some time thereafter).

The same process took place among the vegetable simples—by far the largest part of the materia medica. The third edition of the Pharmacopoeia

(1735) was praised because 'the Catalogue of the Simples [was] somewhat enlarg'd . . . [and] many new Medicines were added',<sup>24</sup> but the process was reversed with the fifth edition (1756), which, as mentioned above, was proud that it banished some of the old foibles.

By the sixth edition (1774) the College was openly boasting that it had much abridged the materia medica,<sup>25</sup> and the critical John Rutty listed 142 simples that had been eliminated.<sup>26</sup> Moreover, the process continued in subsequent editions, and although there were relatively few deletions in the seventh (1783)<sup>27</sup> and eighth (1792),<sup>28</sup> the ninth edition (1803) eliminated 56 simples that had been carried by its predecessor.<sup>29</sup>

For reasons behind this contraction in the list of simples, we have this account from the pen of Sir John Pringle:

With regard to the list of Simple Medicines, if I remember right, I wrote my opinion of it to Dr. Hope [apparently in reference to an abortive attempt at revision in 1764], & likewise at that time either transmitted to him, or to Dr. D. Clerk such a catalogue as what I believed was more conformed to modern practice, than what stood in the Dispensary, in which I observed there was a multitude of simples which were either never called for by physicians, or so seldom, that for the most part they must be found in a spoilt condition. I was therefore clear in my opinion that our list should be much abbreviated, and by way of specimen I took the liberty of offering a new one drawn up accordingly. I remember further, to have had the satisfaction afterwards to hear that several of the members of the College had agreed with me in the general principles, & had not much differed with me in the number & choice of those medicines.<sup>30</sup>

But as the old simples were eliminated, new ones, sometimes no more reasonable or scientific than the old, were added.<sup>31</sup> Often the eliminations were only temporary. For example, both *spongia* and *digitalis* were to be found in the first three editions (1699, 1722, 1735) and the latter in the fourth (1744) as well. Both were dropped (*digitalis* perhaps because of Boerhaave's disfavour<sup>32</sup>), and both reappeared, *digitalis* in the seventh edition (1783) and *spongia* in the eighth (1792). Sometimes new additions were not retained very long. *Cubeba*, *ginseng*, and *lichen Islandicus*, for example, were added in 1783<sup>33</sup> and deleted in 1803.<sup>34</sup> Although the College was reluctant to make too many such changes lest 'the opinions of the College acquire a fluctuating and unsteady appearance',<sup>35</sup> the total result was a real decrease in the materia medica. In the third edition (1735) the simples totalled 590; in the ninth (1803) the materia medica included 222 items.

This of course had a parallel effect on the preparations and compositions, and eliminations in this part of the Pharmacopoeia also became common. Two are particularly worth noting: the dropping of the Electuary of

### *The Edinburgh Pharmacopoeia*

Mithridates and the Venice Treacle from the fifth edition (1756). These had a long history in the materia medica, and, a century earlier, had been aptly labelled 'terrible messes of altogether' by the sharp-tongued Nicholas Culpeper.<sup>36</sup> Their elimination from the Edinburgh Pharmacopoeia was possibly the result of William Heberden's *ANTIŒPIAKA, An Essay on Mithridatum and Theriaca*, published in 1745.<sup>37</sup>

Other omissions were almost as tradition-shattering as these. In 1803, for example, some eighteen preparations were deleted, among them prepared millipedes and prepared oyster-shells.<sup>38</sup>

It needs to be pointed out that these eliminations were not all made by subjecting the old superstitions and credulities to either reason or ridicule. Some were made for very practical considerations: only the substances still in use were included in the Pharmacopoeia; preparations were not included which could not keep on the apothecary's shelves; certain preparations were excluded so as not to restrict the freedom of choice of physicians; and many remedies were common in the household and were superfluous in an official compendium.<sup>39</sup>

This process of attrition, however, was compensated for by the addition of new medicines. These showed the influence of the developments in chemistry to a large extent. In the ninth edition (1803), for example, a list of twenty-three new preparations added was characterized by such items as Hydro-sulphuretum ammoniae and Carbonas ferri praecipitatus.<sup>40</sup>

The College contended that new drugs were accepted into the Pharmacopoeia only by virtue of the experience of the College itself or by the recommendations of noted men.<sup>41</sup> This meant that the materia medica was beginning to take on the scientific aura of pharmacological study and clinical test. Thus the sixth edition (1774) introduced drugs 'which of late have been recommended by Professor Storck [*sic*] of Vienna'.<sup>42</sup> (Of the several articles which Dr. Stoerck recommended after 'careful studies' in the 1760's,<sup>43</sup> two, cicuta and hyoscyamus, were already in the Edinburgh Pharmacopoeia; and four, aconite, colchium, pulsatilla, and stramonium, were added in the 1774 edition.)

Thus, also, digitalis was re-introduced into the seventh edition (1783). In this instance much of the detail can be pieced together, reminding us that these procedures, though they were approaching scientific stature, were still indirect and fortuitous. William Withering himself had written that:

In February 1779 my friend Dr. Stokes communicated to the Medical Society at Edinburgh, the results of my experience of the Foxglove, and, in a letter addressed to me in November following he says, 'Dr. Hope, in consequence of my mentioning its use to my friend Dr. Broughton, has tried the Foxglove in the Infirmary with success. I am assured by my worthy friend Dr. Duncan that Dr. Hamilton, who learned its use from Dr. Hope, has employed it very frequently in the Hospital at Edinburgh.'<sup>44</sup>

Dr. Stokes was not a Fellow of the Royal College,<sup>45</sup> but Drs. Duncan, Hope, and Hamilton were, and they constituted three of the eight members present at the special meeting which completed the work on the 1783 Pharmacopoeia.<sup>46</sup> Moreover, Dr. Cullen, who was later to recommend that Withering's book 'should be in the hands of every practitioner of physic',<sup>47</sup> was a member of the committee responsible for the revision of the Pharmacopoeia.<sup>48</sup>

It is worth noting, also, that at times a definite attempt was made to provide substitutes for noted proprietaries and like remedies. The eighth edition (1792), particularly, contained formulas equivalent to Glauber's<sup>49</sup> and Rochelle salts, Keyser's pill, calomel, and 'Dr. James' Fever Powder'.<sup>50</sup>

Although the criticism that the Edinburgh Pharmacopoeia was slow in adopting new remedies was heard occasionally,<sup>51</sup> most of the criticism was directed, implicitly and explicitly, against the abridgment of the materia medica. For example, in Germany, in 1776, Baldinger reissued the sixth edition of the Pharmacopoeia,<sup>52</sup> adding to it lists of considerable length of both simples and preparations.<sup>53</sup> Twice thereafter he published lists of *Zusätze*,<sup>54</sup> and in 1784 he published another edition of the Pharmacopoeia in the same vein.<sup>55</sup> Even more pointedly, John Rutty castigated not only the Edinburgh but also the London Pharmacopoeia for their omissions. The former, he wrote, 'proceeded further in indulging the spirit of retrenching; and indeed both Colleges have too evidently betrayed an unjust contempt of our indiginous Plants. . . . Indeed, they both seem to have given too much countenance to that fantastical maxim, *Cara quae rara, & vice versa.*' Wise men, he believed, should take advantage of 'the bountiful Hand of Nature', and the materia medica ought to be for general use of citizens and physicians even in remote parts of the country.<sup>56</sup>

Rutty's work therefore proceeded to provide a list and description of 142 articles omitted from the Edinburgh Pharmacopoeia, and of 135 omitted from the London work.

There was also the opposite criticism that the Edinburgh Pharmacopoeia had not cleansed itself thoroughly and had left too much 'to be deleted by posterity'.<sup>57</sup> Even Baldinger, with all his *Zusätze*, named several vegetables that he considered superfluous.<sup>58</sup> Over such matters, of course, it could be expected that there be much difference of opinion among medical men. More significant, however, was the fact that Baldinger objected not to the *Vinum Millepedatum* in the 1744 edition, but to the danger that wine would 'destroy the medical virtues of these animals'.<sup>59</sup> Similarly, a reviewer of the 1792 edition raised no objection to the introduction of *Acetum aromaticum*, and went on to say that it was 'an article which may be of considerable use, where vinegar is employed for counteracting contagion,

### *The Edinburgh Pharmacopoeia*

and which may be considered as an elegant reformation of what was formerly known under the name Thieves vinegar, an article celebrated even against the contagion of the plague'.<sup>60</sup> In the same vein of elegant reformation was the introduction of the Electuarium Thebaicum into the sixth edition (1774) to replace the theriaca and mithridate previously excluded.<sup>61</sup> Obviously progress was slow and the inertia of tradition difficult to overcome. Dr. Rutty had underestimated the power of the 'sanction of Antiquity and Experience'.<sup>62</sup> As the College had voiced it as early as 1744, the 'Art of Pharmacy will expunge its errors [only] gradually'.<sup>63</sup>

#### *Pharmacopoeial revision*

In contrast with the practice of the London College,<sup>64</sup> the Edinburgh College frequently revised its Pharmacopoeia. In the 142 years from the first to the last edition, the College was responsible for twelve acknowledged editions (1699, 1722, 1735, 1744, 1756, 1774, 1783, 1792, 1803, 1817, 1839, 1841), and one other<sup>65</sup>—one revision in almost each decade. There were of course those who thought that this made the Pharmacopoeia 'variable in its direction and unsteady in its principles' and lamented that 'many practitioners of eminence are obliged to have recourse to their junior apprentices for an explanation of the technical language of the day'.<sup>66</sup> Others, however, felt that frequent revision would keep the Pharmacopoeias in step with the progress of science, that the changes would be gradual rather than abrupt, and that it would keep pharmacy dynamic.<sup>67</sup> One commentator—probably Andrew Duncan—believed that even the intervals between the editions of the Edinburgh Pharmacopoeia seemed too long.<sup>68</sup>

The impetus for the revision of the Pharmacopoeia usually came, however, not from any demands of new scientific advances, but from the exhaustion of stock of previous editions. Usually the President informed the College that the last edition had been 'sold off', or that the usual eight-year copyright was expiring, and recommended the consideration of a new edition.<sup>69</sup> Once, in fact, revision was probably hastened by the publication of an unauthorized edition (the London, 1732 printing), and once (1799–1800) the publication of a revision was deliberately delayed because 'there were a good many copies of the old edition unsold'.<sup>70</sup>

This is not to say that the College saw the Pharmacopoeia as a fruitful revenue-raising measure—an authorized edition brought the College £80 and 50 copies in 1773<sup>71</sup> and £100 and 100 copies in 1801<sup>72</sup>—or that it took revision lightly. The record is clear that each revision received careful consideration, first of a committee usually headed by the President of the College, and then of the whole College. Often the results of the committee's work were either circulated among the College,<sup>73</sup> or 'laid upon the table'

for examination and criticism,<sup>74</sup> and put into final form at a College meeting—sometimes a special meeting called for that purpose.<sup>75</sup> During these proceedings it was not uncommon to seek the advice of others. The professors of chemistry and materia medica at the university were asked for their opinions,<sup>76</sup> and it is not unlikely that the appeals for suggestions to Sir John Pringle, and his studied responses,<sup>77</sup> were repeated to and by other such savants. Once (1732), in a rather uncommon display of friendliness, the College invited the Chirurgeon-Apothecaries Society to express their ‘thoughts’ on revision.<sup>78</sup> The Chirurgeon-Apothecaries accepted the invitation, appointed a committee whose ‘Observations’, after being approved by the Society, were presented to the College of Physicians and ‘received very kindly on the part of the Colledge’.<sup>79</sup>

Moreover, it needs to be pointed out that the College was keenly aware of its professional obligations and its responsibility to the public, particularly when new impressions were to be issued. In 1775, for example, in granting permission to the publisher for a re-issue, the Pharmacopoeia Committee recommended that care be had ‘that no advantage be taken of the publick in the mode of advertising the new impression’.<sup>80</sup>

Related to the problem of revision was the problem of translation. In the eighteenth century, English translations by Peter Shaw reached five ‘editions’ and perhaps eight printings. William Lewis also issued a translation, and, in the next century, so did John Thomson. These retained the Pharmacopoeia intact, and, judging from the fact that the Library of the College has but one edition of Shaw, were perhaps frowned upon by the College. Moreover, countless dispensatories, in English, offered the Pharmacopoeia in combination with other works, those of Charles Webster, John Rotheram, and the two Andrew Duncans calling themselves the *Edinburgh New Dispensatory*. It was the popularity of such works, and the ‘slow sale of the last Latin Edition’, that led the College, in 1839, to issue its Pharmacopoeia in English. It was no longer a test of learning, the College pointed out, that ‘a College of Medicine should write in Latin alone’. The move was ‘sanctioned by the almost unanimous consent of the College’, and was expected to ‘meet with the general approbation of the medical public’.<sup>81</sup>

### *Nomenclature*

Thus far in this study it has been suggested that the application of reason played a role, albeit of questionable importance, in the cleansing of the Pharmacopoeia. Little direct evidence has been cited that Reason was combating Superstition, Credulity, and Tradition. Much more research must be done, and in other sources, before it can be sure how much of this cleansing was a reflection of the attitudes of the Enlightenment. Indeed,



## *The Edinburgh Pharmacopoeia*

empirical considerations seem largely responsible for the mid-eighteenth-century attrition in the materia medica.

There is little question, however, about the impact of science—as distinguished from reason—on the part of pharmacy. The new development of taxonomy in biology, the new ideas and nomenclature of chemistry, were all concretely put down in the Pharmacopoeia, and were all a source of controversy and discussion in the critical literature.

The first significant indication of this influence of the new science on the Edinburgh Pharmacopoeia was in the sixth edition of 1774. (It is thus not accidental that this is the edition in which there was so great an elimination of simples, and in which the arrangement of the work was changed.) Indications are that this edition was the work of Dr. William Cullen, then President of the Royal College of Physicians of Edinburgh, and Dr. Joseph Black.<sup>82</sup> Using and citing pages from the 1762 edition of Linnaeus's *Species Plantarum* and the 1767 edition of his *Systema Natura*, it appended the Linnean morphological characteristics to the names of almost all of the vegetable drugs. The seventh edition of the Edinburgh Pharmacopoeia (1783) continued this practice, usually adding the species name parenthetically (and referring also to Linnaeus's *Systema Animala*) and went on to attempt a re-naming of certain composite remedies 'to designate more plainly and accurately their true nature and peculiar parts'.<sup>83</sup>

The next edition (eighth, 1792) made additional significant changes. Perhaps in response to criticism of the use of lengthy Linnean characteristics,<sup>84</sup> this edition used only the genus and species (and occasionally the variety) names, citing Linnaeus's *Systema Vegetabilium* for the vegetables and his *Systema Natura* for the animals. (References to other works are also to be found.) Moreover, this edition attempted also to change the names of the chemicals to conform with new developments.<sup>85</sup> This meant not only the introduction of new names (e.g. soda—which the London Pharmacopoeia was calling natron;<sup>86</sup> hydrargyrus for mercury; antimonium for stibium; antimonium tartarisatum for tartarus emeticus), but the introduction of a principle that was difficult to follow through, namely, that a compound be named after 'those parts on which its activity' depended.<sup>87</sup> Indeed, the changes, both biological and chemical, represented so revolutionary a presentation that there was appended a double index of 'Nominum Mutatorum' by which the vulgar names were readily transposed into the 'proper' names, and vice versa.

The ninth edition (1803), although still retaining certain long accepted vulgar names that were admittedly not in conformity with scientific classification,<sup>88</sup> carried the process still further. The materia medica were listed alphabetically by 'new' or 'proper' names, and, reversing the previous arrangement, these were followed by the 'vulgar' names. New names

were again introduced and the terminology of Lavoisier replaced that of Bergman,<sup>89</sup> apparently in the belief that since the former 'has now been accepted by the younger practitioners, [it] will shortly be accepted by all the physicians and pharmacists'.<sup>90</sup>

These attempts 'to effect a complete reform of the language of *materia medica* . . . on general scientific principles . . . [which language] was formerly so barbarous and heterogeneous',<sup>91</sup> were not accepted gracefully by all of the profession. The controversy engendered is worthy of separate and thorough study; here only the basic issues can be suggested.

The proponents of the new terminology contended that uniformity and universality would result from the adoption 'of the improved languages of . . . natural history and chemistry, of which . . . *materia medica* and pharmacy are but branches'.<sup>92</sup> This uniformity was rational, would end confusion, make for progress in pharmacy, and inspire scientific advance. Moreover, it would impose a desirable knowledge of the sciences upon the physician and pharmacist.<sup>93</sup>

The opponents not only rejected these arguments but contended that the opposite was true. Most outspoken was Dr. John Bostock, one-time president of the Edinburgh Medical Society, who published, in 1807, a pamphlet opposing the new language in the Edinburgh Pharmacopoeia, and, in 1810, one opposing such innovations in the London Pharmacopoeia.<sup>94</sup> Dr. Bostock conceded the need for a new nomenclature in the other sciences but not for medicine and pharmacy. His argument was essentially empirical: the physician needed to know only 'the power which the medicines possess over the living body'. The pharmacist (by implication) needed only to be able to proceed according to the art. The multiplicity of names, the rapidity with which they were changing, the disagreement among authorities, the errors readily acknowledged, the complexity of the names, the inability to perfect a systemization, the ignorance of the new nomenclature by contemporary practitioners, all meant confusion and danger. His basic premises of empiricism may have boded ill for the scientific advancement of medicine and pharmacy; his enumeration of errors, inconsistencies, and vacillation were telling arguments, however.<sup>95</sup>

The College nevertheless developed rather paper-neat criteria for the system of nomenclature it adopted,<sup>96</sup> and certain of the friends of the Pharmacopoeia, although they recognized the validity of some of Dr. Bostock's criticisms, still found 'striking merit' in the system.<sup>97</sup> Not so Dr. Bostock, who thought the College, though it had the ability, had very imperfectly carried out the reform.<sup>98</sup>

Eventually it was the College that had to acknowledge the error of its ways. In its first English edition in 1839 the College admitted that the

### *The Edinburgh Pharmacopoeia*

nomenclature gave 'less satisfaction' than any other part of the Pharmacopoeia. There were few practitioners, it continued:

who now entertain any doubt that the College committed a grave error when they were first seduced by the philosophical abstractions of modern chemical nomenclature, to abandon for the terms of scientific chemistry the trite names formerly used in Pharmacy and medical practice.

The more decorous dress of science or philosophy has been dearly purchased at the cost of being compelled to follow the changing fashions of the day . . . practitioners will not submit much longer to the constant fluctuations which have been for some time forced upon them in pharmaceutical nomenclature. We have done our best to put a stop to this evil. The result has been necessarily a patchwork, of which we cannot boast. . . . A uniform nomenclature for pharmacy is now unattainable.<sup>99</sup>

#### *Other developments*

There are several other considerations in the development of the Edinburgh Pharmacopoeia worthy of attention. Beginning with the seventh edition (1783), the usual 'Table of Weights and Measures' became simply a 'Table of Weights', and the practice began of giving all measurements by weight, whether for solids or for liquids.<sup>100</sup> In the eighth edition (1792) the allowance was made that wine, water, and watery fluids might be measured in special glass graduates which indicated the corresponding weights.<sup>101</sup> A notice added at the end of the book stated that such glass measures were available at the Edinburgh Glass-House Company and at the principal druggists and apothecaries of the city.

This neat arrangement was continued until the College decided in 1839 to use the Imperial standard of liquid measurement which the London College had already adopted—even though it meant that the vessels in use in Scotland could not be used in connection with the new Pharmacopoeia! The apothecaries' weights were continued, although the College expressed its preference for the Imperial system and its disagreement with the objections that had been raised against that system.<sup>102</sup>

A second significant development discernible in the Edinburgh Pharmacopoeia was the changing function of such works. From the beginning the Pharmacopoeia had been a catalogue of simples and a collection of prescriptions and directions, but in 1803 a critic expressed the wish that concise accounts of the habits, places of growth, sensible qualities, virtues, and doses of the materia medica be included.<sup>103</sup> Although specific weights of such things as alcohol and sulphuric acid appeared in the 1803 edition, nothing approaching this was to be found until the 1839 edition, when the Edinburgh Pharmacopoeia had almost reached the end of its separate existence. That edition not only included details as to density and colour, but particularly called attention to its assays for purity.<sup>104</sup>

*The influence of the Edinburgh Pharmacopoeia*

The Edinburgh Pharmacopoeia was one of the most influential works of its kind. Its various editions went through no less than twenty printings (there are references to eleven additional printings) in Great Britain. Its English translations by Shaw, Lewis, and Thomson have already been mentioned. In addition, there were at least twelve and possibly twenty printings in Latin on the Continent—by publishers in Göttingen, Bremen, Leipzig, Rotterdam, Venice, Milan, Geneva, and perhaps Hanover—and translations of it appeared in Dutch and German.<sup>105</sup>

There are other tangible evidences of the popularity of the Edinburgh Pharmacopoeia. In 1732 (and probably in 1736 also) it was paid the compliment of being pirated by a London publisher. The 1774 printing of 2,050 copies had been 'mostly sold off' by September of 1775, and permission was granted for the publication of another impression.<sup>106</sup> Similarly, Baldinger's *Editio in Germania Altera* (Bremen, 1784) was quickly sold,<sup>107</sup> the 1803 Edinburgh edition exhausted in a year,<sup>108</sup> and the second English edition of 1841 made necessary because the first (1839) had 'been already disposed of'.<sup>109</sup>

Moreover, the Edinburgh Pharmacopoeia reached a vast public through the legion of conspectuses, compendiums, and dispensatories which included it. These are too numerous to mention; we need only point to the *New Dispensatory* and the *Edinburgh New Dispensatory* which from 1753 to 1841 went through over fifty printings in six languages, and which had four American printings;<sup>110</sup> and to A. T. Thomson's *Conspectus* to the Pharmacopoeias of the three colleges, which, between 1810 and 1843 went through at least fifteen editions, two in the United States, and which was translated into German.

Even more significant, however, was the direct role of the Edinburgh Pharmacopoeia as the progenitor of American Pharmacopoeias. As Dr. George Urdang has shown, the Edinburgh Pharmacopoeia 'has to be considered the primary source of the compiler'<sup>111</sup> (Dr. William Brown, who had taken his degree at Edinburgh) of the Lititz Pharmacopoeia (1778). Later, the *Pharmacopoeia of the Massachusetts Medical Society* (Boston, 1808) acknowledged that the Society had adopted the Edinburgh Pharmacopoeia 'as the basis of their own', with so little 'variation from that excellent work' (there were additions of indigenous drugs) as to deny theirs 'the appearance of originality'.<sup>112</sup> Finally, 'more than ninety per cent of the articles of the Massachusetts Pharmacopoeia were included' in the first *United States Pharmacopoeia* published in 1820, and the influence of the former on the latter is easily demonstrated.<sup>113</sup>

This is not to say that the Edinburgh Pharmacopoeia was not without its severe critics. Rutty's complaint about the curtailing of the Pharmacopoeia,

## *The Edinburgh Pharmacopoeia*

Bostock's criticisms of the new nomenclature, and the criticisms of the frequency of revision, have already been discussed. Considerable criticism was often directed, as well, against the chemical formulas being used, both in terms of efficacy and economy,<sup>114</sup> and at one time polemics were exchanged between a critic and a member of the faculty at Edinburgh responsible for the chemical portion of the Pharmacopoeia.<sup>115</sup> There was even criticism of the fact that many authors were involved, that, in effect, too many cooks had spoiled the broth.<sup>116</sup> However, except for some rather carping criticism in Germany<sup>117</sup> (some of it directed at Baldinger rather than the Pharmacopoeia proper), most of the criticism was run-of-the-mill, item-by-item pointing out of disagreements and errors.

The widespread reproduction and the ready sale of the Pharmacopoeia support the testimony, however, of those critics who believed that the Edinburgh Pharmacopoeia had a 'meaningful reputation'<sup>118</sup> and was of 'general excellence'.<sup>119</sup>

### ACKNOWLEDGEMENTS

The manuscripts in the Library of the Royal College of Physicians of Edinburgh have been cited with the kind permission of the Council of the College. The author also wishes to express his appreciation to Mr. L. Jolley for his guidance in the use of these materials. Grateful acknowledgement is also made to the Rutgers Research Council whose grant made possible the study of the materials located in Great Britain.

### NOTES AND REFERENCES

1. The minutes of the College indicate that a printing of a pharmacopoeia was arranged in 1683. *Minute Book of the Colledge of Physitiians* (typed transcript in the Library of the Royal College of Physicians of Edinburgh), p. 23. Dr. Robert Sibbald, the prime mover in the arrangements, later wrote that publication in 1683 was prevented by the 'malice' and obstruction of a 'faction'. *The Autobiography of Robert Sibbald, Knt., M.D.*, pp. 35, 42. Edinburgh, 1833.
2. In all later editions the title became *Pharmacopoeia Collegii Regii Medicorum Edinburgensis*.
3. *The Edinburgh Review or Critical Journal*, 1803-04, 3rd ed., III, 457.
4. *Minute Book, loc. cit.*, p. 1.
5. G. PATERSON, *Royal College of Physicians, Abstract of Minutes, A.D. 1682-1731* (MS., Lib. Roy. Col. Phys. Edin.), pp. 2-11.
6. The 1681 Charter of the College, in *Historical Sketch and Laws of the Royal College of Physicians of Edinburgh*, p. 22. Edinburgh, 1882; and an Act of the Parliament of Scotland, 16 June 1685; see *Pharmacopoeia Collegii Regii Medicorum Edinburgensis*, p. xiii. Edinburgh, 1792.
7. *Minute Book, loc. cit.*, 1699, pp. 149-51; 1701, p. 177; 1708, p. 238; 1723, p. 571; etc.
8. 1695-1705. In 1695 the President of the College of Physicians declared that 'whereas

David L. Cowen

- we have rid marches with the Surgeons of Edinburgh we will not in any manner of way oppose the reuniting of Chirurgery and Pharmacy.' C. H. Creswell, *The Royal College of Surgeons of Edinburgh*, p. 121. Edinburgh, 1926.
9. *Ibid.*, p. 143.
  10. See *Medical Commentaries*, 1793, 2nd Dec., vii, 158.
  11. G. PATERSON, *Abstract of Minutes*, p. 99; and J. D. COMRIE, *History of Scottish Medicine*, pp. 278–82. London, 1932.
  12. In a letter to Sir Hans Sloane, December 21, 1702. Sloane MS. 4039, Brit. Mus.
  13. These page proportions refer to the 18th century editions; the 1699 edition was somewhat smaller.
  14. Translation, *Phar. Col. Reg. Med. Edin.*, p. iii. Edinburgh, 1756.
  15. Translation, *Phar. Col. Reg. Med. Edin.*, p. [1]. Edinburgh, 1792.
  16. *Minute Book*, *loc. cit.*, p. 717.
  17. Letter, J. Pringle to J. Boswell, Sept. 21, 1771, in Pringle's 'Pharmaceutical Correspondence' (Lib. Roy. Col. Phys. Edin., MS. A4).
  18. Letter, J. Pringle to J. Boswell, Nov. 8, 1771, *ibid.*
  19. Translation, *Medicinischchirurgische Bibliothek*, 1776, II, pt. 3, 7.
  20. *Leipziger Literatur-Zeitung*, 1817, I, 942.
  21. *The Edinburgh Review or Critical Journal*, 1803–04, 3rd ed., III, 457.
  22. *Phar. Col. Reg. Med. Edin.*, p. 24. Edinburgh, 1744.
  23. Translation, *Phar. Col. Reg. Med. Edin.*, p. iii. Edinburgh, 1756.
  24. P. SHAW, *Pharmacopoeia Edinburgensis: or, the Dispensatory of the Royal College of Physicians in Edinburgh. Translated . . . from the Third Edition*, 4th ed., London, 1740. Translator's 'Advertisement'.
  25. *Phar. Col. Reg. Med. Edin.*, p. xi. Rotterdam, 1775.
  26. J. RUTTY, *Observations on the London and Edinburgh Dispensatories*, pp. 1–8. London, 1776.
  27. See the Preface, *Phar. Col. Reg. Med. Edin.*, p. [xi]. Edinburgh, 1783.
  28. *Medical Commentaries*, 1793, 2nd Dec., vii, 159.
  29. *The Edinburgh Review or Critical Journal*, 1803–04, 3rd ed., III, 458–9.
  30. Letter, J. Pringle to J. Boswell, Sept. 21, 1771, *loc. cit.*
  31. See *Journal de Médecine, Chirurgie, Pharmacie, &c.*, 1784, LXII, 100–1; and *Medical Commentaries*, 1793, 2nd Dec., vii, 159.
  32. Cf. *The Edinburgh New Dispensatory*, 6th ed., p. 154. Edinburgh, 1801. R. Coade, *Boerhaave's Materia Medica or the Druggist's Guide* (London, 1755), which purports to be a translation of Boerhaave's lectures, states (p. 108) that an infusion of digitalis 'is not used except by the Country People', and that an ointment made of it 'is not in much esteem . . . except among the good Women'.
  33. *Journal de Médecine, Chirurgie, Pharmacie, &c.*, 1784, LXII, 100.
  34. *The Edinburgh Review or Critical Journal*, 1803–04, 3rd ed., III, 459.
  35. *Ibid.*
  36. N. CULPEPER, *Pharmacopoeia Londinensis*, p. 164. Boston, 1720.
  37. F. H. GARRISON, *An Introduction to the History of Medicine*, 4th ed., p. 359. Philadelphia, 1929; N. HOWARD-JONES, 'Bicentenary of Heberden's *Antitheriaca*', *Brit. med. Bull.*, 1945, III, 240.
  38. *The Edinburgh Review or Critical Journal*, 1803–04, 3rd ed., III, 460.
  39. *Phar. Col. Reg. Med. Edin.*, pp. xi–xii. Rotterdam, 1775.
  40. *Edinburgh Review or Critical Journal*, 1803–04, 3rd ed., III, 460.
  41. *Phar. Col. Reg. Med. Edin.*, p. xii. Rotterdam, 1775.
  42. *Medical and Philosophical Commentaries*, 1774, II, 415.

## The Edinburgh Pharmacopoeia

43. Garrison, *op. cit.*, pp. 365, 392.
44. Quoted by L. H. Roddis, 'William Withering', *Annals of Medical History*, 1936, viii, 107-8.
45. Perhaps only within the limits of the statement by Withering cited above, can it be said that Stokes was 'instrumental in having digitalis replaced in the Edinburgh Pharmacopoeia.' M. S. Jacobs, 'The History of Digitalis Therapy,' *ibid.*, p. 494.
46. Nov. 8, 1782. *Minute Book, loc. cit.*, pp. 1582-3.
47. Quoted by G. Foy, 'Note on William Withering,' *Medical Press and Circular*, 1915, cli, 39.
48. Feb. 1, 1780. *Minute Book, loc. cit.*, p. 1548.
49. The third edition (1735) contained Spiritus Salis Glauberi and Sal Mirabile Glauberi. P. Shaw, *op. cit.*, p. 216.
50. *Medical Commentaries*, 1793, 2nd Dec., vii, 166-70.
51. *Medicinischn-practische Bibliothek*, 1777, ii, 224.
52. *Pharmacopoea Edinburgensis Additamentis Aucta*. Bremen, 1776.
53. *Medical and Philosophical Commentaries*, 1777, v, pt. 1, 54-5; *Medicinischn-practische Bibliothek*, 1777, ii, 306.
54. *Neues Magazin für Aerzte*, 1784, vi, 23-6, 97-9.
55. *Pharmacopoea Edinburgensis Additamenta . . . Editio in Germania altera*. Bremen, 1784. See also *Medicinisches Journal*, 1784, i, 33.
56. RUTTY, J. *Observations on the London and Edinburgh Dispensatories*, pp. iv-v. London, 1776.
57. *Annals of Medicine* (Edinburgh), 1804, iii, 6. See also *Journal de Médecine, Chirurgie, Pharmacie, &c.*, 1784, lxi, 100; and *Medical and Philosophical Commentaries*, 1777, v, pt. 1, 54-5.
58. *Medical and Philosophical Commentaries*, 1777, v, pt. 1, 54.
59. *Ibid.*, p. 55.
60. *Medical Commentaries*, 1793, 2nd Dec., vii, 165.
61. *Medical and Philosophical Commentaries*, 1774, ii, 412.
62. *Op. cit.*, pp. iii-iv.
63. Translation, *Phar. Col. Reg. Med. Edin.*, p. viii. Edinburgh, 1744.
64. See Kremers, E. and Urdang, G. *History of Pharmacy*, 2nd ed., p. 153. Philadelphia, 1951.
65. The Kremers and Urdang listing of fifteen editions (pp. 153, 494), based on an article in *Chemist and Druggist* of 1864 is in error. The 'other' edition referred to above was that issued in 1805 (and reissued several times thereafter). This contained a prefatory note to the effect that it represented a careful revision and that certain faults that had accidentally crept into the 1803 edition had been corrected. The College chose to consider the 1805 issue in this latter light of a correction, rather than a new edition. Cf. *Edinburgh Medical and Surgical Journal*, 1805, i, 487.
66. *Edinburgh Review or Critical Journal*, 1803-04, 3rd ed., iii, 458.
67. *Ibid.*
68. *Medical Commentaries*, 1793, 2nd Dec., vii, 157.
69. This was true in 1732, 1742, 1764, 1778, 1791 and 1799. *Minute Book, loc. cit.*, pp. 713, 815, 1191, 1524, 1714, 1859.
70. *Ibid.*, pp. 713; 1858, 1871.
71. *Ibid.*, p. 1426.
72. *Ibid.*, pp. 1895-6.
73. E.g. in 1772. *Ibid.*, p. 1410.

74. E.g. in 1733. *Ibid.*, p. 724.
75. E.g. in 1783. *Ibid.*, pp. 1582–3.
76. E.g. in 1764. *Ibid.*, p. 1198.
77. See above, pp. 125, 126.
78. *Minute Book*, *loc. cit.*, p. 714.
79. *Records of the College of Surgeons*, 1703–33 (MS. Lib. Roy. Col. of Sur. Edin.), pp. 405, 408; and *Minute Book* of the College of Physicians, *loc. cit.*, p. 717.
80. *Ibid.*, p. 1465.
81. *Pharmacopoeia of the Royal College of Physicians* (Edinburgh, 1839), pp. vi–vii.
82. CALLISEN, A. C. P. *Medicinisches Schriftsteller-Lexicon* (Copenhagen, 1830–45), xxii, 417, and *Medicinchirurgische Bibliothek*, 1776, II, pt. 3, 1, name both Cullen and Black. Dr. J. A. Murray's *Medicinishch-practische Bibliothek*, 1777, II, 221, names only Dr. Cullen. The Minutes of the College indicate only a minor role for Dr. Black in the 1774 revision, and an increasingly important role for him in later revisions. *Minute Book*, *loc. cit.*, pp. 1407, 1410, 1426, 1524, 1548, 1714, 1760.
83. Translation, *Phar. Col. Reg. Med. Edin.*, p. xi. Edinburgh, 1783.
84. *Medicinchirurgische Bibliothek*, 1776, II, pt. 3, 10.
85. Preface, *Phar. Col. Reg. Med. Edin.*, p. xv, Edinburgh, 1792; and *Medical Commentaries*, 1793, 2nd Dec., VII, 161.
86. *Ibid.*, p. 161.
87. *Ibid.*, p. 160.
88. *Phar. Col. Reg. Med. Edin.*, p. xv. Edinburgh, 1803.
89. *Annals of Medicine* (Edinburgh), 1804, III, 4–5.
90. Translation, *Phar. Col. Reg. Med. Edin.*, p. xiv. Edinburgh, 1803.
91. *Edinburgh Medical and Surgical Journal*, 1805, I, 486–7.
92. *Ibid.*, p. 487.
93. *Edinburgh Medical and Surgical Journal*, 1808, IV, 375–7. (Other favourable statements can be found in the *Edinburgh Review or Critical Journal*, 1803–04, 3rd ed., III, 462 ff.; and the *Annals of Medicine* (Edinburgh), 1804, III, 4–5.)
94. *Remarks on the Reform of the Pharmaceutical Nomenclature . . . adopted by the Edinburgh College* (Liverpool, 1807); and *Remarks on the Nomenclature of the New London Pharmacopoeia* (Liverpool, 1810).
95. Another strong argument against the new nomenclature can be found in *Edinburgh Medical and Surgical Journal*, 1810, VI, 227 ff.
96. *Edinburgh Medical and Surgical Journal*, 1805, I, 489.
97. *Edinburgh Review or Critical Journal*, 1803–04, 3rd ed., III, 464.
98. *Remarks on the Reform of . . . Nomenclature . . . by the Edinburgh College*, p. 52. Liverpool, 1807.
99. *The Pharmacopoeia of the Royal College of Physicians*, pp. xi–xii. Edinburgh, 1839.
100. *Phar. Col. Reg. Med. Edin.*, p. [xiii]. Edinburgh, 1783.
101. *Phar. Col. Reg. Med. Edin.*, p. xvii. Edinburgh, 1792.
102. *The Pharmacopoeia of the Royal College of Physicians*, pp. xii–xv. Edinburgh, 1839.
103. *Edinburgh Review or Critical Journal*, 1803–04, 3rd ed., III, 459.
104. *The Pharmacopoeia of the Royal College of Physicians*, pp. vii–viii. Edinburgh, 1839.
105. A complete list of printings mentioned in the literature is to be found in Part II of this study.
106. *Minute Book of the Royal College*, *loc. cit.*, pp. 713, 1426, 1465.
107. *Medicinisches Litteratur*, 1785, VIII, 150–1.
108. *Edinburgh Medical and Surgical Journal*, 1805, I, 486.



## The Edinburgh Pharmacopoeia

109. *The Pharmacopoeia of the Royal College of Physicians*, 2nd ed. Preface to the second edition. Edinburgh, 1841.
110. COWEN, D. L., 'The Edinburgh Dispensatories', *Papers of the Bibliographic Society of America*, 1951, XLV, 85-96.
111. URDANG, G. 'Addenda to the Lititz Pharmacopoeia', in *Documents Pertaining to the Medicinal Supplies Within the North American Colonies*, pp. 5, 13. Madison, 1944.
112. The quotations are from the preface of the Massachusetts Pharmacopoeia. E. Kremers, and G. Urdang, *op. cit.*, p. 324.
113. *Ibid.*, pp. 326, 331-2.
114. E.g. *Edinburgh Review or Critical Journal*, 1803-04, 3rd ed., III, 460.
115. R. Phillips, the critic and J. C. Hope, Professor of Chemistry. See *Annals of Philosophy*, 1821, n.s., I, 58-63, 187-94; and 1821, n.s. II, 19-36.
116. *Medicinische-practische Bibliothek*, 1777, II, 223-4.
117. Dr. J. Schlegel, in his review of Baldinger's 1784 edition, referred to malicious and spiteful critics who belittle Baldinger's 1776 edition (and pointed out that the exceptional sale of that edition belied their criticisms). *Medicinische Litteratur*, 1785, VIII, 151. Certainly Dr. Schlegel was referring to Dr. Tode whose sharp criticism was a mixture of flattery and sarcasm. *Medicinischchirurgische Bibliothek*, 1776, II, pt. 3, 1-32, and 1779, VI, 91-108.
118. *Allgemeine Medizinische Annalen des Neunzehnten Jahrhunderts auf das Jahr 1805*, p. 623. Altenburg.
119. *Edinburgh Review or Critical Journal*, 1803-04, 3rd ed., III, 467.

---

Part II of this study (Bibliography and Library Holdings) will appear in a future issue of *Medical History*.