

Short Articles

THE AUTHOR OF THE *PHARMACOPOEIA REFORMATA* 1744

by

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IN 1738 THE President and Censors of the Royal College of Physicians embarked upon the preparation of the fifth edition of the *Pharmacopoeia Londinensis*. The revision committee was named in December of that year and included Henry Plumtre (who became President in 1740), Drs. Wilmot, Hopgood, Bankes, Letherland and Bedford.¹ The Committee engaged the interest and assistance of Henry Pemberton (1696–1771), Professor of Physic at Gresham College, whose chemical laboratory and furnaces were to be employed for seven years in experiments associated with the revision.² The College published *A draught for the reformation of the London Pharmacopoeia prepared for the perusal of members* in 1742 and *The plan of a New Pharmacopoeia* in 1745. The fifth edition of the *Pharmacopoeia Londinensis* appeared in 1746 together with an authorized translation by Pemberton.³ The members of the committee throughout this period regarded their task as working towards a reformation rather than a mere revision of the pharmacopoeia and in the Narrative of the Proceedings of the Committee they anticipated that the College would be the first medical society in Europe to undertake such a far-reaching review of its formulary.⁴

A critical review of the first draft was published in 1744 with the title *Pharmacopoeia Reformata* and sub-title *Essay for a reformation of the London Pharmacopoeia, by a set of remarks on the Draught for a new one, and on the brief account of the proceedings of the Committee appointed by the College of Physicians, to thoroughly reform their book*. The title-page, instead of the name of an author, carried the motto *Simplex munditiis* and the dedication to the President and Fellows of the College was signed with the letters M.S. Another anonymous work followed in 1746 entitled *Remarks on the plan of a New Pharmacopoeia*. The pagination of this book was continuous with the *Reformata* and the monographs each have a reference to the earlier work. The *Remarks* is a commentary on the alterations made between the *College Draught* and the *Plan*, and an appendix to the *Remarks* give information on changes made between the *Plan* and the final version of the pharmacopoeia.

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¹ *Annals of the Royal College of Physicians of London*, vol. 10, 22 December 1738.

² *Ibid.*, vol. 11, 1 and 15 November 1745. An Indenture of Agreement dated 24 February 1745 gave Pemberton the Right of Copy of the new pharmacopoeia.

³ *The dispensatory of the Royal College of Physicians*, trans. H. Pemberton, London, T. Longman & T. Shewell, J. Nourse, 1746.

⁴ *Ibid.*, p. 38.

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The anonymous author of the *Pharmacopoeia Reformata* adopted a more radical approach to the revision of the pharmacopoeia than the committee of the College. His preface and his comments on the proposed monographs referred to principles which were to become of increasing importance in the development of pharmacopoeial literature. He observed that no new medicine, however strongly recommended, should receive the sanction of the College until after an inquiry into its merit. He invoked this principle in his criticism of *Pulvis antilyssus*, a supposed specific against rabies and extensively prescribed by the influential Richard Mead.⁵ Also criticized was the failure of the Committee to reform Mithridatium, Theriaca and other antique formulae. The College was obviously in some doubt on this matter but retained the elaborate formulae admitting to have “submitted to the prevalence of custom and left them [Mithridatium etc.] to the correction of posterity”.⁶ The *Reformata* followed the principle that no compound medicine should contain more ingredients than absolutely necessary, and observed that only simplicity of formulae, elegance of form and efficacy of the whole can make a medicine valuable.⁷

Other principles stated were that only stable medicine should be recommended, that only medicines not easily adulterated should be included in the formulae, that the apothecary be put to no more labour and expense than is necessary and that instructions for preparation must be carefully laid down, particularly where there is an operation that might prove dangerous (e.g. in the preparation of the *Metallica*). In addition the author of the *Reformata* was highly critical of nomenclature and it was in this area that his comments appear to have had some success in influencing the College. It was recommended that all “pompous” titles should be laid aside and the Committee were censured for introducing the term *arcantum* in *Arcantum corallinum*. In the final version this was re-named *Mercurius corallinus*.⁸ *Mercurius praecipitatus ruber* and *mercurius praecipitatus per se* were criticized because the products were not precipitates. In the final version of the pharmacopoeia these products appeared as *mercurius corrosivus ruber* and *mercurius calcinatus* respectively. The *Reformata* questioned the diaphoretic properties of *Antimonium diaphoreticum* and the Committee renamed the product *Antimonii calx* “till its medicinal properties shall be better agreed on. . .”.⁹ The Committee also dropped the term *calomel* (mercurous chloride) possibly because the *Reformata* objected that it signified a substance having a black colour.¹⁰

The comments in the *Reformata* are of such importance in the history of pharmacopoeial studies that the identity of the author is of some interest. The letters M.S. at the end of the dedication have been considered as an essential clue but, to date, it has not been fruitful in the search for the name of the author. Another clue has recently come to light. It occurs in a catalogue in the British Museum prepared by the booksellers S. Baker and G. Leigh for the sale by auction of the combined libraries

⁵ *Pharmacopoeia Reformata*, London, R. Willock, 1744, pp. x, 152; R. Mead, *A mechanical account of poisons*, London, J. Brindley, 1745, 3rd. ed., p. 157 *et seq.*

⁶ Preface to the *Pharmacopoeia Londinensis*, 1746.

⁷ *Reformata*, pp. x, 163, 182.

⁸ *Ibid.*, pp. xii, 88; see also Pemberton, *op. cit.*, note 3 above, p. 63.

⁹ *Reformata*, pp. 85, 92; Pemberton, *op. cit.*, note 3 above, p. 64.

¹⁰ The synonym “calomel” was re-introduced into the 6th edition of the pharmacopoeia (1788).

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of Henry Pemberton and his colleague James Wilson.¹¹ One of the entries in the list of books reads “Lewis’s *Pharmacopoeia Reformata* 1744”. This entry suggests that the author was possibly the chemist-physician William Lewis (1708–1781) who later became well known as a writer on the materia medica. This is confirmed by a comparative study of the *Reformata* and Lewis’s early writings.

William Lewis was born in Richmond in 1708. He studied in Oxford and in 1731 he matriculated at Emanuel College, Cambridge, with the object of taking the M.B. degree. His interests turned to chemistry and in 1737 he advertised his course of chemistry “with a View to the Improvement of Pharmacy, Trades and the Art itself”.¹² Schemes for the course were to be obtained at Mr. Willock’s Bookseller in Cornhill and it is worth noting that the *Reformata* and the *Remarks on the plan* were both published by R. Willock at Sir Isaac Newton’s Head in Cornhill. In 1745 Lewis was elected a Fellow of the Royal Society and in that year there appeared the first works recorded as being published under his name.¹³ They were an abridged edition of the Edinburgh *Medical essays* and an edition with commentary of George Wilson’s *Complete course of chemistry*, first published in 1699. In 1748 he published an English translation of the fourth edition of the *Pharmacopoeia Edinburgensis* and in 1753 a version of Quincy’s *Compleat English dispensatory* under the title *The new dispensatory . . . Intended as a correction and improvement of Quincy. The new dispensatory*, which was first published without a name of author on the title page, went into four editions during Lewis’s lifetime and was widely recommended to medical students.

In 1747 Lewis removed to a house in Kingston where he built a chemical laboratory. Here with the aid of Alexander Chisholm he carried out his researches into the chemical nature of platinum and the application of chemical knowledge to industrial techniques; an interest that brought about his long association with the Society for the Improvement of Arts and Manufactures (later the Royal Society of Arts). In 1759 he brought out an abridged and methodized edition of the works of Caspar Neumann followed in 1761 by *An Experimental History of the Materia Medica* and in 1763 by *Commercium Philosophico-Technicum*. Lewis died at Kingston on 21 January 1781 leaving incomplete his *System of the practice of medicine* which, like so much of his writing, was adapted from another work, in this case Hoffman’s Latin text.

There are features of Lewis’s work which support his candidature for authorship of the *Reformata*. The preface of that book clearly identifies the author as a physician who possesses a practical knowledge of pharmacy and chemistry. William Lewis certainly had the qualification which the anonymous author insisted is essential for a physician who undertakes to prescribe, namely a knowledge of pharmacy “an art founded on rational and solid principles, deduced from a thorough knowledge of the various properties and relations that natural substances have to each other, with regard to medicinal purposes”. The style of the *Reformata* is very similar to the early works of Lewis which are “methodized” editions.¹⁴ The *Course of practical chemistry*

¹¹ *Catalogue of the library of Henry Pemberton*, 1776, British Museum Reading Room catalogue 272.k.29/2.

¹² F. W. Gibbs, ‘William Lewis, M.B., F.R.S., 1718–1781’, *Ann. Sci.*, 1952, 8: 124.

¹³ *Ibid.*, pp. 125, 149; E. Kremers, ‘A bibliography of William Lewis’, *J. Amer. pharm. Ass.*, 1931, 20: 1204–1209.

¹⁴ N. Sivin, ‘William Lewis as a Chemist’, *Chymia*, 1962, 8: 66.

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consists of the original text with Lewis's notes and comments: the *Reformata* is an edition of the College *Draught* with a preface and notes by the anonymous author appended to each monograph. Lewis's chemical philosophy emphasizing experiment and rejecting mechanical theory is comparable to the approach in the *Reformata* and his insistence upon the utilization of home products in manufactures reminds one of the recommendation in the *Reformata* that the pharmacopoeia should restrict itself as far as possible to indigenous simples.

The suggestion that Lewis is the author creates a problem in relation to the letters M.S. which appear at the end of the dedication. These are generally regarded as initials of the author's name and for this reason it has been tentatively suggested that the author was the prominent Jewish physician Meyer Loew Schomberg (1690–1761).¹⁵ This suggestion relies upon two pieces of evidence; that Schomberg was the only member of the College at that time with the initials M.S.¹⁶ and that, as a member of the College, he must have had access to the 1742 draft of the proposed pharmacopoeia. The latter, however, is not a strong argument in support of Schomberg whose career generally does not indicate him to be a likely candidate. The *Annals* of the College for 22 December 1742 record that copies of the *Draught* for the use of members had been provided at the expense of Dr. Crowe.¹⁷ Crowe, however, did not limit his circulation to the College. An apothecary Richard Reynell in a letter to the College Committee noted that Dr. Crowe had "been so kind as to give copies to several of my Brethren, as well as to myself; and desired we would give notice of such Observations and Remarks upon Drugs or Medicines, as were faithfully deduced from our own Practice and Experience".¹⁸ Thus there is no reason to restrict the search for the author to members of the College of Physicians.

There were other anonymous works published about this time which used the letters M.S. or S.M. but there is nothing to connect them with the *Reformata*.¹⁹ The evidence given in support of William Lewis as the author suggests an alternative explanation. M.S. instead of being the initial letters are the final letters of the author's name.

Evidence of authorship of the *Reformata* is to be found by a comparative study of that book and Lewis's early writings. Substantial evidence is offered in the material relating to the medicine "calomel" called *mercurius dulcis sublimatus* (mercurous chloride). It has been noted above that the author of the *Reformata* objected to the name calomel because it denoted a substance having a black colour. We may compare this with a comment made by Lewis in *A course of practical chemistry*, page 86, where he states "Calomel is an improper name of this preparation, as it signifies another of a different kind, whose colour is black."

¹⁵ A. Berman, 'The Pharmacopoeia Reformata of London and its anonymous author', *Ohio State med. J.*, 1972, **68**: 774–775.

¹⁶ Listed under *Permissi* as "Meyer Schamberg".

¹⁷ *Annals of the Royal College of Physicians*, vol. 10.

¹⁸ R. Reynell, *A letter to the Committee appointed by the College of Physicians*, London, M. Cooper, 1743, p. 3.

¹⁹ Examples are: *Opera mineralia explicata*, 1713, attributed to Moses Stringer: two translations of the *Libellus de methodo concinnandi formulas medicamentorum* by H. D. Gaubius entitled *A complete extemporaneous dispensatory*, 1741, and *Lectures on pharmacy*, 1744, each published under the letters S.M.

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Further correlation is to be found with regard to the method of preparing calomel and opinions concerning the nature of the process. Richard Mead in his work on poisons offers a mechanical explanation for the differences in the physiological action of corrosive sublimate (mercuric chloride) and calomel.²⁰ Mead believed that when corrosive sublimate was prepared globules of mercury metal lodged in the interstitial spaces of the saline particles conferring on the crystals—“which are to be considered as so many sharp knives and daggers”—an increase in gravity and momentum. This had the effect of rendering “cutting corrosion [on the stomach] more effectual and penetrating”. Mead goes on to enquire how it is that when corrosive sublimate is resublimed with mercury metal it produces calomel which is a substance “not only safe, but in many cases, a noble medicine”. His explanation is that resublimation breaks down the sharp saline particles until, instead of making deep wounds, they merely “vellicate and twitch the sensible membranes of the stomach . . .”. A similar explanation occurs in Quincy’s *Pharmacopoeia Officinalis* of 1742 which stated that *Aqua fortis* puts spicules and wedges on to mercury globules to form the corrosive sublimate. Quincy uses the same explanation as Mead for the formation of the relatively mild calomel.²¹

Lewis’s chemical philosophy rejected mechanical explanations. The chemical properties of bodies he regarded as “not subject to any known mechanism, and seem to be governed by laws of another order.”²² His explanation for the preparation of calomel, as stated in 1761, was that “mercurius dulcis is sublimate made mild, by combining with it so much fresh mercury as is sufficient to satiate the redundant acid.”²³ His opposition to the earlier mechanical explanation is recorded in his edition of Quincy (1753), his translation of the Edinburgh Pharmacopoeia (1748) and *A course of practical chemistry* (1746). In the two last-named works, on pages 322 and 85 respectively, he wrote: “The notion that repeated Sublimation by the simple act of triture wears away and breaks the points of the Sublimate, upon which depends its corrosiveness, is erroneous; for if this was true, Sublimate corrosive itself would become mild, barely by repeating the operation”. This argument, in the identical wording, occurs in the comment on the monograph on Mercurius dulcis in the *Pharmacopoeia Reformata* (page 85).

There are a number of other examples where opinions and arguments in the *Reformata* recur in works by Lewis in identical or near-identical wording. Comments on the preparation of *Aethiops minerale* in the *Reformata* are identical with the comments in the *Course of practical chemistry* and the translation of the Edinburgh pharmacopoeia. Comments on *Crocus metallorum* and *Benzoar minerale* are sufficiently close to suggest the same authorship. Similarly comments relating to variations in strength of Syrup Meconis. Compare the following:

Notwithstanding all the care which the Committee [of the London Pharmacopoeia] has taken about this syrup, it will greatly differ in its strength; for in some seasons the poppy heads will

²⁰ Mead, *op. cit.*, note 5 above, 1702 ed., pp. 107–108; 1745, 3rd ed., pp. 198–202.

²¹ J. Quincy, *Pharmacopoeia officinalis*, London, A. Bell, T. Varnum, 1742, 12th ed., p. 265.

²² W. Lewis, *Commercium philosophico-technicum*, London, Printed for the Author, 1765, Preface, p. iv.

²³ W. Lewis, *An experimental history of the materia medica*, London, R. Baldwin, W. Johnston, 1768, 2nd ed., p. 100.

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contain more opium in proportion to their weight than in others. . . ." (*Pharmacopoeia Reformata*, 1774, p. 132). "Notwithstanding the pains which several writers have bestowed upon the favourite Syrup, it still remains liable to several objections . . . the difference of the seasons will make the poppy heads more or less strong" (Lewis's translation of the Edinburgh Pharmacopoeia, 1753, p. 156).

Finally, the comments in the *Reformata* concerning *Pulvis antilyssus* and the necessity to prove the efficacy of this remedy recur word for word in *The new dispensatory*, 1753, under the monograph for the principal ingredient of the powder, *Lichen cinereus terrestris* (p. 151).

No evidence has been found to explain why the *Reformata* was published anonymously. Lewis's "improved" edition of Quincy first appeared without his name on the title-page. The *Reformata* differs, however, in that the letters M.S. after the dedication suggest disguise rather than concealment of the author's name. The most obvious reason would be one of discretion bearing in mind the vituperative nature of quarrels between medical factions at this time. Lewis, who was not a member of the College, was indirectly questioning the pharmaceutical knowledge of the physicians at a time when they were claiming the right to inspect the shops of the apothecaries. He was making adverse comments on medicines supported by prominent members of the College and, although in the preface he acknowledges the "great learning and skill" of the revision committee, he goes on to list its failings ending with "there appears likewise still too great regard paid by the Committee to some compositions valuable for little more than their antiquity". It is possible that Lewis was working in association with others in an attempt to combat conservative medical opinion relating to the revision of the pharmacopoeia. In such a case there would be an added reason for anonymity, lest the group be identified by association with the known author. This would be particularly important if the group contained members from within the College.

The *Pharmacopoeia Reformata* was a work of some significance in the history of British Pharmacopoeial literature. It supports and enhances the opinion that Andrew Duncan *the younger* held of Lewis as a contributor to the advancement of pharmaceutical science. Duncan placed William Lewis "at the head of the reformers of Chemical Pharmacy; for he contributed more than any of his predecessors to improve that science, both by the judicious criticism with which he combated the erroneous opinions then prevalent, and by the actual and important additions he made to that branch of our knowledge."²⁴

²⁴ A. Duncan, *The Edinburgh new dispensatory*, Edinburgh, Bell & Bradfute. 1810. 5th ed., p. v.