

News, Notes and Queries

PHARMACEUTICAL HISTORY AND ITS SOURCES IN THE WELLCOME COLLECTIONS: IV. TILES, PILLS AND BOLUSES

THIS NOTE is prompted by the acquisition by the Wellcome Institute of the History of Medicine of an exceedingly rare pharmaceutical tile, decorated with the Arms of the Society of Apothecaries (see fig. 1), and also because of growing interest in tiles bearing the Arms of the Society, an interest that has raised more questions than it has answered.¹

One particular point at issue is whether the tiles were primarily decorative, being in the nature of shop signs. This is plausible, though because of small lattice shop windows they were not especially appropriate for window display.² Alternatively, were the tiles designed for preparing small quantities of pharmaceutical preparations, and also adding to the shop's decor when not in use? Thus, like much pharmaceutical ware, they combined elegance and function, though their precise use is not absolutely clear.

While the disappearance of the decorated tiles was part of the demise of all tin-glazed ware in the second half of the eighteenth century, it also paralleled rising interest in the pill machine. The tiles were commonly called 'pill tiles', as they undoubtedly provided a convenient place on which to cut an elongated 'pipe' of pill mass into pieces of equal size for rolling into pills.³ (Some undecorated tin-glazed tiles, with a scale ruled into fifteen parts to aid division of the pipe into equal pieces, were in fact common in the late eighteenth and nineteenth centuries.)⁴ However, the eighteenth-century tile (decorated or not) undoubtedly had other uses, not least the preparation of boluses: in 1778 William Brown ordered '6 dozen delft ware tiles for mixing bolus, etc. on'.⁵ Bolus knives (spatulas) were also common at the time.⁶

¹ For recent surveys see J. K. Crellin, *A Catalogue of the English and Dutch Collections in the Museum of the Wellcome Institute of the History of Medicine*, London, 1969, pp. 143–50; L. G. Matthews, 'Apothecaries' pill tiles', *Trans. Eng. Cer. Circle*, 1970, 7, 200–9; E. W. Stieb, 'Rare tile in Drake Collection', *Pharmacy in History*, 1970, 12, 18–20.

² In Britain, larger panes, such as 16 × 12 inches did not come into fashion until around mid-century. Dorothy Davis (*A History of Shopping*, London, 1966, p. 191) has summarized the position as follows: 'The politer trades were now beginning to take advantage of the new plate glass for windows in place of the ring or bottle glass. Panes of twelve inches by sixteen enabled the passer-by to see into the shop and we . . . begin to hear of the ambitious shopkeepers who encroached upon the footways with bow windows'.

³ The pipe was a long length of compounded pill mass. Once cut, the individual portions were rolled into round pills, generally by a boxwood roller (cf. fn. 7).

⁴ Cf., for instance, references in G. Griffenhagen, 'Tools of the apothecary, 5. pill tiles and spatulas' in *Tools of the Apothecary*, Washington, D.C., 1957. Griffenhagen also mentions plain, graduated, tin-glazed tiles. Only one tin-glazed tile bearing the Arms of the Society of Apothecaries and graduations has been recorded, but the graduations have been added by the user after purchase. See R. Ironside, *A Collection of Apothecaries' Tiles ('Pill Slabs') at Apothecaries Hall, Blackfriars Lane, London, E.C.4, T. 3.*

⁵ Quoted in Griffenhagen, *op. cit.*, fn. 4.

⁶ Cf. *ibid.*, and catalogue of *Samuel Laundy, Surgeon's Instrument Maker, and Cutler in General*, n.d., c. 1770. This also lists (p. 7) a knife for an electuary.

That the bolus knife was in wide use around 1820 is indicated by William Chamberlaine's remarks about obtaining egg yolk for spermaceti mixture among slip-shod conditions:

Over this wash-hand basin, with dirty water in it, you break your egg.—Through want of proper

The eighteenth-century introduction of the hand-operated pill 'machine' (a grooved device for the simultaneous cutting of a pipe into the required number of portions (commonly up to 30)) raises the question as to why the traditional practice of preparing pills was no longer considered satisfactory. (For a summary of the Wellcome Collection of machines see fn. 7.) Part of the answer to the question lies in the increasing concern with therapeutic effectiveness, with standardization, and with the growing popularity of pills.

In article III of this series it was mentioned that the growing use of multidose mixtures coincided with the decreasing use of boluses and electuaries.⁸ The demise of the latter preparations—following the general decline of polypharmaceutical medicines—was prompted partly by the recognition that the large doses employed

care, and taking time, away goes the yolk along with the white, into the dirty water. You endeavour to fish it up with a *bolus knife*, because you have not a spoon at hand—and in fishing it up with this improper implement, you break the yolk. (From his *Tyrocinium Medicum; or a Dissertation on the Duties of Youth apprenticed to the Medical Profession*, London, 1819, 2nd ed., pp. 193–94.)

⁷ The Wellcome collection of equipment for pill making is as follows:

1. *18th and 19th century pipe cutters*

1. Comb-like, with wooden back. 13 metal teeth each spaced 1 cm. apart. Length: 24.5 cms.

2–3. Two knife cutters with wooden handles. One has the blade moulded to cut six pills, the other eight pills. Lengths: 19 and 21 cms.

2. *Pill machines*

(a) *With marble slabs*

i. *Named machines* (bearing manufacturers' or retailers' names).

4. S. Maw, London. 5 grain machine. Compartment missing. 21 × 34 cms. Maws have continuously supplied medical and pharmaceutical sundries since c. 1805. The various titles of the firm are a valuable guide to dating: S. Maw, various dates prior to 1860; S. Maw and Son, 1860–1870; S. Maw, Son and Thompson, 1870–1901; and S. Maw, Son and Sons, post 1901. For a note on the history of the company see *Pharm. J.*, 1957, 179, 270.

5. S. Maw, Son and Thompson, London. 5 grain machine. 20.6 × 33.8 cms.

6. S. Maw, Son & Thompson, London, plus 2nd plate inscribed S. Maw Son and Sons, London, England. 2 grain machine. 28.8 × 36.4 cms.

ii. *Unnamed machines*

7. 5 grain machine. Compartment missing. 21.3 × 33.7 cms.

8–9. Two 5 grain machines. Both 21.1 × 34.1 cms.

10. Machine size unmarked. [5 grain]. Compartment and roller missing. 23.7 × 35.6 cms.

(b) *With wooden slabs*

i. *Named machines*

11. S. Maw & Son, London. 5 grain machine. Compartment missing. 20.6 × 33.5 cms.

12. S. Maw Son & Thompson, London. Grain size not marked. [5 grain.]

13–14. S. Maw Son & Thompson, London. 5 grain machines. Compartments missing. 19.5 × 33.8 and 20.3 × 33.8 cms.

15. S. Maw Son & Thompson, London, 5 grain machine. Compartment and slab missing. 21.3 × 34 cms.

16. Evans & Co., 31 Stamford Street, London. 5 grain machine. Roller missing. 21.4 × 34.5 cms.

ii. *Unnamed machines*

17. 2 grain machine. Compartment missing. 16.8 × 32 cms.

18. 5 grain machine. Compartment and roller missing. 21.4 × 32 cms.

The following pill machines are not marked for grain size.

19. Machine size unmarked. [2 grain.] 14 × 32.8 cms.

20. 2 grain machine with wooden—not metal—frame. Compartment missing. 15.5 × 35 cms.

21–22. Machine size unmarked. [5 grain.] Both 11.5 × 33.2 cms.

23. Machine size unmarked. [2 grains.] Both 11.5 × 33.2 cms.

24–26a. Machine sizes unmarked. [5 grains.] 21 × 36.1, 21 × 34, 20 × 32, and 11 × 31 cms.

Boxwood rollers (diameter c. 6 cms.)

Nos. 1–11.

Wooden pill silverers

1. With foot. Height: 9.2 cms.

2. Without foot. Height: 5 cms.

The Wellcome collections also contain a large number of pill containers.

⁸ J. K. Crellin, and J. R. Scott, 'Pharmaceutical history and its sources in the Wellcome Collections. III Fluid medicines, prescription reform, and posology, 1700–1900', *Med. Hist.*, 1970, 14, 132–53.



Pharmaceutical tile in the Wellcome Collection (see p. 85).

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(especially of opium-containing preparations) led to variable therapeutic action because of variations in the speed and the amount of the active ingredients absorbed. Such a difficulty could be avoided by dissolving the active parts (sometimes producing multidose mixtures), or by preparing small, single-dose medicines, e.g., pills. Gaubius wrote in 1739 that 'smallness in a pill facilitates its dissolution in the stomach, and of consequence makes it act the more readily'.⁹ (A more cynical view, however, for the introduction of pills was put forward in 1704 by Robert Pitt, who held that apothecaries made pills rather than boluses so as to increase the number of single doses, and thereby improve their remuneration!)¹⁰

According to Baumé, writing in 1762,¹¹ the use of small pills became popular in Germany during the first half of the eighteenth century, resulting in the introduction of the pill machine. Baumé seems to have done much to disseminate interest in the apparatus, being the first person to illustrate it. However, just when it came into general use in Britain is uncertain, though Thomson thought fit to illustrate it in 1811.¹² (Earlier, Duncan had referred to it in the 1804 edition of *The Edinburgh New Dispensatory*, but not in the 1803 version.) The graduated tiles, already mentioned, were a popular alternative at this time, though, for many, the machine had the obvious advantages of speed and accuracy. In 1900, an octogenarian, R. G. Mumbray, described the pharmaceutical practice of around 1800. He wrote:

The ordinary appliances now found in every pharmacy were in the early days of the craft unknown or unimagined. The introduction of the pill-machine was a great event. It was regarded as a masterpiece of invention. Previously the only method of dividing a pill mass was by means of a glazed tile with a printed scale upon it. Having dispensed a prescription of twenty-four pills, a young chemist was much discomforted by the entrance of a facetious old patient, who, opening the box, thus addressed him: 'Pray, young gentleman, how do you wish me to take three pills—one large, one small, or one or three small pills?' On the introduction of the pill-machine there was much joy in the house: what was before a dreary toil was now a positive pleasure.¹³

It is unfortunately difficult to plot precisely the growing popularity of pills in eighteenth-century Britain, for there were undoubtedly variations in prescribing habits among practitioners. However, surveys of prescription and account books of the 1740s to 1760s indicate that the pill was often no more popular than the bolus, draught and powder.¹⁴ Nevertheless, by the early nineteenth century, pills had generally come to the fore, rapidly growing in popularity as the century progressed. This is reflected in prescription books and objects such as pill machines and pill containers.¹⁵ Also striking is the industrial exploitation of sugar and other forms of pill coating.¹⁶

Paralleling the rise of the pill there was, as mentioned, a decline in the popularity of the bolus. Its demise is striking, though it lingered on well into the nineteenth

⁹ See English version: *A Complete Extemporaneous Dispensatory; or, the Method of Prescribing, Compounding, and Exhibiting Extemporaneous Medicines*, London, 1741, p. 110.

¹⁰ In *The Antidote*, London, 1704, Pitt made frequent reference to the division of medicines into small doses to increase remuneration.

¹¹ A. Baumé, *Eléments de pharmacie*, Paris, 1762, p. 558.

¹² A. T. Thomson, *The London Dispensatory*, London, 1811, plate 5.

¹³ *Chem. & Drugg.*, 1900, 56, 13.

¹⁴ Examples of prescription books are Wellcome mss. 3641–42.

¹⁵ Cf. Wellcome mss. 4651–4669. See also fn. 7 for information on Wellcome equipment.

¹⁶ Cf. C. Gunn, 'A History of Some Pharmaceutical Preparations' in F. N. L. Poynter, (ed.), *The Evolution of Pharmacy in Britain*, London, 1965, pp. 138–42.

century. In 1718, John Quincy wrote: 'practice now very much uses this form [boluses], and it is indeed the most convenient of any, for mixing things, especially of such efficacy that the doses require to be exactly adjusted; as the stronger alexipharmicks, cathartiks and opiates.'¹⁷ In 1741, however, it was stated that the bolus was *seldom* used except in 'acute cases, when we [use] emetics, cathartics, opiates and strong alexipharmics, whose dose require to be well ascertain'd'.¹⁸ Boluses were omitted altogether from the 1797 *Edinburgh New Dispensatory*, breaking a Dispensatory tradition going back to the 'father' of the series, the already quoted Quincy's 1718 *Pharmacopoeia Extemporanea, or a Compleat English Dispensatory*.¹⁹ Their survival into the nineteenth century is indicated by references in miscellaneous compendia such as A. J. Cooley's *The Pill-Book; or, Pills, Boluses, Globules, Grains, Granules*, London, 1861. There are also many nineteenth-century references to 'bolus knives', though this may have been largely traditional terminology for a certain type of spatula.²⁰

Thus, the decorated pharmacy tile, whether it was a 'pill tile' or a 'bolus tile' (or perhaps even an 'ointment tile') and its successors, the graduated tiles and the pill machines, reflect concern with improving the administration of medicaments. Furthermore, the decorated tiles also reflect a time when there was great disparity among practitioners (ranging from apothecaries turning to general medical practice, to chemists and druggists, some of whom had not even served an apprenticeship) a disparity probably reflected in the appearance and elegance of premises.

Matthews,¹ in a comprehensive survey, has located only 110 tiles, suggesting perhaps that they were not to be found in every pharmacy. I have, elsewhere, put forward the hypothesis that the blue decorated, tin-glazed seventeenth- to eighteenth-century pharmacy jars may not have featured in every establishment,²¹ and there is no doubt that detailed studies on British pharmaceutical pottery are required in the hope of throwing light not only on the provenance of the pottery and its purchase, but also on the public image of the run-of-the-mill seventeenth- and eighteenth-century pharmacies of apothecaries and of chemists and druggists.

The tile newly acquired for the Wellcome collection is the third recorded of its type, the other two being in the Fitzwilliam Museum, Cambridge, and the Drake Collection, Toronto.²² It has sometimes been thought that the uniqueness of the two tiles already recorded indicated that they were custom made, but the appearance of a third is suggestive that they may have been regular products of a pottery. Certainly the details of manufacture indicate them to be from the same source, the possibility being that they were produced by a London pottery.²³

¹⁷ J. Quincy, *Pharmacopoeia Officinalis & Extemporanea: or, A Compleat English Dispensatory*, London, 1718, p. 553.

¹⁸ Gaubius, *op. cit.*, (fn. 9), p. 82.

¹⁹ Other sources of information are works on materia medica, such as J. Alston, *Lectures on the Materia Medica*, London, 1770, which makes no mention of boluses.

²⁰ For example, *A Catalogue of Goods manufactured by James Arnold, Surgical Instrument Maker* . . . , London, 1852, lists 'bolus or palette knives'. Under this heading were 'stiff broad pill knives', among a variety of bolus knives.

²¹ See J. K. Crellin, 'Medical ceramics: their scope and significance', *Trans. Eng. Cer. Circle*, 1970, 7, 191-99.

²² For details see B. Rackham, *Catalogue of the Glaisher Collection of Pottery and Porcelain in the Fitzwilliam Museum*, Cambridge, 1935; and Stieb, *op. cit.* (fn. 1).

²³ The possibility is suggested because the Society was a London Society, its national status only coming with the Apothecaries' Act of 1815. However, the tile is undoubtedly eighteenth century (cf.

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DESCRIPTION OF WELLCOME TILE*

The tile is an elongated octagon in shape. It has a blue tinted glaze, and bright blue decoration with the motto in maroon. The sides of the tile are chamfered, and the glaze on the back is in irregular patches.

The design of the Society of Apothecaries' Arms—with ribbon-like scrollwork to the sides of Apollo, who has an unusual 'Red Indian' headdress—is quite distinct from the common versions of the Arms on such tiles.

The Fitzwilliam Museum tile has exactly the same dimensions as the Wellcome tile (30 x 24.6 x 1.4 cms.), the Drake tile being fractionally smaller (29.8 x 24.1 x 1.4 cms.). Both tiles have the blue tinted glaze, unusual chamfered edge, and the partially glazed back characteristic of the Wellcome tile. The motto on the Fitzwilliam tile is in maroon, that on the Drake tile in black.

A point of interest about the Wellcome tile is the poor quality of the decoration, there being so much disparity of detail between the left hand and right hand sides that they appear to have been drawn by different artists, possibly the work of apprentices. This is further support for the view that the tiles were not custom made (see above). Furthermore, the almost identical size and shape of the three tiles suggests an element of mass production.

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description) and Matthews has pointed out (fn. 1) that the Society of Apothecaries used an identical or closely related design in 1746 and 1817. During this period tin-glazed ware was produced widely outside London, notably at Bristol and at Liverpool, and at present a provincial provenance for the three tiles cannot be ruled out. (A useful discussion of the various factories occurs in A. Ray, *English Delftware Pottery in the Robert Hall Warren Collection Ashmolean Museum Oxford*, London, 1968).

It must be added that many eighteenth-century tiles, especially those bearing a tree on the back of the rhinoceros, are attributed to Liverpool. It is especially interesting that the size and chamfered edging of the Wellcome tile are similar to another tile in the Collection bearing the tree decoration (see *Catalogue* op. cit. fn. 1, tile 11, p. 148).

* A fourth tile, in the possession of D. B. Newbon, Esq. has been found. It has virtually the same dimensions as the Wellcome tile, and similar, poor quality decoration.

PORTRAITS OF HIPPOCRATES

NO PHYSICIAN has matched Hippocrates in terms of respectful recognition. In the National Library of Medicine's main card files, for example, over 350 citations are listed regarding Hippocrates, his writings and teachings. Innumerable articles have discussed virtually every aspect of the man over the ages. Only Aristotle and Galen, other renowned ancient scientists, rank even close in receiving our respect and awe.

But popularity, respect and awe do not guarantee one a lack of controversy and Hippocrates is no exception in this regard. To begin with, it is still debated just which of the writings of the Hippocratic Corpus were genuinely written by the master himself and which by his School of Cos. As if this were not enough possibly an even more perplexing question has tantalized historians of medicine for generations and this is, what did he look like? It is my purpose to discuss the latter problem.