Editorials

THE METRIC SYSTEM IN PRESCRIBING

On Holmbury Hill in Surrey were found on separate occasions two water-worn stones, one of flint, the other of granite. In the past, they were probably used for pounding grain. One is no heavier than the other, but it is curious that in a modern scales they should each balance the metal weight labelled " 1-lb." They are indeed pound-stones, and 14 of them would weigh what we still call a " stone ". Pound-stones and the grain being pounded must have struck our ancestors as useful comparisons for heavy or light objects in their daily life. Confusion arose eventually when several different relationships between grains, pounds and stones came to be established in historical or near-historical times. 7,000 grains make one avoirdupois pound, and 14 of these make a stone; but 24-lbs. are needed for a stone of wool, 22-lb. for hay and only 16-lbs. for a stone of cheese. Gold, silver and precious stones were weighed in Troyes according to a pound of only 5760 grains—is this an early example of short weight? Troy grains were used too by apothecaries, so that 20 made up their basic measure of a scruple.

With more than one " pound," so its twelfth part or " ounce " also varied in weight. Then again liquids and solids called for different units of measurement since the former required containers. Gills, pints, gallons, pecks and bushels all derive from various homely objects used for portioning out liquids or dry " fluids," such as grain or fruit. Among the surgical instruments dug up in North-west France and presumed to date from the 7th century were two spoons. The leeches of Anglo-Saxon times measured, mixed and administered their noxious drafts by spoonful. The hereditary physicians of Myddvai have left a useful table of the quantities held by the spoon and other domestic measures.

> Four podfulls make one spoonful,
> Four spoonfulls make one eggshellful,
> Four eggshellfulls make one cupful,
> Four cupfulls make one quart, . . .[1]

Custom and tradition die hard, especially when the usage is simple and convenient.

Whatever system is used to measure the medicaments considered necessary in the treatment of the sick, it must be one which takes into consideration the convenience of both those who give and those who receive. For that purpose the spoon was adequate until quite recent times for the administration of the boluses, drafts and potions that medical fashion demanded. Powders were freshly prepared from

dry roots, leaves or other material suitable for storage locally; pills, laboriously rolled by the apothecary on his pill slab, were frequently dispensed and, indeed, their nauseous nature gave rise to the expression " a bitter pill to swallow " for any unpleasant occurrence. 100 years ago " pills " and " pill man " became common terms of endearment amongst patients when referring to their medical advisers.

In the nineteenth century came two changes which quite revolutionized pharmacy. First, were the various mechanical aids for the dispenser, converting his powders and pills into neatly compressed " tablets " of various shapes, sizes, colours and brands, so much more easily stored and dispensed, so much more readily manufactured for sale elsewhere and sold in bulk to the dispenser. The second comprised the phenomenal successes of organic chemists, so many of them German, in their search for the secrets of nature. Aspirin, probably the first remedy to be sold in bulk as tablets all over the world, typifies both these changes.

Medical practice followed enquiringly in the wake of these time-saving inventions. While druggists may have deplored the change, the drug houses can have had no cause for complaint. The nation, so long famous for its medicine quaffing, has turned to tablet tasting to the tune of no less than 150 tons annually of aspirin alone. We, who are neither the makers nor the takers, may look on the altered habits of making and taking with mixed feelings: for, though much time may have been saved, those especially who practise in the country have lost something. No longer does that unique nostalgic smell of musky spices greet us each time we enter our dispensary. Those quiet half hours, after our morning round is ended and our hasty lunch consumed, which we devote to dispensing for the patients lately visited, are nearly gone. The pulling down of sticky bottles with their brown stained soggy labels, the careful measuring of doses in a conical phial, adding the water up to the neck of the bottle, licking and inditing labels, finally the familiar ritual of white paper and sealing wax—these are fading fast into the limbo of the past. How much longer shall we prove our capacity to make the bottle to suit the case? Mrs. Jones, whose moans this week were even more acidulous than usual, will benefit from an extra pinch of bromide; dear Mrs. James, whose tonic tasted weaker, must have an extra dash of strychnine; poor daft Jimmy's medicine looked paler than usual, so more sac. ust. for him. We can shed a surreptitious tear when we consider the loving care we devoted to each such individual in the past. The conical engraved glass measure, the minute grain weights which were always getting lost, the small coin-like scruples and the larger drachm weights were symbols of our faith. Let us hope that some place for their memory may

ultimately be found among the symbolic devices on our College's coat of arms. "*Summat sapientiae quantum sufficit*": what better signature for the prescription of our College as a Motto for its members.

Science marches on. Even as students we felt the first vibrations of its coming, faint rumblings under foot. Not for us the measured pace of a man's stride. It is more scientific (especially if he is a tall man) to think of the distance he is covering as "one 10-millionth of a quadrant of the meridian". The *British Pharmacopoeia* of 1914 had already decided to use the stark simplicity of the metric system "for the specification of doses, in the expectation that in the near future the system would be generally adopted by British prescribers," and then generously: "as a conditional provision doses have also been expressed in terms of Imperial system". No truck here with apothecaries. And so, as students, we were provided with a class notebook (1928) which foreswore the Apothecary's and the Imperial systems. A dreary drachmless winter we had of it.

The larger brass pieces are gramme weights, the smaller discs are fractions of a gramme. Thus the one marked 5 D.C. is 5 decigrammes, or 500 milligrammes or 0.5 gramme and the one marked 5 C. is 5 centigrammes, 50 milligrammes or 0.05 gramme.[2]

So ran the first exercise of the first "practical". To us there didn't seem a grain of sense in it.

Later, when we entered the temple of Aesculapius we were expected to know and work with the Apothecary's system which we had never been taught and which was ignored by the *British Pharmacopoeia*. In our short students' life we had learned, however, that the ideas and opinions of learned men might lead to contrary conclusions and that in the fullness of time we might choose for ourselves. Though the irritation was great, the result was undoubtedly beneficial.

In 1950 it was yet once again discovered that the Apothecary's system was an anachronism unworthy of this scientific age, and all the powers agreed that it should cease to work in five years time. In an article on another page, Dr J. PRICE warns us that the change will shortly be upon us, and if we are not careful may catch us with our balances unhinged. Maybe he is right. And yet . . . and yet, though the drug firms have solved the problem of the teaspoon with a plastic imitation set alongside the bottle in a corner of the box, what future benefactor will provide the descendants of the men of Holmbury Hill and their households with plastic metric tablespoons?

REFERENCES

[1]Pughe, John, *Physicians of Myddvai*, Llandovery, 1861, p. 458.
[2]Practical Materia Medica, Pharmacology and Prescribing. Class Notebook, Edinburgh University. Edin. 1928, p. 80.