

DRUGS OLD AND NEW*

G. L. McCULLOCH, M.B., Ch.B., M.R.C.G.P.
March, Cambridgeshire

LOOKING around any gathering of general practitioners it is interesting to speculate on their probable date of entry into the realm of drug therapy. Thus one may guess that some are pre-antibiotic, some post-antidepressant, while others are ante-oral-diuretic. As for me, I have to confess to being pre-insulin, having begun to practise at a time when efforts were being made to render raw liver palatable for the unfortunate sufferer from pernicious anaemia, and when the use of barbitone was regarded as rather venturesome and only to be resorted to in exceptional circumstances. Now, of course, pernicious anaemia has been treated almost out of existence as a dangerous illness by the use of synthetic preparations, whilst a considerable percentage of the population is consuming an enormous quantity of barbitone derivatives. It would be platitudinous to enumerate the tremendous advances in drug therapy which my contemporaries and I have witnessed and taken advantage of in the past 40 and more years. Suffice it to say that these changes have resulted in the day-to-day practice of medicine becoming far less frustrating than it then was, and far more rewarding in terms of the results attending our attempts to alleviate human ills.

But let us go further back still to a publication dated 1890, which describes itself on a very verbose title page as "Organic Materia Medica, including the standard remedies of the leading pharmacopoeias as well as those articles of the newer materia medica more recently brought before the medical profession, with short notices of their therapeutics and dosage collated from the most reliable sources; and of the preparations made therefrom by", and here follow the not unfamiliar names of the authors and publishers, Parke, Davis & Co of Detroit, Michigan. This, of course, was the hand-out of this particular firm three quarters of a century ago. In their preface they say,

Connected with our laboratory is a Scientific Department of experts in the various branches of pharmacology the members of which are devoting a lifetime

*Introductory talk for a symposium on modern drugs in general practice, read on 4 June 1967 at the Department of Human Ecology, Cambridge.

to the careful study of the physical, chemical and therapeutical properties of drugs. The object of this department is also to interest men of science abroad in the investigation of new therapeutic agents, for which we have frequently donated the material for experimentation, in order that they might be introduced on a scientific basis with as full and correct physiological reports as possible, for the prescriber's guidance.

Then there follow 200 pages of the names, the descriptions, the alleged properties, the preparations and the dosages of the flora of five continents, from abscess root (*Polemonium reptans*) to yerba santa (*Eriodictyon glutinosum*), and including such unlikely things as mistletoe and lily of the valley, ladies' bedstraw and shepherd's purse. For me this book solved a puzzle dating back to my adolescent perusal of lighter American fiction from which I had innocently gathered that a beverage delightfully named sarsaparilla was a panacea for almost any ailment, major or minor. It came as a surprise when my more mature study of these pages revealed that sarsaparilla is made from the root of *Smilax officinalis*, and that "its most extensive and useful application is in the treatment of secondary syphilis and syphilitic diseases, and that shattered condition of the system following the imprudent use of mercury."

But it is not really fair to poke fun at this authoritative publication of 76 years ago. What it does reveal is that serious and earnest work was in progress in the seeking out of effective remedies for a multiplicity of conditions of ill health, work which is still being carried on by this same firm, by some of its then contemporaries and by many more who have since joined their ranks. They had inherited and organized some of the knowledge of their apothecary predecessors, and they were meeting with some success in presenting in acceptable form, for instance, such useful aperients as cascara sagrada and senna in dosages which still apply today.

It is of interest to note that the expression 'side effects' had not yet been introduced as a euphonious pseudonym for symptoms of poisoning. Many of the drugs were frankly described as poisonous, their ill effects were enumerated without any toning down, and appropriate antidotes were recommended.

What is of the greatest interest to us today is that amongst so much long-discarded pharmacological dross there stand out a certain number of classical drugs which have stood the test of time, and are likely to do so as long as human suffering calls for the humane administrations of medical men. One has only to mention opium, derived not only then and now, but in far off ancient times from *Papaver somniferum*. Go through the whole armamentarium of those drugs we possess today which are really effective against the most excruciating of pain—the pain of severe trauma or the terminal pain of cancer—and you will not find one of them which is not a derivative

from or a variant upon the essential alkaloids of opium. This is one of the irreplaceables. Something the same applies to the foxglove, whose crushed and compressed beneficent leaves are being swallowed daily by a multitude of people who might otherwise be at least breathless if not dropsical. We may have supplemented digitalis therapy by oral diuretics and hypotensive drugs, but we have found no effective substitute for it.

On page 55 of this book there is a quotation from Dujardin-Beaumetz dated 1886 which says, "Cocaine remains thus far the only local anaesthetic of mucous membranes, and this fact renders the introduction of this alkaloid into medicine one of the most precious therapeutic acquisitions of this age." Ninety years later it is true to say that we have no local anaesthetic in general use which is not derived indirectly from the leaves of *Erythroxylum coca* of Lamarck. It is hardly necessary to remind ourselves in this context of the story of cinchona bark and its relationship to the suppression of malaria. In the many parts of the world in which malaria still prevails synthetic variations of the alkaloid quinine are still being used for this purpose. On another page of this book we find Colchicum described as being almost specific in acute gout, and who today does not find this true of tablets of colchicine?

The last of these classical plants I shall mention is deadly nightshade. Once again we have to say that we have no substance acting upon smooth muscle in the same manner as belladonna which is not either a direct derivative of belladonna or a synthesized variation upon that alkaloid. And to a greater or lesser degree we have to contend with the selfsame side-effects from all of them as were encountered and described in 1890.

There is just one more substance which must not be omitted from this list, this time a fungus, the only fungus mentioned. Ergot is undeniably one of the classics in spite of having gained for itself an evil reputation both from its use as an abortifacient and from its former hazards in obstetric practice. But the present routine procedure for the prevention of postpartum haemorrhage is the timely injection of a refined derivative of ergot. No other fungus or mould appeared in the therapeutic field until more than half a century later when penicillin revealed itself on a Petri dish.

No discussion of drugs is complete without allusion to cost. The phrase 'miracle drug' of the popular press has gone out of fashion rather quickly, probably because therapeutic miracles have tended to multiply at an accelerating rate since it was first introduced. But I regard digitalis, anyway, as a miracle drug which, had it been discovered in the 1960s would almost certainly have been quite expensive to prescribe: 60 mg tablets retail at 8s. 9d. per thousand,

giving nearly three years maintenance therapy. Then there is thyroxine, that highly efficient drug which is capable of converting the misery and despair of myxoedema into near-normality. The indefinite maintenance of this reliable miracle costs approximately a penny a day. But I must not labour the point. Recently, I had to store in my refrigerator a course of injections for a patient with pituitary dwarfism. They consisted of human growth hormone, and were valued at £2,000.

Perhaps the only point I have succeeded in making is that a few of the vast number of new drugs to which we are introduced by the more polished methods of today will undoubtedly go down to posterity as irreplaceable therapeutic classics. Without naming any names I would suggest half a dozen antibiotics, one oral diuretic, one hypotensive—but, as I say to a patient when stumped for a prognosis, “I am a doctor, not a prophet.” Meanwhile, on the shelves of my rural dispensary there accumulate the half-empty containers of the dross of yester-year side by side with the old and the new classics.

ACCOMMODATION AT COLLEGE HEADQUARTERS

Temporary residential accommodation for members and associates and their families is provided at college headquarters. This building, overlooking Hyde Park on one side and Princes Gate on the other, is central and easily accessible.

The charges, including breakfast, are as follows:

For single rooms	£2 10s. 0d. per night
For double rooms	£4 5s. 0d. per night
For a flatlet (bed-sitting room for two, bath-room and dressing room)	£6 per night or £36 per week

For a self-contained flat (double bedroom, sitting room, hall, kitchen and bathroom) £42 per week

Children under the age of 12 years cannot be admitted, and dogs are not allowed.

Members and associates may, subject to approval, hire the reception rooms for meetings and social functions. The charges for these are:

Long room (will seat 100)	25 guineas for each occasion
Damask room (will seat 50)	15 guineas for each occasion
Common room and terrace	15 guineas for each occasion

A service charge of 10 per cent is added to all accounts to cover gratuities to domestic staff.

Enquiries should be addressed to the **Administrative Secretary, The Royal College of General Practitioners, 14 Princes Gate, London, S.W.7.** (Tel. KNightsbridge 6262). Whenever possible bookings should be made well in advance.