

# SOVEREIGN REMEDIES

## A CRITICAL DEPRECIATION OF THE 17th-CENTURY LONDON PHARMACOPOEIA\*

*by*

WILLIAM BROCKBANK

THE College of Physicians first discussed the publication of a pharmacopoeia in Thomas Linacre's old house in Knight-riding Street in 1585 but as it 'seemed a toilsome task' the matter was left in abeyance for further discussion. It was re-considered four years later on 10 October 1589: 'Proposed, considered and resolved that there shall be constituted one definite public and uniform dispensatory or formulary of medical prescriptions obligatory for apothecary shops.' But the College was dilatory and the Pharmacopoeia, written wholly in Latin, was not issued until 7 May 1618. By now the College was in its second home in Amen Corner and it is worthy of note that the Worshipful Society of Apothecaries had been incorporated the previous December. The Pharmacopoeia contained a dedication to the King written by his physician Sir Theodore Mayerne whom we shall meet again.

There were at the time official European pharmacopoeias but these were enforced only for comparatively small territories such as a city or a republic. The College's product was intended to be standard not only for the London area but for all England and it was declared obligatory by the King. Representatives of medicine and pharmacy in Western Europe awaited its production with much interest.<sup>37</sup>

The first edition, a small folio of 200 pages, was carelessly printed and full of mistakes and the College quickly withdrew the issue. Within four months arrangements were made for a new edition and this appeared on 7 December of the same year. It contained an epilogue stating that the first edition had been published surreptitiously and prematurely by the printer in the absence of the President. It has been suggested recently that this statement was made to cover a serious difference of opinion within the College, one school wanting to keep the Pharmacopoeia simple and the other to make it a more pretentious combination of formulary and text book. The latter school won, for the second edition is a handsome and more comprehensive volume than its predecessor and is remarkably free from typographical errors.<sup>37</sup> It must not be forgotten when we are criticizing its contents that it was the first step towards reducing the processes of English pharmacy to a regular standard for the guidance of dispensers of medicine. I propose to show as far as is possible what proportion of the prescriptions came from ancient writers and how far the preparations recommended in the seventeenth-century editions of the Pharmacopoeia were in general use.

\* Gideon de Laune lecture delivered on 8 May 1963.

*William Brockbank*

These were my quests. Inscribed seventeenth-century English apothecary jars still in existence show that the prescriptions were in use in the shops.

The preface to both the first editions contains this statement:

There exists until now another perhaps even more dangerous plague which our book will counteract, namely the very noxious fraud or deceit of those people who are allowed to sell most filthy concoctions and even mud under the name and title of medicaments for the sake of profit—and—instigated by sordid avarice yea even adulterate most of those medicaments which we esteem especially precious, such as theriaca of Mithridates or Alkermes and others; these products becoming in this wise not remedies but poisons, not useful but destructive to the patient.<sup>37</sup>

Theriaca, known as Venice treacle, was the name of a mixture used originally against snake bites; then generally against all kinds of poisoning and finally as a universal remedy against every possible disease. It originated in the second century B.C. The first edition of the London Pharmacopoeia lists three such preparations, one containing 50 ingredients including opium: another containing 64 ingredients including the flesh of vipers, and a simpler and cheaper modification, Theriaca Londinensis,\* often called London treacle, containing only 32 ingredients including the horn of a stag and opium. It is a pity the College saw fit to stress in the preface such an unscientific hotch potch.

The Pharmacopoeia was a mixture of classical and new prescriptions. This is clearly stated in the preface.

Anxious as we are to walk in the footsteps of the old masters we do not refrain from adding new matters which we ourselves have had on hand. Not all the remedies in our book are transcripts . . . but we append some new drugs of our own which have proved effectual in frequent use and are now published for the first time.<sup>37</sup>

CONTENTS OF THE FIRST EDITION

Roots	138	Juices	29
Barks	34	Plant excrements	7
Woods	16	Animals	31
Leaves	292	Animal parts or excrements	162
Flowers	85	Things from the sea	25
Fruits & Buds	93	Salts	11
Seeds or Grains	144	Metals	73
Tears, fluid extracts, gums, resins	50		
Total	1190		

The second first edition of 1618 contained 1190 ingredients compared with 680 in its predecessor. Most of them are now obsolete, having been shown to be quite inert. They included thirty-one types of animal product.

The animal parts included horn of a unicorn or rhinoceros, the bone from the heart of a stag, elephant tusk, bezoar stone, mummy taken from the tomb, frog spawn, crayfish eyes, penis of a bull, flesh of vipers, nest of swallows, oil of foxes,\* all very reminiscent of the witch's brew. There were many more repul-

\* At the lecture coloured transparencies were shown of English or Dutch drug jars bearing the title marked with an asterisk.

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sive things in addition. Luckily most of them were only used for plasters, ointments and oils.

Let us look at the Pharmacopoeia of 1677 published from the third home of the College. You might be interested in the magic said to be exerted by these substances.

*Rhinoceros* and *unicorn horn* were used for similar purposes. They were effective against poisons and produced sweating. They strengthened the heart, relieved headaches and febrile conditions. They resisted plague and pestilence, expelled measles and small pox and cured the falling sickness in children.<sup>30</sup>

*Human skull* preferably from a person who had suffered a violent death, when powdered, was another sure cure for epilepsy. There was also a much prized solution and a spirit, the latter being administered to Charles II on his death bed on two occasions.<sup>4</sup>

*Dens elephanti-ebur*. *Elephant tooth* when powdered helped pain in the stomach, epilepsy, melancholy and relieved poisoning. It was good against lethargy and the plague.<sup>30</sup>

*Dens equi marini*. *Tooth of a marine horse*—the hippopotamus. I cannot find any account of the use of this substance but hippo fat took away the violence of agues and hippo testicles dried were good against the bites of serpents.<sup>30</sup>

*Exuviae Serpentis*. *The Skin of a Serpent* tied to the belly or thighs caused early delivery. As a gargle it cured toothache. The ashes of it mixed with oil of roses dropped into the ears helped the running sores thereof. By mouth this mixture helped the bloody flux and tenesmus. If the ashes were mixed with bull's gall they helped blood-shot eyes, the itch and the falling out of the hair.<sup>30</sup>

*Urina hominis pueri impuberis*. Boys' urine dropped into the ears cures their soreness and opens obstructions therein. Mixed with rosewater and dropped into the eyes it cures redness there. In a gargle it helps swelling of the uvula. *Adult urine* was good in gout, hysterical vapours and obstructions.<sup>30</sup>

*Urina apri*—the wild boar—drunk in honey or mulled vinegar helps epilepsy and the palsy. It dissolves stones in the bladder. Dropped into the ears it helps pain and deafness.<sup>30</sup>

*Urina caprae*—the goat. This also helps pain in the ear and deafness. Drunk with honey it helps the dropsy, breaks up stone and expels urine.<sup>30</sup>

*Usnea cranii humani*—moss from a human skull. This opens obstructions of liver, spleen and gall, arrests bleeding, is effective against dropsy and jaundice. It causes easy delivery of women in labour. Applied outwardly it cleanses wounds and cures gangrene and the itch. In a clyster it loosens the belly.<sup>30</sup>

Apart from animal fats and grease which it is reasonable to allow, although viper's fat is curious, the Pharmacopoeia included few of these substances among its recommended prescriptions.

Hart's Horn is used in 9 prescriptions. The horn was burnt in a crucible, beaten to a powder and washed with rosewater. So, too, was ivory, used in 7 prescriptions. Crabs' eyes used in 2 prescriptions were prepared the same way. They were not really the eyes but concretions in a crab's head.<sup>11</sup>

It is interesting and astonishing to find that the bone removed from the heart

of a stag is used in 3 prescriptions and unicorn's horn and bezoar from east and west goats in 1 each. Bezoar stones were calculi found in the gut of Persian wild goats. You may think that it would be hard to tell these stones from other less exotic varieties. There must have been a big racket not only in bezoar but in the bones from a stag's heart or unicorn horn. Oriental bezoar was also administered to the dying Charles II.<sup>4</sup>

More exciting things like earthworms, scorpions, vipers, whelps, swallows and foxes were only used to make oils. All were burned thoroughly first. 'Kill young swallows so as the blood may flow upon their wings. Then sprinkle them with a little beaten salt. Burn them in a glazed vessel and keep the ashes for use.'

It is interesting to find that the College advises the use of precious stones, emerald, ruby, sapphire, jacinth and pearl. These were ground to a fine powder and made into balls. The legendary mandrake is used twice and (a big black mark against the College) powdered mummy twice. There was obviously further scope for fraud in these various powders. I doubt if powdered emeralds and rubies could really be recognized by the naked eye, still less powdered mummy and I can't think what burnt and powdered swallows looked like.

Another curious item is Spirits of Urine—'the fresh urine of a healthy young man while he drinks wine'. This was mixed with various things and distilled. It was useful in the treatment of stone, gout, asthma, pleurisies, stitches, coughs and colds. Madame de Sévigné regularly took eight drops of essence of urine for her vapours.

The first Pharmacopoeia contained one notable drug introduced for the first time, *mercurius dulcis*, now generally called calomel. It is believed that Sir Theodore Mayerne was responsible. Detailed instructions were given concerning its preparation and these have stood the test of time.

Of the 162 animals listed in the second edition of 1618, 90 came from Dioscorides, who died in A.D. 490. Of the 73 metals and minerals 54 came from the same source.<sup>37</sup> It is clear that the Pharmacopoeia leaned heavily on the classics.

A large number of prescriptions are given in the same edition, one (Musa's troche) dates from a few years before Christ, 32 date from the first 500 years A.D., mostly from Galen; 12 come from the second 500 years; 241 from the third and 63 were compounded in the sixteenth century. The remaining 600 were regarded as seventeenth-century prescriptions. There were in all 963 compounded medicines.<sup>37</sup>

Ten formulae were taken from the Augsburg Pharmacopoeia, 5 from that of Nuremberg, 3 from Cologne, 2 from Florence and 1 from Ulm.<sup>37</sup>

Looking through its pages the impression left on the modern mind is one of wonderment at the multiplicity and redundancy of insignificant and inefficient substances that are massed together in most of the formulae. They consisted of empirical nostrums or heterogeneous mixtures of substances, some of which neutralized others and which were selected without any reference to scientific principles. There are 112 preparations containing 5 to 9 ingredients; 161 containing 10-19 ingredients; 44 with 20-29; 3 with 40-49 and 3 with

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more than 50. The record is held by *Antidotus Magna Matthioli adversus Venena et Pestem* which contains more than 130 ingredients and includes Theriaca and Mithridates each of which were blunderbuss prescriptions in their own right together totalling more than 100 ingredients.<sup>19</sup> Matthiolus was an Italian physician and botanist who died in 1577. Culpeper commented on the polypharmacy when he dealt with syrup of radishes containing nearly 30 ingredients. He writes 'A tedious long medicine for the stone. I wonder why the College affects such long receipes'. Salmon thought it one of the greatest gallymaufries he had ever seen and calculated it contained 388 several particulars.

I must now introduce to you briefly these two critics. Nicholas Culpeper was born in 1616—two years before the College issued the first edition of its Pharmacopoeia. The son of a clergyman, he studied Latin and Greek at Cambridge, also the old medical writers. He was apprenticed to an apothecary in Bishopsgate and in 1640 set up in practice in Spitalfields as an astrologer and physician. He published his first English translation of the Pharmacopoeia in 1649 describing himself as 'Nich. Culpeper, gent.' and provoking intense indignation from the College. He was attacked in print, the translation being described as 'very filthy'. Unabashed, he made further translations and published a work entitled *The English Physician with 369 medicines made of English herbs that were not in any impression until this*. Like its predecessors it had an enormous sale. His practice and his writing ruined his health and he died of consumption in 1654 at the age of 38. He is an important figure in seventeenth-century medicine, more so than many contemporary Fellows of the College.<sup>7</sup>

William Salmon, born in 1644, set up as a doctor near the Smithfield gates of St. Bartholomew's Hospital taking on those patients whose admission or attendance could not be granted in the hospital. He treated all diseases, sold special prescriptions of his own as well as drugs in general, cast horoscopes and professed alchemy.<sup>7</sup> He took over the translation of the Pharmacopoeia after Culpeper's death. He writes in his preface, 'This work (first designed by the College in Latin) I have made to speak English.'

The second Pharmacopoeia, also in Latin, took two years to prepare and appeared in 1650 during the Commonwealth. It contained corrosive sublimate, the white precipitate and the red, but in other respects it differed little from its predecessor except in the detail of some prescriptions. The third edition came from the third College building—Robert Hooke's stately edifice in Warwick Lane. Still in Latin it was issued in 1677 and seems to have been hurriedly prepared. The first mention of it appears in the College Annals on 30 August 1676 when it was decided that a new enlarged and corrected edition should be sent to the press but in the end it was little more than a reprint of the second edition with a few additional formulae.<sup>19</sup> This was the last edition published in the seventeenth century. It remained in force for forty-four years.

It is well known that at the time astrology played an important part in medicine. Culpeper lists the various herbs together with the planet that governs each. Thus Mercury owns pellitory. Comfrey is a herb of Saturn. Briony is under Mars and, this amused me, ladies' bedstraw is under Venus.<sup>5</sup>

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The College also had astrological leanings. The preparation *Oxymel Scilliticum*\* (honey of squills) is listed as follows:

Take one squill fully grown and full of juice, cut in bits and put in a glass vessel the mouth close stopped and covered with a skin. Set it in the rays of the sun 40 days: to wit 20 before and after the rising of the dogstar. Finally let the vessel be opened and the juice which lies at the bottom carefully flavoured with best honey.

Culpeper, who was an expert on astrological matters, comments 'And what then is our Learned College to write of astronomy which is a science they have not much skill in.' He suggests that the Company of Apothecaries should ask which dogstar and which rising.

Another example is *Oleum Scorpionum*,\* made of 30 live scorpions of medium size caught when the sun has entered Leo. Salmon thought this was most admirable for gout.

A curious instruction concerns *Oleum Vulpinum*\* (Oil of Foxes). The 1677 Pharmacopoeia reads: 'Vulpem (qua fieri potest) pinguem, aetatis mediae, venatuque, circa autumnum captam.' Take a vixen (where that is possible) a fat one of middle age caught in hunting about autumn.

Culpeper's comment is delightful:

Take a fat fox of middle age if you can get such a one (that was well put in. Therefore when you have caught a fox bring him to the College and let them look in his mouth first and tell you how old he is). Take a fat fox caught by hunting in the autumn.

Salmon regarded this as a healing, comforting, strengthening oil invented to ease the gout and pains in the joints and to restore wasted or withered limbs. It is excellent in convulsions and cramps. He translated the second edition into English and appended a list of 101 principal errors—mostly dealing with the compounding directions.

When Culpeper translated the second edition he added comments and sometimes criticism of almost all the individual prescriptions. Most of his comments are laudatory, 'The truth is the College have altered this recipe much and I am persuaded have made it much better.' Some of his comments are highly critical and to me they seem very shrewd.

*Aqua et spiritus Lumbricorum* (earthworms). 'Tis a mess of altogether. It may be they intended it for a universal medicine.' Salmon, although he did not like the way it was compounded, thought it very excellent against consumptions and good against jaundice, obstructions of the gall, hectic fevers and most diseases of the head and brain.

*Syrupus Jujubinus*\* (Syrup of Jujubes). The College included the word violets.

Those that adore the College as so-many-little God-Almighties, let them ask them what parts of the violets must be put in. For they must operate as near to their meanings as the men of Benjamin could throw a stone and not miss. Others that do not may be pleased to make use of the flowers.

Over and over again he protests against the recommendation that opium preparations should be used at the start of a fever.

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The first and subsequent reprints of the Pharmacopoeia listed a preparation as *Manus Christi*. Culpeper regarded this as a blasphemous name 'which he could not write without horror nor an honest man read without trembling. To call a little rosewater and sugar boiled together the Hand of Christ! He protested and the title was dropped by 1650 from subsequent editions. He wrote of another compound powder, 'Surely the College laid all their heads together to invent a cordial that should be so dear that nobody should buy it. I am afraid to look upon it. Tis a great cordial to revive the body but it will bring the purse into a consumption.' *Pilulae ex duobus*\* colocynth, scammony (two drastic purgatives), oil of cloves and syrup of purging thorn, 'Surely the College know not what they do else they would never invent such pills as this.' (How sensible this is!) 'In truth tis pity. But they should have the just reward and be forced to take it themselves: they being not only too strong but also of a base gnawing nature.' It was known as de Laune's pill and was administered to Charles II.<sup>4</sup>

Culpeper did not like scammony. 'It is a desperate purge, hurtful to the body by reason of its heat, windiness, corroding or gnawing and violence of working. I would advise my countrymen to let it alone. It will gnaw their bodies as fast as doctors gnaw their purses.' Looking through the 1677 edition we find a number of familiar preparations, vinum antimoniale, laudanum, nepenthes opiatum, oleum terebinthinae, flores sulphuris, plumbi lotio.

There are some intriguing titles. *Aqua mirabilis* was merely water distilled from cloves, cardamoms, pepper, mace, ginger and other spices. If Salmon's list can be trusted it seems to cure everything.<sup>40</sup> *Aqua coelestis* was a huge blunderbuss prescription of seeds, leaves, roots and spices with the addition of a dozen very compound preparations. Salmon called it 'a tedious long prescription without anything of reason or rule invented by Mathiolus and the College has made it longer'.

*Syrupus regis*\* was only rose water and syrup, 'a fine cooling drink in the heat of the summer for them that have nothing else to do with their money.'<sup>6</sup> *Benedicta laxativa*\* was guaranteed 'to purge water from the most remote parts'.<sup>30</sup> Culpeper did not like this one.

I willingly omit a quantity of these purges because I would not have foolish women or dunces do themselves and others mischief. For it worketh too violently for their uses and must be prudently ordered if taken at all; for I fancy it not at all but am of the opinion it kills more men than it cures.

Most of the animalia are mercifully used for making oils. The Pharmacopoeia lists oils of swallows,\* scorpions,\* earthworms,\* foxes\* and puppy dogs newly whelped (catellorum).\*

The prescription for *Emplastrum de ranis* contained many things, including six live frogs and earthworms washed in white wine. I looked into this point and found the correct way to prepare the worms was to 'Slit them in the middle and wash them so often in white wine till they be cleaned from their impurity: then dry them and keep them for use'. Powdered earthworms had a great reputation for the relief of lung complaints and the cure of intestinal worms in children.<sup>40</sup>

The time has now come to see how far the Pharmacopoeia was in actual use. The private pharmacopoeia of Sir Theodore Mayerne written in his own hand is a good starting point but he never once mentions the official publication. His *Electuarium de Succo Rosario* (juice of red roses) and his *Pilulae de Styrace* are, however, identical. On the other hand his *Oil of Vipers for Sciatica* is very different. Mayerne's pharmacopoeia gives 46 electuaries compared to 14 in the official list, 80 plasters compared to 38, 58 pills compared to 36, and 34 powders compared to 13.<sup>13</sup>

In a separate book he kept his prescriptions for the royal family.<sup>14</sup>

William Harvey, who was a member of the editorial committee of the first edition,<sup>37</sup> was known to use secret remedies.<sup>32</sup> Aubrey tells us that his therapeutic practice was not admired, and that some doctors would not give threepence for one of his prescriptions. There are, however, two of Harvey's detailed prescriptions on record and these do contain substances from the London Pharmacopoeia but no acknowledgement is made.<sup>1</sup>

Thomas Willis's *Pharmaceutice Rationalis or the Operations of Medicines in Human Bodies* was published posthumously in 1679. It is full of prescriptions but makes no mention of the London Pharmacopoeia although he used its prescriptions as part of the medicaments he advised. He was keen on animal products. The first prescription I noticed contained dried foxes' lungs as part of a cough lozenge.\* This substance had the reputation of being an admirable strengthener of the lungs and finds a place in the 1677 Pharmacopoeia.

The first detailed prescription in the second part of the book is a good guide to what follows. It concerns a mixture for treating consumption. Of the six substances, four including water of earthworms are official.

The second mixture, also for treating consumption, consists of snail water, water of earthworms, liquid laudanum tartarized and syrup of violets, the dose to be taken at bedtime. Two of the four substances are official.

Willis may have been a good neuro-anatomist but he is most disappointing when he comes to treatment. Water of earthworms is one of his favourite ingredients no matter what the disease. And what is one to think of a man who advises this cure for 'jaundice at a distance'.

Take the fresh urine of a person made at one time, with ashes of the ash tree as much as suffices to reduce to a paste which may be formed into three equal balls to be placed near the hearth or stove. As these dry and harden the jaundice will vanish. After this course I have known this inveterate disease happily cured although resisting many other remedies. The practice thereof is very familiar with the vulgar.

Thomas Sydenham's fame rests on his accurate powers of observation. His works contain 267 detailed prescriptions. These were numbered serially in the Sydenham's Society's edition of his *Opera Omnia* published in 1844. The editor also collected together these prescriptions and issued them in print in an edition limited to 24 copies, together with a detailed index but no annotations. Sydenham used at least 36 preparations from the various editions and reprints of the Pharmacopoeia, one from that of 1621, 20 from that of 1650, 15 from that of 1677. These include aqua coelestis, aqua mirabilis, benedicta laxativa,



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Gascoigne's powder, mithridate, De Laune's pill and Venice treacle. He did not seem to recommend the cheaper and simpler London variety. He, too, used animal products. His aqua epileptica contained human skull. He used bezoar of the east and of the west. While several of the substances taken from the Pharmacopoeia contain mummy, viper's flesh, harts horn, crabs eyes, pearl and various jewels.<sup>35</sup> None of these were acknowledged and no reference seems to be made to the Pharmacopoeia in any of his writings.

The same can be said for John Locke, whose journals are filled with detailed prescriptions including Aqua mirabilis, Powder of Crabs' Claws, Calomel and Venice treacle. But he seems to have owned a copy of the Pharmacopoeia for one is bound with his diary for 1681.

Daniel Whistler, one time President of the College, John Pechey and Richard Morton all give detailed prescriptions, some of them official, in their books but I could not find any mention of the Pharmacopoeia.

Even the College did not push its own wares very hard. During the Plague Year it issued by the King's special command a small specialist pharmacopoeia, this time in English, entitled *Certain Necessary Directions as Well for the Cure of the Plague and for the Prevention of Infection*.

Dealing with protection we read:

Let none go fasting forth. Every one according as they can procure let them take some such thing as may resist putrifaction (Garlick with butter, 2 or 3 cloves, an electuary with figs and rue). Some may use London Treacle the weight of eight-pence in the morning [notice the use of the inexpensive variety of theriac]. Take sage bruised well two handfuls, of wormwood one handful, of rue half a handful, put them in a jug of four quarts. Put to them of mild beer ready to drink four quarts. In the morning let every one of the family drink a draught of it fasting, together eating after it bread and butter.

The sole reference to the Pharmacopoeia deals with the treatment of victims of the plague.

They may also use bezoar water or treacle water distilled compounded by the physicians of London. . . . The use of London treacle is good both to preserve from the sickness and also to cure the sick. Let the party take a large dose of London treacle half an ounce in a draft made with white wine or vinegar. Then let him be put to bed to sweat well covered in a blanket without his shirt for 24 hours; every sixth hour renewing his cordial.

The pamphlet contains many different prescriptions. On the last few pages it crashes off the rails with this treatment for external use: 'Pull off the feathers from the tails of living cocks, hens, pigeons or chickens and holding their bills hold them hard to the botch or swelling and keep them at that part until they die and by this means draw out the poison.' It is hard to believe that any distinguished seventeenth-century London physician could believe such nonsense. Yet it was a recognized therapeutic procedure. A plaster containing pigeon's dung was applied to the soles of Charles II's feet.<sup>4</sup>

Clearly it was not the custom to write the letters P.L. after a prescription as it is the custom to write N.H.F. these days.

You may well be wondering how accurate dispensing was in those days. Not that it can have mattered much. Prescriptions included so many substances

that it must have been impossible to make any checks even though the Censors of the College and the Master of the Apothecaries' Company were empowered to visit and inspect Apothecaries' shops.

We have contemporary evidence on the point. Jonathan Goddard, a Fellow of the Royal Society and of the College, is critical of the Pharmacopoeia's polypharmacy, believing that

a multitude of ingredients (wherein many of those ancient receipts are luxuriant, upon a design to bring in every good thing into one medicine) is so far from bettering a composition it . . . renders it less effectual whereas a judicious choice of a few ingredients is the greatest advantage to the virtue and use of it.

Anyone with judgement could soon determine how many compositions could be spared from the Pharmacopoeia and how many ingredients almost in every composition.

Goddard also tells us that a great advantage to a physician doing his own dispensing is that he knows the prescription is correct.

It is most frequently experienced that let a physician write the same bill to several shops the medicine shall be very different in scent, taste, colour, strength, pleasantness, etc. according to the goodness of the ingredients or the cleanly or accurate making.

He adds that apothecaries alter prescriptions omitting certain items and that they censure the practice of those physicians who keep their prescriptions short.

Dr. Merrett, another Fellow of the College, tells us that apothecaries use medicines quite contrary to the prescription. Myrtle leaves were shown as senna to the Censors and the Master on a routine inspection. At the same time they were shown a binder for a purger. Mushrooms of the oak rubbed over with chalk were shown as agarick to the inspectors in a shop in the Old Bailey, hemlock for peony root, privet leaves or dogberries for spina cervina. Sheep lungs for fox lungs, the bone of an ox heart for that of a stag's heart. (We are not told how the inspectors determined this.) 'They falsify the grand compositions of the London Dispensatory.' But he adds that there were of course honest apothecaries.

There was another group of private pharmacopoeias that we must mention. Up and down the country the ladies of the manor kept prescription books of their own usually mixed up with cooking recipes. The British Museum and the College have choice collections. Many of the prescriptions are related to individual diseases, 'Electuarium contra pestem', 'For obstructions of the Liver'<sup>29</sup> and 'A very excellent medicine for any cancerous humour in the breast'.<sup>28</sup> And they tend to end optimistically with the words 'Probatum est'. It is proved. Another example is 'Lady Killigrew's medicine for a sore breast which never fails to cure'. This starts with the boiling of a sheep's head.<sup>27</sup>

There is a delightful tendency for a prescription to begin 'Take a gallon of wine or of brandy or of strawberries'.<sup>8</sup> Some name the inventor—'Dr. Lower on scurvy'.<sup>31</sup>

One of the best examples is *The Lady Sedley's Receipt Book* dated 1686 in the

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College Library. This is a mixture of medicine and cookery. Successive prescriptions are 'to make almond gingerbread', 'For those that can't hold their water', 'To pott craw fish'. Nearby there is a receipt for a 'redd face'. Her aqua mirabilis is very close to the official prescription. Her prescription for scurvy contains '12 lemons sliced thin, meat and rhine'. Her prescription for those who can't hold their water is amusing. 'Take the claws of hoggs, don't wash um, drye um in an oven, but be sure they are not burnt. Beat um to a powder, sift um. Take as much of the powder as will lye on a sixpence, morning and night till you are cured.' Her recipes were by no means all culled from medical sources. Thus we find recipes for stone by the Duke of Monmouth and by Judge Ellis, and by Lady Mildmay for fistula.<sup>31</sup>

Some of these recipe books do reproduce prescriptions from the Pharmacopoeia. The Countess of Kent in her *Choice Manual of rare and select secrets of physick and chirurgery* reproduces aqua mirabilis with one slight alteration.<sup>10</sup> Her Flos unguentum (ointment of flowers) is also very close. She calls it 'a magic for all kinds of wounds guaranteed to draw out a thorn or an iron in what-so-ever place it be—good for boiling (she must mean inflamed) ears and cheeks'. On the other hand her 'sovereign oil of foxes' is completely different and is more like cookery. She begins with a disembowelled fox, fills its body with various herbs and oils, and then continues: 'Sow the belly close and with a quick fire roast him and the oyl that droppeth out is a most singular oyl for all palsies and numbness. Proved.' On one page she actually quotes the Pharmacopoeia, 'The powder prescribed by the doctors in their last London Dispensatory 1650 called the powder of crabs claws'. This is Gascoigne's powder. We have met it before. Here are the details:

Take of prepared pearls, eyes or stones of crabs, of red corral, of white amber, of hartshorn, of oriental Bezoarstone, of each half an ounce, of the powder of the black tops of the claws of crabs to the weight of all the former; make them all into a powder according to Art and with jelly made with the skins or castings of our vipers, make it up into small tablets which you must warily dry as before prescribed and reserve for your use.

Gascoigne's powder is included in another lay recipe book in the College Library together with instructions about catching the crabs. 'The crabs are to be taken out of ye sea when ye sun and moone are in cancer which happens but two dayes in ye year. They must be both quick and dead in ye time. All ye claws of ye crabb are good but ye tips of ye claws are best.'<sup>29</sup>

The Countess of Kent has an odd prescription on a neighbouring page. Notice her complete confidence. *A Medicine for the heat of the soles of the feet that cometh by rheum or blood.* 'Take a quantity of snails from the garden and boil them in stale urine. Then let the patient bath and set his feet therein and using often he shall be cured.'<sup>10</sup>

There is also a folio manuscript in the College Library (262) which contains accurate copies in English of many of the prescriptions in the 1639 Pharmacopoeia although no acknowledgement is made. It is entitled *Reamedies for the Universall partes of the Boddy*. There was once said to be a date of 1660 on the cover but the extracts are quite definitely from the 5th reprint of the first

Pharmacopoeia published in 1639. There were many changes by the time the second edition was issued in 1650.

John Evelyn says of the women of his youth that 'they took recreation in the distillatory, the knowledge of plants and their virtues for the comfort of their poor neighbours and the use of the family which wholesome plain dyet and kitchen physick preserved in perfect health'.<sup>36</sup> Part of the education of women in the seventeenth century included acquaintance with the preparation and medicinal use of herbs and simples. But the well-meant efforts of noble ladies to use their knowledge of therapeutics on behalf of their poor neighbours was not altogether approved by the Faculty.

Sydenham complained that, 'Nowadays every house has its old woman practised in an art that she never learned to the killing of mankind'.<sup>11</sup>

So far we have said nothing about prices but, as in modern times, there were protests against the excessive cost of prescriptions.

At the close of the century Dr. R. Pitt, Fellow and Censor of the College, published a book under the title of *The Craft and Frauds of Physic Exposed. The Very Low Prices of the Best Medicines Discovered*. . . . It is a model of what was required.

Dr. Pitt began by stating that both rich and poor 'are pillaged of all their substance in every sickness by the excessive rates of their physic'. Two or three cheap remedies are mixed together and charged for at ten or twenty times their value. He pleaded for the rational use of drugs on a physiological basis (as far as he was able to at that time). When acid abounds in the stomach he advised the use of alkaline powders or alkaline earths or animal parts calcined. Then follows a list of simples with their current prices: 'In the following catalogue the herbs being mostly of English growth it is unnecessary to repeat the price but once for all to tell you that they are commonly sold for one penny or less the handful.'

Here are some extracts from his price list:

The Purgers: SENNA at six pence the ounce when taken in powder makes the dose less than one penny. JALAP at one penny the dram makes three doses.

The Laudanum pills of one or two grains are of the lowest value making the expense of two farthings.

You may place yourselves at the proper distance and cast your eyes upon all these instruments of Life. They are cheap enough to be given to the poor.

Then follows a list of about one hundred priced prescriptions: 'Purging Potion. Jalap root, powdered ginger, creme of tartar in white wine with syrup of buckthorn. Worth two pence besides the wine.' Drugs may not have worked wonders in those days, but they were cheap. Dr. Pitt is even more interesting when he discusses the Pharmacopoeia. His views may well be yours. 'We will adventure at present in the general to inform you that the London Pharmacopoeia or receipt book was made of antiquated absurd and useless compositions and that the greater part of these are now neglected and disused.' He poured scorn on the expensive unethical Bezoar stone stated by its purveyors to be a certain cure for any form of poisoning and for any malignant distemper. He stated that

### *Sovereign Remedies*

powdered oyster shells and crabs' eyes were sold as the much vaunted powdered pearl.

He criticized those physicians who

thrust into the stomach of their patients not only the most loathsome but the parts of animals which after death are void of all spirits or oyls and are a dry and inactive earth—for example, powdered mummy and powdered viper)—and what can you think will be the success from the use of the nest of a swallow or the cast-off skin of a serpent?

We must close with the views of a patient and once more we enter the royal bedchamber. Mayerne has recorded that James I despised medicine and held it so cheap that he called doctors useless and unnecessary. He asserted that the art of medicine depended on pure conjecture of doubtful reliability. He said that nature was destroyed by purgatives. He abhorred drugs which caused griping of the bowels and would only take them if they were tasteless or sweetened.<sup>14, 17</sup>

I think all of you will agree with these views.

But it is quite wrong for us to be scornful of *The Pharmacopoeia Londinensis*. It was a beginning and the forerunner of our National Formulary. As such it was a most important milestone.

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