Herbs and Drugs in Monastic Gardens

EARLY MONKS AS KEEPERS AND DISCOVERERS OF VALUABLE DRUGS.

VISITORS to the big monastery Certosa di Pavia between Milan and Genova in Italy see with admiration how every single monk had his own small cell to live in and to worship God in quiet solitude. Each of these simple cells is connected with its own small chapel and with its own little garden where the monk could walk and talk. In those small backyards the monks planted various medical herbs from which drugs were gained and gathered to provide the monastery and the sick of the neighbourhood with medicine. Every monk, in this way, was a doctor and pharmacist as well.

GUIDANCE OF ST. BENEDICT.

Monasteries in those past centuries had to have their own gardens: they needed vegetables for the daily food of their inmates, and fruit was grown in a special area. Flowers and aromatic herbs were raised for decoration of the church. But the smaller herbularies or physic garden was of high importance, too, particularly since the Rule of Benedict of Nursia—who founded the monastery of Monte Cassino, the cradle of the Benedictine Order, in 529 A.D.—stated solemnly: "Before all things, and above all things, especial care must be taken of the sick."

The Benedictine monasteries, J. J. Walsh says, became the repository of important traditions in medicine and surgery, and their scriptorium or writing-rooms preserved many of the old Greek medical writings from perishing from the face of the earth in the midst of contemporary neglect of the intellectual life during the invasion of the barbarians in the early Middle Ages. Their gardens supplied the herbs which were considered to be so precious for the treatment of the various human ills even down to our own day. The beginnings of modern medical education can be connected with monastic influence.

As soon as monasteries were founded, gardens were made around them. The number of plants they contained was limited at the beginning. But the monks received plants from abroad, from other monks who, as missionaries, went to strange countries. They brought new medical herbs back for medicine—partly in a dry state—as the word "drug" is simply part of the Anglo-Saxon verb "drigan", to dry. Other plants were brought back in living condition, and some monks had their ambition in planting new medical herbs in their monastery gardens.

Knowledge of herbs and drugs became soon an important part of Monastic Medicine. In St. Benedict's time, the Ostrogothic statesman-historian of Syrian descent, Cassiodorus (*c.* 490-585), retired from the world to establish upon his estates on the Calabrian gulf a monastic academy and library, where he taught his monks to preserve and translate Greek manuscripts into Latin. Hippocrates and Galen in this way became fundaments of Monastic Medicine. Herbal or Galenical medicine—so called after the Asia Minor-born physician of Marcus Aurelius at Rome (130-200)—had decisive influence on Monastic Medicine and the monastic garden. Friar Lawrence, in Shakespeare's "Romeo and Juliet" is a typical representative of the tradition that powerful medicines grow in monastery gardens.

HERBS GROWN IN MONASTIC GARDENS.

In medieval monasteries the monks plant near the infirmary sweet-smelling herbs for the benefit of their patients, just as in ancient Greece the windows opened on gardens where the most fragrant plants were planted near the windows in order to catch the salutary scent for the inmates of the house. Good-smelling aromatic herbs were considered effective disinfectants—the doctors of the period buried their noses in smelling nosegays after they had seen a patient with infectious disease. Bunches of rue and rosemary were placed on the judge's bench to ward off possible contagion with jail fever.

The materia medica of the monastic apothecary were mainly drawn from the vegetable kingdom. At first, according to C. J. S. Thompson, the neigbouring woods and fields furnished most of the herbs and simples he employed, but later the monks began to cultivate the plants which had been proved from experience to be most effective in their own physic gardens. Here they grew rosemary, rue, sage, marshmallow, savine, fever-few, peppermint and other herbs the medicinal properties of which were considered helpful.

In a Capitulary of a monastery of the thirteenth century, in addition to these, mention is made of aniseed, caraway, cummin, coriander, fennel, laurel and mustard, Thompson reports. The preparations chiefly employed by the monk-apothecaries were the simple infusion or tisane, or the potion, while the collyria, plasters and ointments were used as external applications. Efficient formulas were guarded as a precious secret.

In this connection Thompson mentions the interesting fact that, close to the pharmacy in some monasteries, a small room was set apart for the "cupping" brother or minutor, where he might carry on his operations. In certain orders, the bleeding of the whole monastic community was enjoined five times a year, which, together with the numerous lay patients who applied for similar attention, kept the minutor's office busy the whole year round.

For logical reasons, the physic garden of the monastery was placed close beside the house of the medical attendant. An English monastic garden, we are told by R. St. Nichols, was laid out in sixteen oblong beds, severally containing peppermint, rosemary, white lilies, sage, rue, corn-flag, penny-royal, fenugreek, roses, watercress, cummin, lovage, tansy kidney bean, fennel or savory. All of these were regarded as herbs useful for medicinal purposes. The kitchen-garden, Nichols reports, was necessarily on a larger scale; in every bed another kind of vegetable or pot-herb was planted: onion, garlic, parsley, coriander, chervil, dill, lettuce, poppy, savory, radish, parsnip, carrot, cabbage, beet, leek, shallot, celery, or corn-cockle.

THISTLES AND MANDRAKES.

Popular were the decoctions of "blessed thistle" or *Carduus benedictus*, either the leaves ground, or the juice drunk, or the leaves applied outwardly; they were supposed to cure deafness, giddiness, loss of memory, the plague, ague, swellings or wounds, the bites of serpents or mad dogs, and many other complaints. The blessed thistle was found in practically every garden.

Another popular plant was the mandrake (*Mandragora*). The roots were supposed to resemble the figure of a man and to possess mystic powers. It was said to shriek when pulled from the ground (Shakespeare: "Romeo and Juliet": "And shrieks like mandrakes torn out of the earth"), and the sound was so horrible that anyone who heard it was supposed to become insane.

Mustard was grown for the seeds, which were used for a long list of ailments—the powder of the seeds taken as snuff "marvellously amendeth the braine". The juice of the beet was good for snake-bites, cancer, inward sores. Leek was universally prized; the plant was very common in Wales and became even a symbol of Wales.

MONKS BRING GARDENS TO ENGLAND.

The Romans introduced into England the custom of cultivating plants in enclosed gardens, but during the tumultuous Anglo-Saxon period immediately succeeding the withdrawal of the Romans from Britain, their civilisation was darkened. The coming of St. Augustine to Canterbury in 597 A.D. was the beginning of a new era. To the monks who accompanied him goes the credit for restoration of English gardens and their maintenance during the following centuries. One of the first tasks of the monks in their new home was always the making of a monastery garden. Missionary monks from Italy, or from

France or the Orient, proudly brought to the English monastic garden a few choice roots or a handful of fine seeds. When, during the frequent wars of those times, other property was destroyed and plundered, that of the monks was respected, and their gardens were spared destruction.

The Cistercians also, following in the footsteps of garden-wise Benedictines, did much to further the progress of horticulture on the Continent and in England. St. Bernard, an ardent lover of nature, founded the most famous of their communities in the wild valley of Clairvaux, beside a clear stream running through an untouched forest. A twelfth-century writer writes about the gardens of Clairvaux: "Which being near the cell of the sick, lightens the infirmities of the brethren with no moderate solace, while it affords a spacious walking-place to those who walk, and a sweet place for reclining to those who are overheated."

The Carthusians, belonging to an order founded by St. Bruno in 1084, were obliged to live in silence and solitude. Each of the brethren occupied a detached cottage, to which was added in the twelfth century a small garden cultivated by its tenant.

Herbals of Monastic Medicine.

The first European Christian School of Medicine at Salerno (near Naples, in Southern Italy) was in close contact with the near-by monastery of Monte Cassino. A famous pharmaceutical book of that time was the "Antidotarium Nicolai Salernitani", written about 1100; it represented a collection of formulas used for a long time in the general practice of the Salernitan physicians. In the first version it contained about 60 formulas; they all played their part in the herbals of Monastic Medicine.

A famous suggestion from the Antidotarium was the use of the sleeping sponge (*Spongia somnifera*) to produce stupefaction—a sponge saturated with the mixed juices of opium, hyoscyamus, mandragora, conium and other narcotic plants, dried in the sun, dipped in warm water when required and applied to the patient's nostrils. Recent research is somewhat sceptical about the anæsthetic value of such preparations. There is no doubt, however, that this inhalation anæsthetic was widely used by medieval surgeons. The monastic gardens contained those poisonous herbs which were the basis of the soporific mixture, and their presence was one of the reasons why the physic garden used to be under watchful seclusion.

It is rather questionable whether the celebrated didactic poem "Regimen Sanitatis Salernitatum" had its origin really in Salerno. It seems that Arnal of Villanova, who had studied at Salerno, at that time had compiled about 360 medical rhymes which came from Salerno as well as from other parts of Italy and France. In the following centuries they were gradually enlarged to over 3,500 lines. This famous book about diet and hygiene was originally published in Latin, and passed through two hundred and forty editions in different languages. It remained a popular guide to health for over six hundred years. The remedies mentioned in it—with exception of very few mineral substances—were prepared from the following herbs and simples, all of which were grown in the monastic garden: sage, fennel, marshmallow, primrose, lavender, green-willow, rue, hyssop, cinquefoil, pennyroyal, the root of elecampane, mustard-seed, black pepper and saffron.

One of the plants mentioned is *Salix* (the willow); it is stated that "this bark treated with hot vinegar dissolves warts". Thompson emphasizes the correctness of this statement; it is only within recent years that salicyclic acid derived from the willow, when mixed with collodion, has again come into use as an eradicator of warts or corns, and its properties rediscovered after nine hundred years.

Here is a verse from the "Regimen Sanitatis", in translation, which reminds us of Galen and his herbs:

> "Six things, that here in order shall ensure
> Against all poisons, have a secret power:
> Pear, Garlick, Reddish-root, Nuts, Rape, and Rue
> But Garlick chiefest; for they that it devour
> May drink, and care not who their drink to brew;
> May walk in airs infected every hour.
> Sith Garlick then hath power to save from death,
> Bear with it though it make unsavory breath;
> And scorn not Garlick, like to some than think
> It only makes men wink, and drink, and stink."

The didactic poem was dedicated to an English king ("Anglorum regi scripsit tota schola Salerni"), probably a mystification, and it was admirably translated into English by Sir John Harrington in the seventeenth century.

Nuns' Gardens.

In the convents for women—which were planned like the monasteries for monks—there were gardens as well. One of the earliest we know of was constructed by St. Radegonde, wife of Clothair I at Poitiers, whereto in the middle of the sixth century she escaped to take the veil. Nuns were famous for their gardening skill through the centuries.

Most famous of nuns experienced in medicine was the German Benedictine nun Saint Hildegarde of Bingen (1098-1179). She left two volumes about medicine: "Liber Simplicis Medicinæ" and "Liber Compositæ Medicinæ". They contain elaborate information about herbs and drugs which had been acquired in part through experience in the physic gardens of nun convents. St. Hildegarde herself was a member, and later superior, of the community of Disbodenberg, near Bingen, in the Rhine Valley.

Cloister-Garden Famous in Modern Science.

It has sometimes been suggested, says Walsh, that the monastery gardens would be scarcely large enough for the supply of all the simples that were needed, or at least were used, but then monastery gardens can be employed for purposes like this with very great economy. We must not forget that almost in our time Mendel did his great work and succeeded in working out his important laws of heredity in a monastery garden that was scarcely as large as a small-sized city lot.

The Austrian Roman Catholic priest and abbot of the Augustinians at Brunn, Gregor Johann Mendel used the monastery gardens for his world-famous "Experiments on Plant Hybrids" which were published in 1865, but hardly known to anyone in his time. Mendel performed thousands of experiments with garden peas in his monastery gardens, and discovered fundamental laws of heredity: the sexual cells or gametes remain pure; in cross fertilization of plants, the resulting progeny exhibits the character of one parent only. The persisting character which is visibly inherited by the hybrids is "dominant", the character which is undeveloped in the first filial generation is "recessive"; the "Mendelian ratio" in the offspring.

When Mendel died in 1884, no one in the world of science knew his epochal discoveries. But around 1900 his studies were read by a group of investigators interested in the problems of genetics. The effect was startling, as Robinson points out. They found the basis for all their researches in Mendel's peas. From that time on, Mendelism gave biology a new impetus, and the monastery garden of the Augustinians at Brünn was famous all over the world as the modest birthplace of epochal new knowledge.

Abstract

Therapy of Early Syphilis with Massive Doses of Penicillin. (H. L. Bundensen *et al.*: *Archives Dermat. and Syph.*, 56, 3, 339, September, 1947.)

One hundred and twenty-nine patients with primary or secondary syphilis were treated with 10,000,000 units of sodium penicillin intravenously over a 24-hours period by the intravenous drip method. The method was found to be grossly inadequate. The relapse rate, at the end of a seven-months observation period, was as follows: For sero-negative primary syphilis 33.3 per cent., for sero-positive primary syphilis 44.8 per cent., for secondary syphilis 50.6 per cent.

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