

THE MONASTIC DISPENSARIES OF THE MIDDLE AGES.

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According to ancient tradition the systematic practice of medicine and pharmacy reached a high stage of development in Egypt, whence it passed to Greece and from there to Rome. With the extinction of the old Roman empire in the sixth century, came a subversion of the ancient social order in which the physicians shared. The medical practitioners representing the Graeco-Roman school became extinct. But many of their teachings continued to linger among the lower classes, to be ultimately transformed into an unreasoning and grotesque folk-medicine, while the real medical science, such as it was, became the heritage, in Western Europe, of the Monks, who, for nearly four centuries exercised it as their exclusive monopoly.

It was the Benedictines, particularly, who kept alive in the earlier centuries of the middle ages the body of medical and pharmaceutical studies and practice. When St. Benedict of Nursia established his monastery at Monte Cassino in 529, one of his rules was that the monks should devote such time as was not taken up by their religious duties to the collection, study and copying of ancient manuscripts. There is still in existence a letter from the learned Cassiodorus, statesman, writer and monk of the sixth century, addressed to his brethren, in which he recommends them to study diligently the works of Hippocrates, Galen, Dioscorides, Caelius, Arelanus and other Greek and Roman writers on medicine and *materia medica*; and he exhorts them to become acquainted with all useful plants, to familiarize themselves with the compounding of drugs and to inquire into everything that may be of benefit to the sick and afflicted who take refuge in the monasteries. Naturally, all the monks were not of equal learning; there were some who understood Greek, and these made translations into Latin, compiled lexicons and wrote commentaries; Cassiodorus recommends those who are not familiar with the Greek language, to read the works written in that tongue in translation. Those brothers who had no great aptitude for learning were employed in other useful occupations, many of them finding a place in the *scriptoria*, or writing-apartments, where they busied themselves with the copying and illumination of manuscripts, many of which have come down to us, and are, to-day, highly prized objects in the great libraries and museums of Europe. It is to the rapid and extensive multiplication of the Benedictine monasteries, subsequent to the founding of the parent house at Monte Cassino, that we owe our possession of many of the most precious works which were the fruit of Greek and Roman genius; for every monastery, large and small, was a busy work-shop, where the transcriber was at work in his quiet occupation.

The monasteries in their first inception were places to which the pious might retire from the vanities of the world and devote themselves to religious contemplation and the prescribed ceremonies of the Christian church; but they soon added another important function, that of extending hospitality to travelers, both of high and low degree. Every one had its guest house, where refuge with accompanying entertainment was furnished. No charge was made, but the guests were

expected to present some token of appreciation according to their means, upon taking leave. Rooms which were set apart for the care of sick monks also received the poor of the neighborhood, who were attended by the physicians in charge of the conventual infirmaries and dispensaries. Moreover, in the absence of medical schools outside the convent walls, the monastic physicians were called to attend exalted personages at their own residences, often many miles away, upon which professional expeditions they were usually accompanied by assistants who were pupils and who prepared the required medicines under the direct supervision of the doctors. In some cases the physician, when called to a distant patient, carried with him the remedies already prepared. An instance of this kind is related in the *Chronicon Monasterii Cassinensis*, as follows: In the eleventh century, there lived in Monte Cassino, a monk named Alfanus, who was distinguished for his scientific mind, and his attainments in the healing art. On one occasion the Abbot, Desiderius, paid a visit to the pope, and being ill, he took Alfanus with him in the capacity both of friend and medical attendant. Alfanus took with him a number of medicaments, which he had prepared beforehand, an indication that there existed in the monastery, a laboratory of some kind, in which they were made. One of the inmates of Monte Cassino, at that time, was Constantinus Africanus, whose name is indissolubly linked with the famous medical school of Salerno, the first secular institution of its kind in western Europe.

Berendes, in his work, entitled, "Das Apothekenwesen," states that Dr. Albers, the keeper of the Archives at Monte Cassino, expressed to him the opinion that Constantinus was the first to arrange the monastic dispensaries according to a definite plan.

In a monograph entitled, "Wilhelm der Selige, Abt von Hirschau" (William was elected Abbot in 1071), Kerker confirms the surmise that the early monasteries contained a pharmaceutical laboratory and dispensing department of some kind. He shows that in the Benedictine house of Hirschau, situated in the Black Forest, there existed an infirmary or hospital over which presided an *infirmarius* or *armarius*, who was always a priest, and who had at his disposal as many assistants as he required to discharge his duties properly. In the infirmary the sick were bedded on rush mats, kept scrupulously clean. In the middle of the monastery was a covered space with an opening in the center, where blood letting was performed and the sick had their diseased limbs washed and anointed. It was also used as a sort of laboratory for preparing medicines. Every day the *infirmarius* made requisition for the various articles which he required for the sick in his care. But he kept on hand in his *armarium*, which we may translate "medicine chest," certain herbs, spices and other drugs;—cinnamon, pepper and ginger are specifically named,—which were to be held ready for cases of emergency. Another of his duties was to make the nightly round of the hospital and to see that the drinking-cups of the patients were filled, so that they should not suffer thirst. It is evident from this account that the office of chief infirmarian was an important one, and combined the functions of head physician and head pharmacist.

The title *apotecarius* (apothecary) appears to have been used at a very early date as equivalent to *armarius*, i. e., Keeper of the medicine chest. In his work, "La Pharmacie en Poitou," M. Pierre Rambaud, states that he found the name "apotecarius" in a number of Poiteven title deeds dating from the end of the tenth

century; at the bottom of a deed, drawn in 967, occurs the signature of a certain Salomon, a monk, who appends to his name the word "apotecarius." In 976, the signature of the same Salomon is again found, and this time he calls himself *sub-decanus*, or vice dean. In a document of the year 985 occurs the signature of a "Rotbertus, apotecarius," which follows immediately after that of the Count of Poitou, the Abbot, the treasurer and the dean, and precedes thirty other signatures. M. Rambaud cites other cases, all showing that these physician-pharmacists held high stations in the monastic houses, and were men of learning and great administrative ability.

As there were no lay medical schools in the early times of which we are writing, the medical education of the monks who intended to devote themselves to the practice of it, must have been imparted within the monasteries themselves. It was undoubtedly wholly of an empirical nature. The pupil, one may suppose, accompanied his master to the bedside of the patient where he listened to a description of the symptoms and heard the diagnosis, all of which he committed to his tablets for later study; he probably also assisted in the preparation and application of bandages and, under the watchful eye of the master, compounded the necessary medicines. In this way he became acquainted with therapeutics and stored his memory with a vast number of recipes. But he also acquired an excellent first-hand knowledge of the character, properties, uses, and perhaps, cultivation of a number of medicinal drugs, for the monasteries possessed, as we shall see later, medicinal gardens, in which the plants which furnished the bulk of the medicines used in the infirmaries were cultivated. The pupil gained his theoretical knowledge from the works of the Greek and Roman physicians, which he was required to read diligently and, unquestionably, he had to learn by heart the prayer which invariably accompanied the administration of a medicine. Pathology, of course, was a non-existent science in those times.

Every monastery possessed its own formulary or collection of recipes for medicines of various sorts, and it is astonishing how vast a number of these have come down to later ages. They were copied more or less literally from the ancient writers and were accompanied by prayers, or rubrics where prayers were to be said, while the medicine was supposed to be taking effect. I conjecture, that many of these recipes were embodied in the popular "household medicine books," which were so popular in the seventeenth and eighteenth centuries, and some of which survive at the present day in out-of-the-way corners of Europe.

Toward the end of the twelfth century the monastic medical schools began to lose considerable of their importance, in consequence of the establishment of the medical faculties in the great universities of Paris and Montpellier, to which students streamed from all over Europe. The faculty in medicine at Paris, was probably established before 1160, and at Montpellier instruction in medicine was begun in 1181.

A curious document has come down to us from the ninth century which gives an idea of the arrangement of the medical department in the mediæval monasteries, and which may be fittingly described here.

In the northeastern part of Switzerland there lies only a few miles from the Lake of Constance, the town of St. Gallen, or St. Gall, the chief town of the canton of the same name. It is a thriving place with some forty thousand in-

habitants, and is important for its textile industry. The tourist who is possessed of an historical imagination, and who visits Switzerland more with the purpose of evoking the romantic past, rather than to study modern social and commercial conditions, finds it worth while to stop here for a few days and examine what remains of the old abbey, a monastery founded in 720 by St. Othmar, on the rules laid down by St. Benedict.

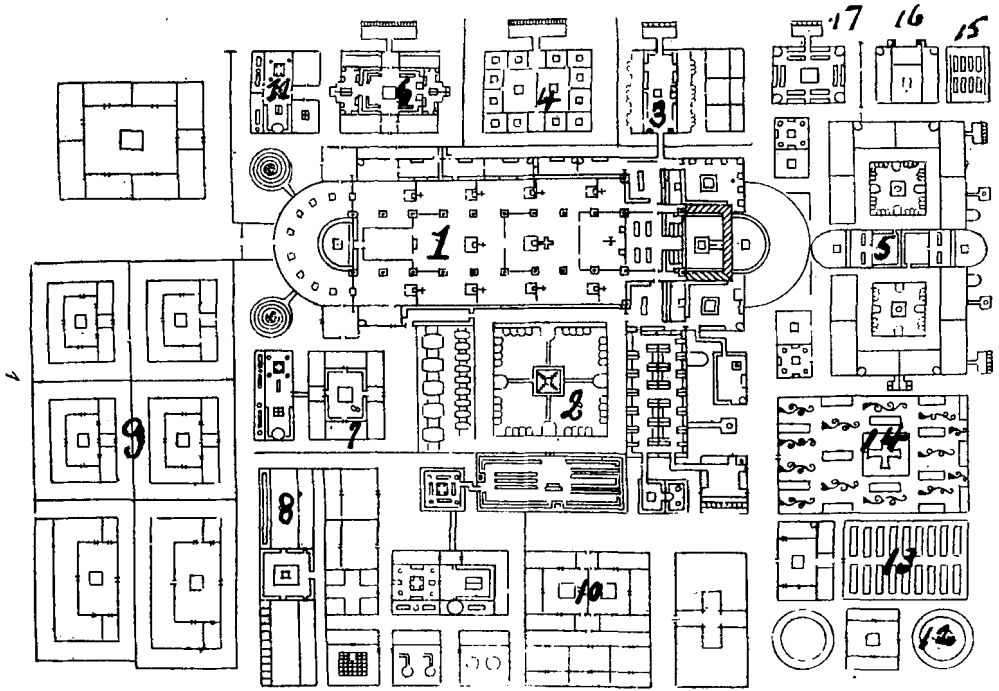


FIG. 1.

General plan of the Monastery of St. Gall in Switzerland, from a copy drawn from the original and published in Brockhaus' Bieder-Atlas.

1. The Monastery church.
2. Cloisters for the monks.
3. Abbot's residence.
4. School for children of the laity.
5. Chapel for the novices.
6. House for the reception of guests of the higher classes.
7. House for the reception of poor pilgrims.
8. Buildings where corn was ground and provisions stored.
9. Stables for domestic animals and living apartments of lay servants.
10. Living apartments for laborers of various kinds.
11. Monastic kitchen, bakery, and brewery.
12. Poultry yard.
13. Kitchen garden.
14. Medicinal garden.
15. Dispensary and pharmaceutical laboratory.
16. Bleeding-house.
17. Bleeding-house.

In the year 613, or thereabout, a pious recluse named Gallus or St. Gall, a follower of St. Columba, left Ireland on the destruction of the famous Irish abbey of Bangor by the Danes, and established his hermit's cell in a dense forest, which reached from the Lake of Constance to the Santis Mountains. Here he devoted himself to missionary work for the conversion of the half barbarous tribe of the Alemanni, in which he was so successful, that in the course of but a few years, huts and other little buildings sprang up on the site of his labors. These rude settlements formed the nucleus of the great monastery and the town bearing the Saint's name, which grew up and flourished under its walls. The abbey became

very wealthy through the gifts of pious well-wishers and, down to the end of the eleventh century, was the site where literature and the sciences, such as they were in the middle ages, were assiduously cultivated and flourished under the liberal patronage of learned abbots and other benefactors of the convent.

To the student of pharmaceutical and medical history, the abbey of St. Gall is of particular interest, from the circumstance that in the year 830 the abbot Gozbert conceived the idea of reconstructing the monastery buildings and entrusted the devising of a suitable plan to Eginhard, it is said, the architect of Charles the Great. This plan not only gives us a clear idea of the arrangement of monastic settlements as they were deemed suitable in the earlier period of the middle ages, but it also shows us the provisions made for the care of the sick, and the source

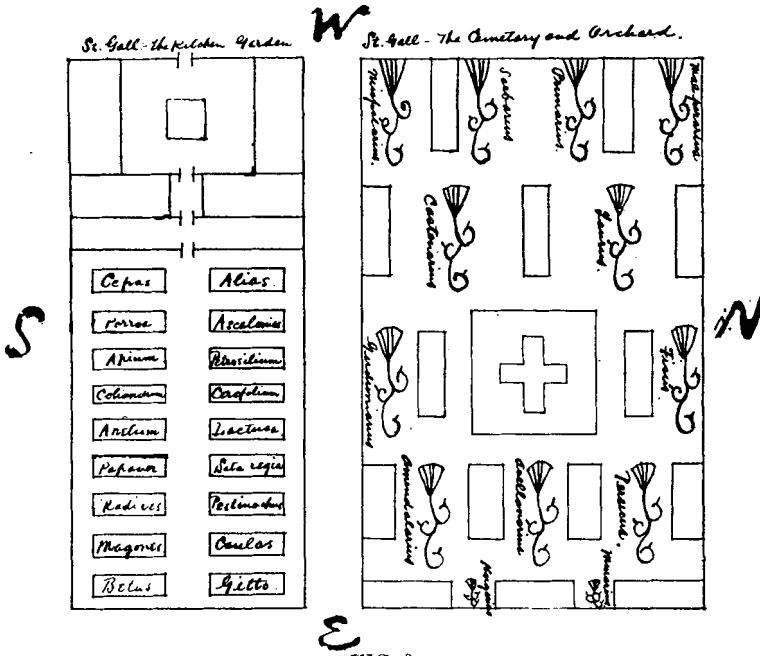


FIG 2.

The kitchen garden and cemetery at St. Gall, after a sketch by J. Berendes, published in the *Pharmazeutische Post*. The kitchen garden is to the left in the plan and the cemetery with orchard to the right. The meaning of the terms used in this plan is explained in the text.

and preparation of medicines for the relief of their affliction. There is some doubt as to whether the abbey was really reconstructed according to this plan, for, in the Napoleonic era, the foundation became much enlarged and many of the buildings then existing were modified, some being turned over to the government for the accommodation of public offices and others transformed into dwelling houses. The original plan is still in existence and consists of a sheet of parchment, sewed together of four skins, the whole about three and one-half feet long and two and one-half feet wide, the lines being drawn in red ink. It was published in *fac-simile* by Ferdinand Keller at Zürich in 1844, with explanatory notes, and by Professor Willis, in England in 1848.

The plan shows a complex of buildings about four hundred and thirty feet in

length and three hundred feet in width, the center of which was formed by the great conventual church, two hundred feet long, together with its cloisters, refectory and other buildings designed for the monks alone. About this nucleus were grouped the abbot's residence; the guest houses for the reception of strangers—those for visitors of high and low degree being separated—the school for the children of the laity, the school for those who intended to become members of the order, (*oblato*), the kitchen, bakery, brewery, the workhouses where corn was ground and fruits were dried, a kitchen garden, an orchard, a garden for the growing of medicinal plants, an infirmary, stables and stalls for domestic animals, sleeping places for servants and laborers of various kinds, and other structures necessary to the domestic economy of the monastery. In short, it represents a

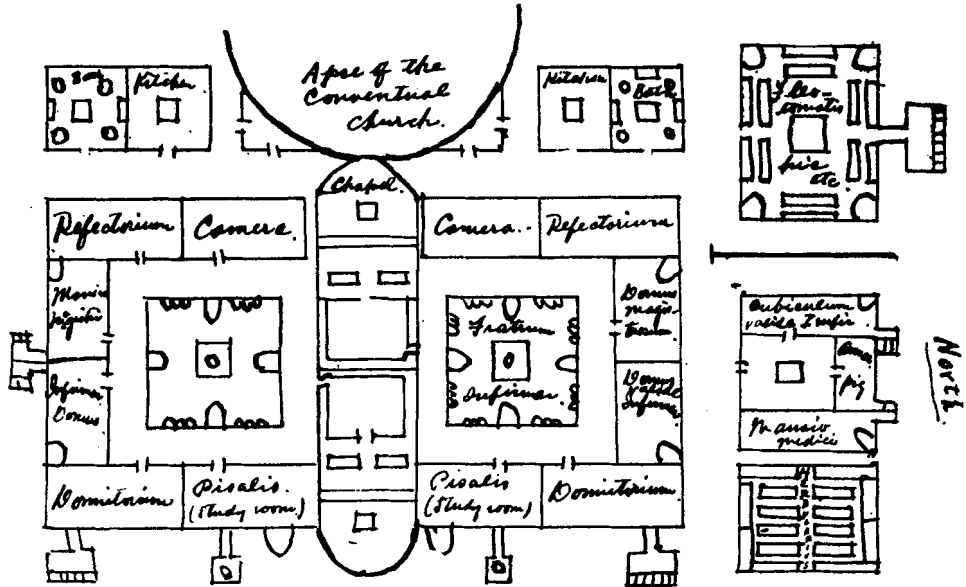


FIG. 3.

Plan of buildings to the north of the orchard. The arc of circle at the top is the apse of the monastery church represented in figure 1. Adjacent to this is the double chapel (the long oblong with rounded ends), one-half of which was the place of worship for the novices, and one-half for the inhabitants of the infirmary. The inscriptions are explained in the text. To the right are the medicinal garden (lower right hand corner), the dispensary and, beyond a wall, the bleeding house.

city *in petto*, all in accord with the rule of St. Benedict that the conventual settlement should itself produce everything for its needs, in order that it might be as nearly independent of the outer world as possible. The general plan is shown in figure 1.

What interests the pharmacist particularly in this plan is the group of buildings and gardens to the east of the apse of the conventual church. In the south-east corner are two enclosures of a circular form for poultry, between which lies the poultry keeper's house, represented in the general plan by a rectangle nearly a square. To the north of this is the kitchen garden with the gardener's house at the west end of it. This enclosure is represented in figure 2, together with the cemetery-orchard.

The identity of the plants indicated in the plan of the kitchen-garden are in some instances open to conjecture. A. Tschirch, in his *Handbuch der Pharmacognosie* gives the following modern equivalents for them:

Cepas—Allium cepa.	Alias—Allium sativum.
Porros—Allium porrum.	Ascalonias—Allium ascalonicum.
Apium—Apium graveolens.	Petrosilium—Petroselinum sativum.
Coliandrum—Coriandrum sativum.	Cerefolium—Scandix cerefolium.
Anetum—Anethum graveolens.	Lactuca—Lactuca sativa.
Papaver—Papaver somniferum.	Lata regia—Satureia hortensis.
Radices—Raphanus sativus.	Pestinaclus—Pastinaca sativa.
Magones—Daucus carota.	Caulas—Brassica oleracea.
Betas—Beta vulgaris.	Gitto—Nigella sativa.

To the north of the kitchen-garden, the right of the plan in figure 2, is an enclosure which served both as a cemetery and orchard. In the middle is a huge cross upon which the architect designed the following inscription to be placed:

Inter ligna soli haec sanctissima crux est,
In qua perpetuae poma salutis olent.

(Among the trees of the earth the cross, on which the fruits of perpetual salvation shed their perfume, is the most sacred.)

Hanc circum jaceant defuncta cadavera fratrum
Qui radiante iterum regna poli accipiant.

(Around this [i. e., this cross] shall lie the bodies of the brothers, by whose glory they will gain the realm of heaven.)

The arabesques in this plan represent thirteen species of nut and fruit trees. The names of these with their equivalents are:

Mal perarius—pear tree.	Ficus—fig.
Prunarius—plum.	Guduniarius—quince.
Sorbarius—checkerberry tree (<i>sorbus domestica</i> .)	Persicus—peach.
Mispolarius—medlar.	Avellanarius—hazel nut.
Laurus—laurel.	Amendalarius—almond.
Castenarius—chestnut.	Murarius—mulberry.
	Nugarius—walnut.

It is probable that the planting of these trees in the cemetery served a two-fold purpose:—they were decorative and at the same time useful.

North of the cemetery is a group of buildings arranged in quadrangular form about a double chapel. The southern half of this group contained a school for the education of the novices, that is, those who were preparing themselves for the monastic life, and a part of the chapel is also set aside for them. The plan (Fig 3) shows the dormitories, refectories, study rooms, (*pisalis*), and bath-house and kitchen.

On the other side of the chapel is a quadrangle inside of which is a large square building marked *Fratrum infirmarium*, or infirmary for the monks. (The infirmary, it may be remarked *en passant*, was not only a hospital in the modern sense of the word, but also served as a refuge for monks whose age or other infirmities incapacitated them from taking part in the devotional exercises and other occupations of the monastery.) In the block around the infirmary are a refectory, a living room, study room, dormitory (*domus magistrorum*) and a chamber marked *Domus Valide Infirmorum*, or house of those dangerously ill.

But the row of rectangles to the north of the large block of buildings just described is what interests us most. (Numbers 15, 16 and 17 in figure 1.) There are three of them, two being grouped together in the extreme north-east corner

and separated from the third by a partition, probably a stone wall. (The plan of these is shown in detail in figure 4.) The one standing by itself, bears the inscription, "Fleotomatis hic gustandum et potionariis." The word "Fleotomatis" has been conjectured by Berendes and others to be a misspelling of "Phlebotomatis," and the inscription would mean that this building was designed for the use of the phlebotomists (blood-letters) and the servers of purgative drinks. Bleeding was universally practiced as a panacea for innumerable ills during the Middle Ages, and the operation was followed by the administration of a purgative, invariably in the form of a decoction or infusion. It was the custom to bleed monks at certain intervals for the benefit of their health, as a hygienic measure. Mr. A. H. Thompson, in his interesting monograph on "English Monasteries," says in reference to this practice in mediæval England: "Each of the Augustinian canons of Barnwell was allowed to be bled once every seven weeks, if he so desired; he might even be bled once a month if his health demanded it, but in this latter case

North.

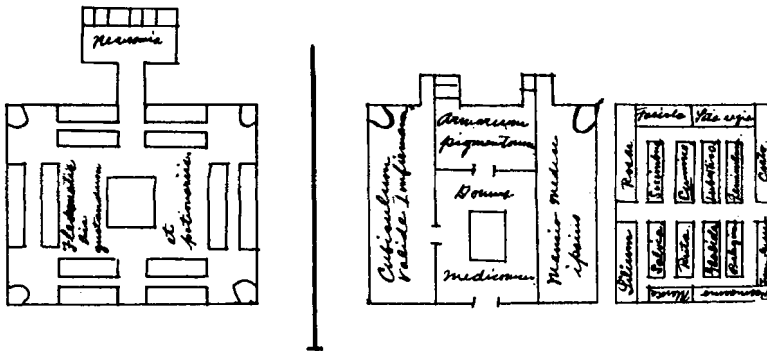


FIG. 4.

From left to right: The house of the blood-letters; the dispensary, with residence of the physicians and an apartment for patients requiring careful attention; the medicinal garden. For an explanation of the inscriptions, see the text. These plans correspond to those numbered 15, 16 and 17 in the general plan, figure 1.

was not allowed to take his furlough in the infirmary. The leave allowed at Barnwell lasted three days and canons were permitted during such periods to talk to each other and take walks within a limited area. In the Cistercian and Carthusian orders the rules were stricter; the monks were bled in batches, appointed by the friar at fixed seasons in the year,—four seasons in Cistercian, five in Carthusian monasteries."

It is natural that under these circumstances a special building should be set aside for this operation, and it was convenient to dispense the decoctions which followed the bleeding in the same apartments.

On the other side of the wall referred to is the strictly pharmaceutical department of the monastery. First comes a building, the house occupied by the physicians, divided into four apartments. Extending along one side is chamber marked "Cubiculum valide infirmorum." Berendes conjectures that the latter housed those suffering from infectious diseases, as it is separated from the general infirmary. I am inclined to the opinion that it was designed for patients whose

maladies were of such a nature as to require the immediate attention of the physician at any moment, since it is connected directly with the physicians' quarters. The room marked "Armarius pigmentorum" is the apothecary shop or dispensary. It was here that drugs were stored and compounded on the order of the chief physician by his assistants. Unfortunately we have no information as to the arrangement of this dispensary, but it is probable that according to modern ideas, the apparatus used was extremely crude, being confined to the pounding-mortar and infusion pots.

Adjacent to the Doctors' house is the medicinal garden, divided into sixteen plots. Here were grown the medicinal plants which constituted the vegetable materia medica of the monastery.

The names of the plants are indicated in the plan, and nearly all these have been identified with plants known to us. This medico-botanical garden deserves a paper for itself, and so only a brief notice can be given here, to the plants cultivated therein. The following table gives their names with the modern equivalents:

Lilium—*Lilium candidum*.

Rosas—*Rosa rubiginosa*, sweet briar.

Fasiolo—*Dolichos melanophthalmos*, says Berendes.

The commentators are at variance as to the nature of this plant. The Greeks called a certain kind of bean which was cultivated in their gardens *Phaseolus*. I have not been able to find *Dolichos-Melanophthalmos* in the books at my disposal. It was probably the common kidney-bean which, according to Dioscorides, was esteemed as a diuretic in ancient times.

Sata regia—*Satureia hortensis* summer savory.

Costo—*Tanacetum balsamita*.

Fena greca—*Foenugreek*.

Rosmarino—*Rosemary*.

Menta—Probably *Mentha Crispa*, aquatica and *piperita*.

Salvia—*Salvia officinalis*, sage.

Ruta—*Ruta graveolens*, rue.

Gladiola—*Iris florentina* and *germanica*.

Pulegium—*Mentha pulegium*, pennyroyal.

Sisimbria—*Mentha crispa*.

Cumino—*Cuminum cyminum* cummin.

Lubestico—*Levisticum*, lovage.

Feniculum—*Fennel*.

The plan of St. Gall represents an ideal Benedictine monastery as it was conceived in the mind of the architect, but it is not certain that it was ever realized in its entirety, and so the medicinal garden just described may not be the one that actually existed. But we have an interesting document of the same period in which are described the medicinal plants that grew within this monastery. This is a little book entitled, "Herbularius," or the "Little Garden," and was written by a monk named Walafrid Strabus or Strabo. Strabus was born in 806 or 807, and received his education in the monastic school at Fulda, under the learned abbot Hrabanus Maurus. He was not only keenly interested in the phenomena of nature, but also possessed considerable poetic talent, and in his fifteenth year distinguished himself by some eulogistic verses addressed to Ebbo, Bishop of Rheims. At the age of twenty-eight he entered St. Gall, where his sincere piety and distinguished talents led to his election as dean of the monastery. In 842 he became abbot of Reichenau on the Untersee. He died July 16, 849. More than twenty works are ascribed to him, all written in Latin, of which the one of the greatest importance to the antiquary is a little book entitled, "Hortulus Monasterii Sancti Gallensis, Abbati Grimaldo Inscriptus" ("The Little Garden of the Monastery of

St. Gall, dedicated to Abbot Grimaldus.") The history of this work is somewhat peculiar. It was first given an extended publicity in a poem entitled "De Viribus Herbarum," and bearing the name of Macer Floridus as author, dating from the tenth century. It then fell into utter oblivion for a time, to be rediscovered in the sixteenth century. It was published in Vienna in 1510 under the editorship of J. Watter, a professor at the University there. This edition, which is now very rare, is regarded as the best.

In 1512, Watter's edition was reprinted at Nuerenberg in a more ornate form. We are told that the type used was Gothic and that the title page was decorated with the picture of a garden,—probably an idealization based upon Strabus' description. A certain Johannes Atrocianus or Acronius, professor of mathematics at the University of Basel, gave out an edition which was published in that town in 1527. There is also a Frankfurt edition which bears no date. Of modern editions, may be mentioned that of L. Choulant, which appeared in Leipzig in 1832, and of Reuss, Wuerzburg, 1834. In 1908, Professor J. Berendes published Reuss's text, with a translation in German, in the *Pharmazeutische Post*. The "Hortulus" is a poem consisting of four hundred and forty-four hexameter lines in which are described twenty-three plants cultivated for medicinal purposes in his time. The plants are described and their uses indicated. Not only this, but instructions are given for preparing the soil, sowing the seed and setting out young plants. The descriptions show a keen observation on the part of the author, and their conciseness reminds us that of prevailing in modern pharmacopœias.

The mediæval materia medica offers an interesting subject for study. It is not always easy to trace the plants which were grown in the convent gardens for the monks often applied fanciful names to them, based upon some real or imagined connection with the events recorded in sacred history. Thus we find, "Oculus Christi" for *Myosotis Scorpioides*; "Rosa Sanctae Mariae" for *Paeonia officinalis*; "Lancea Christi" for *Ophioglossum vulgatum*; "Radix Sancti Spiritus" for angelica root,—many of which are still given as synonyms for popular medicinal plants in European herbals of to-day.

Certain religious orders gained renown for certain special plants to the cultivation of which they devoted much care. The Carthusian gardens at Freiburg in the Breisgau, produced angelica of a fine quality. Licorice root from the Benedictine herb garden at Wurtzburg was highly prized. At a later period, when the process of distillation had come to be understood, the manufacture of essences and cordials engaged the attention of the monks, the well-known "Benedictine" and "Chartreuse" liqueurs which are still produced in our own day furnishing noted examples. Compound medicines were also prepared and later sold to the public who prized them highly. The best known is perhaps the *Eau des Carmes* or *Eau de Melisse des Carmes*, which was first compounded in the pharmacy of the Barefoot Carmelites in Paris in 1611. This preparation became a valuable monopoly of the monks in the course of the century, for they kept its formula secret and maintained its sale by judicious advertising of a sort. Of course, the apothecaries and manufacturers of secret nostrums were anxious to secure the formula, and innumerable experiments were made to ascertain its nature. Many "just as good" recipes were published, but none of them produced a preparation with the satisfying qualities of the original. Louis the Fourteenth, Fifteenth and Sixteenth

granted patents to the Carmelites on this preparation, each for limited periods. In 1780, however, when a new application for a patent was presented, the Paris School of Pharmacy opposed it; but a compromise was effected according to which the monks were to retain their monopoly in consideration of their paying a sum of about two hundred dollars yearly to the College. When the French Revolutionary government suppressed the monasteries in 1791, and confiscated their property, forty-five Carmelites of the monastery of Vaugirard established a company to continue the manufacture of the "*Eau des Carmes*" as a private commercial enterprise. It was provided that as the forty-five partners successively died, the property should pass into the hands of those who survived. The longest to live was Brother Paradise, who became sole proprietor and died in 1831. To the last the *Eau* was prepared on the premises where the forty-five projectors had started it.

The composition of this cordial was never divulged, but the chemist Baumé worked out a formula for a preparation said to resemble it very closely, which was adopted into the *Codex*. It called for balm (*Melissa officinalis*) freshly gathered and freed from the stems, two pounds; fresh lemon peel, four ounces; coriander seed, eight ounces; nutmeg, cloves, cinnamon, all crushed, of each two ounces; angelica root, dried, one ounce; alcohol, ten pints. The cordial was employed as a stomachic and was evidently an extremely pleasant one to take.

The convent gardens existed until late in the eighteenth century, one at Munich being mentioned in 1750. This fascinating subject tempts one into a wide digression; but it is deserving of a paper to itself and must be left to a future occasion.

After a time the monastic hospitals became decadent, for rank commercialism crept in. Certain monk-physicians became famous and were called from their monasteries to attend princes and other persons of high degree. The recompense they received was generous, and they were attracted to the lives of the laity, whose tastes and habits they adopted. They neglected the poor and devoted themselves to the wealthy for the sake of rich fees. In many cases they abandoned their monasteries altogether. Their example was followed by their subordinates of the cloister who adopted a life of vagabondage, and swarmed over the country selling "cure-alls" at extravagant prices and even dabbling in the teaching of their pretended medical secrets to anybody who would pay for them—and there were many who did. Berendes relates an amusing anecdote of a monk, real or pretended, who appeared at Erfurt in 1227 and advertised himself as a specialist in diseases of the eye. His "cure" consisted in delivering a blessing upon lumps of clay, which he then kneaded into a dough and smeared over the eyelids. He was accompanied by an assistant who wrote certain verses, supposed to be wonder-working, upon slips of parchment, which he sold as a panacea at a handsome profit. This precious pair was soon unmasked as a couple of swindlers and chased out of town. The scandal became so great, that in 1131 the council of Rheims forbade the regular clergy to practice medicine. The edict was reaffirmed by the Lateran council of 1139, and that of Tours in 1163. These prohibitions were launched against the monks in order to put a stop to a habit which had become quite common on the part of some of their number, of their leaving the cloisters, whereby they disgraced their order; but it did not apply to the orders of canons and the secular priests who continued to practice medicine and pharmacy for many years after without interference.

Another circumstance, which later aided in discrediting the monastery pharmacies in the eyes of the secular authorities was the competition into which they entered with the lay apothecaries. The precise date at which these latter first appeared is a matter of uncertainty, but it was probably about the twelfth century, although at that time they must have been under the absolute control of the physicians, who were also laymen. It is certain that in 1140 Roger, King of Sicily and Naples, issued an edict, designed to check the quackery of the itinerant monks, in which it was ordered that anybody who designed to practice medicine should subject himself to a "Judgment" (*judicio*) as to his qualifications. This was probably done on the representations of the physicians. The law promulgated by the Emperor Frederick the Second in 1241 adjusted more definitely the relations between physicians and apothecaries and made the calling of the latter a distinct branch of medicine, *not*, however, as is sometimes stated, an independent profession. The doctors of medicine were prohibited from owning a shop for the dispensing of medicaments, but they had full power to exercise supervision over the shops, to inspect them at fixed times and to examine candidates as to their qualifications. These provisions eventually led to friction between doctors and apothecaries, which has been bequeathed to the respective practitioners of our own times. I need refer only to a proposal made by certain physicians within the past few years, to issue certificates to such pharmacists as might be deemed worthy of the distinction in the eyes of the physicians in question, which certificate should be equivalent to the statement that only those druggists possessing it were qualified to dispense prescriptions.

The quarrel between the apothecaries and religious houses which maintained dispensaries became acute when, soon after their founding in 1534, the Jesuits established pharmacies in their houses, at first for the free distribution of medicines to the worthy poor, in connection with their hospitals. There are many documents in existence, chiefly in the form of letters from the Superiors to the members who acted as nurses, exhorting them to keep the hospitals well supplied with the necessary medicaments, but for use within the hospitals only. These orders were not strictly obeyed, for we read that after a while medicines were furnished gratis to the poor outside the walls and indeed, to anybody that asked for them.

This became a drain upon the finances of the houses, and it was found necessary to make a nominal charge for the articles dispensed. The medicines were sold at a low cost and were moreover, of excellent quality—two circumstances which created a large demand. The regular apothecaries, of course, objected bitterly to this state of affairs, and the Superiors, recognizing the justice of their demands, issued order after order, forbidding all commercial transactions in Jesuit houses as against the spirit and letter of the law according to which religious establishments were to act. But even the authority thus exercised was of little avail, for in a fragment of a manuscript letter dating from the beginning of the eighteenth century, we find it decreed by the Superior that all simples intended for filling prescriptions for *composita*, i. e., mixtures, must be purchased from an apothecary in the town and only in the quantities prescribed by the physicians—from which we are led to infer that patients sought the advice of the lay doctors, and took their prescriptions to the monasteries to be filled. Thus a means was

found for avoiding trespass upon the privilege of the apothecaries, and at the same time, preserving the existence of the monastery pharmacies. The latter, however, were doomed to destruction. The apothecaries appealed to the civil authorities to free them from this unfair competition. In 1776 the Elector Max Joseph of Bavaria issued a mandate prohibiting the dispensing of medicines in religious houses within certain limits. He states that complaint was made that the apothecaries were unable to maintain their shops in a state fit for the public good on account of the practice followed in monasteries and convents of selling medicines to the public without discrimination. The medicaments, he says, were prepared and dispensed by monks and nuns who were ignorant of their nature and unqualified to practice the pharmaceutical art; and he, therefore, ordered that the religious houses should close their shops in towns and within a circuit of two hour's distance where apothecaries carried on their business. Failure to observe this mandate was punished with a fine of one hundred ducats. This drastic edict brought forth a petition from the College of Jesuits at Ingolstadt, where a famous public dispensary had been maintained for many years. They claimed exemption from the ruling on the following grounds:

1. Their pharmacy had been in existence for one hundred years and Doctor Naderhirm, Court and Town Physician of Eichstaedt, had for more than forty years obtained his drugs therefrom, a testimonial to their excellence.

2. The pharmacy was presided over by thoroughly competent persons.

3. The Ingolstadt pharmacy was by no means responsible for the decay of the lay apothecaries; the claim that these suffer from the competition of the religious houses is in fact unsubstantial, for there are two in the town of Ingolstadt, who possess more than one shop and are well to do.

4. Whether or not the carrying on of an open shop by a religious order is in opposition to the rules governing such order is a question which the petitioners do not desire to discuss. They call attention to the fact that the practice is sanctioned in Rome and other countries, and they conclude by asking the Elector to confirm their privileges. What answer was given to this petition we do not know. With the dissolution of the order by Pope Clement the Fourteenth in 1773, the Ingolstadt pharmacy became secularized and passed into private hands. In France the circumstances were similar. As everybody knows the Jesuits were the first to recognize the medicinal value of cinchona bark. It was through them, that it was imported into Europe. Encouraged by their successful trade in this drug, they extended their operations and became importers of exotic drugs in general on a large scale. These they sold at retail through their various establishments, a practice which found imitation in other religious communities. The apothecaries prosecuted them and edicts were issued against the Jesuit drug shops, one of 1707 enjoining all convents from keeping medicaments, except for use in their own hospitals. But it was not until the advent of the French Revolution that the practice was finally stopped, when all conventual establishments were sequestered by the Government.

So the monastic pharmacies arose, flourished, and declined as an independent institution. In those which continued to exist the needs arising with a new order of things, were fully recognized and the practitioners submitted cheerfully to the requirements imposed upon all who would devote themselves to the pharmaceu-

tical art. They pursued the prescribed course of studies, took the state examinations and received their diplomas which put them on an equal footing with their lay colleagues; and the adjustment was a happy one, as is proved by the excellence maintained in the conventual dispensaries in our day, both in Europe and in America.

A LAYMAN'S POINT OF VIEW.*

GOVERNOR W. S. HAMMOND, OF MINNESOTA.

It gives me great pleasure to come here this morning at the very beginning of your deliberations to bid you welcome, to greet you, and to express the hope that the work that you do here may be of benefit to the Pharmacists of the State, to the Pharmacists of the United States and to all the people with whom in your various capacities you come in contact. The pharmacist is a great deal more than the apothecary of old or the druggist of even more recent days. There was a time when the apothecary shop, the drug store, was a sort of gather-as-you-please place to gossip over the events of the day and incidentally and between times to compound various medicinal preparations. The work of the apothecary was a particular and technical kind of work and there was so little of it that the compensation was necessarily quite large. But there has come a great change in recent years. The pharmacist is the scientific man as was the apothecary of old. He is the technical compounder, the registered druggist, but he is more of a business man than his predecessors were, and because of that fact the people, those who trade with the pharmacist, have been the gainers. The whole calling itself seems to have taken on another form. I imagine there is not so much compounding to-day as there was a few years ago. Great pharmaceutical establishments do a great deal of the work that the old-time apothecary did. Now, under these changing conditions, it is very, very advisable, it seems to me, that there be frequent meetings for communication of ideas and thoughts relating to the business among the pharmacists of the state. The average pharmacist has become somewhat of a business man; he has always been to some extent a business man, but I am inclined to think that to-day he is more of a business man than professional man, while sometime ago, he was more of the professional man than the business man. Now, is there any danger growing out of this? Is there anything that you ought to think about in connection with this change, if I am correctly advised and my conclusions are warranted by the facts? It would be unfortunate if this old time-honored profession should become merely business. So much of the sentiment, so much of the romance would be taken away that we might feel somewhat sad at the change, but more than mere sentiment, more than mere romance—it would be another development of the dollar idea. I admire the successful business man. We cannot but be astonished at the great efforts of the captains of industry. We like the strong, pushing, virile business men who start with little or nothing, and build up gigantic enterprises, but they are business men. We

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