

right to give certificates of death and dispense medicine at the same time. (2) Their insufficient knowledge of dispensing; the knowledge of pharmacy and practical dispensing required for their examinations not being a tenth part of that required by the Pharmaceutical Board of Examiners from their candidates. (3) Their liability to substitute cheaper medicines than those which would be of greatest value to the patient in order that their drug account may be kept down. Now, these are not fanciful ideas, but bare facts, which my own impartial experience indicates, and of which I have constantly seen the result. Of course, the patient is the sufferer, and I, for one, always take great care that my medicine is never dispensed in the slobbery manner carried out in so many of our doctor's surgeries."

Rhubarb.

The use of this root in medicine dates from earliest times. It is mentioned in a Chinese herbal, believed to date from 2700 B.C. However, that may be, from very early years the superiority of the Chinese rhubarb was acknowledged.

In the fourteenth century the root appears to have found its way into Europe by way of the Indies and the Red Sea, and thus became known as Turkey rhubarb. Afterwards, when China permitted Russia to trade on her frontiers, Chinese rhubarb reached Europe by way of Moscow, and in 1704 the trade became a monopoly of the Russian Government, in consequence of which the term Russian, or crown, rhubarb, came to be applied to it, and the chief depôt was Kiachta, where it was rigorously examined and all inferior qualities rejected, to such an extent that the quantity rapidly dwindled, and after some years Russian rhubarb ceased to be an article of European commerce. The great expense of carrying the root across the continent of Asia, and the difficulty of keeping it from the attacks of insects, caused it to become one of the most costly of drugs, for in an old price list, dated 1657, it is there quoted at 16s. per pound.

There are, however, several species of rhubarb, the roots of all of which possess medicinal properties. The *palmatum* is that which yields the article of commerce. This latter, though a native of Bucharia, grows spontaneously in the Mongolian empire, on the confines of China. In all, there are thirteen different kinds, all growing in the cold parts of the world, such as on the Altai Mountains in Siberia, Thibet, North China, and on the great Himalayan range. The imports of this country of Chinese and Turkey rhubarb differ considerably in quality. Most of it is brought from the Chinese town of Sini, or Selim, by the Bucharians. It grows on the neighboring chain of mountains, which stretches to the lake Kokonor, near the source of the river Chirico. A very good kind, however, comes from the very heart of Thibet, exclusively from the wild plants in the high mountains of

Western Sze-chuen, between the sources of the Hoang-ho and the rivers Keang, and comes into trade under the name of Shen-ze rhubarb; and it is this kind that the Chinese esteem as being the best, that coming from Kansu being most prized of all.

Sze-chuen rhubarb has a rougher surface and not much flavor, and only fetches half the price. In the province of Kansu the flora is rich and varied, the climate being exceedingly damp, especially in summer, part of autumn, and spring; and it is this moisture, and consequent richness of soil, which make the conditions exceedingly favorable to the development of plant life.

But the most noted is the medicinal rhubarb, which, as a plant, is remarkable. Little or nothing appears to be done with the other parts of the shrub, save the root, which is cylindrical, having a number of slender offsets, the length and number of which depend upon the age of the plant. When full-grown the root is about twelve inches long, and the same in thickness; its exterior covering is a brown, rough rind, which is cut off when dry. The root is considered fit for medicinal purposes in spring and autumn, and that when the plant is in flower, it is said to become porous. The Tangutans and Chinese dig it up in September and October. The plant grows at an elevation of about 10,000 feet above sea level, very rarely above that limit, mostly preferring the ravines with a rich, loamy soil and a north aspect. After it has been dug up the root is cleared from the earth, cut into pieces, strung with the bark on strings, and exposed to dry under cover for twelve months, when it is again cleaned and prepared for exportation.

In Bhutan the root is hung up in a drying-room, in which a moderate heat is maintained. The effect produced by these two drying processes is very different; when dried by artificial heat the exterior of the pieces becomes hardened before the interior has entirely lost its moisture, and, consequently, the pieces decay in the centre, although the surface may show no change. These are known as kiln-dried and sun-dried. In consequence of this practice at Kiachta, on the Russian frontier, it is received by an apothecary for examination; the bad is burnt, and the good is freed from its bark, woody parts, and all impurity in the most careful manner, and where necessary a hole is bored in the centre as a further test of its quality. It is then sent to Moscow and St. Petersburg, where it undergoes a further examination.

This Russian rhubarb is considered of very fine quality, and may be known by the size of the hole bored, which is large enough to admit the end of the little finger, by its surface having been sliced off, and by its structure resembling that of East Indian rhubarb, which is of smaller size, dark color, and the holes of a singular shape (often filled with stout string), by the outer surface being marked with white markings, and by the trans-

verse surface showing a number of star-like marks, but no cortical layers. The very best root occurs in moderate-size pieces of a yellowish color externally, more or less marked with whitish veins, the surface being convex and smooth. Internally, it is compact, marbled with reddish-brown and white mixed with iron gray. Inferior qualities are shrunken on the surface, and of a brown tint, showing traces of the darker bark, and, when broken, are sometimes decayed in the centre. Good rhubarb should form a powder of a fine bright yellow, having the peculiar nauseous aromatic smell, and a bitter and astringent taste, and when chewed feeling gritty under the teeth, speedily coloring the saliva, and not mucilaginous.

A kind of rhubarb has been cultivated in England, most of which, however, is exported. It was first attempted at Banbury, in Oxfordshire, in 1777, by an apothecary named Hayward, the plants having been raised from seed sent from Russia, and with so great a success that Hayward received the Society of Arts' silver medal in 1789, and the gold medal in 1794. The cultivation was attempted in other parts of the country, and in the neighborhood of Edinburgh much has been produced, but in no case have they yielded such medicinal strength as that from the far East.

France commenced the cultivation some few years ago; but with the exception of a small quantity grown at Avignon, the culture has almost entirely ceased.

The prejudice which always existed, and still continues, for the foreign article has militated against any attempt to produce it nearer home, and the demand for such has scarcely proved an encouragement for further cultivation. It is on record that the culture of *Rheum compactum* was begun in Moravia in the early years of the present century by Prikl, an apothecary, of Austerlitz, and until a few years ago the root was largely exported to Lyons and Milan, where it was used for dyeing silk. As a medicine, five parts are stated to be equal to four of Chinese rhubarb. The root is also grown at Auspitz, in Moravia, and at Ilmitz, Kremnitz, and Frauenkirchen, in Hungary. *R. emodi* is cultivated for the same purpose in Silesia. The rhubarb, used as a vegetable, consists of the leaf stalks of several hybrids. The petioles of *R. officinale* have also been proved to be edible, but this plant is chiefly grown on account of its ornamental foliage. The complete history of rhubarb is a most interesting one, and might be gone into at great length. It is remarkable that the first European who visited the rhubarb-yielding countries of China was the famous Venetian traveller, Marco Polo, who, speaking of the province of Tangut, says: "Et par toutes les montagnes de ces provinces se trouve le reubarbe en grant habondance. Et illec l'achètent les marchans et le portent par le monde."—*G.D., in British and Colonial Druggist.*