

beg of them then is, to insist that the sewage shall be conveyed some distance from the town, and that the plan by which this object is accomplished shall be compatible with the utilization of such valuable materials in agriculture.

## New Remedies.

ON

### THE EMPLOYMENT OF THE SARRACENIA PURPUREA, OR INDIAN PITCHER PLANT, AS A REMEDY FOR SMALL-POX.\*

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A PAPER written by me, introducing to the notice of the profession an "Indian Remedy for Small-Pox," was read to the Epidemiological Society of London on Nov. 4th, 1861, and an abstract of it was published in THE LANCET of Dec. 7th of that year. On account of the season of the year (mid-winter), I was unable to comply with the Epidemiological Society's request to send an additional quantity of the root; and on my being ordered from Nova Scotia to Canada, I found that the difficulty in obtaining it was materially increased. Hence the delay in this matter, and the impossibility, up to the present date, of giving the medicine a full and satisfactory trial.

Since, however, the publication of the paper to which reference is made, many fresh particulars have been obtained by me, and I now beg, as succinctly as the nature of the subject will permit, to bring the use of this Indian remedy under your official notice, while I venture to advocate its employment on the widest and most extensive scale.

The *Sarracenia purpurea*, vulgarly called Indian cup or pitcher plant, side-saddle flower, huntsman cap, fly-trap, trumpet plant, or *muc-ca-kem-ma-dos*—i. e., frog's leggings, by some Indians, is an indigenous perennial plant, and may be found throughout the whole of North America and the Lower Provinces, its actual limit being from the bleak coast of Labrador to the wide savannahs of Florida and the shores of the neighbouring gulf. The *sarracenia* belongs to the tribe of water plants, and is only found in wet, marshy ground; but it grows in such places in great abundance. Wood, in his "Class book of Botany," says the plant "belongs to the natural order *Sarraceniaceae*, Sex. Sys., *Polyandria Monogynia*. The leaves, or *ascidia*, are from six to nine inches in length, radical short-globose or cup-shape, having a broad lateral arched wing, from a half to an inch in width, and extended on outside of mouths into a broad, cordate, erect lamina or hood, covered with reversed hairs. The *scupe* is from one to two feet in height, terete, smooth, and supporting a single, reddish-purple flower of large size." This terminal flower has two flower-cups, the external consisting of three small leaves, the internal of five leaves—egg-shaped, shiny, obtuse, and of a brown colour. The blossoms (five in number) are guitar-shaped, repeatedly curved inwards and outwards, and finally reflected over the stigma, which is broad and spreading, divided at its margin into five bifid lobes, alternating with the petals, and supported on a short cylindrical style; this is surmounted by the stamens, which are numerous, having short threads and large two-celled yellow anthers attached on the under surface.† Usually there are six long leaves or pitchers to each plant; the leaf springs from the root, and is formed by a large hollow tube, swelling out in the middle, and curved and diminishing downwards, till it terminates in a trumpet-shaped appendage, which is hirsute on the inner surface. The hairs, as already mentioned, point downwards, probably to impel the insects &c. which move on the lip or lid of the cup, to pass into it. The leaves lie on the ground, their stems embedded in moss, and half concealed by wet twigs and creepers, with their mouths turned upwards, and the trumpet-shaped appendage or lid thrown partially backward and outwards, so as to be ready to receive any rain that falls. Each pitcher holds about three ounces of water,

and it is a likely supposition that the water insects &c. which creep into the pitchers decompose, or become digested, and thus go in some way to form nourishment for the plant. Dr. King, of Cincinnati, writes: "There are several varieties found in the swamps of Massachusetts and in the south, such as the *S. heterophylla*, *S. rubra*, *S. flava*, *S. variolaris*—all of which probably possess similar medical virtues.\* The root of the *S. purpurea* has a bitter and astringent taste, and yields its properties to water. It contains colouring matter, resin, an acid salt of lime, and an unknown salt and lignin."

It appears that the *Sarracenia purpurea* has been known (though imperfectly) for some years to the class of medical practitioners known on the American continent under the title of "Eclectics," and the leaves of the plant (valuable as deobstruents and cathartics) have been sparingly passed in medical commerce in some Atlantic cities. The root, though it was experimented on so far back as 1847 by Dr. Porcher, of South Carolina, is still unknown, and has been scarcely used as a medicinal agent. Prof. Cleaveland, U.S., however, has pointed out its well-marked effects on the ganglionic system, and makes the following remarks:—"My experiments are confirmatory of the utility of the plant in cases where there is a sluggish or torpid condition of the stomach, intestines, liver, kidneys, uterus, and the various functional derangements; and it must be evident that this plant possesses valuable properties. It is even possible that a new salt similar in importance to morphia or quinia may be extracted from it, and thus a new and valuable remedy may be added to our *materia medica*."

This last observation of the learned American professor concludes my digest of the book-lore of the subject. Doubts, however, have been expressed as to whether the medicinal properties of the *Sarracenia purpurea* are best extracted by cold or by boiling water; questions have been asked as to in which condition—in the dry or the recent state—the root may be considered most efficacious; while experiments have been made to ascertain if the leaves possess similar properties to the root. On these points I will essay an answer.

It has come to my knowledge, since the last notice,† that the existence of a remedy for small-pox had been for a long time partially known to some of the North American Indians, but only a few in a single tribe possessed any clue as to the nature of the herb whence the root was obtained. The Micmac squaw, who alone knew that the root of the Indian cup plant was the remedy in question, gathered it in great secrecy, and merely served to the applicants for her aid such quantities of the medicine, in the form of a herb-tea, as were required, either when small-pox was prevalent in certain districts, or only its approach apprehended. It was during the last outbreak of the disease amongst the Indian settlements in Nova Scotia that the decoction of the root achieved its greatest triumph; that the faith in its efficacy became widespread and general; that wherever administered with timely zeal, recovery seemed assured; and that large numbers in the plague-stricken camps took occasional small doses of it, in the belief that it acted with prophylactic effect. Now the Indian authority for its use asseverates, with peculiar emphasis, that the root alone is efficacious in small-pox; and that preparations of the leaves are useless in that disease. The directions urged to be adopted are, that the root, when fresh gathered, should be at once slowly and thoroughly dried, the thin fibres around it pared away, and the firm solid root alone used. The method of making the decoction is to slice from one to two ounces of the dried root into thin pieces, place them in an earthen pot, add a quart of cold water, and permit the liquid to simmer gently over a steady fire for two or three hours, so as to lose one-fourth of its weight. It was repeatedly asserted that the fresh root was not so powerful as the dried root, made into a decoction as described.

*Observations.*—1. In the case of an individual suspected to be under the influence of small-pox, but with no distinct eruption upon him, a large wine-glass of an infusion of the root of the plant *Sarracenia purpurea*, or pitcher plant, is to be taken. The effect of this dose is to bring out the eruption. After a second or third dose, given at intervals of from four to six hours, the pustules subside, apparently losing their vitality. The patient feels better at the end of each dose, and in the graphic expression of the "Micmac," "knows there is a great change within him at once."

2. In a subject already covered with the eruption of small-pox in the early stage, a dose or two will dissipate the pustules and subdue the febrile symptoms. The urine, from being

\* Communicated to the Director-General of the Medical Department of the Army, and contributed by him to THE LANCET.

† American Dispensatory, 5th Edition.

\* The *Sarracenia purpurea* is the only one of the species generally noticed in Nova Scotia and the adjacent provinces.

† Vide THE LANCET, Dec. 7th, 1861.

scanty and high-coloured, becomes pale and abundant, whilst from the first dose the feelings of the patient assure him that "the medicine is killing the disease." Under the influence of the remedy, in three or four days the prominent symptoms of the constitutional disturbance subside, although, as a precautionary measure, the sick person is kept in camp until the ninth day. No marks of the eruption (as regards pitting, &c.) have been left in cases examined, if treated by the remedy.

3. With regard to the medicine acting (as is believed by the Indians) in the way of a preventive, in those exposed to infection, it is curious to note, that in the camps where the remedy has been used the people keep a weak infusion of the root prepared, and take a dose occasionally during the day, so as to "keep the antidote in the blood."

The above observations were borne out in every instance in which the remedy was used amongst the Indians, and are thoroughly corroborated in the case of a white person which is narrated below.

The most marked results of the administration of the *Sarracenia purpurea* in persons already covered with varioloid eruption, are—

1st. Rapid diuretic action, with immediate lessening of the febrile symptoms; and, more tardily, it acts as an evacuant on the large intestines.

2nd. On a repetition of a dose of the decoction (which perhaps should be given after three or four hours, instead of at longer intervals), the mitigation and obvious improvement, should any symptoms of cerebral disturbance be present.

3rd. Its extraordinary effect (within a brief period) in altering the *character* of the cutaneous eruption. It seems to arrest the morbid process, and induce a healthy instead of diseased action. The pustules appear simply to be deprived of their vitality; they desiccate and fall away.

4th. The prevention of *pitting*, consequent, it may be supposed, on the whole nature of the pustule being changed in the manner just noted.

In all practicable instances it is desirable that the administration of the decoction should be commenced so soon as well-defined symptoms of variola are declared, and that no other medicine (save a purgative if absolutely indicated) be given.

I will here submit the case to which allusion was made. It is furnished me by Dr. Jas. H. Richardson, of Toronto, who has also, with the frankest courtesy, given me much other valuable information:—

"L. M. N.—, (the son of a clergyman,) a young man enjoying moderately good health, aged twenty-one, contracted small-pox, the disease being prevalent at the time in the General Hospital at Toronto. He began to complain on the 8th of April last, but was not seen by me till the 13th. He was then suffering from intense headache, combined with partial stupor, and had the usual symptoms of variola. The eruption had just appeared first about the groin, but in the subsequent twenty-four hours spread over face, trunk, and extremities. He had been vaccinated in childhood. The eruption, however, did not appear modified, but continued to run its course, as in a case of pure small-pox. The constitutional disturbance, though relieved as the eruption came freely out, was very great, and gradually increased; the pulse continuing very quick, the tongue much coated, urine very scanty, bowels costive, and delirium very violent and nearly constant. I had early unloaded the bowels, and had given him freely salines and sedatives; but the treatment generally appeared of no service whatever. On the fourth day of the eruption his condition in every respect was much worse, and I then determined to try the *Sarracenia purpurea*. It was not, however, procured until late on the next day (the decoction was of the strength of an ounce of the dried root to a pint, and given in wineglassful doses every four hours). The result after a few hours (the third dose) was most encouraging; the pulse diminished in frequency; the delirium nearly ceased, becoming entirely changed in character (his father, who watched him, remarking that the delirium seemed to lose all its terrifying conceptions, and that its wanderings seemed soothing, gentle, and associated with his ordinary pursuits); the urine increased in quantity, and became pale; the tongue commenced to clean; and the bowels acted of themselves. On the eighth day (just two days and a night from commencing the *sarracenia*) slight secondary fever set in, on the ninth the pustules began to dry up, and on the tenth the medicine was discontinued, convalescence having commenced. He shortly recovered *without being pitted*, although the eruption was confluent on the face."

The father of this young gentleman also remarks—"You may recollect Dr. R. remarked, after the decoction had been

taken for two days, that the pitting of the pustules seemed arrested."

Concerning this case, Dr. Richardson notes: "On the whole, I must conclude that the effect produced by the *sarracenia* was most satisfactory and well marked. The disease continued very severe until it was administered, and became entirely changed in its severity after the administration of the third dose, the effect being due to it alone, as no other medicine was given after it was commenced. I am forced to the conclusion that the secondary fever was much controlled by it, and that desiccation took place much more rapidly than would have occurred otherwise. I shall now give it a more early trial, and have every confidence in its beneficial effect."

In a scientific point of view, the greatest interest will undoubtedly attach to those cases of natural, unmodified small-pox in which the remedy is used, and I trust before long that many intelligent observers in all parts of the world may have it in their power to obtain the root, and give it as ample a trial as their opportunities will permit. In military medical practice in the United Kingdom, it can scarcely happen that such cases will be presented; but many examples—in Africa, China, Australia, and our foreign possessions, especially in some of the enormous districts in the Eastern Presidencies, where vaccination can be at best but incompletely carried out,—many examples, I think, of pure, unmodified small-pox may be selected, and a wide employment of this medicine be easily undertaken. So much, indeed, has attention already been awakened as to the efficacy of the *Sarracenia purpurea* in small-pox, that I can hardly doubt, in many parts of Canada and in the Northern States, every opportunity is being chosen for its trial, and that even now many interesting and important facts are silently accumulating on that vast continent.

The learned and distinguished President of the Epidemiological Society, Dr. Babington, assures me that, on receipt of the root in sufficient quantity, Mr. Marson, of the Small-pox Hospital, has determined to afford it a thoroughly satisfactory trial; and I hope that other of my professional brethren in civil life, with similar wide opportunities for collecting authentic data, will likewise be able to test its "medical virtues" in a large number of cases. If the Director-General of the Army Medical Department is also pleased to sanction its employment on trial by the medical officers of the army, scattered broadcast in every country in the world, in a comparatively short time we shall be able to generalize and digest a vast mass of well-selected and carefully arranged facts.

I do not think that the importance of this matter can be overrated, for if the "Indian Remedy for Small-pox" comes out as completely successful on general trial as it has certainly proved amongst the "tawny Micmacs," it will practically create an entire revolution in medical practice, and become, with God's blessing, the means of incalculable good in every land on which the sun shines.

P.S.—Considerable quantities of the dried root of the *Sarracenia purpurea* have either been or are about to be shipped by my direction from Canada and the States, consigned to Messrs. Savory and Moore, of London. I have requested this firm to issue, *free*, a small quantity to any of the medical societies of the metropolis who may wish to apply for it. The *Sarracenia purpurea* will (for a very long time) only be obtainable (genuine) in England at Messrs. Savory and Moore's; and this firm, I apprehend, will retail it just at the price per lb. which will cover the expenses incurred.\*

St. Helens, Montreal, C.E., Aug. 25th, 1862.

## THE GREAT INTERNATIONAL EXHIBITION.

### XVI. REPORT ON THE SUBSTANCES USED FOR FOOD EXHIBITED IN CLASS III.

#### B R E A D.

FOR many centuries the art of bread-making has remained, especially in England, in a stationary condition, few or no improvements therein having been made. In this country the laborious process of mixing the flour and water together has been performed, until recently, almost universally by the

\* Since the above was written, Messrs. Savory and Moore have received the root, and it is now on sale.