

SELECTIONS.

PAPAW—CARICA PAPAYA, L.

From new Commercial Plants and Drugs,

By THOS. CHRISTY, F. L. S.

I AM now in a position to give further particulars as to the effects and uses of this valuable drug, it having been successfully tried in many cases, both in this country and especially abroad.

Mr. Bouchut, who has for some time been making experiments with papine for tapeworm, claims to have relieved several children by its use; one child passing fragments of tapeworm ten inches in length, softened, yellowish, shrunken, and partially digested.

Dr. Boucher, in conjunction with Dr. Wurtz, who has tried Papaw so successfully, has obtained good results with this drug in diphtheria. A solution of 10 to 30 drops, applied as a paint, rapidly dissolved the false membranes. A number of cases in the hospital for infants were cured by this treatment. (From the *Journal de Therapeutique*.)

Physicians in Germany, in cases of diphtheria, give papaine in doses of 4 to 5 grammes, and paint the throat with a solution (1:10) with great success.

Professor Rossbach, of Wurzburg, is now concluding his experiments with this interesting drug in cases of diphtheria, and I hope shortly to be in a position to publish his report, together with those of several medical men who are now working with Papaw.

Dr. Albrecht, of Neurenburg, speaks very highly of the effects of papayine (in the form of papayine syrup) in cases of simple dyspeptic, catarrhal gastric, and intestinal disturbances of small children in the absence of deeper anatomical lesions. Both vomiting and undigested food are said to disappear rapidly after the administration of a few teaspoonfuls of this drug.

The following, which appeared in the *Globe*, will give my readers some idea as to the solvent powers of papaine:—

“If the art of training, in which during the past few weeks not only the university crews, but a whole host of individuals belonging to various branches of the athletic world have been engaging, consists mainly in the method of managing the digestive organs of the patient, it is possible that “papaine” will before long be recognised as an useful auxiliary in the dieting of competitors. It was stated at the last meeting of the Chemical Society of France, that a learned academician, M. Wurtz, had completed the experiments announced by him a year ago to the Academy of Sciences on the uses and virtues of this new product. Papaine is composed of the juice extracted from the fruit of a tree called the Papaw tree, which is a native of South America, and may probably be grown in any country near the equator. The juice is subjected to various processes more or less unintelligible to the vulgar mind, and then mixed with a large proportion of water, when it exhibits strong powers of artificial digestion, and produces some results which are certainly curious even if they are not destined to become particularly useful in the medical world. In the most successful of his experiments, M. Wurtz diluted two grammes of papaine, which he was obliged to use in a somewhat impure state, owing to the impossibility of freeing it entirely from the foreign substances adhering to it, in a glass containing 200 cubic centimetres of water. Into the bath thus prepared was introduced an ill-fated frog, weighing 50 grammes, which was left to be operated upon by the spontaneous effects of the liquid. In two hours the wretched occupant of the bath began to show signs of his impending fate, his skin being gradually worn away by the action of the papaine. Four hours more elapsed, and the muscular action of the beast appeared to be paralysed. His movements became slack, and soon after ceased altogether. The next stage was the gradual disappearance of the body itself, which faded away, as it were, after remaining in the shape of a sort of film, the conformation of which grew every minute less distinct. On the morning of the following day the frog had altogether disappeared.”

Extract of paper by Surgeon B. Evers, on Indian Medicinal plants, in *Indian Medical Gazette*, February 1st and March 1st, 1875:—

“No ill effects result from the internal application of this drug. Some of the patients treated complained of a feeling of heat in the stomach, nothing more. When symptoms of gastric or intestinal irritation occur, I have found it necessary to combine opium or hyoscyamus with the juice. The drug appears to me

to act as a tonic and deobstruent. My plan for ascertaining that there has been an actual diminution in the size of the enlarged gland (spleen) was to mark off with the nitrate of silver the limits of the affected organ when the patient applied for treatment and after about a fortnight or a month percuss and mark off again in the same way. In very bad cases I have seen a decrease of from half-an-inch to an inch in perpendicular dulness. Patients have told me again and again that they felt considerably lighter in the side, and that their digestion was now good. I believe that the drug is most active in cases where the stages of ague-cake, *i.e.*, the genuine anyloid spleen has not yet been attained; in fact, when the deposit in the gland is still albuminoid. It acts much more rapidly than the hydro-chlorate of ammonium, the bromide of potassium, or the external application of the biniodide of mercury ointment.”

Captain S. P. Oliver, in *Nature* for 10th July, 1879, says:— In Mauritius, where we lived principally on ration beef cut from the tough flesh of the Malagasy oxen, we were in the habit of hanging the ration under the leaves themselves, and if we were in a hurry for a very tender piece of fillet, our cook would wrap up the under-cut of the sirloin in the leaves, when the newly-killed meat would be as tender as if it had been hung for a considerable time.

It is well known that in healthy bodies bacteria exist in so minute a quantity in the blood, that it is not always possible to demonstrate their occurrence, in fact they can never be found with certainty. But in experimenting with papayotin for another purpose, Dr. Rossbach found that when it was injected into the blood of the jugular vein or foot of a rabbit, and a drop of blood taken from the heart of the animal in one or two hours after the Papayotin was injected, the blood contained an unusually large quantity of micrococci. In these experiments, in which death ensued in fifty minutes after injection, it was found (as might have been expected) that the movements of the heart ceased before those of the respiration. In any drop of the blood taken from the heart of an animal fifty minutes after the injection had been made, numerous spherical and biscuit-shaped bacteria were observed, having lively movements by which and by their giving an intense colour with aniline dye, were evidently active bacteria. Thus we have, for the first time, a case in which an unorganised chemical ferment derived from a plant, and itself free from organisms, is capable of so altering the juice of the body as to enable bacteria to become active and increase to such an enormous extent, that the state of the blood is comparable to that which results from a true infection.

It would thus appear that bacteria require the presence of a ferment in the blood in order to produce their fatal results.

PESTILENTIA—PALI PLAGUE—MAHAMURREE.

By NORMAN CHEVERS, C.I.E., M.D.

(Continued from page. 309)

DR. FRANCIS and the great majority of observers who have investigated Mahamurree in its habitat, place the causation of this plague in the filthy mode of life of the people, the paucity of their vegetable diet, and the absolutely insanitary state of their villages. The picture which Dr. Francis draws of the mode of life of these natives is very striking. He writes (page 400)—“Until hygienic measures were adopted, the general uncleanness of the people in their persons and *entourage* was incredible. A small stone dwelling (built upon a surface thirteen feet square), consisting of two rooms, each about five feet high, one above another—the upper chimneyless and practically windowless; tenanted by the entire family, often more than half a dozen in number, and by the huge baskets containing the family grain; the lower compartment (a wooden floor, full of cracks, serving as media for the effluvia from below, dividing the two) being occupied by the family herds, consisting of cows, goats, and pigs; a row of such dwellings (sometimes they are single or double, spread over an irregular surface), similarly tenanted, and flanked at either extremity by the ancestral heap of manure, from which streamlets of liquid filth were flowing in different directions; the cottages covered with cucurbitaceous creepers; a small forest of hemp, some eight or ten feet high, luxuriating in the immediate neighbourhood of the village; a growth of underwood, including nettles, &c., between the two, and more or less surrounding the latter; and unwashed paterfamilias, seated in front of his fig-tree, having submitted his head to be divested by a faithful spouse of the