

that his suit has been received with favor and he at once prepares for the wedding ceremony. A red seed, on the other hand, signifies that he has been rejected. There was a time when no marriage gift from a bridegroom to a father would be accepted by the latter as a purchase price for his daughter, unless a liberal supply of kola seeds were included therewith.

The presentation (by a chief) of a few kola seeds to either a white trader or a native of rank constitutes the highest compliment that can be paid, as it conveys an assurance of friendly welcome and protection. In certain parts of the dark continent a necessary preliminary to the transaction of any important business is the eating of at least one of the nuts by the two parties concerned.

Again, on the departure of a guest, the host gives expression to his kindly wishes by the gift of a few kola nuts. To such visitors as are prompted by commercial or political considerations to travel great distances, no courtesy could be more acceptable, in that the kola nut not only supports the strength and allays inordinate appetite, but assuages thirst and assists digestion, thereby rendering the traveller more capable of sustaining the fatigue of his journey than would any other obtainable product. The value of the nut in these particulars is so thoroughly impressed upon the natives that they are accustomed to place a sufficient quantity of kola in the grave of a friend in order to nourish and strengthen the departed while on his long journey. The Mohammedans declare that kola is of divine origin and was introduced by the prophet himself for the purpose of driving out evil spirits, expelling disease, and preventing plagues. Dr. Rancon, the eminent explorer, says that the Bambaras and the Malinkes swear upon kola as is done upon the Bible in Christian countries. In the event of a dispute between two natives, the accused must, if he denies the statement of his accuser, be summoned before the chief priest (who is generally a blacksmith), and take oath upon the kola. After igniting some straw, the priest takes a sound kola nut and sings it slightly with a view to purifying it. Then, taking it in the left hand, he repeatedly punctures it with a knife for the purpose of demonstrating its soundness. He now states the form of oath, viz.: "I swear that I am not guilty of the act of which I am accused; if I speak falsely I hope that this one kola nut which I am now going to eat will poison me in as many days." After repeating these words the offender immediately swallows the kola whole, and, in order to prove that he is not feigning, is given a gourd of water to drink.

In the political relations of the western African tribes the kola seed often serves as a mediator between two tribes when on the eve of war. In such event some red and white Kola seeds are placed on the centre of a mound of earth. If one of the red seeds be taken by either tribe it is considered by the other a silent invi-

tation to fight, if a white one be removed, peace is at once declared. Examples of this kind might be quoted indefinitely, but enough has been cited to show the esteem in which the nut is held by the natives. As a matter of fact, it is really remarkable that the wonderful properties of this drug should not have become known to the civilized world until recently.

Detroit has the distinction of being the leading distributing point in the United States for the kola nut and its products. It was first introduced into this country by Frederick Stearns & Co.

The *Free Press* is indebted to the scientific department of the Messrs. Stearns & Co. for much of the information here given about the kola nut and its properties.—*Detroit Free Press*, Nov. 24.

The Cinchona Preparations.

By M. TARDY.

The author has investigated the subject of the amount of alkaloids which pass into solution in the various cinchona preparations, such as the extract, the tincture, the syrup, and the wine. He commenced by taking a yellow cinchona, in which he determined the total percentage of crude alkaloids. In order to extract the alkaloids he had recourse to the very simple method of hydrochloric acid treatment. The cinchona experimented with contained 35.4 parts of total alkaloids per 1,000.

Extract. A soft extract was prepared from this cinchona by the process of the French Codex. Before filtration the extract contained 20.26 of alkaloids per 1,000 of cinchona; after filtration, it contained only 14.16 parts per 1,000, i.e., the final product had lost 6.1 parts of alkaloid, which remained on the filter; the residue was not exhausted, and contained 13.3 parts of alkaloids per 1,000.

Syrup. The syrup prepared in the manner prescribed by the Codex contained only thirteen grammes of alkaloids per kilo of the cinchona; the residue was not exhausted, therefore, and contained 19.5 grammes of alkaloids.

Wine. The wine contained only 10.7 grammes of alkaloids per kilo of cinchona, and, therefore, 24.5 grammes remained in the residue.

M. Tardy next prepared a fluid extract by *De Vrij's* method as modified by *Nanning and Jaudon*, which consists in taking 375 grammes of the same bark as was employed in the experiments described above and treating with

300	grammes 90% alcohol.
300	" distilled water.
20	" acid hydrochlor.

After twenty-four hours maceration followed by percolation, the exhaustion is completed with the following liquid:—

500	grammes 90% alcohol.
500	" distilled water.
200	" glycerine.

And then a mixture of equal parts of alcohol and water run through until a product equal to five times the weight of the cinchona taken is obtained. The

liquid so obtained is evaporated in vacuo till a residue of 375 grammes results.

The extract thus obtained contained 34.5 gr. of alkaloids per kilo of cinchona, i.e., the latter was almost perfectly exhausted.

It being thus shown that the whole of the alkaloids may thus be extracted, the author recommends the preparation of such a fluid extract for making the wine and syrup of cinchona (*Jour. de Pharm. et de Chim. Mfg. Chemist.*)

Cod Liver Oil in Medicine.

Before the Therapeutical Society M. Patein read a very complete and interesting report on cod liver oil. It is the most digestible fatty food, probably on account of the biliary principles which it contains. Moreover, it possesses important stimulating and thermogenic properties, due to the phosphorous and iodine which it includes in organic combination and also to the numerous alkaloids isolated by MM. Gautier and Mourgues. These alkaloids—butylamine, amylamine, oxyamine, dihydrobutylamine, aselline, morrhaine, with morrhuaic acid, etc.—exist principally in the light colored oil, and result from an autodigestion of the livers at the end of three or four days of maceration. It is an autodigestion, and not a putrefaction, for at that period the livers have an acid reaction, whereas during putrefaction the reaction is alkaline. M. Patein touched rapidly upon the applications of cod-liver oil; rachitis, pulmonary tuberculosis, rheumatism—in which its action appears doubtful—its external application in dermatoses, etc. He pointed out its inconveniences, its repugnant taste, purgative effect in large doses, accumulation of fat in the liver if its use is abused. He advises that the dose of 3 ounces should never be exceeded, that it should never be administered except in winter, that its exhibition should from time to time be suspended. M. Patein also recommends that the sides of the glass from which it is taken should be moistened in order to prevent the oil from adhering to the vessel. The patient should swallow it at one draught, and, after taking it, should wash the mouth with some aromatic water. — *Medical Bulletin.*

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