

THE ANALYSIS OF CINCHONA BARK.*

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The want of a quick and accurate method for the estimation of the alkaloids in Cinchona Barks has long been felt, and although numerous processes have been suggested for the purpose, the author feels justified in saying that there has not been published up to the present moment any method by which a person inexperienced in bark analysis could obtain trustworthy results. A *résumé* of some of the existing processes, in order to point out their defects, will possibly be of some service.

The B. P. method is as follows :—

One hundred grains of finely powdered bark are macerated and boiled in 1 fluid oz. of acidulated water, then percolated with 1½ oz. more of similarly acidulated water, or until the percolate is free from colour. The liquor is then treated with subacetate of lead to remove colouring matter, etc., and after filtration, mixed with caustic potash and 12 fluid drachms of ether. The ethereal solution is removed, evaporated, and the resulting alkaloid weighed. The chief objections to this method are the following :—

- (1) The quantity of bark directed to be taken is too small.
- (2) One fluid ounce of liquid is not enough to properly macerate 100 grains of bark in fine powder.
- (3) One and a-half ounces is not sufficient liquid to exhaust the bark, and if percolated until the percolate is free from colour, about 10 ozs. of liquid will have to be collected.
- (4) The removal of the colouring matter by subacetate of lead ensures loss of alkaloid.
- (5) The method of removing the alkaloid by means of ether ensures loss of alkaloid, and also does not guarantee the purity of the residue.

- (6) Quinine is not perfectly dried by the heat of a water-bath.

The next method for consideration is that in which the bark is exhausted with dilute acid and precipitated with soda. The precipitate is then washed, treated with some solvent, such as oil of turpentine, coal oil, alcohol, or ether, the liquid filtered and distilled off, and the residue treated with dilute acid, precipitated, dried and weighed. The objections to this process are :—

- (1) The quantity generally ordered (100 grains) is too small.
- (2) Some barks when exhausted with acid and precipitated with

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