trouble to perform the simple experiments suggested in this paper, he will find that, in following too closely the suggestions of our teachers, we have overlooked the simple and yet, in my opinion, the most important step to percolation, viz., *maceration*. Holding a prominent position in an establishment where all the officinal preparations are prepared largely, I was induced to try and see whether the problem could be solved whereby, in making fluid extracts, heat could be avoided, and whether the great waste or use of alcohol could be dispensed with in their preparation, and, to my satisfaction, I have had no difficulty whatever in thoroughly exhausting any substance of any character with the proper menstrum in the proportion of one pint for every sixteen troy-ounces, by allowing it to macerate for four days in a conical percolator, previous to percolation. The subject is not a hastily formed theory, but is one that is offered as the result of actual experiments with its results and residues open for inspection and consideration. I have taken the liberty to differ from the prescribed menstruum laid down in the Pharmacopœpia, by following out Mr. A. B. Taylor's suggestions on the use of glycerin as a solvent for the various active properties of drugs, and have been surprised at the results obtained from its use; and it is with pleasure that I fully confirm his views regarding its use and adoption by the present revisers of the Pharmacopœia, in the various menstruums. In all the experiments I used Bower's Glycerine. I have adopted as a grade of fineness of powder for percolation, that which is known in the Pharmacopœia as moderately coarse, or which will pass through a sieve of forty meshes to the linear inch, as one within the means of any retail pharmaceutist to powder himself. I find that about five-eighths of the whole quantity can be obtained of this fineness by means of a Swift's drug mill; also, I deem a greater fineness of powder than this as being an unnecessary and unwarrantable waste of time and physical force, since maceration is what is wanted, and not fineness of powder, to make a successful percolation. The common glass funnel I have found to be the best percolator, both in point of convenience and cleanliness, also its conical shape, allowing the proper expansion of the material whilst macerating, previous to percolation. The query has frequently presented itself to my mind as to what is a fluid extract, or what is it supposed to be, or should it represent. If I understand aright, a fluid extract is a concentrated tincture, or solution embodying all the sensible and remedial properties of a drug or drugs, and should represent the drug as it is thrown into the hands of the pharmaceutist from nature, not one or two active principles of the drug alone to be represented, but should approximate as closely as possible in its character and properties to the crude drug itself, in smell, taste, and remedial effects; bearing these points in mind, I undertook the following experiments, with what success the samples will prove. The official fluid extracts are divided into four classes, viz., alcoholic, hydro-alcholic, acetic and saccharine, but by my method will consist of only two classes, viz., alcoholic and hydro-alcoholic. The first or alcoholic, with one-fourth glycerin, and they may be enumerated as follows: buchu, lupuline, valerian, veratrum viride, ginger. The menstruum used in the hydro-alcoholic or second class, composed of one-half alcohol, one-fourth water, one-fourth glycerin; under this head are the following, including the saccharine and acetic fluid extracts cimicifuga, cinchona, colchicum root, colchicum seed, conium, dulcamara, ergot, gentian, hyoscyamus, ipecac, rhubarb, sarsaparilla, sarsaparilla compound, senna, serpentaria, spigelia, taraxacum, uva ursi. The Pharmacopœia directs that a fluid ounce of a fluid extract should faithfully represent one troy ounce of the crude drug, excepting cinchona and wild cherry bark, which are directed to be one-half the above strength, both of which drugs I have prepared of full strength, so that there should be no exception as to the uniform strength of all adopted. In order to prove the accuracy of my method, in exhausting cinchona bark, I took the residue in the percolator after I had obtained sixteen fluid ounces of extract from sixteen troy ounces of the bark, dried it, redampened it, and repacked it in the funnel, and passed six pints of dilute alcohol through it until it came away colorless, then evaporated it to a soft extract which weighed two drachms, of a slightly nauseous taste, but devoid of bitterness, thus proving conclusively the success of my experiment, as to the almost entire exhaustion of the drug of all its active matter. Cinchona bark has been admitted to be one of the most difficult drugs in the whole catalogue to exhaust. In making a fluid extract of wild cherry bark, I used menstruum composed of equal parts of glycerin and water, making it as I said before, ounce for ounce, and it will be found to faithfully represent the bark, having the natural taste and odor in a marked degree.

My method consists in first obtaining a powder, moderately coarse, dampening it with the menstruum, and then packing uniformly in a glass funnel, having previously placed a cork in the end of the funnel, also a piece of sponge in the neck moistened with the liquid; then covering the surface with a disc of paper and pouring on the remainder of menstruum in the proportion of sixteen fluidounces for every sixteen troyounces of drug. Cover over so as to prevent evaporation, and allow to macerate for four days; after that time remove the cork, and use a displacing liquid of either strong alcohol or dilute alcohol, or water, corresponding to the menstruum employed, (omitting the glycerin) by pouring it over the surface of the percolator in order to displace the original menstruum; when sixteen fluidounces for every sixteen troyounces have passed through, it will be finished, and will be found to be perfectly exhausted, thereby avoiding heat, and any large use or waste of alcohol. I find that it requires about an equal measure of the displacing liquid to displace the first or original liquid through.

The difference between my method and that generally employed, consists simply in adopting a uniform grade of fineness of powder for all substances, in long maceration and in the use of glycerin. The officinal method is to reserve the first three-fourths, exhaust and evaporate to one-fourth; in my method I give a long maceration and percolate the quantity at once, thereby avoiding reservation, evaporation, and simplyfying the process very much, and furnish a much better product.

The experiment is worth a trial, and I feel satisfied that if faithfully followed out, will gratify any one with the result, and will enable him to dispense reliable fluid extracts fully representing the crude drug, which in the present time is a great desideratum.

On the Alkaloids Contained in the Wood of the Bebeeru, or Greenheart-Tree (Nectandra Rodiæi, Schomburgk.)*

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In this paper the authors state the preliminary results of their examination of the bases contained in the wood of the greenheart-tree. When the wood is subjected to a process similar to that recommended in the British Pharmacopœia for the preparation of sulphate of bebeerina from the bark of the tree, a mixture of the sulphates of several bases is obtained. The product does not differ in a marked manner from sulphate of bebeerina as it occurs in commerce.

From the mixture of bases the authors separated, by repeated treatment with chloroform, a base which is very soluble in that menstruum. This base, when purified, occurs in the form of a white non-crystalline powder, possessed of an intensely bitter taste It differs from bebeerina in the following particulars:

1st. It fuses when placed in boiling water.

2d. It is much less soluble in ether than bebeerina. 100 parts of pure ether, of density 0·715, dssolve 0 96 parts of beeberina. 100 parts of the same ether dissolve ·04 part of the new base.

3rd. When treated with strong sulphuric acid and binoxide of manganese, a magnificent green color is first developed; this slowly passes into a violet of great beauty, not unlike that produced by the action of the same reagents on strychnine.

4th. The new base has a higher atomic weight than bebeerina. The mean of five determinations of the platinum in the platinum compound of this base showed the percentage of platinum to be 17·72. The mean of four ultimate analyses of the alkaloid gave the following numbers:—

	Calculated.	Found.
Carbon	70·38	70·02
Hydrogen	6·74	6·73
Nitrogen	4·10	4·53
Oxygen	18·78	18·71
	100·00	100·00

To this new alkaloid the author assigns the formula $C_{20}H_{23}O_4N$ (C=12), and the name Nectandra.

The difference between the composition of bebeerina, as ascertained by Von Planta, and that of nectandra, may be seen by comparing thesir formulæ,—

Bebeerina ..... $C_{18}H_{21}O_3N$
Nectandra ..... $C_{20}H_{23}O_4N$

After separating nectandra from the mixed bases obtained from the wood, the authors succeeded in separating a base which is much more soluble in hot and cold water, and which is insoluble in chloroform. It is deposited from a boiling solution in the form of yellow nodules. Its taste is both bitter and astringent. It appears to have a lower molecular weight than either bebeerina or nectandra. The percentage of platinum in the platinum compound was found to be 20·3.

* From the Pharmaceutical Journal, London.