

fluid will pass most rapidly through those parts where the force from behind is the greatest.

Lateral pressure also causes a diagonal current in the direction of the central column, and exercising a considerable mixing force, which is of the greatest consequence when water is employed to displace spirit. Instead of true displacement, a combination of the two fluids will take place, and very much heighten the specific gravity of the tincture.

Professor Redwood alluded to this fact when he said :—“ The conical form is most used, because the liquid aggregates toward the middle of the column, so that near the bottom more liquid runs than at the side * * * *spirit not to be driven out with water because it mixes.*”

Our experiments, as detailed in the accompanying table, prove, we think, that the Professor's warning may be rendered unnecessary. We also differ from the opinion of Dr. Burton,* when he affirmed that percolation is more expensive, more difficult, and less generally applicable than maceration. Our investigations and general practice prove just the contrary, and show, that with the exception of Tinct. Limonis (when fresh peel is ordered), percolation is by far the best and most economical method of preparing the tinctures and wines.

The most satisfactory work was done when the percolator had a diameter of about one fourth the length, and when the ingredients, occupied one-fourth the interior.

Spontaneous packing.—As we before mentioned, any one who has worked much in the tincture department must be aware of the almost total impossibility of so regularly placing the ingredients with the requisite uniformity. The method which we venture to recommend is to allow the ingredients to *pack themselves*, and we think that so great a simplicity and completeness are attained that the veriest tyro may be entrusted with the operation without the risk of failure. Our mode of procedure is to powder the ingredients and pass them through a sieve having from 20 to 30 apertures to the inch, and put into the *whole of the spirit*, and macerate for 48 hours with occasional agitation. At the expiration of time the supernatant spirit is poured off, the dregs stirred up and poured into the cylindrical percolator, and allowed to drop until the liquid passes away clear and bright. It is then placed in the receiver, and all the spirit gradually poured on and allowed to percolate in the usual way. When all has passed through, an equivalent proportion of water is carefully poured on the residue to displace the spirit absorbed. If properly conducted, the water will not mix with the spirit, but, by its gravitating force, will drive it forward. The process thus proceeds with great uniformity, and the materials are perfectly exhausted. No waste is incurred, and the tincture is made with a rapidity equal to