

Lime Water.

In a paper read by T. A. Ellwood before the Chemists' Assistants' Association, the author said that the quality of lime water depends upon the purity of the lime used, the method of slaking it, and the amount of water used; the time allowed to stand before decantation from the insoluble portion, the method of keeping, and the bottle it is kept in.

The solubility of lime considerably decreases with rise of temperature; at boiling point scarcely half the amount is dissolved as at ordinary temperatures, why this should be the case has not yet been ascertained. It was suspected by Messrs. Shennstone and Cundall that this was due either to impurities or to the action of the lime upon the vessels used, which are usually of glass; they therefore tried an experiment, using a platinum tube instead of glass, and a very carefully prepared pure sample of calcium hydroxide. They came to the conclusion that their suspicion was wrong, and that no doubt remains on the point; calcium hydroxide is very decidedly less soluble in hot water than in cold; they were, however, unable to assign a reason for its diminished solubility.

The slaking of lime has a considerable influence upon its solubility in water; if carelessly done the result will in all probability be to make a lime water under strength. If, however, the B. P. method is adopted, and the lime is good, not overburnt, there need be no fear of obtaining anything but a satisfactory solution; rather less water than is ordered by the Pharmacopœia to slake the lime is preferable.

Messrs. Nesbit and Maben have said they do not consider it necessary to have freshly slaked lime, providing the ordinary is well kept. My results lead me to conclude that freshly slaked lime is better, but that a solution of correct strength can be obtained from a carefully preserved sample if it does not contain carbonate and is less than a month old; beyond that age I find, even if it contains no carbonate, its solubility decreases.

Some chemists prefer making their lime water direct from the lime (calcium oxide) itself, by simply pouring water upon it direct and then bottling. There are several objections to this method. The lime is almost sure to contain some other soluble impurities, such as chlorides or sulphates, which in the case of calcium hydroxide are ordered to be washed away before making the lime water. Such samples would therefore contain an excess of calcium, but not all of it in the required form. By adding lime to water, small quantities at a time, and keeping a low temperature, a supersaturated solution may be made containing 20 grains to the pint, which is double the official strength. It is a common custom, in making lime water to simply add an indefinite amount of slaked

lime to a bottle containing ordinary water, and then standing on one side until required for use, which perhaps may not be for several weeks. Such a method is very erroneous. First, ascertain whether the lime is free from chlorides by washing and testing washings with argentic nitrate; remembering also that the Pharmacopœia directs that slaked lime should be recently prepared. Second, add the slaked lime to distilled water in definite proportions (1 to 100) and shake thoroughly for two or three minutes. Third, adhere to directions, and decant or siphon off after twenty-four hours; for the solution, rather than improving, will deteriorate by keeping.

Lime water should not be kept, as is very frequently the case, in the ordinary stoppered white rounds of the shop, as, with the other alkalies, it possesses a considerable solvent power for lead. It must be in bottles free from lead and in a cool place, and when, owing to absorption of carbonic acid, it is observed to deposit on the sides, it should be tested and only used providing it is equal to the required standard.—Pharm. Jour., November 23rd, 1889.

Chinese Apothecaries.

In the Pharm. Post Dr. Evans gives an interesting description of the apothecaries in China. The rooms of his house, he says, include the shop in the basement fronting on the street, a storeroom in the rear, a gallery reached by a winding stairway, and a terrace in the open air. The rear storeroom also serves as a laboratory. The shop, as well as the gallery connected with it, is overstocked with all kinds of medical substances. Roots and herbs are dried on the terrace in broad sunlight. The door to the shop is high and wide, so that fresh air can easily enter.

The counters extend on both sides of the room and are united at right angles at the rear end. The arrangement at the same time removes the manipulations of the assistants from the gaze of the public, chairs being placed in the open space of the shop for the convenience of the latter. The walls are ornamented with signs and maxims bearing on the art of healing. The wall immediately opposite the entrance receives the owner's particular attention in the line of ornamentation. Here porcelain jars are arranged in an orderly manner, interspersed with carefully labeled drawers, and the whole is crowned by an octagonal urn of zinc or some other bright metal, whilst above all an ornamental sign proclaims the name of the proprietor.

In one corner of the drug store is an altar, dedicated to the memory of his ancestors. Upon this altar are placed the favorite dishes of the deceased, and perfumed candles are here kept burning. The proprietor of the drug store is usually found sitting in the entrance of his shop, from where he supervises his business. All prescriptions are brought to him; he examines them, and then turns them over to his assistants. All consultations take place here also, and the prices are agreed upon. A few large granite and marble mortars, a few sieves and several fire-proof crucibles represent about all the armamentarium of the Chinese laboratory. It is true, a few chemical substances are pre-

pared by the native pharmacists, but without any knowledge of the principles involved.

The apothecary manifests the most scrupulous care in gathering and preparing plants and other products of nature; different properties are ascribed to the buds, flowers, roots and leaves of the same plant. These parts of a medicinal plant are to be gathered at different stages of their development, and so it follows that they are busy the year round in gathering them. How careful they are in preparing and preserving drugs is shown by the extraordinary fine preservation of the colors in dried flowers, buds and leaves. Another explanation of the great care exercised in this direction may be discovered in the fact that the Chinese ascribe different powers to medicines according to the manner in which they are applied. The physician, for example, prescribes powders, pills and solutions, not on the principle of their divisibility or solubility, but rather for the reason that he firmly believes them to act in conformity with their external form.

The Chinese pharmacists are a very influential caste, to whom great respect is shown by the people. Their dress is similar to that of the well-to-do tradesmen, including a long robe and a large conical straw hat which in summer is covered with horse hair, and in winter with black velvet. As they are well aware that their exterior should be in harmony with the supposed wisdom that dwells within them, they effect a stoical exclusiveness, make use of sententious utterances, and do not disdain to have recourse to all sorts of artistic legerdemain to impress the laity with their intellectual superiority.

Extemporaneous Liquid Valerinate of Ammonia.

M. Perrens communicates to the Societe de Pharmacie de Lyon a note on practical pharmacy, in which he gives the following formula for this preparation:—

Distilled water	475 parts.
Valerianic acid	15 parts.
Alcoholic extract of valerian	10 parts.
Carbonate of ammonia, sufficient to neutralize, or from 15 to 20 parts.	

Mix the valerianic acid with 300 parts of water. It will dissolve readily enough, but in any case it is not necessary to worry about the few oily drops which will sometimes float on the surface temporarily. Add the ammonium carbonate at once, in small pieces, but not pulverized. Watch the effervescence, and when it is no longer perceptible test with litmus. As soon as it is found to be neutral, pour the solution upon the paper prepared beforehand, and filter. Dissolve the extract of valerian in the balance of the water, and mix the solution with the filtrate. Filter the whole again, and, if necessary, add distilled water to the filtrate to complete 500 parts. The maximum dose of the liquid thus prepared, for an adult, is from 4 to 5 drams.—Nat. Druggist.

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