

cinchona, belladonna and, doubtless, others respond to this reagent, in fact so far as we have gone there has been not one exception. All have been precipitated, though not with the same facility, some responding more promptly in dilute solution than others. In this respect quinine seems to be more responsive than all of those examined thus far, probably because of its low solubility.

It was found by experiment that a 5% quinine solution was precipitated with a like amount of potassium citrate. In one instance, in a still more dilute solution, after standing, the quinine appeared in long, colorless needles. Strychnine sulphate, 1% solution, precipitated slowly in the presence of 5% potassium citrate as small, brilliant crystals adhering to the sides of the tube; in a 10% potassium citrate solution the precipitation was rapid and complete. Morphine, 5% solution, was promptly precipitated by 5 percent of potassium citrate. Codeine, heroine, atropine, were all precipitated, and in most instances did not redissolve upon further dilution with water. Caffeine precipitated in concentrated solution but redissolved on further dilution.

These facts suggest the advisability of "shake well" labels on prescriptions containing such ingredients.

The foregoing is all we have to offer so far as demonstrable truth is concerned. In addition, however, we invite you to go with us on a short excursion through a fanciful speculation. Alkaloids are nitrogenous bodies that form addition compounds like ammonia; amines behave similarly; ptomaines derived from putrefactive changes in intestinal contents; toxins derived from the development of bacteria in favorable culture media, and venom from poisonous reptiles are, if we are correctly informed, similar in composition to alkaloids.

Potassium citrate is described in the U. S. Dispensatory as being diaphoretic and refrigerant. There is no statement as to how its functions are performed and it is doubtful whether this information is known.

The question that naturally arises in light of the above statements is, does potassium citrate, when absorbed into the circulation, encounter therein toxic substances, and does it unite with them to form insoluble compounds, as in the test tubes? And further, if this surmise should prove to be true, would it follow that former poisons would become inert? And if this should prove to be true, would it not follow that the logical manner for introducing the remedy into the system would be by way of intravenous injection? And in light of the fact that sodium compounds are best tolerated by the system, would not a sterilized solution of sodium citrate be the proper mode of administration?

We have very little experimental evidence to offer in support of this theorizing. Just one little fact is worthy of mention: Hexamethylenamine gives a very finely divided precipitate in presence of potassium citrate.

ABSTRACT OF DISCUSSION.

In answer to a question by Dr. C. B. Lowe as to how long it required for precipitation to occur, the author answered—"immediately."

Charles H. LaWall said, "It is certainly interesting that a hitherto unrecorded fact should now be presented relative to a frequently used remedial agent, that is an alkaloidal precipitant. It really comes with added force that the 'Shake well' label should be more frequently used."