possibly embarrassing effects of such legislation upon other pharmaceutical products are deserving of serious attention.

One requirement frequently proposed is that all of the active ingredients of a proprietary medicine shall be plainly printed upon the package, as is now required in the case of alcohol and certain other drugs.

Another proposition is that the manufacturer be required to disclose his formula, or the names of its active ingredients, to some public official or board which is to preserve the information thus obtained as an official secret.

The Commission is not prepared at present to give its unqualified endorsement to either of these methods of formula disclosure. In so far as it has any preference it would favor a proposition to require the publication upon the package of a list of the ingredients upon which the manufacturer bases his claims of therapeutic value as the most simple and direct requirement, as the least liable to evasion, and as the most unlikely to impose unnecessary hardship and responsibility upon dealers who handle such preparations in good faith.

Before making any specific recommendations regarding formula disclosure, however, the Commission desires the advice of the association upon the subject, probably the most important of all the questions which the Commission has been called upon to consider.

Respectfully submitted,
(Signed) J. H. BEAL, *Chairman*,
S. C. HENRY,
CHARLES E. CASPARI,
JOHN C. WALLACE,
W. H. COUSINS.

CHLORETONE WATER: A NEW PRESERVATIVE OF BIOLOGICAL SPECIMENS.

BY OLIVER ATKINS FARWELL.

During the early part of this summer (1919) it was suggested to me by Dr. T. B. Aldrich to try out chloretone water as a vehicle in which to preserve vegetable material for permanent biological exhibits and as a means of keeping in a fresh condition vegetable material designed for early laboratory work. He told me that he had animal organs in chloretone water that had been kept for several years and that they were apparently in good condition. He saw no reason why vegetable matter could not be equally well preserved. I therefore carried chloretone water on my botanical excursions and collected various plants, such as Green Algae, Water Lily stems, etc., and put them in the chloretone water. Plasmolosis has not occurred in any of the plants collected, which included both aquatic and

terrestrial plants. It acts as a good fixing agent for filamentous algae but I have not tested it out along these lines on denser tissues or structures. It gives promise of being as good a fixing agent if not better than any now in use and bids fair to outrival alcohol as a general preservative in both cheapness and efficiency. It kills all but the most resistent spore bearing bacteria so that no growth occurs in any media that contains a small quantity of chloretone.

A few grammes inclosed in a collector's bottle permanently quieted small moths in less than one minute and a large blue bottle fly in two minutes. It is therefore equal to chloroform in efficiency for the entomological collector. If a few grammes were placed in the bottom of the collector's bottle and held in place beneath a pledget of cotton batting, they probably would last throughout a whole season, or several seasons, provided the bottle were not left uncorked unnecessarily, and possibly prove to be cheaper than chloroform. An aqueous solution from $^1/_4$ to $^1/_2$ of 1 percent might answer their purpose equally well and be much cheaper in the bargain. Flies and yellow jackets after remaining for two months in a saturated solution had not lost their colors. Chloretone is soluble in water to the extent of from 0.5–0.8 percent. A saturated aqueous solution of chloretone might cost anywhere from 1 to $1^1/_2$ dollars a gallon, depending largely on where the chloretone was procured. Samples of the fleshy Purslane (Portulaca oleracea) kept in an aqueous solution of 0.25 percent strength have shown no signs of degeneration. Potamogetons taken from the Rasin river and corked up in a bottle full of the river water had, in the course of two months, largely become disorganized and much of it had disintegrated to such an extent as to have been transformed into sediment. It may be worthy of notice to state here, as an illustration of the tenacity of life under unfavorable conditions, that a single frond of *Spirodela* accidentally collected along with the Potamogetons had continued to grow and had increased to 4 fronds during the same length of time and that the terminal point of one of the Potamogetons produced a new growth exceeding 3 inches in length. I have detected no changes of any kind in the organization of any of the plants preserved in chloretone water. They will, however, lose their color.

Laboratory trials and tests will fix the strength of the solution necessary for its varied uses. If the weaker solution is sufficient for killing and fixing, its cheapness will be about on a par with that of the chromacetic acid combination but it will be much more satisfactory as a general fixing agent as it will save much time now lost in the lengthy washing process necessary when the chromacetic fixer is employed. I strongly recommend to the scientific world, and especially to histological and morphological investigators, the use of an aqueous solution of chloretone for a thorough investigation as a substitute for alcohol as a preservative, and as a killing and fixing agent.

DEPARTMENT OF BOTANY,
PARKE, DAVIS & CO.,
DETROIT, MICH.