

considered as such a substance, and we may conceive of a water containing such organisms, which may be as pure as can be as regards the chemical analysis, and yet be as regards the human body as deadly as prussic acid. I am aware that chemists may consider this as a terrible conclusion, but it is true, and if the public are guided by percentage alone, they may often be led astray. The real value of a determination of the quantity of organic impurity in a water is, that by it a very shrewd notion can be obtained as to what has had access to that water. If it be proved that sewage has been mixed with it, there is a very great chance that the excreta of some diseased person may be there also. On the other hand, water may be chemically gross and yet do no harm to any one, the whole source of damage being, in the belief of the speaker, in the diseased germs. As to the bursting of the envelopes by endosmosis, it was a question whether they had any; bacteria would be large if one-twenty-thousandth of an inch in diameter; moreover ordinary water was full of them, and in it they could be shaken for an indefinite period without harm. As long as bacteria had nutrition, there was no reason to suppose that oxidation or endosmosis would affect them. If however, they were deprived of nourishment and exposed to sunlight the case might be different.

TEST FOR ORGANIC IMPURITIES IN WATER.

If a five per cent. solution of pure tannin is made with distilled water and filtered, and five parts of this solution be added to one hundred of water to be tested, if organic matters be present, a pellicle or scum will rapidly form; this scum forma-

tion can be recognized by the immediate appearance of an iridescence or play of colors, and the growth of fungus vegetation can be detected without a microscope by the little bubbles of carbonic acid which collect around the edges of the surface. In every sample of water where this turbidity or scum is formed, or where a fungoid growth occurs soon after addition of the tannin solution, it is a sure sign that organic matters are present. When these organic matters have been destroyed by evaporating, heating, etc., no such turbidity or fungoid growth occurs on addition of the tannin solution.

ADVANTAGES OF SOFT WATER.

The great advantages of soft water over hard in cooking is well known; besides giving better results in cooking it is much more economical. In making soups, tea and coffee, more meat, more tea, more coffee are required to give an equal strength with hard than with soft water. Soft water makes much better bread. Hard water shrivels peas and beans in the boiling.

We purpose giving in the next number of this JOURNAL some hints as to how soft water may be collected and saved in an absolutely pure state, in a practical and inexpensive way, for cooking purposes, especially.

FOOD—TEMPER—CHARACTER.

It has been said that the character and standing of a nation may be judged of by the nature of its foods. We have no conception of how much our temper, and our character through life are influenced by the foods we habitually consume. An exchange says, "How much the success or failure of our lives depends upon the food we eat, we