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VINEGAR

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VINEGAR YEASTS.

-- BY -- ✓

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Read before the Committee of Dietetics of the American  
Medical Association.

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## VINEGAR AND VINEGAR YEASTS.

(Read before the Committee on Dietetics.)

By E. & J. A. CUTTER, 

NEW YORK.

THERE is an old saying that one man's meat is another's poison. While this is true it is also true that the way in which we use our foods, makes all the difference between life and death, health and sickness. For example, to give a cup of cold water is an act of hospitality to health, but to make a guest drink a quart of ice water, especially if that person is heated or overheated has caused death. Vinegar (vin—wine, aign—sour) or sour wine, is no exception to this rule. In 1858 I sat in the reception room of the Galt House, Ky. By my side were two gentlemen, evidently residents of Louisville, taking a "club room chat." They talked so as to be heard. "By the way," said one, "did you hear how Dr. Gross cured Mr. Jones?" "No," said the other. "Well," said the first, "he went to New York and all around in this country to the best doctors. He also went to Europe and consulted the eminent men in the profession, but he returned not benefited. When he got home he went to Dr. Gross and he cured him. It was a curious, simple prescription, I don't think you can guess what it was, so I will tell you. It was 'pickles.'" Some twenty years later, the elder Dr. Gross told the writer this was true, and it was a great mistake of doctors that they did not use foods more as medicines. *Per contra* a small glass of vinegar daily used, killed a young lady by inducing the deposit of tubercle in the lobes of the lungs.—*London Medical Gazette*, vol. ii, 1838.

It also, in excess, causes thrombi in the blood, constipation, wind, diarrhœa, and cough, flushing of head, watery eyes, to say no more. See the Relation of Food and Disease, J. H. Salisbury, M.D., LL.D. Vail & Co., 1888, New York.



This is a sad accusation and needs to be impressed, but only a few points can be made here.

Vinegar or acetic acid is formed in the alimentary canal by the fermentation of carbo-hydrate food. It is produced by the action of a plant called the vinegar plant or *mycoderma aceti*. The kinship of this vinegar plant is very close to the alcohol plant, *saccharomyces cerevisiæ*. This is seen clearly in bread making, which has been raised by yeast. If the process, as every cook knows, is not properly managed the bread will become sour from the vinegar formed along with the carbon dioxide gas, alcohol, and water. Just this process occurs in the stomach when the farinaceous food sours. So that it may be said when one eats foods that undergo the alcoholic and vinegar fermentation in the stomach, that persons make a brewing of alcohol and vinegar therein. How does this process occur? If you do as Pasteur did, take the bloom of grape and put it under the microscope, you will find as he found, and I have found, especially in grapes long kept, the alcohol and vinegar plant, present in quantity. In other words these minute plants are present in connection with our vegetable foods, put there so that in case the foods are not used they produce a change of state back again to the elements whence they were made. If it were not so, they would accumulate and the world would become a vast charnel house of old organic dead matters.

Now how does vinegar in excess cause disease? In two ways. First, by its chemical action on the substances found in the human body. Second, by the presence of the vinegar yeast itself. Perhaps this division is too arbitrary, for you cannot have the plant itself in action without the acid, to wit, vinegar, but perhaps the hearers will pardon the division for the sake of clearness.

First, by chemical action, which interferes with the process of life in the epithelium, by ~~burning~~ thereby making the tissues partially paralysed and thus thickening them and causing them to develop in a state of low vitality, by interfering with the protoplasm of the cell tissues as most microscopists know, and coagulating the fibrin.

This is seen in a remarkable way in rheumatic blood, the fibrin filaments made large and coarse attract others and are aggregated with filaments and skeins of great comparative size, forming thrombi and emboli, which in turn produce the diseases called after them.

Second, by the presence of the vinegar plant in the blood. Sometimes the epithelium don't let the yeast get into the blood and the work of disease is confined to the bowels. Hence we have chronic diarrhœa or consumption of the bowels, attended with colloid discharges which sometimes almost exactly resemble the contents of ovarian or goitrous tumors. But when the epithelia of the bowels get drunk with alcohol or paralysed by the vinegar, they then let the vinegar yeast go through them and get into the blood, where they float about the stream, and are easily detected by the microscope.

If the vinegar becomes detained in the capillaries of any organ, they go on growing, producing vinegar, and the resultant of this action on the organism is what we call tubercle. Along with the alcoholic and vinegar yeast are found bacteria. For about thirty years the botanists were divided in opinion as to their significance. Some said they were an accidental accompaniment, others said that they were a part of the biological phases of the vegetation.

The latter now prevail, as Dr. Koch has succeeded in cultivating them and propagating them as such in

their baby stages of development, and has shown them to have a causal relation to the tubercle.

For this work the world has been profoundly grateful, and the writer accords the meed also, but he prefers to adhere to the vinegar yeast as the prime cause, on the ground that not only has tuberculous consumption been produced (and verified by autopsies) by feeding animals on food containing vinegar yeast, which has been traced to the bowels, next to the blood and next to the lungs, but also by removing the vinegar yeast from the blood by the very simple expedient of stopping the food, which feeds the vinegar plant, giving a food that does not have that fermentation, giving medicine to oil the machine, and nature does the cure.

And there are *cures*, I published as such, in the Transactions of this Society for 1880. Have cured others since.

The outcome of this is that vinegar should be used with caution. The writer prefers what he can call by no better name, the tartaric acid vinegar, made from wine of our native or foreign grapes. He hopes that this source of a true more healthy vinegar will not be overlooked, and that caterers will serve this in place of the acetic acid vinegar, which is so dangerous in excess. The process of making this *wine* vinegar does not differ from that of cider vinegar, and when grapes are sold at twenty dollars a ton, this tartaric acid vinegar ought to be cheap. This paper should be accompanied by the lantern illustration of the alcoholic and vinegar yeasts in and out of the blood, which give more pertinence to the observation and are at the service of this Committee.

The practical deduction to be made is to avoid the excessive use of substances producing vinegar in the system.



