THE STORY OF THE YEAST PLANT.

PROFESSOR F. C. HARRISON.

We have all heard of yeast, but perhaps, not very many know that yeast is a plant—a very different plant, however, from what we usually see. It has no stems, no leaves, and no roots; it is not even green; it is so small that a single plant cannot be seen by the naked eye. In order to see it, we must use a powerful magnifying instrument, called a microscope. If we examined a yeast plant by means of a microscope, we should see that full grown plants were round, oval, or egg-shaped, and so small that 5,000 of them placed end to end would be about an inch long. Figures 31 and 32 will give some idea of the shape of this plant, and convey a hint as to its size, as the illustrations are photographs of yeast plants magnified 1000 times.

Most of us eat bread every day; but only few of us stop to think that we are indebted to the yeast plant in a large measure for the flavour and digestibility of the "Staff of Life." The baker kneads, or mixes, his flour, water, and yeast and then leaves it in a warm place, which favours the growth of the yeast. In a very short time, the yeast begins to grow by feeding upon the sugar in the flour, and in so doing changes the sugar into alcohol and a gas, commonly called carbonic acid gas, which is familiar to us all in ginger ale and other aerated drinks.

The gas formed from the decomposition of the sugar by the yeast plant in the dough, is unable to get out, owing to the sticky nature of the kneaded flour It is held in small bubbles, the form of which can be seen on looking at a piece of bread, the small holes being the spaces which are made by the gas bubbles in the dough. The heat in the oven acting upon these bubbles causes them to expand, or grow large, and thus pusnes the particles of flour apart, so that the loaf when baked is much larger than the piece of dough before baking.

The alcohol, a liquid formed, as stated above, by the yeast plant acting upon the sugar in the flour, may be smelt, if an opening is made in the dough when it has risen; but most of this substance is evaporated, or driven away, by the heat in baking, and only a very little of it is retained in the bread.

Thus we see that by the action of the yeast the particles of flour are divided and subdivided, giving a large surface for the digestive fluids to act upon when the bread is eaten; and for this reason, bread is more digestible than cakes made with baking powder or sour milk and soda.

The use of yeast for making bread is very old. We know that the Jews were acquainted with the use of "leaven," or yeast; for we read that Lot "did make them a feast and did bake unleavened bread."

And the use of yeast for making wine is even more ancient; for we learn that Noah, the second father of mankind, planted a vineyard and made wine.

The Chinese also knew of the use of yeast for bread and wine making; for about the year 2000 B.C. Ching Noung, a Chinese philosopher,