

he refused, but he investigated the disease notwithstanding. After various attempts and failures to destroy the vitality of the parasitic germs which he found, he hit upon a very simple expedient, quite satisfactory to himself of raising the wines to a temperature of from 120 degrees to 140 degrees F., which quite destroyed the ferment. This simple remedy was, however, received with bitter opposition and contempt. Pasteur bided his time.

Having finished his silkworm investigation, the busy experimenter turned to the matter of the wines again. A commission had in the meantime been making tests in connection with it. Two half barrels of wine were treated: one being raised to 140 degrees F., the other not. The two were placed on board a vessel at Brest and sent to sea. In ten months the ship returned, and the first sample of wine was found sweet, the other sour. A larger experiment was then undertaken. The French frigate "La Sibylle" went on a voyage round the world, carrying a full cargo of wine, which had been raised to 140 degrees F. The experiment was completely successful. How much this meant to France may be seen in the fact that about this time France produced annually one and a quarter billions of gallons of wine.

At this juncture a dark cloud fell upon the life of the great scientist. At the age of forty-six he was attacked by a stroke of paralysis, arising from over-work and anxiety in his experiments. Against this he fought valiantly, and although he suffered much pain, his life was prolonged for the good of humanity for twenty-seven years longer.

Service to Brewers.

Having laid his native land under contribution to him in so many ways Pasteur turned his mind to the improvement of the breweries, believing that the beverages of a people largely influence their health. In addition German beer was much better than French beer, and Pasteur was nothing if not a patriotic Frenchman.

M. Payen, a member of the French Institute, had written a work on the "Improvement and preservation of food." In this work referring to the alterations in beer he had spoken of "spontaneous alternations." The doughty knight who had vanquished the spontaneous generation theory was on his old battle ground again. Pasteur visited the breweries at Chamalières, and, on investigation, found that quite frequently in summer beer becomes "acid and even putrid and unfit to drink." In this there was much loss. After this visit Pasteur went over to London and examined a brewery that produced no less than two and a fifth millions of gallons in a year. With his thorough scientific method, he investigated every corner and detail of the place. With microscope he examined every sample. Looking at a quantity of porter he found in it a noxious ferment, and throwing it upon a sheet of paper remarked: "That is poor porter." The proprietors confessed that that very morning they had been compelled to obtain new yeast. Pasteur found other micro-organisms foreign to the nature of the true beer yeast. On a visit to the brewery a week later Pasteur saw a microscope being employed and the spurious yeasts being rejected. Gradually Pasteur found his methods being followed in the breweries of his native land. Pasteur had now reached the positions: 1. Ferments are living beings. 2. There is a special ferment corresponding to each kind of fermentation. 3. Ferments are not produced spontaneously. The single minded genius had risen another step on the ladder of fame.

Antiseptic Medicine.

The Franco-German war crushed the heart and soul of France. The