

## SOME THOUGHTS ON YEAST

By Mike Retzlaff

For many years, it was thought that fermentation was a spontaneous, chemical reaction which caused the oxidation of sugars. This wasn't just some old wives' tale, but a belief among men of science.

Theodor Schwann was a German physiologist. In 1837 his research showed that yeast were tiny plant-like organisms, and suggested that fermentation was a biological process. In the early 1840's, he showed yeast to be the primary causal factor in fermentation. The scientific community scoffed at Schwann's work; he was often anonymously ridiculed in professional papers and journals.

Among the many accomplishments of Louis Pasteur were germ theory and Pasteurization. He also developed many vaccines to fight all sorts of diseases including rabies. Pasteur was highly influenced by Schwann. He repeated many of Schwann's experiments and furthered the study of yeast and fermentation. In 1857, Pasteur demonstrated that Schwann was correct in his theories.

Emil Hansen was a mycologist and physiologist at the Carlsberg Laboratories in Copenhagen. He continued much of Pasteur's work on yeast. In 1883, he developed a method of isolating individual strains. He then generated a pure strain of lager yeast for the beer brewing industry.

In 1904, N. Hjelte Claussen, head of the Carlsberg Brewery Labs, isolated another family of yeast from British Stock Ales, which he named *Brettanomyces* (British fungus). In later years, the particular strain he had isolated was named *Claussenii* in his honor.

Yeast is probably the oldest domesticated organism in the world. We've been using it in bread, wine, and beer for a very long time and, in the grand scheme of things, have only recently discovered what it is and how it works. The study of yeast continues to this day. It is an invaluable part of the medical, food, and biochemical industries.

It's simply a matter of courtesy to say thanks to this organism which has done so much for us. When you fill your glass with beer, raise it in silent tribute. It's the decent thing to do!



Theodor Schwann



Louis Pasteur



Emil Hansen