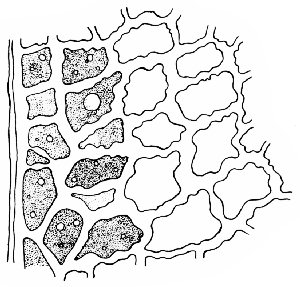
## Artificial Aging

In consideration of the higher prices which aged products demand, attempts have naturally been made to shorten by artificial means the time necessary for their natural production. Some of these methods depend upon obtaining the most favorable conditions for acceleration of the enzyme action; others, upon the effects of micro-organisms; and still others, upon direct chemical reaction or physical alteration of the green bean.

One of the first efforts toward artificial maturing was that of Ashcroft, who argued from the improved nature of coffee which had experienced a delayed voyage. His method consisted of inclosing the coffee in sweat-boxes having perforated bottoms and subjecting it to the sweating action of steam, the boxes being enclosed in an oven or room maintained at the temperature of steam.

Structure of the Green Bean

Showing thick-walled cells enclosing drops of oil

Timby claimed to remove dusts, foreign odors, and impurities, while attaining in a few hours or days a ripening effect normally secured only in several seasons. In this process, the bagged coffee is placed in autoclaves and subjected to the action of air at a pressure of 2 to 3 atmospheres and a temperature of 40° to 100° F. The temperature should seldom be allowed to rise above 150° F. The pressure is then allowed to escape and a partial vacuum created in the apparatus. This alteration of pressure and vacuum is continued until the desired maturation is obtained. Desvignes employs a similar procedure, although he accomplishes seasoning by [p. 158] treating the coffee also with oxygen or ozone. First the coffee is rendered porous by storage in a hot chamber, which is then exhausted prior to admission of the oxygen. The oxygen can be ozonized in the closed vessel while in contact with the coffee. Complete aging in a few days is claimed.

Weitzmann adopts a novel operation, by exposing bags of raw coffee to the action of a powerful magnetic field, obtained with two adjustable electro-magnets. The claim that a maturation naturally produced in several years is thus obtained in 1⁄2 to 2 hours is open to considerable doubt. A process that is probably attended with more commercial success is that of Gram in which the coffee is treated with gaseous nitrogen dioxide.

By far the most notable progress in this field, both scientifically and commercially, has been made by Robison with his "culturing" method. Here the green coffee is washed with water, and then inoculated with selected strains of micro-organisms, such as *Ochraeceus* or *Aspergillus Wintii*. Incubation is then conducted for 6 to 7 days at 90° F. and 85 percent relative humidity. Subsequent to this incubation, the coffee is stored in bins for about ten days; after which it is tumbled and scoured. With this process it is possible to improve the cupping qualities of a coffee to a surprising degree.