THE HISTORY OF THE SILO.¹

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The term "silo" is of ancient origin and means a grain pit (2).² Hermetically sealed granaries either above or below ground, usually partly below and partly above, were in use in the dry Mediterranean countries long before the Christian era. Varro (4) states:

Some farmers have their granaries under ground like caverns, which they call silos as in Cappadocia and Thrace while hither in Spain in the vicinity of Carthage and at Osca pits are used for this purpose the bottoms of which are covered with straw; and they take care that neither moisture nor air has access to them except when they are opened for use, a wise precaution because where the air does not move the weevil will not hatch. Corn stored in this way is preserved for fifty years and millet indeed for more than a century.

The Egyptians built batteries of granaries separate from their other buildings. These were constructed of masonry above ground, were conical in shape, and were filled through an opening near the top (5). The grain was taken out through a door near the base. They were used to store grain in years of plenty for years of scarcity. The accumulation of carbon dioxide from partial fermentation of the grain effectually preserved the remainder. Varro (4, p. 172) says:

Those who store their grain in the pits which are called silos should not attempt to bring out the grain for some time after the silo has been opened because there is danger of suffocation in entering a recently opened silo.

Attempts to introduce this method of storing grain into France early in the nineteenth century copied from underground silos used in Spain failed because of the porous nature of the soil and seepage of water. This trouble was finally overcome by Doyere in 1855, who suggested building masonry silos lined with sheet iron. The Paris Omnibus Company constructed several silos, some underground and some above, after Doyere's plan which were in use for several years (5).

The practice of storing grain in underground pits was not confined to any one country or race of people. Some tribes of American In-

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² Numbers in parentheses refer to "Literature cited," p. 181.