

Mule-driven mill

Ancient Milling in China

Milling Journals of the past at the Mills Archive

by Mildred Cookson, The Mills Archive, UK



The history of milling in the world's second-largest country is documented in many ways at the Mills Archive in Reading, England. Not only do we have documents and photographs as well as various journal articles from Victorian times and later, our library

also holds the pioneering publications by Needham, underlining how the development of technology in China often predated similar developments in the West.

As with many poor rural societies, the first milling technologies were muscle-powered and some are still in use today in many parts of the world. Several of the illustrations here, taken from postcards from the early 1900s, show mules or oxen rotating an "edge-runner" stone on top of a flat bedstone. The flour was removed from the lower stone by the farmer walking round using a brush to clear the flour. This brush and bowl technique was lampooned on the rear of one of the cards by an advertiser 100 years ago, presumably ignorant of the mechanical engineering efficiency of most of the Chinese milling industry even then!

An 1888 article in *The Implement and Machinery Review*, held at the Mills Archive provides more detail of these early muscle-dependent processes, and describes a more modern arrangement of millstones, as shown in this edited transcript:

The wheat is pulled up usually by the root, bundled in sheaves, and carted to the mien chong, a smoothed and hardened space of ground near the home of the farmer. The tops of the sheaves are then clipped off by a hand-machine. The wheat is left in the mien chong to dry, while the headless sheaves are piled in a heap for fuel or for thatching. When the wheat is thoroughly dry it is beaten under a great stoneroller, pulled by horses. The beaten stalks and straw are then taken out by an ingenious manipulation of pitchforks, and the chaff is removed by a systematic tossing of the grain in the air, until the wind



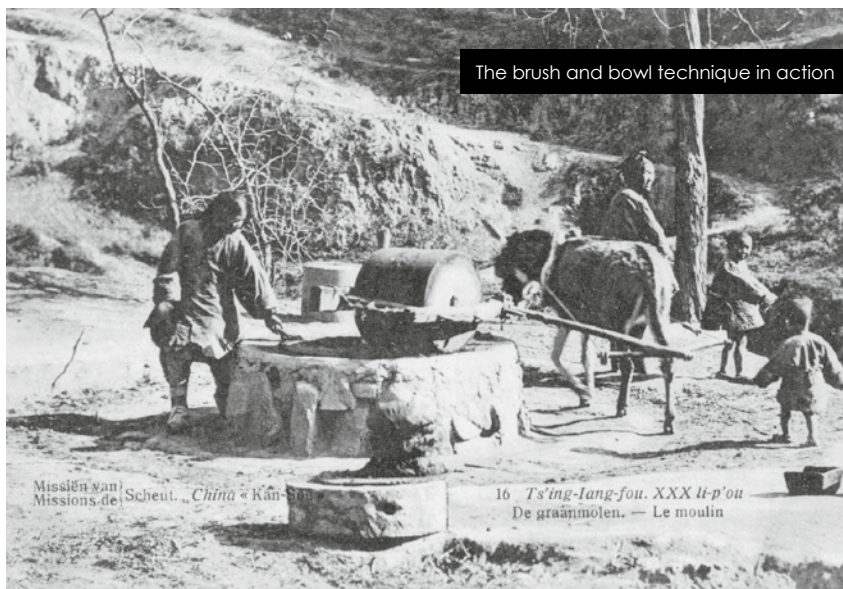
Ox-driven mill at Hankou



The brush and bowl technique in action



Threshing wheat in China



The brush and bowl technique in action



Separating grain from the stalk

blows ever particle of chaff or dust out of the wheat. Every part of the chaff is carefully treasured by the Chinese, to be used as fuel or for other purposes. After the wheat has been allowed to dry for a few hours in the burning sun, it is stowed away in airy bamboo bins.

The milling process is a very ancient one. Two round, large bluestone wheels, with grooves neatly cut in the faces on one side, and with a solid wooden plug in the centre of the lower wheel are used. The process of making flour by this machinery is called mob mien. Usually a horse or mule is employed. The poor, having no animals, grind the grain themselves. Three distinct grades of flour are thus produced. The shon mien, or A grade, is the first siftings; the nee mien, or second grade, is the grindings of the rough

leavings from the first siftings, which is a darker reddish colour than the first grade; the last grade, or mo D, is the finely ground last siftings of all the grades. When bread is made from this grade is resembles rough gingerbread. The bread of the Chinese is usually fermented and then steamed. Only a very small quantity is baked in ovens.

Chinese millstones are an area of study in themselves and I have one in my collection. Later articles in this series will focus on the employment of wind and waterpower, as well as more advanced use of muscle power, all of which have long been surpassed by modern milling technology. These articles only give a brief glimpse of the several million records held by the Mills Archive Trust. If you would like to know more please email me at mills@millsarchive.org.

An unsympathetic advertisement

**MILL STONE FARMER,
MANCHURIA.**

Can you imagine anything more antiquated than the method of grinding corn as illustrated in this picture? Note the farmer with brush and bowl sweeping up the grain after the stone has passed over it. If we had to depend on such a system for our flour supply it would be a losing race with starvation,—so hurrah for modern machinery and Cook's Famous Belting.

Yours truly,
H. N. COOK BELTING CO.
317-319 Howard Street
San Francisco, Cal.