

YOUR VIRTUAL DISCOVERY VISIT – 34 TO THE HERITAGE STORIES OF ROTTNEST ISLAND



The Virtual Visit series was initiated during the COVID-19 pandemic when Rottnest Island was closed to the public due to social distancing restrictions and periods of use for quarantine from March to June 2020.

Now that the Island is again open to visitors, these Virtual Visits are continuing in 2021 to enable a further enjoyment of stories introduced at the Wadjemup Museum, the Chapman Archives or sites around the Island.

Enjoy, reflect and share.

MILLSTONE TECHNOLOGY AND FARMING ON WADJEMUP

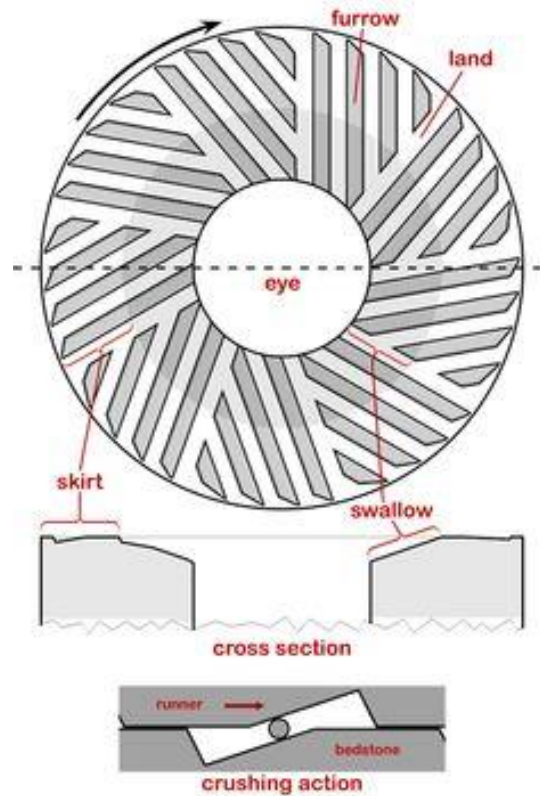
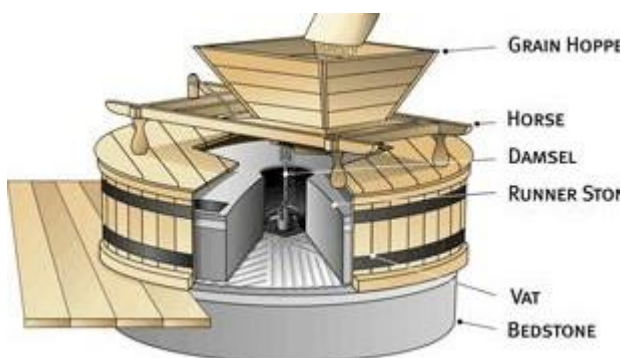


Millstones are a pair of flat, round stones used for grinding grain into flour. One millstone is stationary (the bed stone); the other rotates above it in a horizontal plane (the runner stone). Grain is poured through a hole in the centre of the rotating millstone, flowing into shallow grooves, called channels, which radiate from the centre of the stationary millstone. The channels lead the grain onto the flat grinding section, called the land, and to the edge, where it emerges as flour. Sharpening a millstone consists of re-carving worn channels and checking and smoothing the land. A central

feature of the Wadjemup Museum is the display of the stationery base millstone in the circular milling area of the Hay Store.

Millstones come in two basic types monolithic or segmented. Monolithic stones were carved from solid pieces, typically sandstone or granites. Composite or segmented stones were made from a number of smaller pieces set into a plaster of paris matrix and stoutly hooped with iron Millstone bands. The displayed millstone is obviously of the segmented type.

Both millstones have a pattern of grooves cut into their working faces. These act as feed channels for the flow of the grain to the outer edge. As the two stones rotate against each other (never touching) the grain is repeatedly scissored between the grooves. Individual grains are cut repeatedly becoming finer and finer as they move from the centre of the stone to the outside edge. A stone dresser would periodically reface the stones to keep the grooves crisp to ensure the stones ran smoothly.



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No definitive evidence, archaeological or documentary has yet come to light to show the configuration of the millstones in the Hay Store, but may have been a floor based system similar to this illustration. Rotational force would have been applied to a capstan arrangement connected to the upper runner stone. The distance between the millstones had to be adjusted for the type of grain being ground and for the desired grade of the flour.

Once ground, the flour and bran needed to be separated in a process called bolting. Large mills utilised sloping octagonal tubes with progressively finer grades of mesh. Mills of smaller capacity like this one probably utilised hand sieves. Instead of fine

flour, sieving at Wadjemup probably aimed for common flour or for the Prison, shorts or canal a mixture of course flour and fine bran.

Agriculture Practice

Agriculture on Wadjemup can be conveniently divided into four phases. From 1831 to 1840 there was small scale farming by European colonists, the most notable being Robert Thomson and his family. During the first phase of the Native Prison, farming and animal husbandry was undertaken to meet local needs. This was not always sufficient as there is an 1840 letter from Vincent to the Colonial Secretary advising that no flour was available on the Island. There followed an increasing investment in agricultural buildings and machinery and this infrastructure passed to James Dempster when the Prison closed. From 1850 to 1855, Dempster invested both time and money to develop agricultural enterprises on Rottneest with variable results. From 1855 to 1903, during the second phase of the Prison agriculture, attempts continued and it was during this period after the 1856 fire that the Mill and Hay Store were built



Available records show that two factors influenced agricultural outcome during the later part of the Prison period: soil depletion and availability of labour. Superintendent Angelo reported while prisoners continued to sow and harvest sufficient grain, hay and vegetables for the needs of the prison population and stock, the land was becoming less productive.

Self-sufficiency of the Prison from the sale of surplus produce was directly related to the increased labour input required. Low numbers of prisoners in 1895 resulted in reduced sowing and farm income fell below the cost of prison operations. Prison numbers had doubled by 1897 expanded plantings of wheat, barley and rye were reported. Much of the grains seem to have been consumed on the Island as income reported derived primarily from salt, sheep skins, rye and chaff. By 1900 a factor in the decision to shortly close the Prison was not only a decline in numbers but the age and

condition of prisoners who were unable to meet the physical demands of heavy farm work.



The cost of machinery and its relatively limited utility in the conditions and cropping extent on Wadjemup was a factor leading to a heavy reliance on manual input. Attempts had been made over several thousand years to produce a workable seed drill that would plant the seed reliably in rows dating back to Babylon in 2000 BC. It was, however, Jethro Tull in England who first produced a workable drill in 1701. The drill paved the way for better farming by economising on seed, and sowing in rows, which allowed the crop to be kept clean by inter-row cultivation and a higher germination rate. Australian farmers, however, continued to sow seed by broadcasting, the older method of flinging the seed over the land and covering it using a harrow. This was a wasteful procedure in both time and seed. Initially it was done by hand from a bag slung over the shoulder, but later, seed was spread from a hand-held device carried by

the sower.

There is a detailed history of agriculture on the Island under various overseers or custodians. Extracts can be found in the Chapman Archive under INDUSTRIES / Agriculture.

<http://www.wabiz.org/a-z/r/rotnest-island/history>

<http://www.wabiz.org/a/wabiz.org/www/a-z/r/rotnest-island/lm>

<https://trove.nla.gov.au/newspaper/article/3205068>

<https://www.craftnhome.com/lomascottage.html>



Who is this man and what did he do to wheat?