

CHAPTER 15

Fig.15.00 (leading photograph) (U.T.Sirelius, 1919. National Museum of Finland) Smockmill (a "Mamsel"), Western Finland. Parish: Nakkila.

by

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My country, Finland, is a country of conspicuous geographical differences. In the south-western corner the scattered outposts of certain Central European deciduous trees are found, while roughly the northernmost third part of the whole country lies north of the Arctic Circle. This is the proverbial "Breadless Lapland" where the agriculture does not pay, and where, consequently, no mills were needed. Nature herself put a limit to their distribution. In other parts of the country both watermills and windmills were in use. They seem to have arrived first in that part which has so often proved to be the natural entrance for innumerable western cultural impulses: the south west. Early sources of information are scarce, but there is evidence that the Bishop of Turku owned a watermill in 1352. After that, the mills followed the expansive colonisation into the inner parts of the country. There must have been windmills in south-west Finland as early as the fifteenth century, because in 1585 about a thousand were listed for taxation, mostly in the south west. It is known that the authorities repeatedly sent for Swedish millwrights to follow their trade in Finland during the sixteenth and seventeenth centuries.

The number of watermills increased considerably during the nineteenth century as a result of the rapidly growing population and more advanced agricultural methods. From about 1875 onwards, however, a conspicuous decline is observed, resulting from growing industrialisation and the use of steam and electricity. The watermills were often trade mills or were owned jointly by groups of independent farmers.

The statistics of about 1820 tell us that there were some 7500 windmills in the country, but their real, if short, heyday came when the decline of the watermills had already begun. The windmills were mostly private property and it is said that in certain areas almost every farm owned one at about the turn of the century. No statistics are available, but it is estimated that their number at that time exceeded 20 000. Before the 1914-18 war many of them had already vanished.

Finnish watermills were of two main types. A primitive type called the footmill was quite common until recent times. To the lower end of the vertical shaft (the "foot") a number of boards was attached radially and the movement was transferred directly to the upper millstone. The capacity was, of course, poor. The more advanced type had a vertical waterwheel with a horizontal shaft and gearing giving a more effective power transfer. A set of pestles for making peeled grain were sometimes combined with this type of mill, but sometimes a separate shed was built for them. The mill house itself was a simple log cabin and there was sometimes a spacious open fireplace built of greystone slabs in a corner to give warmth and light during the cold autumn nights. The spring with the melting snows, and the rainy autumn were the principal seasons for working the watermill. There could be from seven to fifteen mills run by the same rapids if an island or two happened to divide the river into several channels. A jointly owned watermill was considered advantageous as the best site could be chosen for the purpose to avoid the controversies which often took place if there were a mumber of small footmills near each other, not to speak of the better capacity of the bigger type that sometimes had several pairs of stones. From 1863 it became possible to install

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Fig.15.01 (Hirsjärvi 1956, National Museum of Finland): Post mill (a "Toe Mill"). Eastern Finland. Parish: Pieksämäki.

turbines of Finnish make in old watermills. There was sufficient water power available from the numerous rivers and brooks, although the distance from a village to its mill could be considerable and thus inconvenient. There could be a paid miller, but at the smaller jointly owned mills the farmers often ground their corn personally.

The windmills of Finland were of three main types. The most common was the post mill, often called the "toe mill" after the timbered cross-shaped conical base which gives support to the central post, or the "leg mill" if the post was supported by slanting props. This type was met with in



Fig. 15.02 (Hirsjärvi 1964. Nationalmuseum of Finland): Hollow post windmill ("Magpie"). S.W.Finland. Parish: Metsämaa. Moved to the local Open Air Museum of Somero Parish.

all the agricultural parts of the country and is the earliest of the three. The second type is the hollow-post mill which has a timbered basic cabin containing the stones on top of which revolves another one which carries the sails, the windshaft and the great cog wheel. This type is called the "Magpie" because of the long high-placed horizontal tail pole. These two types carried only one pair of stones. The third type is the smock mill called "Mamsel" (derived from the French word Mademoiselle via Swedish), as the shape of the mill body has a sort of similarity to the old-time ladies dress. It is not known exactly when the Magpie and Mamsel types were introduced, but this

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Fig.15.03 (above) (V. Seppänen, 1928. National Museum of Finland): A primitive horizontal watermill on an open bog or marshland, Northern Finland. Parish: Poulanka. Fig.15.04 (right) (Into Konrad Inha, early 1900. National Museum of Finland): Vertical watermills. Northern Finland. Parish Kuusamo.

may have happened during the second half of the eighteenth century. Biggish Mamsels with two pairs of stones were built for manors during the last decades of the nineteenth century. As they were called "Livlanders" this sub-type must have been well known on the great estates of the nobility of German descent in Esthonia. A big and broad smock mill of a somewhat different model still dominates a cliff ridge in the middle of Turku, the former ancient capital of Finland, as a last remnant of her hundred more humble comrades on the same ridge. She was built in 1860, probably by German millwrights, and has three pairs of stones placed in a triangle on the same floor and a number of other pieces of machinery. The distribution of the Magpie and Mamsel types seems to be mainly western, which accounts for their comparatively late date in Finland. All the three types were built mainly of wood, as is natural in Finland, either timbered completely or with a frame of timber covered with boards. A few brick-built smock mill towers seem to have existed in the far south of the country.



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As iron, not to speak of brass, was very expensive, very little metal was used for the machinery which consisted mainly of wood. The wheel cogs, the rollers of the mill cap, sometimes the bearings also were made of the most durable local type of wood, the birch, especially the so-called curly birch. There were stone and iron bearings too. A mixture of tallow and tar was used for lubrication; unmixed tar was frequently used for the same purpose.

The sails were mostly made of boards and equipped at the ends with an opening that was shut by a detachable lid, if there was need to increase the capacity of the wind, and vice versa. The "Liv-lander" Mamsels and also some southern post mills had their latticed sails covered with sail cloth that could be set or reefed as required.

Satisfactory materials for millstones, both sandstone and granite, were quarried in certain localities and often transported for long distances. The finishing was done at the destination. A particular kind of granite with large quartz crystals was considered the best. Small millstones were made locally of unquarried pieces of flat rock.

The "Livlander" Mamsels were equipped with interior handpowered sack hoists, and also with simple windlasses for turning the cap from inside. Some post mills had an outside pulley wheel high up in the eaves for hoisting the sacks, but more often the old back-breaking job of carrying the sacks upstairs had to be done.

A machine for making the thin wooden roof shingles, very commonly used until only 30 years ago, was often combined with a windmill or watermill. Sometimes a special mill frame was erected for this purpose. Water-driven sawmills and tilt hammers at iron works were also known.

There is very little information on the decorating of windmills for special occasions, but recently I was lucky enough to read some memoirs in which the writer narrated how his father, who owned the only windmill in the town of Hämeenlinna, fastened the colours to the topmost sail of the mill on the coronation day of the Emperor (Grand Duke Alexander III, 1881), thus creating the tallest flag pole in the whole town.

Not much has been written on Finnish mills. In his notable work on the features of Finnish rural culture (Suomen kansanomaista kultuuria I-II, 1921) the late Professor U.T. Sirelius described briefly the aforementioned watermill and windmill types. Professor Esko Aaltonen has, in his treatise on the jointly owned watermills of western Finland (Länsi-Suomen yhteismyllyt, 1944), studied extensively the social but not the technical aspects of the watermills. In 1947 a question-naire was sent on the initiative of Professor Aaltonen, to local authorities throughout the country. The results have remained unpublished except for some statistical facts. According to these, there were at least 556 windmills still standing. Of these, 160 were still in workable condition, the rest in a more or less advanced state of dilapidation with the exception of twenty preserved as monuments. An interesting detail was the report on three windmills situated as far north as about 30 miles south of the Arctic Circle. Since then, naturally, the number of windmills has strongly decreased, but the number of mills preserved as monuments has been at least doubled, although in

certain cases their machinery may be far from complete. There is no special organisation for protecting mills, but the numerous patriotic societies have often rescued a windmill in their own area and preserved it for the future. Particularly remembered must be the small west coast town of Uusikaupunki, thanks to the activities of the late Mr. Johan Gustaf Nordström, a local self-made business man. He purchased from the neighbourhood four windmills of different types and had them re-erected on his childhood playground, the town's ancient Mill Hill which had, during the intervening years, lost all its six post mills. Exactly twenty years ago Mr. Nordström, then an octogenarian, presented his native town with these mills which are now under the permanent care of the municipal authorities. May this fine example find many followers everywhere.

Fig. 15.05 (Woodcut from an illustrated periodical 1875. National Museum of Finland): Vertical Watermills. Western Finland. Parish: Hämeenkyrö. Kyröskoski Rapid.



