

FROM WHEAT TO BREAD THROUGH THE GOZO WINDMILLS

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Until recently the characteristic bare round towers of old windmills, together with the steeples and domes of our churches, were prominent features of the landscape of the Maltese Islands. The type of windmills which have survived in Malta were introduced during the time of the Order of St John of Jerusalem (Lanfranco 1993: 60). They were usually sited slightly away from the village they served, on high or open ground, unobstructed by other buildings in order to make the most efficient use of the wind. In towns they were built on the highest part of the bastions to catch the mildest breeze for smooth operational performance and no building in their vicinity was permitted to rise more than one storey high (NAM, PW 1826).¹

Windmills could not be operated in a high wind because this would cause great damage to the mechanism as well as to the structure of the windmill itself. On many occasions serious damage was caused to windmills by gales and electric storms and in some cases lives were lost. At the other extreme, on calm days, windmills were powerless. Millers would wait eagerly for days on end for a favourable wind. But when it came, a few sharp blasts into the "*bronja*" from the roof of the windmill, meant that the miller was summoning his clients to bring the corn to be turned into flour. The "*bronja*" is the triton-shell, better known as the trumpet-shell of which there are two species "*Charonia lampas*" c. 50 cm. and "*Charonia variegata*" c. 35 cm. Both are now very rare in our waters. Their pointed end or "*calcarella*" as it is known in conchology, was broken off and when blown in a trumpet-like fashion from the roof of the windmill, they produced a sound that echoed all over the village.

1. A request by Teresa Eynaud to build another storey at 32 Sda Mezzodi and 23 Sda Piattaforma was refused after the authorities consulted the millers of the two windmills situated nearby on the bastions of Valletta.

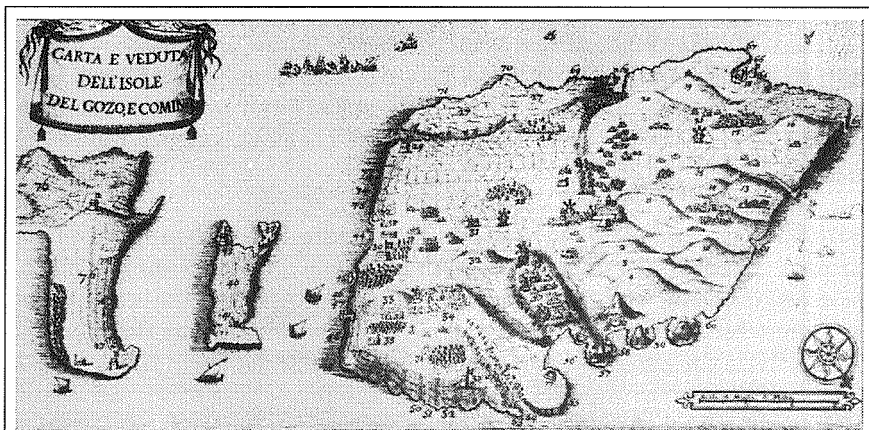
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After the church, the windmill was one of the most important focal points of village life. Evidence of this is more readily found in our street names than in our history books. Streets and alleys leading to windmills were frequently named “Windmill” or “Mill” street, and there are at least twenty in Malta and six in Gozo. In some cases the street name has outlived the windmill.

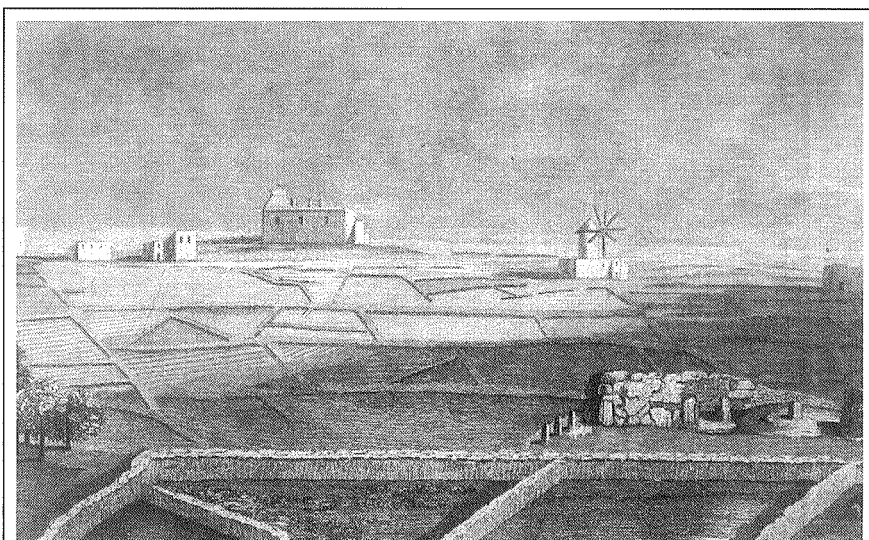
Like the old chapels and the bastions, the windmills are monuments from the past. But there was a time when they played an important part in the socio-economic life of the population. Before the introduction of steam, oil and then electricity, as sources of power, the windmill was the quickest and perhaps the cheapest and most efficient system of grinding grain. It was my intention to start with a plea for the protection of our windmills because, besides being themselves national monuments, they remind us of the daily toil of the majority of the population in bygone days.

If future generations are to appreciate fully the functioning of windmills and their grace, it is essential that they should be preserved inside a buffer zone and not swallowed up by high buildings. This will help us to understand the hardship suffered by earlier generations in producing their staple diet at a time when poverty and hunger drove beggars out knocking at doors for a piece of bread. Small wonder that after windless and stormy days millers were given a special dispensation by the ecclesiastical authorities to work on Sundays and days of obligation. Millers were also exempted from guard duties by the government of the Order, so that they could look after their windmills by day and by night (NLMAOM 1188).² Surprisingly, windmills have passed unnoticed and to a certain extent ignored by our historians.³ A booklet on Maltese bread was published a few months ago by Medigrain, the organisation responsible for monitoring milling of flour and bread-making, so that the traditional characteristics of the local bread is preserved (Hubert Chiron 1994: 7). In the introduction, the Chairman, of the company, Joseph Agius stated that, “Although the cultivation and grinding of wheat and production of bread in Malta has been taking place since antiquity, it seems that these activities are hardly recorded in the history books. The

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2. After a petition to the Grand Master made by the Commission of the Manoel Foundation to exempt the miller of Casal Caccia [Xaghra] from guard duties, it was decided that he should be treated like the other millers in Malta and be exempted.
 3. A short section on the Maltese Windmills is included in Vella (1979): 304 - 308. Some of the information given is inaccurate. The best study on the Maltese windmills carried out so far is that by Le Lourd (1982: 317-331).



An 18th century map of Gozo showing the five windmills built by the Order of St John. Pen drawing (24.5 by 38.7 cm) by Padre Luigi Bartolo (c. 1681-1753) in *Gozo Antico-Moderno e Sacro Profano* [c 1745] by G. F. Agius de Soldanis.



The Xaghra windmill circa 1820. The parish church is the background and Ġgantija in the foreground.

few references made to windmills in some of the parochial histories of our towns and villages are brief and often inaccurately researched.”

Grinding of Grain in Antiquity

Potatoes were introduced into Malta comparatively recently, during the early British period. Therefore, for many centuries bread was the principal diet of the population, especially of the under-privileged. Maltese bread was usually made from a mixture of wheat and barley, called “*mischiato*” or “*mahlut*” which was either grown locally or imported.

In Malta and Gozo evidence of the grinding of grain has been found dating from prehistoric times. Several hard stone querns were found in different archaeological sites in Gozo, like Santa Verna and the Gozo Stone Circle.⁴ The recent excavations conducted in the latter have proved that the inhabitants of Gozo living during the 3rd millenia had good, healthy teeth. This shows that their staple food, probably bread made of some cultivated cereals, was unadulterated with grit and finely crushed (Camilleri and Stoddart 1992: 5). During the Bronze Age, besides querns, stone mortars were used to crush cereals. These two types of implements were found on the Bronze Age village of Nuffara Hill. During the Borg in-Nadur Period, (c. 1500-700 BC) a number of silos were hewn into the top of this hill in the live rock. Until recently, very little was known about them because the majority had been rifled in the past. In 1960 one of the these silos was located. It clearly called for closer investigation and, on being excavated it showed signs that originally it had been plastered with clay and used for the storage of cereals (Museum Department 1960: 4-5, Fig. 1).

During the Punic and Roman periods hand-stone mills were in use and at some time during the Early Medieval Period this device was complemented by the grinding mill driven by animals of burden - donkeys, mules or oxen. This mill is known in Maltese as “*mithna tal-miexi*” as distinct from “*mithna tar-rih*” a windmill. It is usually referred to as the animal-driven mill, “*centimolo*” in Italian. This was widely used in medieval

4. Several complete querns and some fragments have been traced built into rubble walls, surrounding these archaeological sites.

Malta and Gozo.⁵ Man has always tried to harness the forces of nature. Around 25 BC the Roman engineer Vitruvius was the first to describe the watermill. In Europe, water-power for grinding was harnessed a thousand years before we find any authentic mention of windmills. There is no definite evidence as to when windmills came into use. The first undisputed date for a windmill in England is 1191. By the late 12th century windmills were also being built in different parts of France and Flanders.

The Early Windmills in Malta

In Malta we find the first windmill illustrated in the "*Insulae Melitae Descriptio*" by the Abbé Jean Quentin d'Autun, known as Quintinus. This booklet was published in Lyon in 1536, barely six years after the arrival of the Order of St John (a copy of this very rare publication is found in the Gozo Reference Library, Victoria). The windmill in question is shown on that part of the promontory now known as Senglea, with an unidentified building illustrated beside it, which might have been a bakery or a lime kiln. Although this windmill disappeared centuries ago, the area is still known as "*L-Gholja tal-Mithna*", Windmill Hill (Bonnici 1981: 26). In several contemporary engravings of the Great Siege of 1565 like those of Nicolo Nelli and Antonio Lafreri, one and sometimes two windmills are shown on or near this site within the walls of Fort St Michael. These windmills also appear in the wall paintings by Perez d'Aleccio in the Presidential Palace at Valletta, and compare closely to the thirteen windmills situated on the mole of the city of Rhodes which the Knights left behind on that island when they were thrown out by the Turks in 1522 (Torr 1887: 38; Sire, 1994: 143).

For about a century the principal method of grinding grain in the new city of Valletta was the animal-driven mill. In the new bakeries of the Order, the Maltese architect Girolamo Cassar had built twelve of these mills which were operated by mules (NLMAOM 439, f.270; de Giorgio, 1985: 169).⁶ By 1672 there were fourteen of these mills and thirty mules were

5. According to Prof. Godfrey Wettinger, practically every village in late medieval Malta had at least one animal-driven mill (personal communication). Also *vide* Wettinger (1993: 624).

6. Amongst the buildings attributable to Gerolamo Cassar in Valletta, the author includes the windmills. It is clear that he is confusing the mule-driven mills with the windmills.

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being used to operate them (NLMAOM 748, f.36). Besides, most of the Auberges had their own animal-driven mill and a bakery (Mifsud 1914: 108).

Windmills Under the Order of St John

The history of the Maltese windmill as we know it today started during the reign of Grand Master Nicolas Cotoner (1663-1680). On 22 September, 1674, the Council of the Order authorised the Cotoner Foundation to start work on windmills at Bormola, Żebbuġ, and Floriana (NLMAOM 262, f.35). The design of the mechanism and structure was introduced from the Balearic Islands where windmills similar to ours still abound (Baroja 1952: 275, 325, 339). Grand Master Nicolas Cotoner was himself a Majorcan.⁷ To provide a Foundation for the upkeep of Fort Ricasoli, he acquired land, developed urban property and built warehouses and windmills. Other Grand Masters who came later founded their own "*Fondazione*" and built more windmills. The establishment and growth of these foundations was important, for the income derived from them made a significant contribution to the Treasury, gave the Order a stake in the local economy and provided the Knights with a means of raising agricultural productivity (Blouet 1963). Besides the three windmills already mentioned, Grand Master Cotoner built another seven, all in towns and villages in Malta. (NLM Treas. 300 Ser B.; Treas. 38 Ser. A. ff.21v, 55v, 223). The exact date has not yet been firmly established of two other windmills built in Valletta at the expense of the Treasury at about this time (NLMAOM 262, f.88v).

When Cotoner died, Gregorio Carafa (1680-1690) was elected Grand Master of the Order and like that of his predecessor, his Foundation built ten windmills, this time allocating one to Gozo (NLM Treas. 96 Ser. B.). The third Grand Master who contributed to the building of windmills was Raymundo Perellos (1697 -1720). The Perellos Foundation provided for three windmills, one at Żejtun, another at Naxxar and one at Xewkija (NLM Treas. 137 Ser. B(2): 287, 317; NLMAOM 763, ff 114-115v). The last of the Foundations of the Order to embark on the building of windmills was the "*Fondazione Manoel*". Grand Master Manoel de

7. Nicolas Cotoner succeeded his brother Rafael (1660 - 1663) as Grand Master of the Order. Their hearts are buried in the Church of San Jaime at Palma, Majorca. (*Vide* Arthur Foss, Majorca (London 1972): 126.

Vilhena (1722 - 1736) spent a great sum of money from his personal purse in endowing his Foundation. Of all the Grand Masters, he was the greatest benefactor to Gozo. He built eight windmills, three of them in Gozo. He developed the valleys of Ramla and Mgarr for agriculture and built a series of shops, stores and a tavern at Mgarr (NLM Treas. 26 Ser. A, ff 423-431). During his Grandmastership, a better hospital for men was also built and a seat for the *Gozo jurats* was erected at Rabat known as the *Banca Giuratale*.

In all, thirty-three windmills were built under the Order, five of them in Gozo. Every Foundation had its own Commission made up usually of high ranking members of the Order who administered its property including the windmills. The Commission decided on the terms of the contract, the duration of the lease, replacement of millstones and any repairs. By 1798, when the Order was expelled from Malta by the French, there were thirty-one windmills in operation and leased as such. Several of these had to be rebuilt after their structure started to give concern. Four of the five Gozo windmills went through this transitional stage.⁸

It was the Government of the Order which ensured that the public was being given reasonably good service by the millers and bakers. For example on 15 February, 1783 a "*Bando*" was issued by Grand Master de Rohan and read to all bakers and millers not to risk grinding any grain which was not clean of stones or other material injurious to health under penalty of having half the provisions found in the mill confiscated, besides other penalties which the Grand Master deemed fit (NLM Libr. 429 VII/9, *Bandi* 1780-1784, f.141).

Windmills in Gozo

The first windmill in Gozo was built by Grand Master Carafa in the late 1680s under his Foundation. At that time the population of Gozo was about 5,700 and according to the historian Abela writing a few years before, the Island exported a small quantity of grain to Malta. It was eventually decided that a windmill in Gozo was a necessity and this was sited on the outskirts of Rabat, surrounded by arable land on the very

8. As far as it is known, the windmill at Xewkija is the only exception and this makes it the oldest of all the Gozo windmills.

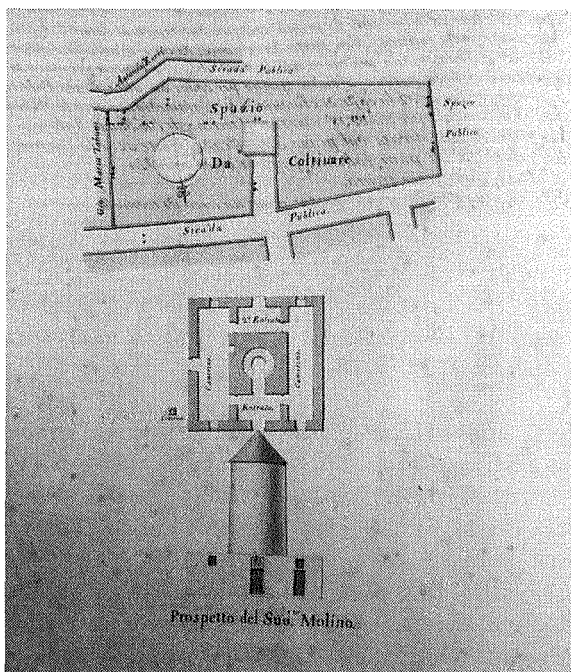
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spot where the Bishop's Seminary is situated today. This new windmill, and the other nine which the Carafa Foundation built in Malta, were let in 1691 for ten years to Domenico Grixti and later to Giuseppe Caruana of Luqa and M'Angelo Micallef of Lija. Then in September 1724, the Commission of the Carafa Foundation auctioned the lease of these windmills to different millers. The auction notices of windmills were usually read in churches before or after mass and the parish priest was remunerated by the Foundation's Commission for the services rendered.

From 1 February, 1769, Angelo Xicluna took a 29-year lease on the Rabat windmill at 340 *scudi* annually (Notarial Archives Valletta, Notary Antonio Grillet, 16/897, Sept 30, 1781, ff.18-18v).

A report drawn up in 1778 stated that this windmill was in need of serious structural repairs and some fittings were totally unserviceable. At first it was suggested that it should be either sold or turned into small houses. But on 30 September, 1781, it was sold at 175 *scudi* to Canon Giovanni Maria Cauchi, the Procurator of the Women's Hospital in Gozo, who wanted the site for a new hospital to replace the old St Julian Hospital in the Citadel. In the meantime, the Carafa Foundation bought a plot of land between Rabat and Sannat where a new windmill was built under the supervision of the *Maestro dei Molini*, Angelo Camilleri (*Ibid.*, ff. 16-21). On 30 April 1783, two new millstones for this windmill were transported to Gozo on the *Galera Capitana* and soon the windmill was operational and handed over to Angelo Xicluna at a new lease of 400 *scudi* annually (NLMAOM 660, ff.303, 329). Francesco Xicluna was the next miller who took over the management of this mill in 1794 for eight years at the increased rent of 623 *scudi* annually.

The second windmill in Gozo was built by the Perellos Foundation on the outskirts of Xewkija at the beginning of the 18th century. The plan is unique in Gozo as it is hexagonal and it is the only windmill in the island with its original oven, though this is now blocked by a wall. Gio. Maria Xicluna was the miller in 1738. Soon after Xicluna died, his widow married Simone Galea who together with his stepson Michele Xicluna, renewed the lease in 1742. This windmill was operated for many years by members of the Xicluna family, who were a versatile family of millers and millwrights.



Site-plan and prospect of the first windmill built at Nadur in 1727. Photo by courtesy of the Director of the National Library of Malta.

On 31 August 1724, the State Council of the Order decided that a windmill should be built halfway between Rabat and Għarb. The expense had to be met by Grand Master de Vilhena from his Foundation and, just like the other windmills built by this Grand Master, the revenue collected was to go towards the maintenance of Fort Manoel (NLM Treas. 26 Ser A, f.423).

In 1725 the same Foundation decided to build another windmill at Xaghra and two years later another one at Nadur (*Ibid.*, f.424, 425). These three windmills were more or less built on the same plan, with living quarters for the miller's family and a cistern for an adequate water supply, besides the workshop and the milling tower. The Għarb and the Xaghra windmills also had a bakery attached to them. Although the construction of the Nadur windmill started later, this went into operation before the other two. On 1 September, 1730, it was leased to Francesco Buttigieg. The Xaghra windmill was leased to Paolo Refalo on

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17 June, 1731, and the Gharb windmill to Angelo Zahra on 1 August, 1731, both for a period of four years.

Forty years later, an inspection was carried out on the property of the Manoel Foundation in Gozo. This was followed by a report signed by Mastermason Andrea Psaila. It was damning, especially on the windmills of Xaghra and Gharb, which were described as suffering from serious damage owing to bad quality stones and mortar having been used in their construction. Wide fissures could be noticed in the walls and it was recommended that these two windmills should be dismantled and rebuilt (NLM Treas. 32 Ser A).

At Xaghra, Baron Francesco Gauci on behalf of the Manoel Foundation negotiated the purchase of a plot of land at the price of 400 *scudi* so that a new windmill would be built on a better site than the old one (NLM Treas. 31 Ser A Sept. 5, 1786; March 6, 1788). Francesco Gauci belonged to the landed gentry and was the only titled Gozitan at that time. Because he was giving sterling service to the Order in Gozo, he was created Baron "ta' Bullara" after a big area of arable and garigue land which he owned at Xaghra around and beyond what is today the Cornucopia Hotel. Baron Gauci supervised the building of the new Xaghra windmill and for this service on 23 November, 1789, the Foundation presented him with a beautiful faience table service made in Marseille. When the windmill was completed with all its fittings, it was handed over to Marcello Xicluna on 1 February, 1787 at an annual rent of 400 *scudi*. Besides an increase in rent certain obligations were imposed in the Contract of Lease. First of all the miller had to give seven roses on the 1st of May to the three officials of the Foundation, three to the President and two to each Commissioner. To the Treasurer he was obliged to give two healthy cocks on Christmas Day and two healthy hens on Easter Day. If he failed to give the poultry, he had to pay two *scudi* and six *tari* for each bird. This kind of obligation was known as "*carnaggi*" (NLM Treas. 28 Ser. a (1), f.69V).

Before deciding on the demolition of the Gharb windmill, the Commissioners of the Manoel Foundation sent the mastermason Pietro Scerri and the mason Giovanni Scerri to inspect the building. They subsequently reported that the windmill was no longer serviceable and that it should be rebuilt. By April 1784, the new windmill was completed. Its leaseholder was Giorgio Xicluna. Giorgio's son Salvatore was the next

tenant. Besides his rent he had to give seven roses to the three members of the Foundation's Commission and two cocks and two hens to the treasurer who at that time was Gio. Battista Abbate of Valletta (*Ibid.*, f.68v).

Apparently, the Nadur windmill was built structurally unsound like those at Xaghra and Gharb. On 9 May, 1787, it ceased operating as it was in a dilapidated state. It was, therefore, decided to build a new windmill on a new and better site taken on perpetual lease from Count Bologna and Baroness Testaferrata. By 9th November of the same year, a new windmill was ready with all its gears and fittings. On the following day it was handed over to Damiano Xicluna, brother of Giorgio the Gharb miller, at the annual rent of 350 *scudi* and on the same terms of contract as those made to the millers of Xaghra and Gharb (*Ibid.*). In 1946, members of a Commission formed to draw up a list of monuments of the Islands, mentioned in their Report foundations of a windmill at Nadur. This could have been the remains of the first windmill. Although the whereabouts of these ruins were not specified in this report, Old Windmill Street at Nadur, which is a considerable distance away from the nearest windmill, could indicate where it was situated.

Gozo Windmills under British Rule

The Knights of St John of Jerusalem lost Malta to the French in 1798 and by 1800 the Maltese Islands were under the protection of the British Crown. Between 1805 and 1808, the five Gozo windmills had their lease renewed for twenty-nine years at the rate of from 710 to 750 *scudi* annually, as well as six head of poultry, equivalent to Lm53.25c and Lm58.75c in 1995 currency (Public Records Office - Kew n.d. :208). These exorbitant rates, compared with the low cost of living, show that the Gozo windmills were being operated for long hours.

James Somerville, was the Collector of Land Revenue in Gozo. He had succeeded Archibald Dalzell on March, 1818. Besides the collection of rents he was responsible for the administration of the Gozo windmills. He also deputised for the Lieut. Governor of Gozo when the latter was absent from the Island. He exerted his powers as Collector of Land Revenue with an iron fist, especially when his recommendations were approved "*in*

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toto” by the Chief Secretary to the Governor, Sir Frederick Hankey, a person disliked by all classes of Maltese (Hamburger, 1985: 103). Tenants of windmills were often made to either pay the rent or face eviction, and the windmill would then be leased to the highest bidder. When the miller did not have enough money to pay the arrears and his guarantor failed in his obligations, the Collector would seize the miller’s property, sometimes in the form of land, furniture, agricultural produce, livestock or poultry. In one case at Rabat, Malta, the loom of the miller’s wife, the only source of income left to the family, was also taken away and sold in auction (NAM, PW 6: 180; P.W. 8: 194).

Throughout the 19th century the population of Gozo increased from 14,340 in 1842 to 18,960 in 1891. To earn a living many Gozitans were forced to emigrate to North Africa or find work in Malta mainly as hard stone cutters (*baqquniera*) or in soft stone dressing (*naġġara*). In 1822 the Government monopoly of foreign corn was abolished and the fixed rate of duty on wheat was changed two years later into a graduated scale that fluctuated according to market prices (Clare 1988: 135-6). Wheat was then imported mainly from Egypt but later also from ports on the Black Sea, often from Odessa.

An increasing population faced with little prospects of employment and the grave economic situation created great discontent in Malta during the 1820s and the early 1830s (Clare 1988: 146-7). These deteriorating conditions on the Islands forced the British Government to set up a Commission of Enquiry tasked to report on grievances and to consider nothing less than “the introduction of a permanent and salutary system of policy” (Hamburger 1985: 103). Malta did not have an industrial revolution in the 19th century, but this Commission served to shake up an oppressive and antiquated administrative system, to unsettle the Maltese Establishment, to introduce the freedom of the press and to set forth a more stringent economic policy.

On 26 March 1838, the Governor of Malta received instructions from London to make certain changes which included the abolition of a number of highly paid offices. Not only were the Chief Justice, the Attorney General and the Treasurer stripped of office, but other lesser offices were to go, including Lieutenant Governor of Gozo, Magistrate of Markets for Gozo and Collector of Land Revenue in Gozo, a post which

had been occupied for nearly twenty years by James Somerville (Hamburger 1985: 104).

At the same time, a Notice was published in the Government Gazette declaring that the monopoly of windmills, enjoyed by the Government for over 150 years, would be abolished and “any person who may be disposed to undertake their construction for their own profit or advantage” may do so (Malta Government Gazette, 1838). This was a step forward in liberalisation of trade. In the meantime, animal-driven mills were mushrooming everywhere and tenants of windmills were finding it difficult to compete, as their rents were very high and according to the new contract of lease they had to make good for any damage or repairs in the windmill. This also involved the replacement of millstones, which were very expensive parts. Petitions to the Government for the reduction of rents were sent in dozens. It was the policy of the Government to reduce the rent when this was reasonably justified. These petitions throw a lot of light on the social situation of the miller and the structural and mechanical condition of the windmill, and without this information no study of our windmills during the 19th century will be complete.⁹

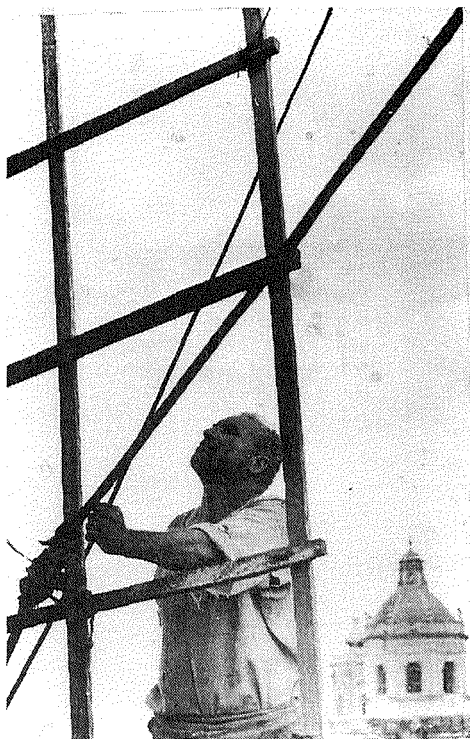
In Malta, the first private windmill to be built was that at Mellieha about 1849, followed by others in different villages. Private capital was not as forthcoming in Gozo and it took some years for the Island to see the first privately-owned windmills. In fact, members of two prominent Maltese families of millers were the first to invest in private windmills in Gozo, the Camilleris of Żejtun, known locally as “ta’ Randu” after their father Ferdinandu, and the Grechs of Mosta. In the mid 19th century three brothers, Lorenzo, Giuseppe and Randu Camilleri settled in Gozo and took over the Government owned windmills of Xewkija and Nadur.¹⁰ In 1853 they built a windmill between Qala and Nadur, known as Ta’ Sufa (NAM, PW 14: 340-1; Xerri 1994: 10-11)¹¹ and another two at Rabat around 1856. They also built one at Sannat, followed by the last one at Qala, known as “ta’ Randu”, like the one situated in Victoria behind St Augustine’s Priory.

9. Many of these original petitions are found under section “Petitions to Governor” or “Petitions to Lieut Governor” and usually copied briefly with decision taken in Section “Public Works”, NAM.

10. I am indebted to Lawrence Camilleri of Xewkija for this information, who is a descendant of this family.

11. There are a number of inaccuracies in this short note. The windmill at Nadur is also called “ta’ Sufa” after one of the miller’s family nickname.

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Guzepp Grech, the last miller of the Xaghra windmill, inspecting the anchorage of the sails in 1960, after he restored the windmill single-handed.

The Grechs were based at Xaghra, and for some time in the 1850s Pietro Grech ran the windmill there with several others in Malta. In 1853 a litigation in court ensued between Paolo Grech and his son Michele over the tenancy of the windmill at Xaghra. Michele lost the case and in 1857 built one not far away from that of his father, in Ġnien Xibla Street (NAM, PW 16: 479).

In 1858 another windmill with a completely wooden tower was built by Luigi Camilleri from Żabbar, known as “ta’ Nonu”, after his father Antonio, and later as “il-Gerrieffi”. A year later, Giuseppe Grech built another one in the same village, probably at Wilġa Street (NAM, PW 16:163, 502).¹²

12. For this information I am also indebted to Anthony Calleja of Ghasri. Guzepp Vella, *Iż-Żebbuġ, Il-Paroċċa ta Santa Marija* (Gozo Press 1987): 50.; Andrea Vella, *Iż-Żebbuġ u il-Graġja Tieghu* (stencilled publication): 264-6.



Francesco Galea who introduced steam power for milling in Gozo. Photo by courtesy of Victor Galea Pace.

Other private windmills were built at Żebbuġ by Ġalent Vella in 1859 to replace a donkey-driven mill (Vella 1987: 264-6) and one close to the village of Ġħarb, in 1865. Two smaller windmills were afterwards erected, one at Santa Lucia by Francesco Gatt who had a bakery and a donkey-driven mill in that locality (NAM, Petitions “Simmons”, Vol. 21, no. 3522)¹³ and the other by Toni Cefai known as “tax-Xarrab” on the windswept heights of Ġaqra Street, Żebbuġ.¹⁴

Round about 1880 there were fifteen windmills in all working in Gozo. This created frantic competition among the millers who were now spread all over the Island. When roads were very bad especially in winter, windmills in rural areas like the one situated opposite Cardona Tower on the Victoria/Ġħarb road, suffered dire consequences. It was found convenient, therefore, for both client and miller to send someone with a

13. Information also given by Krispin Gatt, 83 years of Santa Lucija, through Marija Calleja.

14. I am indebted to Ġanni Saliba 81 years of Ġħasri for this information, who as a boy lived near this windmill.

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horse-drawn cart to collect corn from different parts of the Island to be ground and afterwards delivered as flour and bran. The horse had a bell tied round its neck and this alerted the public that the corn collector was approaching. Alternatively a trumpet-shell was used.

Steam-power for grinding was introduced in Gozo in 1887 by Francesco Galea locally known as “ta’ l-Erbgħa”. He built a steam-driven mill at Mġarr on a plot of land overlooking Mġarr Harbour which he took on perpetual lease from the Government. In 1899 he started the construction of a bigger steam mill at the lower part of Strada Corsa, Victoria (NAM, Petitions “Smyth”, Vol. 9, no. 1257; Vol. 35, no. 5148; Petitions “Fremantle”, Vol. 7, no. 1305).

This building, later known as the Pax Flour Mill, with its elegant stone chimney and the year 1899 sculpted on top, was unfortunately demolished in 1991. Other steam-driven mills were later installed at Nadur, Xagħra and another at Victoria opposite what is now called Rundle Gardens, followed by one at Għarb and another at Żebbuġ in 1908. The mechanisation of the milling industry in both Malta and Gozo delivered a mortal blow to the windmills. Most of them had to close down and were used solely for habitation. Those which did not, were mostly used for grinding cereals for animal feed or broad beans for use as bait in fish-traps.

Other private windmills, like that of Żebbuġ were pulled down and replaced by a steam-driven mill. The windmill at Sannat was turned into a lime kiln and it is said that its fittings and millstones were fixed to the windmill at Qala.¹⁵ The privately owned windmill at Għarb had to close down when Michele Portelli opened a steam-driven mill in the vicinity and its miller, Antonio Cassar was compelled to emigrate to Australia in 1916. While Australia was sending its young men in their thousands to fight and die in the battle-fields of Europe, Malta and Gozo took the opportunity to send hundreds of emigrants to that country to seek a better income for their families. Another miller who joined Cassar in Australia was Vincenzo Grech of Xagħra. The windmill at Għasri in Lighthouse Street was destroyed by a whirlwind which hit that part of the Island around 1939.¹⁶ It also caused great damage to the aqueduct on the Ta’

15. Information given by Marija Muscat of Sannat through George Azzopardi.

16. Frenc Attard of Għasri informed me that he witnessed the tower of this windmill being blown away.

Pinu Road. The windmill at Xewkija ceased operating in 1886 after a big fire rendered it completely unserviceable (NAM, "Simmons", Vol. 18, no. 5640).

The windmill at Qala was perhaps the most recent to be built and the last of all the windmills in Malta and Gozo to stop working. It was operated incessantly and clandestinely at night-time during the last war when the grinding of wheat was controlled by special regulations. Until the late 1960s the miller was still accepting the occasional small quantity of wheat, maize or broad beans to grind. The doors were completely closed to its clients when it ceased operating and was sold to a German resident (Buttigieg 1980: 82-4). The Qala windmill together with that at Xaghra, are the only two windmills in the Maltese Islands which are still equipped with all their fittings and in good running order, relics of bygone days. The windmill known as Ta' Xarolla at Żurrieq is at the moment under restoration and there are plans to turn it into a museum sometime in 1996.

Technology of the Maltese Windmill

The anatomy and technology of the Maltese windmill is in itself a fascinating subject¹⁷ and those interested would do well to pay a visit to the Xaghra windmill which is now one of the most attractive and instructive museums that we are lucky enough to have in Gozo. There it can be seen how wheat was ground into flour. Millstones were imported from Barcelona. To be kept in good running order and to maintain fineness in grinding, the two stones had to be dressed or sharpened periodically, as they became dulled after some time in use (Attard 1987: 3; Attard Tabone 1990: 8-9).

Millwrights are for the most part unknown. They left no records or drawings. The work was ingenious, honest and expressive of the best tradition of their craft. Those who worked and repaired windmills were usually men of considerable force of character with a capacity for hard work. They were masters of many trades, from carpentry and smithing to gearing wheels with wooden cogs and dressing millstones. They had to

17. For the technology of the Maltese windmill and its technical terms *vide* Galea (1963); Zammit (1929); Spiteri (1995); "It-Tahhan u l-Mithna tar-Rih." In-Nazzjon Taghna 5 Ottubru 1987.

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be tough physically too, and like the millers most of them were illiterate. This description fits exactly the last miller of the Xaghra windmill, Ġuzepp Grech, who was an accomplished millwright. To him we owe the pleasure of enjoying the last of our windmills, complete with the tools he and his ancestors used in the milling trade, and now a national museum of great ethnographic interest (Attard 1987: 3; Attard Tabone 1989: 8-9).

Throughout their two hundred years of working life, windmills in Gozo were dominated by members of three well known families of millers and millwrights, the Xiclunas, the Grechs and the Camilleris. Members of these families were involved in the milling trade in both Malta and Gozo. During the 1820s the Xiclunas were running the mills at Lija, Siggiewi, Bir-id-Deheb, Luqa and Qrendi in Malta and at Xaghra, Gharb and Xewkija in Gozo. They were an enterprising breed.

Conclusion

In this day and age when windmills are regarded all over the world as national monuments, we are in duty bound to preserve them for future generations, with the rest of our national heritage. In providing for the protection of our monuments, the Museums Department, our politicians, our fledging local councils and our planners should show wisdom in saving them from encroaching development. The modern concept is to protect the surroundings of monuments as well as the monuments themselves. If we do not show sufficient regard for these modern practices, Ġgantija and the Citadel, our showpieces in Gozo, could risk being delisted by UNESCO as world heritage sites.¹⁸ This would certainly be a great blow to our prestige within the international community.

18. Attempts have been made during 1990 to widen the original road, leading to the Xaghra windmill known in the old days as *Vicolo Molino* or *Sqaq ta' Karkar*. On this subject *vide* *L-Eghjun* (January-March 1990) No. 4: 3. Also letter from J. Bajada, Secretary Moviment Ċiviku Xaghra, to Minister for Gozo, 4 March 1990, requesting the protection of the Xaghra windmill and its surroundings. In the last thirty years, more than ever before, major archaeological and historical sites in Gozo like Ġgantija, Ta' Cenc and the Citadel have been under constant threat by encroaching physical development. Regarding Ġgantija *vide* Mallia: "Prehistoric Monuments at Xaghra, Gozo - Another appeal for their Preservation." *Times of Malta*, 19 January 1983: 20; Letter from Gozo: "Cultural Revolution." *The Democrat*, February 12, 1983: 9; Amor: "Prosit Tassew Xaghrin", *Il-Ġens*, 30 June 1995: 20; "Bejn ix-Xaghra u Salisbury", *Il-Ġens*, 25 August 1995: 10.

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