

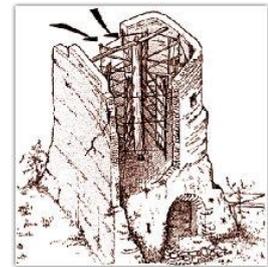
# Windmills of Spain

WELCOME



There is an air of romance attached to windmills. Maybe it's the solitude, or the space and awesome vigour of the elements these edifices need. Or perhaps sheer size, dwarfing man and giving a timely reminder that there is, after all, something infinitely more powerful than himself.

King Hammurabi (2123-2081 BC), devised a system of irrigation involving windmills, simple devices - a wooden tower with reed sails turning from a vertical axis - to prevent the Tigris flooding the cornfields of Babylonia.



Early Persian windmill



As Persian and Chinese traders in silks and spices; their colourful caravans laden with cinnamon and cloves, ginger and tamarind; came westward, they also trafficked in ideas and inventions.

Gradually the sight of windmills became commonplace in the Mediterranean and Europe.

In Spain, along the route of The Black Villages and beside the Way of Saffron Fields and Castles, they stood like citadels.

Dependable monuments to industry, the means of keeping families fed, they were as important to the body as the church which owned them was to the soul.

Here, where golden star thistle and the purple sea lavender give fragrance to the hot, dry atmosphere, the sails still turn, cleaving the air like Moorish scimitars.

Throughout Spain and the Canary Islands the mills are tourist attractions, preserved and enhanced to serve as living museums, or to house exhibitions, displays or even tourists themselves.



The windmills of La Mancha are high, cylindrical towers of dazzling white capped with black cones. From a distance they look like portly nuns on their way to mass. The conical tops have over the years been fashioned from a variety of materials: straw, wood and now zinc.

In Cervante's time, the vanes would have been made from Black Poplar, a wood which does not shrink, warp or swell. Internal machinery was oak, lubricated with tallow, the whole held together by expert carpentry and rivets of pine.

Both tower mills and the open wooden trestle mills were used for grinding grains, though the Spanish language distinguishes between the two, the tower mills are *molinos*, and the trestle and modern wind-farm mills, *molinas* or *molinetas*.

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Los molinos de viento de España never provided a living space as in some European windmills. There was an area where grain would be bagged and loaded and perhaps a small space beneath to stable mules. Then the next level housed the millstones and the upper floors the machinery and a gallery for the storage of linen vane cloths and other essentials, the whole accessed by a spiral staircase.



At intervals around the tower were windows, set not for the pleasure of looking out over the lush Iberian landscape, but for alerting the miller to a change in winds.

It was imperative that he knew the very instant the wind changed so he could move the tiller beam (or tailpole) to turn the mill. Failure to do this, especially if the wind strengthened could, and often did, result in the total destruction of the building.

Should the vanes move too rapidly, friction sparks from the stones could ignite the flour and there are many stories of sudden gales which, catching an inattentive miller unawares, stripped the tower of the sails, cone and part of the building itself, often with loss of life, always with loss of livelihood.

From the 13th Century, 3rd March has been Lluca's Day, a month when comets flew and people would gather at the mill to pay homage, bringing food to share. Each villager would be given a hollow bun in celebration of the miracle of harvest and the mill's part in it.

There was in fact, another miracle taking place. The word 'mill' means, 'to go round' and until mechanisation, grain was processed manually and traditionally by women. When milling was harnessed to the winds, a huge cultural turn was also brought about, for then the task began to revolve around men.

Perhaps those simple villagers were more spiritual than we are today. They had built by hand the imposing towers which ground to infinitesimal dust that grain the Deity had provided and matured to sustain their bodies.

Standing beneath the vast edifice with its sails turning and creaking against the heavens, they must have felt they had harnessed the very breath of God.

Lluca's Day is still celebrated around the windmills, now a family festival of kites and food.

Every Spanish mill was given a name. In the northeast province of *Ciudad Real* some thirty mills sit on the Hill of La Paz. **The Sardinero** contains some original, 17th century machinery; **The Culebro** and **The Lizard** house museums (the latter dedicated to farming) **The Pylon** preserves the history of wine; **The Burlleta** and **Infant** also have original machinery, the latter still grinding grain so that visitors may observe the operation of a working mill. **The Poyatos** serves as the Office of Tourism.





At **San Pedro del Pinatar Saltworks Nature Reserve**, a unique Mediterranean coastal area of 700 hectares, there are dunes, salt marshes, reed beds and wild sandy beaches. But also *encañizadas* the traditional fishing system of Mar Menor.

Fish are forced to pass across a complex labyrinth built of reeds and wood whence they are captured - the water is pumped through this system by windmill.

But lately there has been another revolution in the world of windmills, the winds of change are blowing across the Iberian mountains and Spain is rapidly turning to the modern, electricity-generating mills as source of clean power. This has caused criticism in some quarters.



**From a local news report:**

*The decision to allow the construction of 11 new wind parks and 400 windmills at Campillos, Cañete la Real, Teba, Almargen and Casares has angered ecologist groups. The Andalusian Federation of Associations for the Defence of Nature (FAADN) is outraged and points out that the wind-power generators would stand on a vital route for endangered species of eagles, vultures and other raptors.*

*A five-year study undertaken by Agaden-Ecologistas en Acción in Tarifa, where there is a large concentration of wind-power generators, has already documented 81 Leonardo Vultures killed as a result of collisions or other incidents involving the windmills. The study also catalogued deaths of eagles, owls and other species that, along with the vultures, are protected under a European Union directive.*



In Tarifa, the well-established wind park generates some 1500 kW of power for approximately 300,000 inhabitants.

They may be vital to the economy, they may be powerful and awesome as they march across the landscape but wind turbines have none of the romance Cervantes saw when his Don Quixote tilted at the great windmills of Spain.



Should you wish to purchase a Spanish windmill, the tower variety, converted for living, sells for around a million British pounds.

Slightly cheaper and pre-packed in wooden crates for sending to the four winds, the Tarrago windmills are a popular and colourful sight on Spanish cattle ranches where they pump water and produce electricity. No doubt with a little ingenuity, they could also catch fish.



The sunny face of a kit-set windmill