

The past in the present

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I R E L A N D

The 'red man' of war and death?

A Bronze Age figure from Ballykean, Offaly.

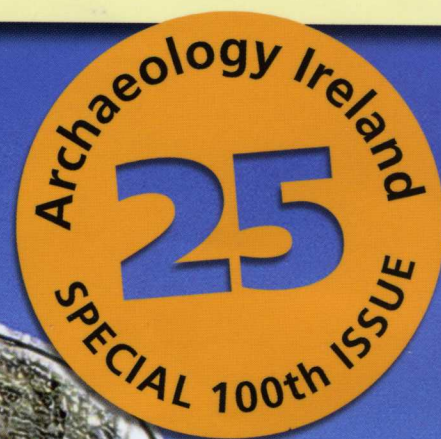
Lismore Castle estates ice houses

A 19th-century estate-owner's status symbol.

Archaeology Ireland — 100 issues and 25 years

People and events that have shaped the last quarter-century.

MARTELLO AND SIGNAL TOWERS





MARTELLO AND SIGNAL TOWERS

In this contribution to the Know Your Monuments series, Muiris O'Sullivan and Liam Downey focus on Martello and signal towers, the prominent archaeological features that characterise the Napoleonic period.

Above: Fig. 1—Typical Martello tower, Bere Island, Co. Cork (courtesy of Bere Island Heritage Centre).

With the renewal of war with France in 1803, the British military authorities embarked upon the construction of extensive fortifications in Ireland, including Martello and signal towers. This article draws extensively on the comprehensive documentation of these fortifications by Paul Kerrigan in *Castles and fortifications in Ireland, 1485–1945* (1995).

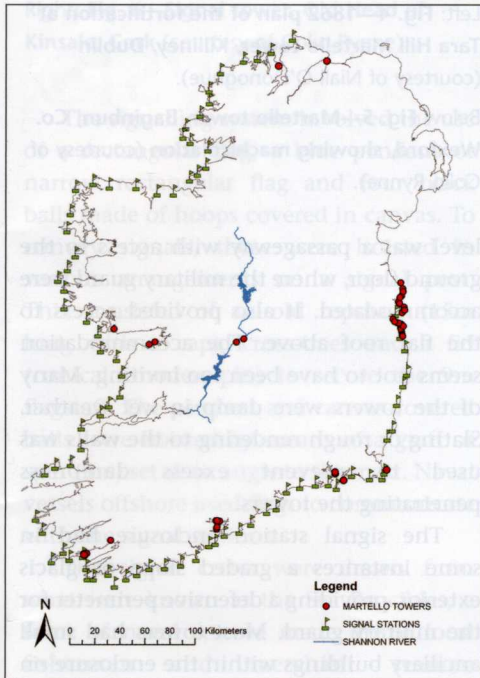
Martello towers

Martello towers (Fig. 1) were circular gun-towers of which less than 50 were erected in Ireland between 1804 and 1815 (Kerrigan 1995; 2003). They generally had one gun but some had two or three. Where possible, towers were sited to give mutual support to each other and to overlap in their field of fire.

Martello towers were predominantly erected around the coast at strategic positions where they might be necessary for

defence. Concentrations of towers (Fig. 2) were built on the Dublin coast (27) from Balbriggan to Bray, along the Wexford–Waterford coast (3), and at various locations around Cork Harbour (5), Bere Island (4) and Galway Bay (3). Several towers were erected on the north coast, along the shores of Lough Swilly and at the entrance to Lough Foyle. Inland, two Martello towers were erected at the middle reaches of the River Shannon.

The towers generally had ancillary fortifications, including batteries (see below). Notable features of the tower on Tara Hill overlooking Killiney Bay (Fig. 3) were the surviving guardroom, artillery storey and dry moat; the three-gun walled battery area surrounded by a steep glacis; and a gunner's cottage and gunpowder store alongside. An 1862 plan of the site is shown in Fig. 4. The impressive restoration of the fortifications at this site provides a unique insight into what went on within and around Martello towers.



Left: Fig. 2—Geographical distribution of Martello and signal towers.

Below: Fig. 3—Martello tower and guardhouse on Tara Hill, Killiney, Dublin (courtesy of Niall O'Donoghue).

The interior of the Martello towers at ground level consisted of the powder magazine, ammunition and food stores. The first floor provided living accommodation for the garrison. The garrison intended for a one-gun tower was a sergeant and twelve men, and twice that number for a two-gun tower.

The circular gun platform on the flat roof was surrounded by a massive parapet. The gun carriage was mounted on a revolving traversing platform or slide carried on a perimeter iron track and a smaller central track. Access to the gun platform and to stores and powder magazines on the lower floor was by means of a narrow spiral staircase in the wall thickness. Built into the parapet was a shot furnace for heating the 18- and 24-pounder shot; red-hot shot was capable of setting fire to the wooden sailing-ships of the period.

Batteries

Martello towers were often strengthened by adjacent gun placements or batteries. The garrison intended for a tower and battery fortification was an officer and up to 30 or

40 men. Militia or other infantry may have assisted the artillery men at a tower and battery in manning the guns.

Of the fourteen Martello towers south of Dublin, eight had adjacent batteries. No batteries were constructed with the towers north of Dublin, which seem to have been less vulnerable to attack.

The armament at the Martello towers and batteries south of Dublin comprised three to five 24-pounders as well as an 18-pounder and, in some instances, a ten-inch mortar (or mortars). The tower at Sandycove (now the James Joyce Museum) had a battery a short distance from it; there were five 24-pounders mounted on traversing platforms and two ten-inch mortars.

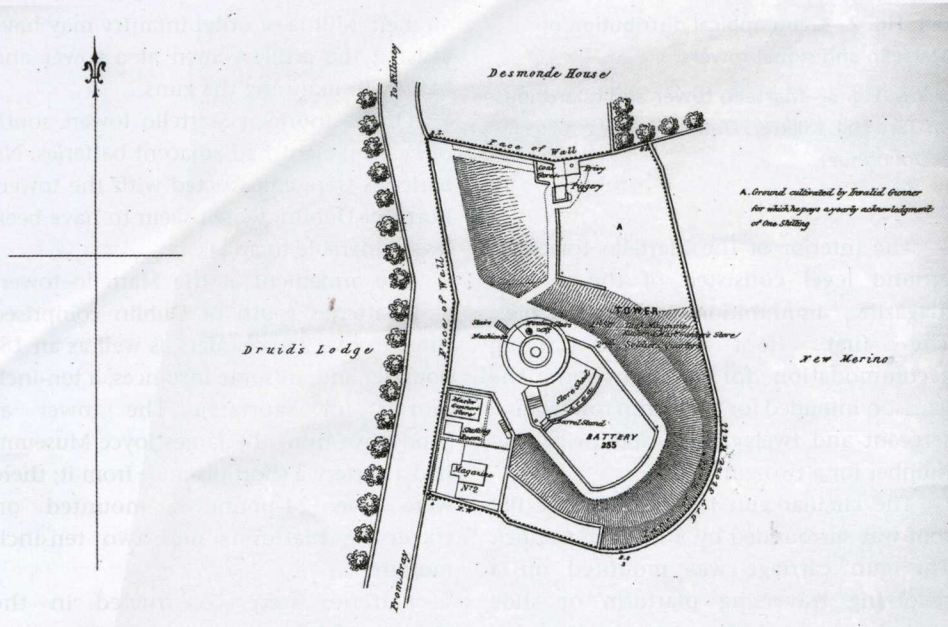
Batteries were constructed in the vicinity of Martello towers positioned at other strategic locations, including the cluster of four in the eastern part of Bere Island in Bantry Bay. The armament here in 1811 was six 24-pounders at the four Martello towers and a further eight 24-pounders at the four batteries. At the conclusion of the war with France in 1814, the Office of Ordnance advised that the four batteries under the protection of the towers might be dispensed with.

The Martello towers around Dublin Bay were decommissioned in the 1840s but were re-armed again in the early 1850s as a precaution against Russian attack during the Crimean War.

The typical external features of Martello towers are summarised in Box 1 below. In some locations, however, the towers had important variations in design and layout. While the walls generally slope inwards, the Martello towers in Cork Harbour have vertical walls and are drum-shaped in form. Moreover, they have no machicolations over the doorway (Fig. 5), a characteristic shared with other towers built during the last five years of the Napoleonic Wars, such as those at Galway Bay, Banagher and Duncannon. The thin wall of the machicolation would have been more vulnerable to cannon fire, compared with the much thicker walls of the tower and parapet. This potential risk may have influenced the design of these later towers. The Dalkey Island tower also has no machicolations and is larger than the other towers, having a gun platform more than 10m in diameter, in contrast to the average of less than 6.5m. The larger size may reflect the extra space required to accommodate two guns; it is termed a double tower.

The Martello towers at Finavera and Aughinish in Galway Bay and at Meelick on the Shannon are cam-shaped in plan. The gun platform at the Meelick tower is trefoil in plan to provide for three guns. The towers at Banagher, Rosaveel and inland of Duncannon fort are elliptical or oval in plan, with a thicker wall on the seaward side.





Left: Fig. 4—1862 plan of the fortification at Tara Hill Martello tower, Killiney, Dublin (courtesy of Niall O'Donoghue).

Below Fig. 5—Martello tower, Baginbun, Co. Wexford, showing machicolation (courtesy of Colin Rynne).

Signal towers

Signal towers (Fig. 6) were defensible guardhouses for naval signal crew and military guard, built at stations around the coast of Ireland between 1804 and 1806. As shown in Fig. 2, a chain of 81 signal towers were erected and numbered from Dublin southwards, along the south coast, up the west coast to Donegal and over to Malin Head.

While they vary somewhat in detail, a standard design seems to have been generally employed in the construction of signal towers. The typical architectural features of the towers are summarised in Box 1. Although built a few centuries later, they share a number of features with tower-houses (*Archaeology Ireland*, Summer 2009), such as the vertical profile, the use of machicolations and the positioning of the doorway at first-floor level.

Signal stations were intended to play a central role in coastal defence in conjunction with the Martello towers and batteries (see above). Their function was to signal information about the movement of shipping to the naval and military authorities. As well as communicating with adjacent signal stations, the crew were able to communicate with naval vessels offshore and to pass information by messenger to the military guard inland.

Following the arrival of the French expeditionary fleet in Berehaven (Cork) in 1796, and in the expectation of further invasions, priority seems to have been

given to the construction of signal towers on the West Cork coast. The absence of signal stations along the coast from Malin Head to Dublin seemingly reflects the prevailing views of the military authorities at the time that invasion was unlikely on the north-east and along the east coast from Belfast to Drogheda.

The towers provided accommodation for the signal crew and military guard. At Kerry Head signal tower, the first floor was divided by a partition to provide a room for the lieutenant. The remaining space at this

level was a passageway with access to the ground floor, where the military guard were accommodated. It also provided access to the flat roof above. The accommodation seems not to have been too inviting. Many of the towers were damp in wet weather. Slating or rough rendering to the walls was used to prevent excess dampness penetrating the towers.

The signal station enclosure had in some instances a graded slope or glacis exterior, providing a defensive perimeter for the military guard. Most towers had small ancillary buildings within the enclosure on the landward side of the signal tower. Roads were an essential infrastructural element of signal stations. The road surviving today at Blackball signal tower on the Beara Peninsula (Cork) is remarkably wide. Other interesting features of this signal station are the regular array of substantial cultivation ridges and low earthen-bank enclosures, as well as sizeable well-formed deep depressions (possibly water reservoirs) in the lower ground leading up to the signal tower.



Right: Fig. 6—Signal tower, Old Head of Kinsale, Cork (courtesy of Colin Rynne).

The signalling system involved the use of a rectangular flag, a blue pendant or narrow rectangular flag and four black balls made of hoops covered in canvas. To convey signals, these were hoisted in various arrangements on a signal post. This consisted of an old topmast (15m long with a cap), cross-trees and a fid (conical wooden pin) to secure the 9m flagstaff. The pendant and canvas-covered balls were hoisted by means of a graff or spar (9m) set at an angle to the mast. Naval vessels offshore used flags to communicate with the signal stations.

The signal crews were drawn from what were known as the Sea Fencibles, a form of naval reserve made up of local fishermen and merchant seamen commanded by naval officers, including signal lieutenants. The Sea Fencibles were organised into 21 districts and manned most of the signal stations. The composition of signal-station crews included a signal lieutenant, a midshipman and two signalmen of the Sea Fencibles. Military guards of some five to seven yeomanry or infantry were also located at signal stations, amounting to around ten men at each station.

Following the end of the Napoleonic War, most of the signal stations were abandoned. Some were used as admiralty signal stations during the First World War. At the onset of the Second World War, coastal watching posts were erected close to the signal towers. Most of these were small concrete buildings, the remains of which can still be seen on many headlands. ■

Acknowledgements

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- Kerrigan, P.M. 2003 Signal towers on the West Cork coast. *Mizen Journal* 11, 29–45.



Box 1: DIAGNOSTIC FEATURES

Martello towers

- Generally circular in plan (diameter around 12m at ground level). Parapet about 7.6m above the ground. External wall often sloping inwards but in some locations vertical. In plan some towers are elliptical or cam-shaped.
- Entrance at first-floor level on landward side. Many, but not all, have a machicolation above the doorway at parapet level.

Signal towers

- Square in plan (some 4.5m square internally), generally with two storeys (up to c. 9m in height) and an entrance at first-floor level on the seaward side. Walls are about 0.6m thick and were originally faced with weather-slating.
- Machicolations occur in the parapet directly over the doorway and two more at the landward corners of the tower.
- Windows are found in side walls at ground- and first-floor levels, and fireplaces and chimneys are built into the splayed rear wall.
- May be sited in rectangular enclosure with a semicircular or fan-shaped extension on the seaward side, where the signal mast was located.