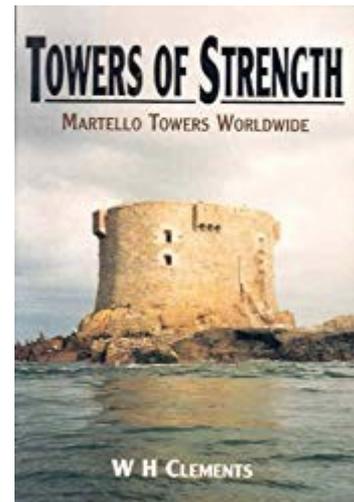


***Towers of Strength* by W H Clements**

The construction of masonry gun-towers by British military engineers covered a period of eighty years from 1780 to 1860. Gun-towers were a standard element in the portfolio of the military engineer in the seventeenth and the eighteenth century and many were built in the Mediterranean by Spanish and Italian engineers; but it was the development of these towers by British engineers in the early nineteenth century which resulted in the simple, elegant, and extremely practical design which is today known as the Martello tower. Although the construction of the English towers did not start until 1805, towers had already been built on Minorca and Trinidad, and in 1803 work had started on similar towers in Ireland. Other towers had been completed even earlier on Jersey and Guernsey, at Halifax in Canada, and also at Cape Town. These towers were the forerunners of the extensive chain of English towers built between 1805 and 1810.



Situated for the most part to defend the coastline from attack from the sea and usually sited to provide each other with mutual fire-support, these towers would have been difficult to destroy. The majority provided the first line of defence for the most vulnerable part of the English coast, that nearest to the ancient enemy France. Others were to be found in Ireland and throughout the British Empire, and a number were used as land defences to protect the outworks of citadels and colonial frontiers. This was the case in Quebec, Delhi and on the frontier of the Eastern Cape Province in South Africa, where Martello towers provided a cheap and effective form of permanent fortification.

The cost of construction of the English towers was about £350,000, including the cost of the three circular redoubts, and to this sum should be added a further £150,000 for the towers in Ireland. The total spent in providing these defences exceeded £500,000, an enormous sum at the time when it is considered that the total expenditure of the British government in 1811 was only £82 million. This vast expenditure on fixed defences, exceeded only by the cost of the defences built around the English naval bases in the 1860s, can probably be equated with the cost of the *Trident* nuclear missile system in our time and demonstrates the high cost of military deterrence.

These towers were designed and built by a small number of talented Royal Engineer officers whose influence is to be found wherever Martello towers were built. The names Twiss, Fisher, D'Arcy, Birch, Bridges, Bryce, Ford, Pasley, Lewis and Whitmore feature again and again when the origins of the towers are studied. Twiss, Ford and Whitmore were responsible for the towers in England, and D'Arcy, Birch and Pasley, among others, for those on Minorca. Fisher, Birch and D'Arcy were involved in designing

and building the Irish towers, while Bryce produced the original design for the Leith tower and subsequently supervised the building of towers in Sicily. Bridges built towers at Cape Town and in Ceylon, and Lewis was responsible for the later towers on the Channel Islands and in South Africa. Pasley became the first commandant of the School of Military Engineering at Chatham and wrote a noted textbook on the theory of fortification which included a chapter on the principles to be followed when designing Martello towers. Ten years later Lewis wrote a shorter monograph on gun-towers which was published in the *Professional Papers of the Royal Engineers*. This laid down a series of designs which were to become the standard patterns for all such towers.

The essential characteristics of the Martello tower were its circular or elliptical shape, massive wall and entrance through a doorway at first-floor level. In the larger towers there was a massive central pillar which supported a bomb-proof arch. However, many later towers were more sophisticated with glacis, counterscarp galleries and caponiers. For fifty years Martello towers provided an effective and frequently economic form of coastal defence and protection for harbours; but it was the advent in the 1860s of modern, rifled artillery and iron-clad warships, together with changing political alliances, which brought about their demise. By 1870 the towers were obsolete as defensive works and were replaced instead by large, concealed, earthwork forts mounting large-calibre, rifled, muzzle-loading guns which were later replaced by breech-loading guns.

Although some Martello towers remained the responsibility of the War Office until the end of the nineteenth century, many were sold soon after the end of the Napoleonic Wars in 1815, or used by the Coast Blockade and its successor the Coastguard. However, the reduction in duty on many imported goods in the 1850s made smuggling no longer profitable and then the fate of most of the remaining towers was that of abandonment and dereliction. In the Second World War a number of shoreline towers were adapted to defend the beaches with modern weapons against an enemy who, once again, never came. After the war a few remained in service as Coastguard stations and some were converted into residences or holiday homes.

More than 200 Martello towers were built around the world by the British government between 1796 and 1857. The towers defended the coastline, harbours and islands of the United Kingdom and harbours and anchorages - and even cities - throughout the world. Many of these towers still stand today, splendid examples of military engineering. They remain part of our heritage and a reminder of a period in our history when Britain stood alone against the might of Napoleonic France.