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REGIONE AUTÒNOMA DE SARDIGNA
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Port and coastal towers of Arbatax

Patrimonio culturale
SARDEGNA Virtual Archaeology



■ The armament of the towers

In 1587 King Philip II of Spain set up the "Royal Administration of the Towers" assigning the task of designing, building and managing a network of forts to defend the Sardinian coasts.

This body, with its headquarters in Cagliari, was headed by the Viceroy who appointed a captain (alcaide), gunners and soldiers to defend the tower (*torrieri*). Their task was to monitor the sea continuously, to spot enemy vessels and sink them using canons.

These artillery pieces, often given animal names (Falconet, Falcon, Merlin, Culverin, Sagro, Basilisk, *Passavolante*), required the installation of a specific support called "carriage" (fig. 1). Those supports were in shod timber, with four wheels, where the front wheels could be bigger in size than the rear ones.

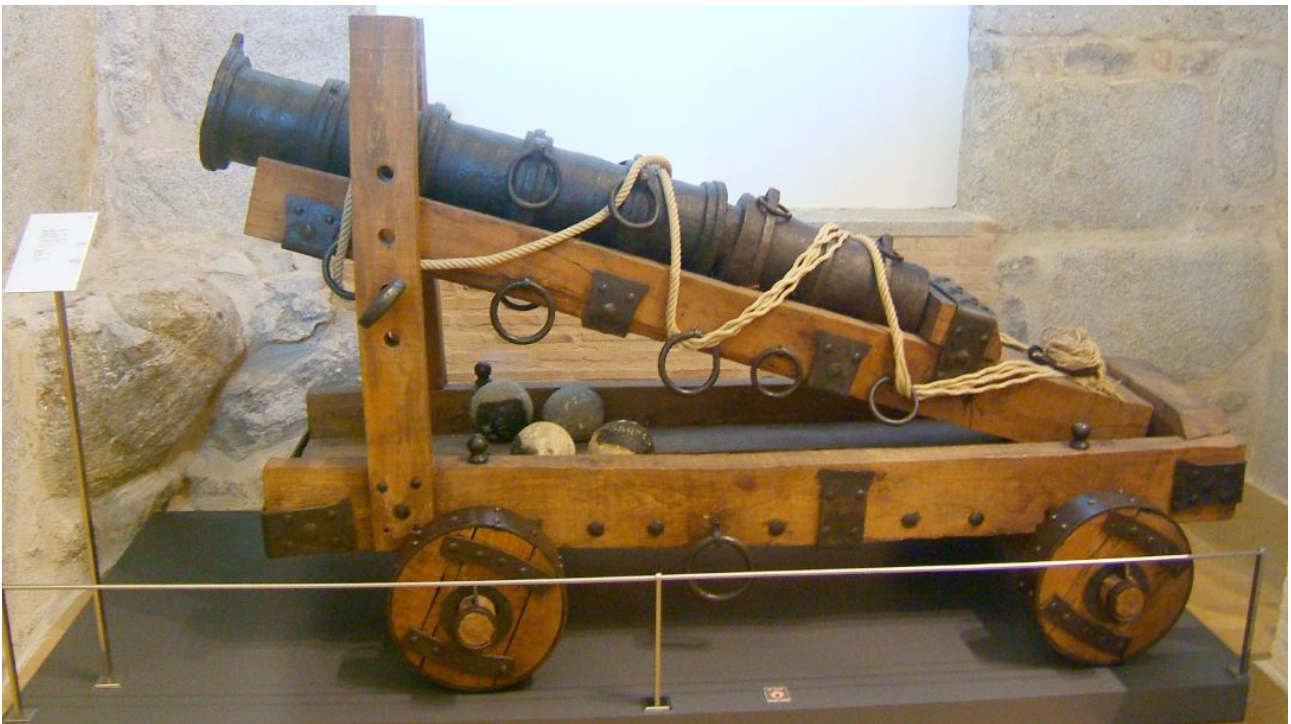


Fig. 1 - *Passavolante* from the Toledo Army Museum (photo by Andrea Carloni https://www.flickr.com/photos/andrea_carloni/sets/72157630194436396/).

In the XV and XVI centuries, the guns bronze or iron, smooth bore and loaded from the mouth. Bullets were spherical iron balls (fig. 2), launched thanks to loads triggered through a hole (*focone*) in the receiver. Calibres (expressed in pounds, with the weight of the ball) used most in towers were those weighing 8, 6, 4, and 2 pounds (a bronze canon, with a 6 and a half pound calibre, weighed about 500 kg).

Canons equipping the towers had smaller calibres, sizes and weight. Not only was it quite difficult to raise a long, heavy canon on to the place-of-arms, but the tower's vault could not be loaded excessively; what's more, canon size had to be compatible with the small space available on terraces.



Fig. 2 - Iron canon balls in the Sassari Museum (photo M.G. Arru).

The tower's usual equipment included, besides the canons (from two to four), a certain number of canon balls, some barrels of gunpowder (the one used for canons had a greater particle size than the one for mortars and rifles), a mortar¹ with a few hundred balls, a

¹ In the XIV century the mortar was a war machine, a kind of large crossbow used to throw large stones. When gunpowder was invented, the term was used to indicate a piece of light artillery.

rifle for each tower soldier with a few hundred bullets (fig. 3); a score of flints for the rifles. There was also everything possibly needed : axes, bill-hooks, tarred rope, water barrels, a copper boiler with tripod, a steelyard balance, earthenware jars.



Fig. 3 - *Spingarda* (mortar) (from <https://it.wikipedia.org/wiki/File:Spingarda-01.jpg>).

An 8 pound canon had an average range of about 504 metres, and a maximum of about 3150 metres. The 2 ounce mortar, usually mounted on a tripod, loaded with an ounce of gunpowder had an average range of about 500 metres, and a maximum one of about 2204 metres.

It often happened that the tower had balls of a calibre less than that of the canons supplied; they solved the problem by wrapping the ball in cloths.

Canons and mortars could be operated either directly with a fuse or with a flintlock flint as in rifles.

Tower canons were elevated by inserting wooden wedges under the breech, with an empirical system at the expense of accuracy.

They placed strong planks (*madrieri*) under the canon's wheels, to protect the floor of the "Place-of-arms", and after the shot canons were put back in their blocks using levers (fig. 4).



Fig. 4 - Model of a coastal tower: the place-of-arms (Museum of towers of Sardinia).

Each tower was equipped with a *pike*², a rifle with bayonet and its respective supply of lead balls. In some cases the rifle cartridges were supplied already packed. They used a hoist (*ghindazzo*) to dismantle and reassemble the canons on the gun carriages.

Along with the canon balls of their respective calibres, some towers were still equipped with chained balls, incendiary devices, the so-called "flasks of fire".

² The pike is a pole weapon with a metal tip in various shapes and types mounted on a wooden pole, of a length of between 4 and 6 metres.

■ Credits

Deepening card edited by Dr. Maria Grazia Arru

■ Bibliography

RASSU 2005 = M. RASSU, *Sentinelle del mare. Le torri della difesa costiera della Sardegna*, Dolianova 2005.

ASSOCIAZIONE SICUTERAT, *Museo delle Torri e dei Castelli della Sardegna. Collezione Monagheddu Cannas*, Sassari 2003.

MELE 2000 = G. MELE, *Torri e cannoni. La difesa costiera in Sardegna nell'età moderna*, Sassari 2000.

MONTALDO 1992 = G. MONTALDO, *Le torri costiere della Sardegna*, Sassari 1992.

FOIS 1981 = F. FOIS, *Torri spagnole e forti piemontesi in Sardegna*, Cagliari 1981.

PILLOSU 1957 = E. PILLOSU, *Le torri litoranee in Sardegna*, Cagliari, 1957.





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