

This pdf of your paper in *Ships and Guns* belongs to the publishers Oxbow Books and it is their copyright.

As author you are licenced to make up to 50 offprints from it, but beyond that you may not publish it on the World Wide Web until three years from publication (February 2014), unless the site is a limited access intranet (password protected). If you have queries about this please contact the editorial department at Oxbow Books (editorial@oxbowbooks.com).

SHIPS & GUNS

*The sea ordnance in Venice and Europe
between the 15th and the 17th centuries*

edited by

Carlo Beltrame and Renato Gianni Ridella



Università
Ca' Foscari
Venezia



© Oxbow Books 2011

ISBN 978-1-84217-969-7

Contents

Preface (*Carlo Beltrame, Renato Gianni Ridella*).....vii

Introduction: Ships, Guns and Historical Archaeology (*Sauro Gelichi and Mauro Librenti*).....ix

Venetian Guns for and from the Sea

1. Morphology and constructive techniques of Venetian artilleries in the 16th and 17th centuries: some notes (*Marco Morin*)..... 1
2. Venetian ordnance in the shipwrecks of the Mediterranean and Atlantic Seas (*Carlo Beltrame*) 12
3. The race to big calibres during the first war of Morea and Sigismondo Alberghetti's guns of new invention (*Guido Candiani*) 23
4. Two Venetian swivel guns from the Messina Strait, Italy (*Rossella Scordato*)..... 28
5. A Venetian ship sunk in Cyrenaica at the beginning of the 18th century (*Sebastiano Tusa*).... 35

Italian Production of Naval Ordnance between the 15th and 17th Centuries

6. Genoese ordnance aboard galleys and merchantmen in the 16th century (*Renato Gianni Ridella*)..... 39
7. Bombards in Savona in the 15th and 16th centuries (*Furio Ciciliot*)..... 57
8. Guns and profit. Tuscan naval artillery in the 16th to 17th centuries (*Niccolò Capponi*) 60
9. Armed ships of the Post-Medieval period in Croatia (*Irena Radić Rossi*) 64

European Ordnance aboard the Ships (15th–17th Centuries)

10. Did naval artillery really exist during the Modern period? A brief note on cannon design (*Javier López Martín*)..... 73
11. Stowed or mounted: the Spanish Armada of 1588 and the strategic logistics of guns at sea (*Colin Martin*)..... 85
12. “A jewel of great value”: English iron gunfounding and its rivals, 1550–1650 (*Ruth R. Brown*) 98
13. Ships and guns of the Tudor Navy 1495–1603 (*Robert Douglas Smith*)..... 106
14. The British sea service mortars. Some notes on their evolution with particular reference to the drawings of Albert Borgard, c. 1700 (*Martino Ferrari Bravo*) 116
15. Sixteenth-century French naval guns (*Max Guérout*)..... 124

Preface

Carlo Beltrame and Renato Gianni Ridella

The scientific articles gathered together in these proceedings represent most of the papers presented to the international symposium 'Ships and Guns' organized by the Department of Sciences of the Antiquity and the Near East, University Ca' Foscari, Venice on 11–12th December 2008. The symposium developed from the idea of a maritime archaeologist, Carlo Beltrame, and a specialist in historical ordnance, Renato Gianni Ridella, to put experts from the field of historic artillery in contact with one another and with underwater archaeologists engaged in the study of modern era wrecks, who often have to deal with cannons, bombards and guns – some of the most diagnostic and common finds on shipwrecks from the 15th century onwards.

Those who work in this field, in fact, think that it is very important to promote the dialogue between experts in artillery and maritime archaeologists for a mutual exchange of information. Often specialists in ordnance study these artefacts without a complete knowledge of the archaeological contexts from which they have been recovered while, even more frequently, archaeologists investigating their contexts have only a superficial knowledge of historic artillery.

Especially in the Mediterranean area, the ignorance and the indifference towards the history of the artillery are notable, often leading to incorrect interpretations of these weapons. In some cases we have truly grotesque situations; for example, the archaeological museum of Lipari where three 16th-century Venetian cannons (Beltrame in this volume) have been displayed to the public as 17th-century French guns belonging (as captured) to a Spanish ship, because we all know that every modern-era wreck with guns must be the remains of a Spanish galleon.

Apart from the lack of a serious dialogue between archaeologists and ordnance experts, this sector of maritime archaeology suffers also from the absence of specialist books, drawing on contributions from acknowledged experts, which can offer a well-researched and complete tool for working archaeologists and students. The only exception is the little volume *Guns from the Sea* (which had a limited distribution), a special issue of the *International Journal of Nautical Archaeology* (edited by Ruth R. Brown and Robert D. Smith in 1988), a collection of papers from the

eponymous symposium held in London in 1987. Therefore, the present volume aims to, at least partially, fill this gap by including contributions from both ordnance experts and maritime archaeologists; the former mostly incline toward a technical study of historical artillery and the latter toward illustrating new, or less well-known, underwater sites indicated by the presence of guns.

In Italy, and in fact in most of the Mediterranean area, the study of ordnance is carried on by researchers not connected to institutions; this subject is entirely ignored by academic structures. This has led to a situation where research responds to events, rather than following a systematic programme. It is also hampered by a lack of funding, and, in some cases, research is undertaken by dilettantes who are often not adequately prepared for this task.

We come now specifically to the Italian territories which, until 1861, were divided into different states. Here it must be said that the few researchers competent on that subject were primarily interested in analyzing their own closest geographical regions. Thus, while we have sufficient coverage of the Republics of Venice and Genoa, the situation of the Spanish Viceroyalty of Sicily is, for now, still limited to primary investigation in the archives, while the study of the Dukedom of Tuscany is merely in its infancy. The other two pre-unification states with maritime affairs and navies, the Pontifical State and the Kingdom of Naples, are still unknown territories as far as historic artillery is concerned. It would therefore be a desirable situation for new, young researchers, with the help of acknowledged experts, to begin to fill this gap – one in which they could make valuable contributions.

Moreover, it would be of inestimable value to establish for Italy – as well as for Europe as a whole – a comprehensive picture of gun production. For example North European researchers have had some difficulties identifying pieces of ordnance from the Mediterranean, particularly in the case of civilian guns (as opposed to governments' guns) since often these did not bear recognizable coats of arms or significant inscriptions; in addition they might have weight marks in unusual units of measurement. The different weight systems in use across Europe are particularly confusing. One such difficulty can be found in the appreciable difference

between the pound of 12 ounces used in Italy, roughly equivalent to 330 grams, and the 16 ounce pound used in Great Britain, France, the Germanic and Baltic Countries and Spain, that ranges from 400 to 500 grams. An example of such a misunderstanding is that of the scholar who identified a demi-cannon as a saker, mistaking the *cantaro* of Sicily (79 kgs) for the Castilian *quintal* (46 kgs). On the other hand cast-iron guns of English, French, Dutch and Swedish origins, recovered from many Mediterranean wrecks, are often a difficult matter for local experts who have little knowledge of their typology and are, of course, more at ease with the bronze pieces widely produced in Italy and Spain.

In this respect, it would be useful for the pieces always to be weighed in order to provide this very important information which, only too rarely, is available.

The numerous guns recovered from wrecks, particularly in these last few decades, have brought this category of artefacts to the attention of scholars dealing with maritime archaeology; artefacts that, we have to remember, represent one of the most important indicators of the presence of a modern-era wreck on the seabed because they are easily seen and recognised. However, to regard cannon as mere markers of modern wrecks would belittle these artefacts. On the contrary, in our opinion, they are objects throwing important light on the cultural context of their site. If, on the one hand, experts on ordnance can give important help in the interpretation of an archaeological underwater context, on the other, the material from maritime archaeology is furnishing equally precious information for the study of artillery. In the absence of dates engraved on pieces, the chronological contexts to which they belong, for instance, allow us to find new methods of dating guns. This is particularly useful for some types of pieces – such as swivel guns (*petriere*) – the chronology of which is still a matter of dispute. In addition, the characteristics of ships' hulls investigated in underwater excavations of modern-era wrecks can allow us to understand more clearly how guns were placed and used aboard, as well as how the improvements in ordnance have influenced the design and structures of the same ships. And now, a new and exciting development is the underwater finding of rare examples of gun carriages that, having mainly been built of wood, can be preserved in good condition in anaerobic aquatic contexts.

Here we have to remember what is the potential of the information we can learn from these products which represent the best in the metallurgical technology of their time. If the more obvious are those concerning the historical, technological and ballistic fields, we must not forget economically productive, commercial and finally artistic aspects; bronze pieces were often cast by true artists who decorated and personalized them with great skill. Speaking of the level of information that a piece of ordnance – *in lieu* of other archaeological data – can sometimes offer for identifying a ship, we may cite, as an example, the case of the two pieces displayed at Komiza in the island of Vis,

Croatia and their original owner. Beltrame (in this volume) puts forward the hypothesis that the initials and the family coat of arms borne by the guns suggest that their owner was the famous merchant *Alvise Gritti*, son of the illustrious doge *Andrea* and, in any case, without any doubt, are connected to the noble Venetian *Gritti* family.

Owing to the venue of this symposium, it is natural that much of it was devoted to Venetian gun production which undoubtedly played an important role, at least up to the 16th century, in the Mediterranean theatre. It deals with an aspect of the industrial and artistic production of the *Serenissima* Republic that is often neglected, all the more surprising since, on one hand, it has heavily contributed to making the Venetian fleets formidable to their enemies, while on the other it gave the Republic a marketable product much valued by the foreign powers, not only in the Mediterranean. The quite numerous papers from the conference about Venetian wrecks and guns confirm the historical weight of Venice's production evidenced by the amount of data, both archival and archaeological, at researchers' disposal; and this makes us hope for a greater institutional interest toward this subject, not only in the Venetian context.

In the same manner, in the other Italian and Mediterranean areas, as in the Atlantic and Baltic, studies concerning historical ordnance increased in parallel with the findings of new guns from the sea. We can remember here, as the most important examples, pieces recovered in the northern seas from the English *Mary Rose*, the Swedish *Vasa* and *Kronan* and in the Mediterranean those from the Sciacca wreck, in Sicily, and those from the Gnalić, Brsecine and Grebeni wrecks, in Croatia (Ridella in this volume).

However this apparently favourable situation is often obscured by the chronic lack of funds for research and the conservation of pieces and, above all, by the indifference of the authorities and even of many curators of museums holding historical ordnance. We know too well the difficulties of researchers, especially freelance or independent scholars, in obtaining information from some museums and collections and the not infrequent reluctance of these institutions to accept advice from experts concerning wrongly labelled pieces on display to the public.

We hope that the success of this meeting, though limited to a narrow circle of scholars, can help researchers to persevere in their studies and in their efforts to encourage and promote their knowledge of this neglected area to a wider audience.

Acknowledgements

The meeting has been possible thanks to the generous help of the Cassa di Risparmio di Venezia and of the Regione Veneto.

The editors of this volume are indebted to Ruth Brown and Robert Smith, authors of two articles, who have advised on the translations of most of the papers written by scholars for whom English is not their first language.

Carlo Beltrame, Renato Gianni Ridella
September 2009, Venice