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EARLY GUNPOWDER ARTILLERY IN GENOESE FORTRESSES UNDER MILANESE RULE (1421–1435)¹

Abstract: The Republic of Genoa established itself as one of the main contenders for the supremacy over the Mediterranean sea throughout the High and Late Middle Ages, thanks to a formidable fleet and a constellation of far scattered colonies. However, the Republic also created a mainland state that lacked cohesion and was dotted with local independent lordships, who controlled the commercial routes leading inland. The Genoese grasp over this fragmented territory was dependent a network of small fortresses garrisoned by the Republic itself, whose military stores were registered in hundreds of inventories spanning between 1385 and 1435. Among all the goods listed in these valuable sources, our focus will be the spread of early gunpowder artillery, which in the Genoese area seems to date to this period. Filippo Maria Visconti's rule over Genoa (1421–1436) appears to be particularly significant in this process and shows a direct Milanese intervention to modernize the arsenals of their newly acquired dominions.

Key words: Genoa, Milan, fortresses, inventories, firearms.

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Introduction

Famous for its crossbowmen and its ships launched on the Mediterranean routes in commercial and military adventures, Genoa's history is strongly linked to its fortunes as ‘capital of the sea’. Unlike Venice, which was able to build a solid mainland dominion, the Ligurian city instead preferred to focus on its colonies and sea routes (Fig. 1). Although its military jurisdiction from Monaco to Portovenere had already been recognised by Emperor Frederick “Barbarossa”, Genoese rule over its surrounding region never developed into a cohesive state. Rather, Genoese efforts were mainly focused on controlling the roads leading to the Po Valley, or on defeating potential regional threats such as Savona, Ventimiglia and Albenga, which had all fallen firmly under Genoa's grip from the mid 13th century onwards (Pavoni 1992).

This created a leopard-spot dominion, where territories directly subject to the capital were interspersed with small local independent lordships, often eager to escape the yoke of Genoese control. The management of the territory, therefore, took place through a network of fortresses armed directly by Genoa, whose purpose was as much to defend its territory against external enemies as to

prevent local revolts. Their administrative history since the second half of the 14th century, is also preserved in numerous account books that survive intact to the present day.

From the 15th century onwards, in particular, these fortresses also became the main prop of foreign lords that took over the capital, often with the complicity of its own citizens, who were always torn apart by factional struggles.

This was the case during Filippo Maria Visconti's rule over Genoa (1421–1436), which began when the doge Tommaso di Campofregoso, was forced by adverse odds to hand over his city to Milanese duke on 2 November 1421 (Ivaldi 1967, 90).

During this period of about 15 years, the same fortresses that had been the mainstay of Genoese defence against external enemies, fell under the direct control of the ducal crown and their role as Milanese sentinels in Ligurian territory became increasingly clear.

The direct intervention of Filippo Maria Visconti is particularly evident in a register belonging to the small series of the “*Inventaria Castrorum*” (consisting of only four units spanning between 1385 and 1435), containing the inventories of arms and ammunition of many fortresses active in

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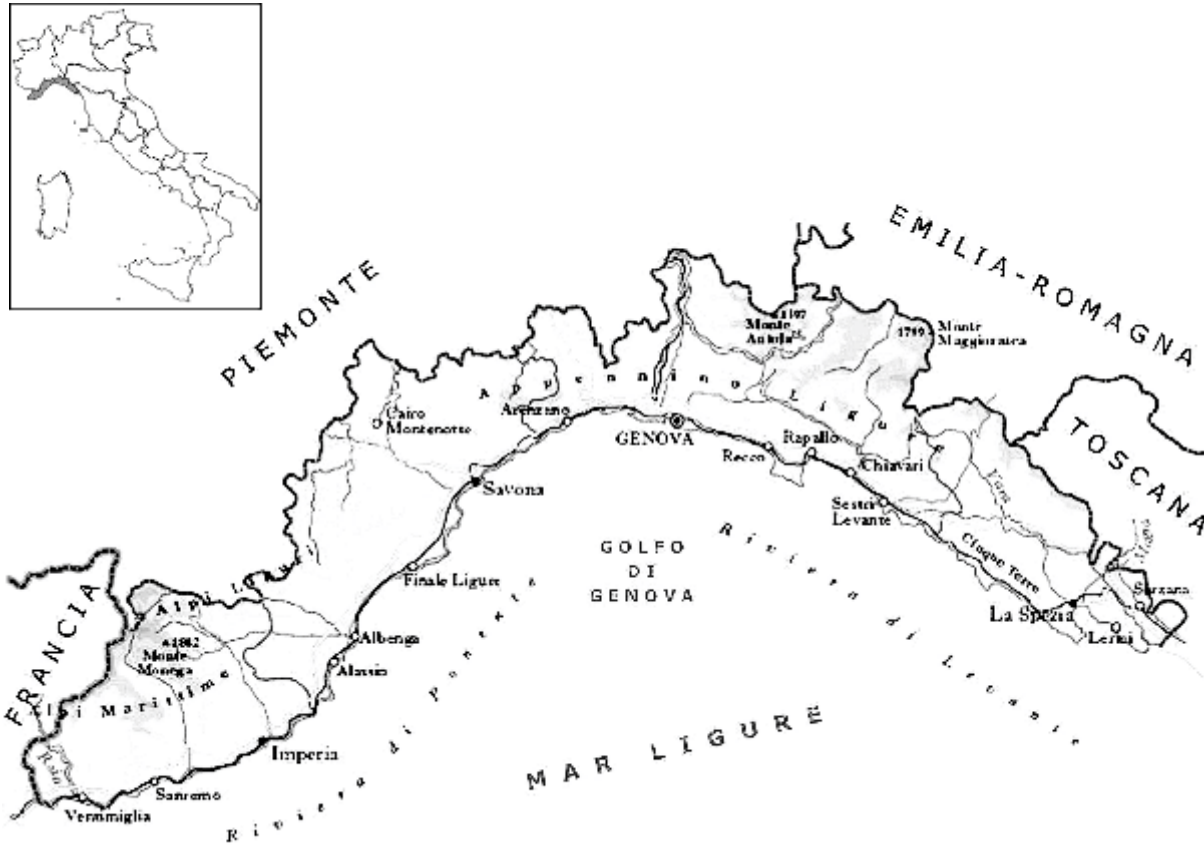


Fig. 1. Schematic map of Liguria, with its main settlements (after pianetabambini.it/cartina-muta-fisica-politica-liguria-stampare/ with supplement of M. Vignola)

Ryc. 1. Schematyczna mapa Ligurii z głównymi osadami (wg pianetabambini.it/cartina-muta-fisica-politica-liguria-stampare/ z uzupełnieniami M. Vignoli)

Genoese territory between 1424 and 1435 (A.S.G., Antico Comune, 335-336-337-338). Unit 338 is particularly valuable in the light of the almost total loss of the Visconti's archives following the advent of the 'Ambrosian Republic' (1447-1450), which deprived us of much of the Milanese administrative documentation prior to the age of Francesco Sforza (Fig. 2).

The register consists of 100 numbered "carte" (that is to say, 200 pages)² and although following a typical custom of the Genoese government, it should actually be taken to all intents and purposes as a product of the Visconti administration.

In fact, it was customary at the time of the handover from one castellan to another, to draw up an inventory of the municipal property transferred by the old official to the new one, in order to allow detailed control and avoid the dispersion of public goods. Any shortfall had to be justified, or the outgoing castellan would have had to pay out of his own pocket.

On 15 April 1424, as an exception to this habit, in the role of consignee was not an outgoing castellan (as we would have expected), but rather the duke of Milan himself, from whose hands (figuratively speaking, of course) all the listed assets descended. In later inventories, however, the old practice of delivery between outgoing and incoming officials is reestablished.

The only logical explanation for this administrative difference is a direct interest of the ducal crown in these fortresses. Therefore, on this date Filippo Maria Visconti probably ordered a census of the goods contained in his newly acquired fortresses, in order to check the state of their provisions.

Of all the goods listed here, which include crossbows, coats-of-plates (or brigandines), food supplies, individual weapons, furniture, ammunition and other material useful for fortress management (see for instance the one in Appendix), we have

² For a description of the register and its location in the "Antico Comune" fund, see the inventory published by Valeria Polonio (1977, 197-198).



Fig. 2. Original cover of the register “Antico Comune”, 338, dated to 1424. Photo M. Vignola

Ryc. 2. Oryginalna okładka rejestru „Antico Comune”, 338, datowanego na 1424 r. Fot. M. Vignola

chosen to analyse gunpowder artillery only, in addition to the few antiquated siege machines. The chronology of the register, in fact, places it in an absolutely pivotal and still ‘primitive’ period for the transition from the old siege machines to the more modern black powder weapons, which were still rare in Genoese arsenals around 1384–1385 and just slightly more common a decade later, between 1393³ and 1398.⁴

The possibility of comparing a large number of inventories concentrated in a few years, moreover, offers a rare opportunity to carry out a quantitative survey otherwise impossible in a few, scattered documents. Therefore, we can draw a veritable picture of the armament of an entire ‘state’ (for this was Genoa at that time), with some very interesting notes on the weight and structure of these primitive firearms.

A limitation in this respect might be the nature of this collection of inventories, that were written on place, sent to Genoa and only later copied onto the official register.⁵ The data given are therefore less reliable than we would like: for instance, we have no way of knowing whether a bombard tagged as “large” in one inventory corresponds with the same type in another list or whether the metals used in their construction (iron or bronze) were always diligently specified, or just deemed unnecessary by others.

In the following discussion, therefore, we will try to provide an overview of the general situation, while trying to avoid over-interpreting some of the more ambiguous data.

A Survey of Castle Artillery

As we have seen, the first core of our register consists of numerous inventories all dated 15 April 1424, embracing 25 strongholds scattered throughout the territory and located in the most strategic points. Among these, as many as 18 were equipped with gunpowder weapons of some kind,⁶ for a total of 66 entries, while seven were without.⁷ However, later inventories prove that a few of them were subsequently reinforced (see Castellaccio-Peralto and Trebbiano; Table 1).

Of all the fortresses, the most fortified is the so-called ‘Castelletto’ of Genoa, the main urban

³ In the book of inventories of 1385 (A.S.G., Antico Comune, 335) out of 40 fortresses mentioned, the castle of Bolzaneto is defended by two bombards and one was in the fieldwork of Montalto Ligure, for a total of three. The datum is particularly interesting because Giustiniani in his “Annales”, referring to episodes of war in 1380, clearly states: [...] *le bombarde, l’usi delle quali, non avevano ancora genovesi* (trans. *bombards, which the Genoese still did not use*; Giustiniani 1854, 142).

⁴ Another book from the same series (A.S.G., Antico Comune, 336), contains a large number of inventories dating between 1393 and 1398. Beside the two fortresses already quoted in 1385, firearms are to be found in the Sperone fortress in Savona (one bombard), in Novi Ligure (one bombard in 1393, with an added handgonne in 1396), Lerma (one bombard that is described as being “wooden”), in the fieldworks of the Fasce mount, close to Genoa (one bombard), in Pareto (one large bombard and one small), Ranzo (one bombard), Varese Ligure (two bombards) and finally Castelletto (one bombard). These bring the total to 14 active gunpowder weapons in Ligurian territory, to which should be added 10 bombards in the colony of Famagosta (Cyprus). Archival and historical data therefore agree in dating the spread of bombards in the Genoese territory to the last decade of the 14th century.

⁵ For instance, the inventory of the castle of Chiavari dating to 5th september 1431 (A.S.G., Antico Comune, 338, c. 84r) was copied on the register, but the original letter sent to Genoa from Chiavari is still inserted in the book, along with the copy.

⁶ References of the fortresses listed in 1424 (A.S.G., Antico Comune, 338): Castelletto (Genoa), c. 2v; Voltaggio, c. 8v; Gavi, c. 10v; Ovada, cc. 12v–13r; Santa Maria (Savona), c. 17v; Castrum Speroni (Savona), c. 19v; Stella, c. 23v; Albenga, c. 25v; Ranzo, c. 27v; Pieve di Tecco, c. 29v; Ventimiglia, c. 31v; Appio (Ventimiglia), c. 33v; Portovenere, c. 36v; Levanto, c. 42v; Portofino, c. 43v; Chiavari, cc. 44v–45r; Arcola, c. 45v; Tivegna, c. 46v.

⁷ (A.S.G., Antico Comune, 338): Castellaccio and Peralto (Genoa), cc. 5v–6r; San Giorgio (Savona), c. 2v; Lerici, c. 38v; ‘Custos Cornisiis’ (Corniglia?), c. 39v; Vezzano, c. 40v; Trebbiano, c. 41v; ‘Palacium Communis’ (Genoa), c. 67v.

Place	Year	Type	Quantity
Genoa (Castelletto)	1424	<i>Bombardelle</i>	9
		<i>Bombardelle satis grossas</i> (quite large)	8
		<i>Bombard grossa</i>	1
	1428	Bombards	17
		Bombards <i>grosse</i> in eight pieces <i>pecios IIII a bombardis grossis ponderis librarum CL vel circa pro quolibet</i> (w. 47.5125 kg) (A.S.G., Antico Comune, 338, c. LXXIII v)	4 (2 missing)
Castellaccio e bastita del Peralto (Genoa)	1424	The page was left blank	–
	1430	Bombards	6
		<i>Bombard sine cauda sive sine canono</i>	1
Votaggio	1424	<i>Schioppo</i>	1
		Beam of <i>bricola</i>	1
		<i>Bragas ferratas</i> for <i>bricola</i>	4
		Iron parts for a <i>bricola</i> (w. 19 kg)	–
		Ropes for a <i>bricola</i>	3
		Sling for a <i>bricola</i>	1
Gavi	1424	Bombards <i>tales quales</i>	4
		<i>Bricola</i> of no value	1
Ovada	1424	<i>Bombard grossa</i>	1
		Bombards <i>mezzane</i> (average)	2
		Bombards <i>parve</i> (small)	2
	1425	Bombard <i>grossa</i> , two in one piece and one in two pieces	3
		Bombards <i>parve</i>	2
	<i>Bricole tales quales</i>	2	
Santa Maria (Savona) "Castrum Novum"	1424	Bombard <i>grossa</i> made of bronze	1
	1425	Bombards <i>grosse</i> and <i>parve</i>	10
		Bombard made of bronze	1
Castrum Speroni (Savona)	1424	<i>Bombardelle parve</i> of no value	2
Stella	1424	Bombards <i>parve</i>	2
		<i>Schioppi</i>	2
Albenga	1424	Bombards	2
Pieve di Tecò	1424	<i>Bombardelle</i>	2
Ranzo	1424	<i>Bombardelle</i>	2
Ventimiglia (Rocca)	1424	<i>Bombardelle</i>	2
		Bombard (w. 56.67 kg)	1
		Bombard (w. 58.10 kg)	1
Appio (Ventimiglia)	1424	<i>Schioppo</i>	1
Trebiano	1424	–	–
	1425	Bombards made of bronze	2
Levanto	1424	Bombards	4
Portofino	1424	Bombard (w. 44.25 kg)	1
		Bombard (w. 50.5 kg)	1
	1430	Bombards	2
Chiavari	1424	Bombard (w. 54.77 kg)	1
		Bombard (w. 50.97 kg)	1
	1428	Bombard made of bronze	1

Chiavari	1428	Bombard made of iron	1
	1430	Bombard made of bronze	1
		Bombard made of iron	1
Portovenere	1424	<i>Bricole</i>	3
		Bombards made of bronze	2
		Bombards made of iron	5
		<i>Bombardella</i> made of iron	1
	1426	<i>Bricole</i> (one is broken)	2
		Bombards made of bronze	2
		Bombards made of iron	4
Arcola	1424	Bombards (w. 95.3 kg; unclear if each or both)	2
Tivegna	1424	<i>Bombardelle</i> made of bronze (w. 105.28 kg; probably together)	2
Battista di Montaldo's galley	1425	Bombard to be assigned to Portovenere	1
Molassana	1425	<i>Bombardelle</i>	2
	1427 (jun. 6)	Bombard <i>parva</i>	1
		<i>Schioppi</i>	2
	1427 (nov. 19)	Bombard	1
		<i>Schioppi</i>	2
		<i>Bombardella</i> received the 24 th of January, by order of Opizzino d'Alzate	1
1428	Very detailed inventory without bombards	–	
Leo de Taiacocio (La Spezia)	1425	Bombard	1
Bastita del Fasce (Genoa)	1425	Bombards	4
	1426	Bombards	4
	1427	Bombards	4
Pontedecimo	1426	Bombards, one of iron and one of bronze	2
	1427	Added a <i>bombardella</i> received from Luciano Spinola	1
Noli	1426	–	–
	1436	Bombards	2
–	1429 (oct. 8)	<i>Blasius de Axereto habuit a Francisco Blanco, stagnario, bombardas, mandato magnifici domini comitis, de bronzo. Ponderant rubios⁸ VII, libras XXI, per soldos II denarios VIII per libram I: valent libras XXVI, soldos XIX</i> (w. 62.08 kg) (A.S.G., Antico Comune, 338, c. LXXVIv)	?
<i>In magaseno novo Comunis</i>	1432	<i>Schopos parvos cum suis manicis</i>	2
		Elements of <i>bricola</i> and <i>trabucho</i>	–

Table 1. Artillery from “Antico Comune”, 338. *Processing M. Vignola*Tab. 1. Artyleria w. „Antico Comune”, 338. *Oprac. M. Vignola*

castle erected immediately behind the city and able to use its artillery to dominate it (Fig. 3). Rebuilt and reinforced by Boucicault in 1402, this structure soon became the symbol of foreign domination over Genoa, so much so that it was demolished and raised again several times, until its abandonment in 1528 (Sciolla 1928).

In 1424 its 17 guns, divided into 8 *bombardelle*, 8 *bombardelle satis grossas* (i.e., quite large) and 1 *bombard grossa* (i.e. large), were arguably more of a threat to Genoa's citizens than a defence against external enemies.

Furthermore, the capital was controlled (or defended, depending on one's point of view) by

⁸ Written over the erased word “cantarios”.



Fig. 3. Woodcut from the “Nuremberg Chronicles” (f. 58v), 1493. Although idealized in many details, this view of Genoa shows the “Castelletto” in its right position (after https://it.m.wikipedia.org/wiki/File:Nuremberg_chronicles_f_58v_1.png)

Ryc. 3. Drzeworyt z „Kronik Norymberskich” (f. 58v), 1493 r. Acz wyidealizowany w wielu szczegółach, ten widok Genui ukazuje „Castelletto” we właściwym położeniu (wg https://it.m.wikipedia.org/wiki/File:Nuremberg_chronicles_f_58v_1.png)

two other fortifications that do not appear in the original list from 1424: the ‘bastita (fieldwork) del Monte Fasce’, located on a major road axis behind the city to the east (four bombards in 1425, 1426 and 1427) and the Castellaccio and Peralto to the west (mentioned without artillery in 1424, but already equipped with seven bombards in 1430).

Among the fortresses scattered across the territory, the second most heavily defended stronghold was Savona. In 1424 the “Castrum Novum” (i.e. the castle of Santa Maria, once standing on the Priamar hill) was only equipped with one large bronze bombard, yet by the following year, a further 10 bombards of various types supplemented its defences. Another well-equipped (the average ranged between two and four bombards: see Table 1), was the castle of Portovenere, an important strategic stronghold in the eastern part of Liguria, which in 1424 was

equipped with two bronze bombards, five iron bombards and one iron “bombardella”.

It is interesting to note that in some inventories, such as the one just cited, “bombardelle” are distinguished from bombards, suggesting a structural difference between the two types. This possibility, however, seems to be cast into doubt in other examples, such as that of Castelletto, where the 16 “bombardelle” listed in 1424 (in addition to a “large” bombard) are simply referred to as 17 “generic” bombards in 1428.

The likelihood that these weapons were described differently from inventory to inventory (which, let us remember, were almost certainly compiled by several different writers) is therefore very high, with the pitfall that many “bombardelle” might have been recorded as “small bombards”. The difference between “large”, “medium” and “small” bombards, as found in some inventories,

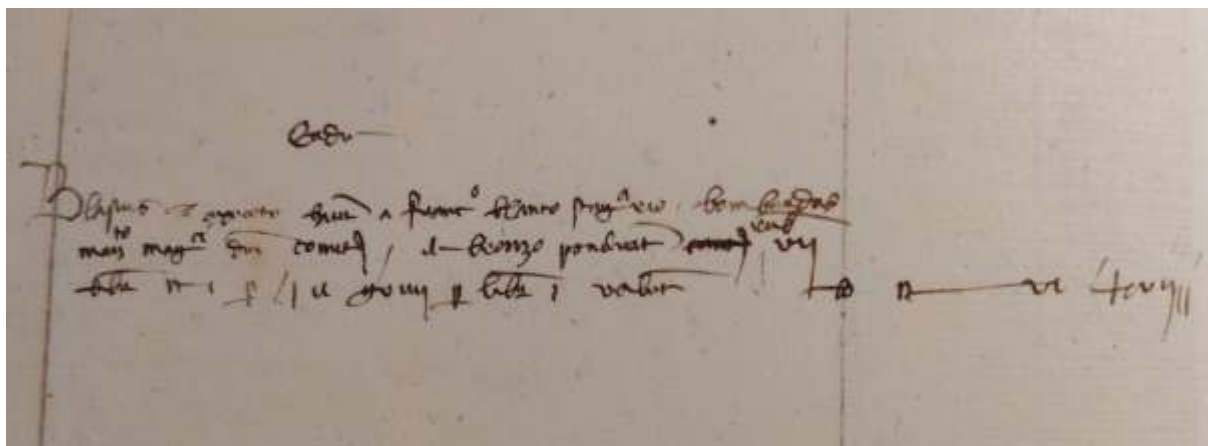


Fig. 4. Passage quoting Biagio Assereto and Francesco Bianco. Photo M. Vignola

Ryc. 4. Fragment wzmiankujący Biagio Assereto i Francesco Bianco. Fot. M. Vignola

remains therefore largely unclear and probably subjective.

More concrete data relating to these weapons (perhaps deemed important by some of the authors) concerns the weight and the metal from which they were constructed.

Where indicated (see Table 1), the mass of these guns seems to provide a fairly straightforward picture of relatively small and light weapons, generally weighing between 45 and 58 kg⁹ (where calculations are unambiguous). In most cases, the metal is not specified, but when it is, iron and bronze can be found in similar proportions.

In one case the price paid by the commune for some bronze “bombardas” received by Biagio Assereto (future Genoese admiral in the battle of Ponza, in 1435)¹⁰ from a certain Francesco Bianco (described as a “tin” worker)¹¹ and sold by weight. Although their number is not specified (the writer just uses the plural “bombardas” instead of the singular “bombardam”), their combined weight was about 62 kg (196 pounds) for a total of 26 “lire” and 19 “soldi”, or 2 “soldi” and 9 “denarii” for each pound of bronze (see Table 1 for transcription; Fig. 4). If the plural was used to indicate a couple of them,

which is likely, these weapons must have been relatively small: very far from those massive siege pieces that half a century later would be part of the Estense¹² and also of the Genoese arsenals.¹³

As can be seen, these are significantly smaller than even the medium-sized pieces such as the bombard found in Metz and now at the Musée de l’Armée in Paris (inv. 2012.0.444), made of iron and weighing around 200 kg, with a bore of 175 mm.

A good comparison for these relatively light forms of bombardas, especially the bronze ones, is the so-called “Kurzetnik cannon”, discovered in 1941 in the ruins of that castle and now part of the collection of the Museum in Kwidzyn, a branch of the Castle Museum in Malbork (Stępiński, Żabiński, Strzyż 2013, 156–157). This copper alloy field cannon weighs 42.28 kg, a total length of 507 mm and a bore of 135 mm, thus providing a reasonable match for many of those listed in our inventories.

A similarly proportioned iron bombard was found in Kirchensittenbach, Middle Franconia, weighing 44,6 kg, has a length of 385 mm and bore of 140 mm (Hannig-Wanninger 2017, 117).

As far as Italy is concerned, a couple of remarkable small iron bombardas are now preserved

⁹ The weight of the ‘large bombardas’ indicated at the Castelletto in 1428 is unclear. Considering that each piece was about 150 pounds and that bombardas in many cases consisted of two parts, their mass could be just under 100 kg (see Table 1). All the weights in this register, indicated according to Genoese measures, were converted into kilograms thanks to Rocca’s metrology work (Rocca 1871). Weight units commonly used in Genoa and its district were the “cantaro” (47,6496 kgs), “libbra” (0,317664 kgs), “rubbo” (7,91875 kgs), “rotolo” (0,475125 kgs), “carato” (0,183304 grams) and “pesata” (190,5984 kgs); used in Genoa only.

¹⁰ Biagio Assereto, one of the most important Genoese leaders of 15th century and a loyal ally of the Milanese, held the position of ‘podestà’ of the town of Recco, not far from Genoa, between 1428 and 1429 (Petti Balbi 1962, 110–111).

¹¹ In Biringuccio’s “Pirotechnia”, the ‘faber stagnarius’ deals only with the production of tin objects (Biringuccio 1540, IX, 289; 2005). Francesco Bianco himself, however, appears to be active in 1452, when he cast some bombardas for the city of Famagosta (Cyprus). It is therefore very likely that the bombard given to Biagio Assereto was produced by him and his activity therefore precedes that of Luchino Gioardi (who cast six “zerbatanas” for the state of Genoa in 1439) by a decade at least (Ridella 2004, 32).

¹² For example, focusing on Italy only, bombardas weighing over 16.000 pounds were regularly manufactured in Ferrara in 1482 (Righini 2023, 123). For some construction details of large bombardas see work of Robert D. Smith and Ruth Rhynas Brown (1989).

¹³ In 1469, the Genoese tested the range of a bombard capable of firing stone balls weighing 130 kgs (Ridella 2013, 15).



Fig. 5. Iron bombard from Museo Bardini in Florence. *Photo A. Carloni*

Ryc. 5. Żelazna bombard z Museo Bardini we Florencji. *Fot. A. Carloni*

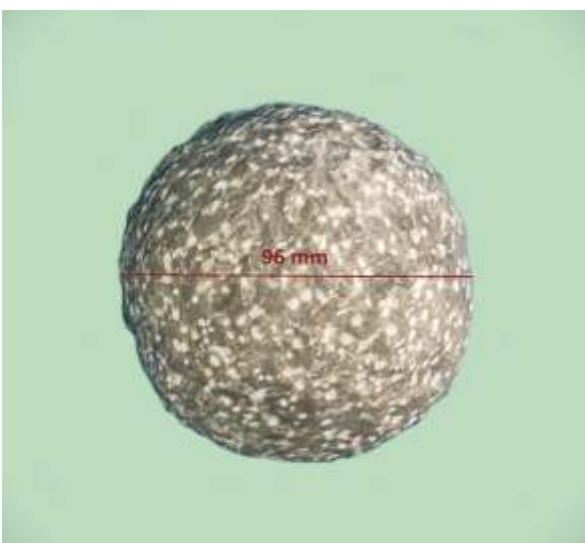


Fig. 6. Stone projectile from the “Castello della Motta”, Povoletto (UD), before 1412 (weight: 0.93 kgs). *Photo M. Vignola*

Ryc. 6. Pocisk kamienny z „Castello della Motta”, Povoletto (UD), przed 1412 r. (waga: 0,93 kg). *Fot. M. Vignola*

in the “Museo Bardini”, in Florence. The first is still fitted with a couple of hoops for securing on a wooden bed (length 600 mm, bore 146 mm), while the latter is smaller (length 470 mm, bore 138 mm; Fig. 5) and probably not much heavier than the specimen found in Kirchensittenbach.¹⁴

Another important indicator the plausible bore size of Ligurian artillery (as far as can be ascertained from their listed weights) comes from the “Castello della Motta” in Povoletto, Friuli (north-eastern Italy). A remarkable hoard of about 100 stone projectiles was excavated in the ruins of the castle which was destroyed in a siege in 1412 and then abandoned. Except for a few stones assigned

¹⁴ Unfortunately, I couldn't find any indication of the weight of these two bombards, but sizewise they seem to fit pretty well within the range of those in Ligurian castles. These two bombards, along with some other archaic specimens, were published in Terenzi's catalogue of the 1967 arms and armour exhibition in the Conti Guidi's castle (Terenzi 1967, Figs. 7–8).



Fig. 7. Devils shooting from the battlements of a fortress Notre Dame des Fontaines, la Brigue (FR). Although this fresco dates to 1492, these firearms display very primitive features and possibly resemble the “*schioppi*” quoted in many early inventories. *Photo M. Vignola*

Ryc. 7. Diabły strzelające z blanków twierdzy Notre Dame des Fontaines, la Brigue (FR). Acz fresk ten datuje się na 1492 r., przedstawiona na nim broń palna ma bardzo prymitywne cechy i zapewne przypomina „*schioppi*” wzmiankowane w wielu wczesnych inwentarzach. *Fot. M. Vignola*

to small traction trebuchets and to handgonnes, the vast majority of these projectiles are from bombards of various size. 54% of them have a diameter of 100–177 mm, while 37% have bores between 62 and 96 mm (Bressan 2011, 125–126; Fig. 6).

Considering a bore-weight proportion assumed on the basis of the previously mentioned surviving exemplars, the diameter of the balls shot by the bombards in our inventories would have been in the range of 125–150 mm, although their diameter was never recorded in our inventories. This size is also compatible with the larger stones from Motta’s castle and was certainly suitable for use against timber defences or battlements, but not against large stone fortifications. Artillery intended to be fired from within fortresses, however, had a primarily defensive purpose and were designed as anti-personal and anti-palisade/pavise weapons.

Finally, it’s not clear whether these guns were breech or muzzle loaders. The reference to one *sine cauda vel sine canono* (which can be roughly translated into *without queue or without cannon*) at

the Castellaccio in 1430, could indicate that at least some of those described *as made in two pieces* might have been of the breech type. A “*cauda*”, on the other hand, could be missing only if chamber and barrel were not made in one piece, but the former had been somehow removable, like a breech.

Another category of gunpowder weapons of smaller calibre is that of the “*schioppi*” (handgonnes), presented in our inventories in much smaller numbers than bombards (only four in 1424, to which two are added in 1427 and two others ‘small’ ones in 1432: see Table 1).

These firearms, given their age, were probably still equipped with a very short barrel, attached to a wooden stock by means of metal hoops or a socket at the end of the barrel itself (Fig. 7). Of this type probably were two small guns kept in the Municipality’s storehouse in 1432, described as *parvos cum suis manicis* (that is to say, *small with their handles*), probably resembling the famous “Tannenberg handgonne”. Unfortunately, it is not stated which metal they were made from, nor the kind of ammunition they fired (which

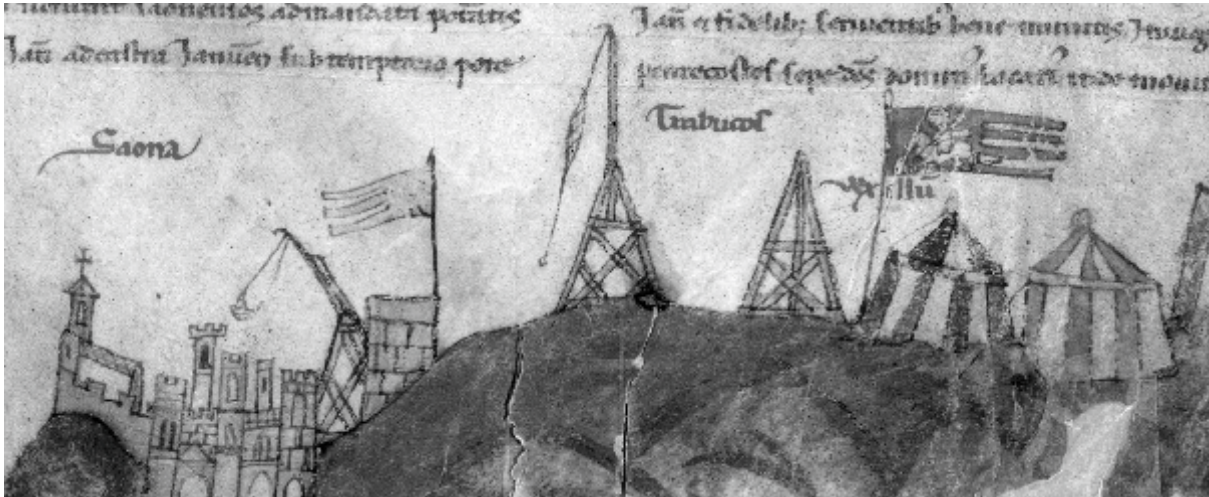


Fig. 8. Siege of Savona, “Annales Ianuenses”, Bibliothèque nationale de France, Paris, ms. lat. 10136, fol. 142; 13th century (after Vignola 2003, 161, Fig. 2)

Ryc. 8. Oblężenie Savony, “Annales Ianuenses”, Bibliothèque nationale de France, Paris, ms. lat. 10136, fol. 142; XIII w. (wg Vignola 2003, 161, Fig. 2)

nevertheless was certainly metallic). Their small number demonstrates that at the time of our register, the ‘light’ defence of our castles still mainly relied on crossbows of various types, often mentioned in numerous inventories.¹⁵

The arrival of more modern bombardars rapidly made the old siege machines based on the principle of the swinging arm, largely obsolete, but did not wipe them out completely. Although far outnumbered by gunpowder artillery, our inventories do in fact record some “bricole” (one in Voltaggio, one in Gavi and three in Portovenere in 1424; two in Ovada in 1425 and stored parts in the depot in 1432: see Table 1), still lingering alongside gunpowder weapons.

The term “bricola” is by no means new in Genoese documentation, since it already appears in the thirteenth century (Vignola 2003, 128–129) and usually indicated a traction trebuchet. In these devices, a sling was attached to the swinging arm on one side and a beam to the other, with iron loops and ropes for traction.

The inventory of the castle of Voltaggio (1424) details all their component parts, since one “bricola” was disassembled and described piece by piece: “arbor” (beam), “braghe ferrate” (possibly, iron sockets for the wooden elements), “ferramenta” (iron parts), “canevos” (ropes) and “fronza” (sling).

However, some ambiguities between “bricole” and “trabuchi” must have existed, as some of their components were probably quite similar.¹⁶

The maintenance of these machines, however, was sometimes lacking. The words “tales quales” with which the two “bricolos” in Ovada are described, for instance, are often associated in inventories with worn-out objects, no longer in good, working condition. In 1426, one of the “bricole” of Portovenere is even described as “fracta”, i.e. broken. On the whole, however, these objects were considered operational and of some value, if parts of “bricola” and even a “trabucco” (a counterweight trebuchet) were stored in the commune’s warehouse in 1432 (Fig. 8).

Finally, did the Milanese lordship play any role in the armament of the Genoese castles or could Filippo Maria Visconti rely on pre-existing weapons?

As we have seen, late 14th century inventories unambiguously follow the spread of gunpowder artillery but nonetheless there is a gap of almost 22 years between the last entry in the “Inventaria Castrorum” unit 336 and the first in unit 337. Fortunately, though, the latter book was ordered by the same Tommaso Campofregoso who handed over the city to the Milanese and presents us with the list of 25 Genoese strongholds (many of them also listed in 1424, but with some differences) just a few months before he submitted to Milan.

¹⁵ For instance, in Savona in 1424 are listed 34 stirrup crossbows, along with 5 windlass crossbows and 2 “a turno”: larger types that were probably spanned by a screw mechanism (A.S.G. Antico Comune, 338, c. XVII v.). In Albenga, in the same year, we also find 12 crossbows of various types (A.S.G. Antico Comune, 338, c. XXV v.), but here I’m just quoting a few examples among the many contained in these rich inventories.

¹⁶ In an inventory of the castle of Famagosta (Cyprus) dating to 18 January 1393, is quoted a *polletrum unum trabuchi vel bricorum* (one beam of a “trabucho” or “bricola”), showing a few shades of ambiguity between the two siege weapons (A.S.G. Antico Comune, 336, p. 47).

Place	Year	Type	Quantity
<i>Ichinerche de Corsicha</i> (Corsica)	1420 (mar. 1)	Bombards	4
Sarzanello (Sarzana)	1420 (mar. 27)	Bombard made of bronze	1
Levanto	1421 (feb. 27)	Bombard	1
Stella	1421 (mar. 17)	Bombards	2
<i>Castrum vetus Liburni</i> (Livorno)	1421 (apr. 9)	Bombards	3
		<i>Schopum cum suo cepo</i>	1
		<i>Bricola guarnita</i>	1
Molassana	1421 jan. 9)	Bombards	2
Bastita dek Peralto (Genoa)	1421 (oct. 15)	<i>Bombardelle</i>	2

Table 2. Artillery from “Antico Comune”, 337. *Processing M. Vignola*Tab. 2. Artyleria z., „Antico Comune”, 337. *Oprac. M. Vignola*

Although it might be expected that the growth trend displayed in units 335 and 336 (see notes 2 and 3) might have continued in the early 15th century, that is not the case. Quite surprisingly Tommaso’s survey yielded a total of just 14 gunpowder weapons (see Table 2), with eight among them outside of Ligurian territory, in Corsica and Livorno: that is to say, in two strongholds that do not appear among the castles garrisoned by the duke in 1424.

We can therefore argue that no progress was made by the Genoese in the early 15th century, on the eve of the Milanese annexation of Genoa, and that the role of Filippo Maria Visconti in stocking up his newly acquired strongholds was probably pivotal, since the number of gunpowder weapons significantly increased in just a couple of years of Milanese rule.

However, as stated before, these weapons could be used not only against external enemies but also against the Genoese people themselves. While we cannot be certain of their intended use, the Milanese were doubtless fully aware of the riotous nature of their subjects, as the lynching of the Milanese governor Opizzino d’Alzate in December 1435 testified.

Conclusions

This article only scratches the surface of this valuable group of registers, and thus they still have much to offer concerning the material culture of the Genoese castles in the late Middle Ages (see, for instance, the full transcription of one of these inventories in Appendix). Nonetheless, by examining

the evidence for gunpowder weapons alone, valuable information has been obtained.

Firstly, while bombards were not yet particularly widespread in Genoa in the 1380s, as Giustiniani testifies, by the mid 1420s they had become the cornerstone of the defence of many fortresses, with greater numbers concentrated in the most strategic ones.

Secondly, the indication of their weights (at least where they have been reported) shows that these weapons, both in bronze and iron, were of a fairly ‘light’ type and a far cry from the large siege bombards such as the contemporary ‘Les Michelettes’ of Mont-Saint-Michel (Smith, Rhynas Brown 1989, 68–78).

Although the transition between the old siege machines and the more modern black-powder ones was almost complete, a few surviving traction trebuchets were apparently still suitable for use. Small-calibre firearms, on the other hand, occur in much lower figures compared to bombards.

Furthermore, as far as we can argue from our inventories, the role of the Milanese in the spread of gunpowder weapons in Ligurian castles must have been of some importance, especially in securing their own lordship in a potentially hostile political environment.

Finally, the citation of Francesco Bianco on 8 October 1428, who was also active in the making of artillery for Famagosta in 1452, seems to be the first mention of a local production of bombards: an industry that during the 15th century (and even more so during the 16th century) would thrive in Genoa.

Appendix

Castelletto's (Genoa) inventory, 15 april 1424 (A.S.G. Antico Comune, 338, c. IIv)

MCCCCXXIII

Iacobus et Iohannes¹⁷ de Crivellis, castellani castris Castelleti Ianue, debent dare pro munitionibus eis consignatis tam pro illustrissimo et excellentissimo domino domino Duce Mediolani ac domino Ianue et cetera, quam pro magnifico Comuni Ianue ut infra, videlicet:

Primo dare debent frumenti minas CXXV (125 "minae" of wheat)

Item acceti metretas VII (seven "metrete" of vinegar)

Item bombardellas VIII

Item bombardellas satis grossas VIII

Item crochos ferri pro scalando muros III (three hooks for scaling walls)

Item scallas cordarum II (two rope ladders)

Item bastones pro dirigendo dicta scallas XII (12 poles to direct the aforementioned ladders)

Item scallas disnodatas VIII (eight articulated ladders)

Item barbudas ferri VIII (eight iron barbutes)

Item bombardam grossam unam I

Item cepos pro bombardis III (three wooden mounts for bombards)

Item graffos ferri VIII (eight iron staples)

Item molendinum pro macinando cum rotis duabus I (one mill with two wheels)

Item molendinum ut supra cum rota una I (one mill with one wheel)

Item lanceas longas sine ferro pro peditibus CLXXXIII (184 long lances for infantry without irons)

Item lanceas longas pro equestribus XXXVI (36 long lances for cavalrymen)

Item veretonorum a bussola capsias VII, de quibus due capsias non habent nisi veretonos sexcentum (seven boxes of bolts for "a bussola" crossbows; two of them don't contain more than 600 bolts)

Item veretonorum mezanorum capsiam mediam (half box of "average" bolts)

Item spetos ferri XLVI (46 iron spears)

Item barrilotos pulveris a bombardis XXXVII (37 small barrels of blackpowder for bombards)

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WCZESNA ARTYLERIA OGNIOWA W TWIERDZACH GENUEŃSKICH POD RZĄDAMI MEDIOLANU (1421–1435)

Streszczenie

Republika Genui była nie tylko jednym z głównych rywali o dominację nad Morzem Śródziemnym; stworzyła ona także państwo na stałym lądzie, któremu jednak brakowało spójności i w którym istniał szereg lokalnych niezależnych władztw. Władza Genui nad tym rozdrobionym terytorium opierała się na sieci niewielkich twierdz obsadzanych przez samą Republikę. Wyposażenie tych twierdz zapisane jest w czterech rejestrach, zawierających setki inwentarzy obejmujących lata 1385–1435. Spośród wszystkich dóbr wymienionych w tych cennych źródłach wybrano przedmioty dotyczące problematyki przejścia od machin oblężniczych do artylerii ogniowej, której początki na terytorium Genui datowane są na ten okres. Nawet ograniczając zakres niniejszego artykułu do broni palnej, możemy uzyskać szereg cennych informacji.

Po pierwsze, chociaż bombardy nie były szczególnie powszechne w Genui w latach 80. XIV w., jak podaje historyk Giustiniani, do lat 20. XV w. stały się już podstawą obrony wielu fortec.

Po drugie, okres rządów Filipa Marii Viscontiego nad Genuą (1421–1436) wydaje się być szczególnie istotnym w tym procesie i ukazuje on bezpo-

średnie zaangażowanie Mediolanu celem modernizacji arsenałów nowo opanowanych dominiów.

Informacje dotyczące wagi broni palnej (przynajmniej tam, gdzie podane) wskazują także, iż broń ta (wykonywana zarówno z brązu, jak i żelaza) była typu „lekkiego”, przez co wyraźnie się różniła od wielkich bombard oblężniczych, które stawały się coraz powszechniejsze na europejskich polach bitew. Machiny miotające, acz przestarzałe i w dużej mierze zastąpione przez nowszą i bardziej skuteczną broń palną, są jednakże w dalszym ciągu obecne w niektórych inwentarzach, zapewne pozostając w stanie gotowości do użycia. Z drugiej strony, małokalibrowa broń palna notowana jest w znacznie niższej liczbie w porównaniu z bombardami.

Stwierdzić wreszcie można, iż obecność odlewnika Francesco Bianco, uczestniczącego w produkcji bombard 8 października 1428 r. (jest to zapewne ten sam rzemieślnik, który będzie uczestniczył w produkcji artylerii dla miasta Famagusta w 1452 r.), jest zapewne pierwszą odnalezioną do tej pory zapisaną wzmianką o miejscowej produkcji bombard. Ich wyrób będzie rozwijał się w Genui, szczególnie w XVI w.

Thumaczył Grzegorz Żabiński