



POLITECNICO DI TORINO  
Repository ISTITUZIONALE

Tower-mansions of Crete. A multidisciplinary approach to learn built heritage

*Original*

Tower-mansions of Crete. A multidisciplinary approach to learn built heritage / MAGLIO Emma. - STAMPA. - 3(2016), pp. 487-494. ((Intervento presentato al convegno FORTMED 2016.

*Availability:*

This version is available at: 11583/2675116 since: 2017-06-26T12:35:17Z

*Publisher:*

DidaPress

*Published*

DOI:

*Terms of use:*

openAccess

This article is made available under terms and conditions as specified in the corresponding bibliographic description in the repository

*Publisher copyright*

(Article begins on next page)

# 3 DEFENSIVE ARCHITECTURE OF THE MEDITERRANEAN XV to XVIII Centuries

Giorgio VERDIANI (Ed.)



PROCEEDINGS of the International Conference on Modern  
Age Fortifications of the Mediterranean Coast  
FORTMED 2016

DEFENSIVE ARCHITECTURE OF THE MEDITERRANEAN  
XV TO XVIII CENTURIES  
**Vol. III**

Editor  
Giorgio Verdiani  
Università degli Studi di Firenze  
Dipartimento di Architettura

PUBLISHED BY  
DIDAPRESS

## **FORTMED 2016, FIRENZE**

Atti del Congresso / Conference Proceedings / Colección Congresos UNIFI

Tutti i contenuti della presente pubblicazione sono stati soggetti a revisione da parte del Comitato Scientifico di FORTMED 2016, secondo il processo della “peer review”.

All the contents of this book has been reviewed by the FORTMED 2016 Scientific Committee according to the “peer review” process.

© Curatore / editor

Giorgio Verdiani

© per i singoli articoli / for each article / de los textos: gli autori / the authors / los autores

© 2016, de la presente edición: DIDAPRESS, Dipartimento di Architettura, Università degli Studi di Firenze

ISBN: [ 9788896080603 ] (OPERA COMPLETA)

FORTMED - Modern Age Fortifications of the Mediterranean Coast, Florence, November 10th, 11th, 12th 2016

## Table of contents

<b>Preface</b> .....	XV
Giorgio Verdiani	
<b>Lectures</b> .....	XIX
La torre de la Illeta en la defensa de la costa de Alicante, España. Estudio histórico y evolución constructiva .....	XXI
Pablo Rodríguez-Navarro, Teresa Gil Piqueras, Alba Soler Estrela	
Torri e fortezze del Mediterraneo nella cartografia nautica della Marina militare francese (seconda metà XVII-metà XVIII secolo) .....	XXIX
Anna Guarducci	
La trasformazione veneziana di Ravenna: la Rocca Brancaleone (1457-1470) sulla chiesa di S. Andrea dei Goti (518) .....	XXXVII
Alessandro Camiz	
<b>Contributions</b> .....	1
<b>Ricerca Storica / Historical Research</b> .....	3
Typological affinity model and masonry structure techniques of corsican genoese towers .....	5
Paola Rita Altamura	
“Las Puertas de Tierra” as a paradigm of fortification systems in Cadiz during the Modern Age: an approach through historical mapping and panoramic drawings .....	13
Gabriel Granado-Castro, José Antonio Barrera-Vera, Joaquín Aguilar-Camacho	
A margine di fortezze litoranee scomparse nelle Marche settentrionali: testimonianze geostoriche, cartografiche, vedutistiche sul “fortino napoleonico” di Pesaro .....	21
Maria Augusta Bertini	
Le fortificazioni costiere nella Calabria Ultra testimoniate dal Codice Romano Carratelli .....	29
Alessandro Bianchi, Teresa Saeli	
L’ingegno cortonese nella progettazione della nuova città fortificata La Valletta .....	33
Valentina Burgassi	
La ‘Riscoperta monumentale’ dei Castelli cinquecenteschi di Terra d’Otranto (1874-1888). Cosimo De Giorgi e la prima segnalazione di un patrimonio «importante ... originale, ma in cui la robustezza predomina sull’eleganza» .....	39
Ferruccio Canali	

Le cassette dei cavallari nel sistema integrato di difesa costiera nel Regno di Napoli .....	47
Vincenzo Cataldo	
Restoration of the Janissary bath in absence of historical sources .....	55
Samia Chergui	
‘Cartoline’ dalla Calabria Ultra di fine Cinquecento. O no? .....	63
Margherita Corrado	
“Servitore di due padroni” Gabrio Busca, ingegnere militare tra Piemonte e Spagna .....	71
Annalisa Dameri	
Geometria e Disegno: l’architettura militare nel trattato del Capitano Serafino Burali .....	79
Sara D’Amico	
Fortifications of the Upper Bosphorus: Documentation and Interpretation of a Cultural Landscape ...	87
Gizem Dörter	
Il Torrione quattrocentesco di Bitonto: dalla committenza di Giovanni Ventimiglia e Marino Curiale alle proposte di Francesco di Giorgio Martini (1450-1495) .....	95
Virgilio C. Galati	
Conocer al enemigo: el tratado de fortificación del criollo Francisco José de caldas (Colombia, 1815) y sus fuentes bibliográficas .....	103
Jorge Galindo Díaz	
Antonio Ferramolino da Bergamo, un ingegnere militare nel Mediterraneo di Carlo V .....	111
Emanuela Garofalo, Maurizio Vesco	
The ‘Spanish school’ bastion defence .....	119
Eugenio Magnano di San Lio	
Scenari di guerra: rappresentazioni cartografiche in Sardegna e Sicilia durante il XVIII secolo .....	127
Valeria Manfrè	
The Forts to the East of Dar as Sultan or The Ottoman Rear Defense of the Algiers region .....	135
Safia Benselama-Messikh	
The bastioned defence system of Oran-Algeria .....	143
Souad Metair	
L’ampliamento della cinta fortificata vicereale di Nola nei disegni dell’Atlante Lemos della Bibliothèque Nationale de France e nella collezione di Pierre le Poivre della Biblioteca Real di Madrid .....	149
Giuseppe Mollo	
I presidi militari dei Savoia verso la Liguria. Il forte di Ceva .....	155
Maria Paola Marabotto	
Jacob Van Daalen’s failure. Short and unsuccessful activity of a Dutch military engineer in Spain at the beginning of the 18 <sup>th</sup> Century .....	161
Juan Miguel Muñoz Corbalán	
Da Positano a Sapri: la rete di “sguardi” del sistema difensivo costiero .....	169
Simona Talenti, Sara Morena	

The forts of Lorraine on the Tuscan Grand Duchy coast: eighteenth century planning parameters .....	177
Gabriele Nannetti	
Cagliari nel Seicento. Forma e rappresentazione di una piazzaforte .....	185
Sebastiana Nocco	
Historical development of Nicosia Fortifications and its texture along with the Fortification Walls ...	193
Zehra Öngül	
1492-1525 Chronology of the founding of the Cathedral-Fortress in Almeria .....	201
Antonio Palenzuela Navarro	
L'onorata professione della militare e civile architettura. La breve e sfortunata storia del primo fortino di Bocca di Serchio (1758- 1793) .....	205
Marco Piccardi	
Il disegno delle fortezze viste dagli assediati .....	213
Giuseppe Scuderi, Eugenio Magnano di San Lio	
A denied fortress. The Sorrento castle and the transformations of the urban landscape .....	221
Valentina Russo, Lia Romano	
Guarini's models for the drawing of the 'regular fortress'. Comparison with the pentagonal citadels in Turin and Modena .....	229
Roberta Spallone	
Mappe di una Piazzaforte cinquecentesca perduta: Pescara .....	237
Pasquale Tunzi	
Government and Science: Military and architectural culture in the library of the I Duke of Terranova .....	245
Margarita-Ana Vázquez-Manassero	
La transformacion formal de estructuras defensivas desde el s. XIV hasta el s. XIX en el ámbito de la Corona de Aragón .....	253
Álvaro Vázquez Esparza, Pablo Navarro Camallonga	
<b>Concetti Teorici / Theoretical Concepts</b> .....	261
Forma e progetto della piazzaforte di Cagliari in epoca sabauda. L'opera a corno dell'ingegnere Felice de Vincenti .....	263
Vincenzo Bagnolo, Andrea Pirinu	
Territorio y artefacto. La dimensión geográfica del proyecto de Juan Bautista Antonelli para la sierra de Bernia en el antiguo reino de Valencia a la luz de su Relatione della Montagna, o, serra di Bernia (1561) .....	271
Antoni Banyuls Pérez, Andrés Martínez Medina	
Conflict Archaeology in the Landscape: A Survey of World War II Defences at Selmun, Malta .....	278
Bernard Cachia Zammit	
Si vis pacem para bellum. Fabbriche d'armi, arsenali e strategie al tempo dei Borbone .....	286
Francesca Castanò	

Las primeras fortificaciones abaluartadas en la Goleta de Túnez .....	295
José Javier de Castro Fernández, Javier Mateo de Castro	
Le fortificazioni militari costiere in Terra d'Otranto tra XV e XVI secolo .....	303
Maurizio Delli Santi, Antonio Corrado	
El cubo artillero de Peñíscola, un modelo aún válido .....	307
Enrique Salom Marco	
<b>La Ricerca sul Patrimonio Costruito / Research on Built Heritage .....</b>	<b>315</b>
City Walls and Towers of Ténès: State of Conservation and Local Development .....	321
Amina Abdessemed-Foufa	
Una fortezza sul Mediterraneo: Rodi la città dei Cavalieri .....	325
Barbara Aterini, Alessandro Nocentini	
First Portuguese Bastioned Fortresses in North Africa .....	333
João Barros Matos	
Torre Medicea del Salto della Cervia o di Porta del lago Beltrame .....	341
Enrico Bascherini, Anna Leddi, Roberto Pierini	
La Fortezza Cybo-Malaspina a Massa. Una ricerca per la valorizzazione e conservazione .....	349
Marco Giorgio Bevilacqua, Roberto Pierini, Pietro Ruschi, Caterina Toscani	
Restoration plan for Orbetello Fortifications. A hypothesis of musealization and reuse for the bastioned area .....	357
Francesco Broglia	
Venetian defence in the Mediterranean: Nicosia's city walls, Cyprus (1567-1570) .....	363
Alessandro Camiz, Alessandro Bruccoleri, Seda Baydur, Göksu Atmaca	
The Venetian defense of the Mediterranean: the Kyrenia Castle, Cyprus (1540-1544) .....	373
Alessandro Camiz, Siepan Ismail Khalil, Sara Cansu Demir, Hassina Nafa	
Giovanni Girolamo Sanmicheli and Luigi Brugnoli's design for Famagusta city walls, Cyprus (1550-1562) .....	379
Alessandro Camiz, Hande Kozan, Ibrahim Suleiman	
Architetture della difesa a Nisida .....	387
Vito Cardone, Ornella Zerlenga, Claudia Cennamo	
Sulle Regie Trazzere dei Forti dello Stretto di Messina. Elementi di Architettura militare di tardo '800 per la salvaguardia del territorio dal rischio idrogeologico .....	395
Vincenzo Caruso	
Tra terra e mare: funzione difensiva e ruolo commerciale delle torri e delle fortificazioni costiere abruzzesi tra XVI e XVIII secolo .....	403
Annalisa Colecchia	
Le fortificazioni in Calabria Ultra all'epoca di Filippo II in un manoscritto inedito .....	411
Simonetta Conti, Giuseppe Fausto Macri	

Torre Scampamorte on Lake Lesina. Half-light zones in the maritime defenses of the Kingdom of Naples .....	419
Michele Coppola	
Mare e non più mare. Le nuove fortificazioni di Cotrone al tempo di Carlo V e il sacrificio della portualità tradizionale .....	427
Margherita Corrado	
“Access-ability”: Discussion On Making the Built Heritage Inclusive .....	435
Ani Cuedari, Nada Ibrahim, Florian Nepravishhta	
Defensive towers in Minorca. Mutual influence between those with a Spanish origin and those with a British one .....	441
Mónica Fernández de la Fuente	
Le mura urbiche di Carlentini: conoscenza, conservazione e Valorizzazione .....	449
Emanuele Romeo, Gianluigi de Martino	
Under Jolly Roger. Difendersi all’ombra del Monte Conero. Il caso di Torre Clementina, Portonovo, Italia .....	457
Paolo Formaglini, Filippo Giansanti, Stéphane Giraudeau	
Contribution to Identification and Enhancement of the Maritime Defensive System in the XIX <sup>th</sup> and XX <sup>th</sup> French Colonial Period in Algeria: The Case of the Eastern Coast .....	465
Amina Korichi, Zineddine Guenadez, Nicolas Faucherre	
The ideal city of Livorno: An example of the Italian Modern Military Architecture .....	471
Ilaria Lippi, Marco Giorgio Bevilacqua, Caterina Calvani, Fabrizio Cinelli, Domenico Taddei	
Elementos fortificados de las casas nobles de la ciudad de Valencia de los siglos XV al XVII .....	479
Concepción López González	
Tower-mansions of Crete. A multidisciplinary approach to learn built heritage .....	487
Emma Maglio	
Heritage and vernacular defensive stone architecture in the Gourara (Algeria) .....	495
Illili Mahrour	
L’architettura fortificata angioina in Puglia settentrionale (Italia): il caso di Lucera (FG), i metodi e le ‘fonti’ .....	508
Nunzia Maria Mangialardi	

## Tower-mansions of Crete. A multidisciplinary approach to learn built heritage

Emma Maglio

Aix-Marseille University, Aix-en-Provence, France, [emaglio@mmsh.univ-aix.fr](mailto:emaglio@mmsh.univ-aix.fr)

### Abstract

As part of a research on Venetian and Ottoman architecture in Crete, this paper introduces a first inventory of fortified mansions and tower-houses. They formed a network controlling coasts, plains, and cultivated lands. It is hard to retrace the origin of these houses without deploying stratigraphic and chemical analysis. However, a first morphological study has identified recurring elements: a small plan with several floors and an access on the first level; embrasures, *bretèches* and putlog holes, as well as a fireplace; and a decorative sobriety. In a surveyed tower-house we find that military devices refer to a first constructive phase, while residential elements refer to a second phase. These hybrid features are common to fortified houses in the Mediterranean and beyond, which were strong elements of military and spatial organization. This vernacular and colonial heritage has got a significant value in terms of architectural models and possible reuse.

**Keywords:** Tower-mansions, architectural models, heritage, Crete.

### 1. Introduction

Mediterranean architecture is at the center of a wide field of researches on settlements, building techniques, architectural models, and ways of living. In addition to the main monuments, minor architecture was recently retained worthy of attention, also by virtue of renovation and gentrification processes starting from the mid-20<sup>th</sup> century. As part of a broader research focused on rural house architecture of Crete during the Venetian and Ottoman periods (14<sup>th</sup>-18<sup>th</sup> c.), relying on both material evidence and written sources, this paper introduces a first study on fortified mansions. The main objective is to study how

the evolution and interaction of Venetian and Turkish models built up a hybrid architecture in a colonial context starting from middle age. In this framework, fortified mansions represent a poorly explored subject, also because of their current conditions. If large fortifications were mostly restored, becoming part of present-day cities, historic houses suffered in the best cases a modern reuse, in the worst the abandonment. The surveys showed a plurality of situations: we see dwellings incorporated in recent buildings, especially in towns, but the more remarkable remains are in the villages and the countryside. Here we find abandoned edifices

as well as mansions used as open quarries for new private buildings.

### 1.1. The state of the art

Researches on the built environment of Venetian Crete mostly focus on cities and their religious or military monuments: they rarely adopt a comparative approach about the transfer of cultural models or offer an inventory of edifices with regard to urban changes [Georgopoulou, 2011]. This topic is still little explored for the Ottoman rule, since we often ignore the history of Ottoman edifices: difficulties in mastering Ottoman sources limit researches to a comparison with Istanbul. The approach of historic buildings was also prejudiced for long by the claim of Greek Antiquity: Frankish, Venetian and Ottoman buildings were seen as foreigner. After the first missions focused on Antiquity and Byzantine remains, G. Gerola conducted a survey in 1900: his account is still a reference work, revealing Venetian architecture by means of a photographic inventory [Gerola, 1905-32]. At his time, Venetian and Turkish edifices were already suffering changes and dwellings in various conditions existed on the island. A new attitude took place in the mid-20<sup>th</sup> c., with a re-appropriation of places by means of restoration, as well as a reuse of historic towns. However, researchers call for a real recognition of Venetian and Ottoman cultural identity as for current perception of its material and symbolic values [Damaskos, Plantzos, 2008; Lock, 1989].

Studies are increasing on landscape and settlement of Venetian and Ottoman Crete [Davies, Davis, 2007; Rackham, Moody, 1996]. Venetian written sources, including contracts starting from the 14<sup>th</sup> c., prove the construction and maintenance of fortified houses by the local feudal lords in order to protect their properties from revolts, external attacks, robberies and pillages. The documents mention several kinds of fortified settlement: in addition to the castle (*castellum*), the fortified village (*castrum casale*) and the tower built by the Venetian State (*turris communis*),

we read about the private tower-house (*turris*). Tower-houses had the name of individuals or families responsible for their construction, and were at the origin of new villages. The buildings are sometimes described in the sources: they were provided with animal stables and warehouses in the basement or at the ground floor, a fireplace and living rooms upstairs, an oven and other buildings in their proximity [Gasparis, 2005]. The Cretan lords, especially in the Messara plain to the south of Candia, were allowed from the 16<sup>th</sup> c. to build residential towers in return for the maintenance of a number of soldiers and horses to face the Ottomans approaching the southern coast of Crete after the conquest of Cyprus. These towers were provided with shooting windows and were built according to a specific plan: a basement or a ground floor for food supplies; a first floor for storing supplies, and a second floor for the lord and his family [Vallianos, 2014]. The Ottoman census and judicial records, moreover, allow to observe the land distribution in Crete, in particular the coexistence of private and public land: this consequently facilitated the Ottoman *beys* in appropriating fortified houses and building up new ones [Kolovos *et al.*, 2007]. Researches on the architecture of fortified mansions of Crete are fragmentary and mostly local, and only describe some of the surviving buildings [Γιαπιτσόγλου, 2012].

## 2. A first inventory of houses

Therefore, the historiographic issue is twofold. On the one hand it is about to study the distribution of the buildings with respect to villages and major fortifications, as well as the relations between the fortified houses, and those on a territorial scale. On the other hand, an architectural and archaeological study of the surviving homes is needed, to be supported by a historical study aimed at dating buildings, as it was already stated for continental Greece and Turkey [Lock, 1989; Arel, 1993]. Fortified houses have been built since the Byzantine period and must be distinguished from towers that had a strictly military role. As first step of this interdisciplinary research, we made an

inventory and a first classification of houses according to their typology. We identified 77 buildings: 43 are ruined or disappeared, while

34 are in good conditions. Tower-houses are the most common typology: 30 edifices are ruined or disappeared, and 27 survive (Fig 1).



Fig. 1- Identified sites of fortified houses (Emma Maglio, 2015).

Among the best preserved tower-houses in the prefecture of Chania, the first is in Mouzouras (Fig. 2), near the Souda bay that was strategic under the Venetian rule. The tower was restored by the Ephorate and dates back to the 17<sup>th</sup> c. It has got a squared plan on three floors, including a windowless ground floor, and a scarp wall appearing consistent with the elevation. Defensive features are the access at the first level, loopholes and bretèches.

In the prefecture of Rethymno, the tower-house in the village of Mikro Metochi is not dated (Fig. 3). It is likely that it is built on four floors: the first had to be windowless and has a scarp wall that was added in a second phase, marked by string courses.

The aligned windows and the decorated frames prove the existence of a specific project, and perhaps of more skilled workers.



Fig.2- Tower-house in Mouzouras (Emma Maglio, 2014).



Fig.3- Tower-house in Mikro Metochi (Emma Maglio, 2014).

In the same prefecture is the village of Maroulas, where four towers survive, some of them restored and others currently abandoned. One of the rare fortified “palatial” houses of Crete, instead, belonged to the Venetian Modino’s family in the village of Roghdia, where it dominates the Iraklion bay (Fig. 4). It dates back to the 16<sup>th</sup> c. and was restored by the Ephorate. The building consists of three floors and has its original access at the first one; some arched openings were added, but the presence of loopholes and bretèches proves a defensive use. In the prefecture of Lassithi, several ruined tower-houses are in several villages desertés found starting from the 14<sup>th</sup> c. in the Venetian cadastres. Among them, the tower of the Venetian Zenone’s family dates back to the early 18<sup>th</sup> c.: it survives until the first floors, where there is a stone fireplace.



Fig. 4- Fortified house in Roghdia (Emma Maglio, 2014).

Concerning the 27 tower-houses in good conditions, some recurring elements can be observed. The buildings have a rectangular or squared plan, modest in size (from 5 to 12 m on each side), with three main levels separated by wooden ceilings; a vaulted underground level, used as warehouse or tank, is rarely found. The first level is often windowless and provided with a scarp wall. The main entrance is usually elevated: it was accessible by a wooden staircase, less often by a stone staircase and a wooden bridge. The architectural program is generally simple, with

an almost total absence of decorative elements. Even declined in a simplified way, sometimes rough, there are typical elements of military architecture: embrasures, watch towers, and bretèches at the top of the tower and above the main entrance. The masonry is made by regular stone blocks, especially in the corners and the scarp walls; elsewhere, just rough blocks alternated with tuff and clay are found. Several putlog holes are in the façades. In 20 towers, we find a stone fireplace on the first or second level, with the duct protruding from the wall, indicating the lord’s family living rooms. In many towers, the top has been replaced by a newly flat roof. The buildings are generally divided into two categories: those isolated in overriding sites, especially along the main regional streets, and those located in the heart of the villages, often with adjacent structures referring to older larger settlements. Especially when they are abandoned, however, the towers are elements of strong discontinuity in the contemporary urban fabric. We observed that the towers, mostly uninhabited, are considered as foreign objects, sometimes as disturbing the building activity and the decorum of the village. People generally keep their distance from these architectures, and rarely consider them as an added historic and heritage value for the villages.

### 3. The tower-house in Giannoudion: a case-study

The residential tower in Giannoudion, a small village in the prefecture of Rethymno, was the object of an architectural survey and a first stratigraphic analysis of the outside walls. In this paper we are introducing the first results of this study: they will be included in a more accomplished form in a monograph that is under preparation<sup>1</sup>.

#### 3.1. The territory and the village

The prefecture of Rethymno is 1500 km<sup>2</sup> wide and has 11 major municipalities, including the main city of Rethymno, in addition to many smaller villages. The map of the prefecture (Fig. 5) shows contour lines from 200 m above

sea level and indicated every 200 m, as well as the existing built-up areas and the location of the fortified and tower-houses identified during our recognition: in red are represented the ruined and disappeared buildings (10 items), whose presence was often attested until the early 20<sup>th</sup> c.; in green are towers in good conditions (9 items). All buildings are today situated in small villages: many of them are near the main routes in the bottom of the valleys linking Rethymno to the hinterland, especially with the Messara plain. The towers most likely controlled these routes as well as the plain of Rethymno. An investigation is needed to analyze visual relations between the tower-houses, as well as with the surrounding villages. For example, the fortress of Rethymno is well visible from the towers in Giannoudion and Maroulas, but these towers have no visual contact with each other.

The village of Giannoudion is situated at 118 m above sea level, 6 km South of the city of Rethymno and less than 2 km away from the village of Maroulas. The place name makes its first appearance in a Venetian cadastre (1583), before the Ottoman invasion of Rethymno of 1646. The village had 96 inhabitants in 2013.

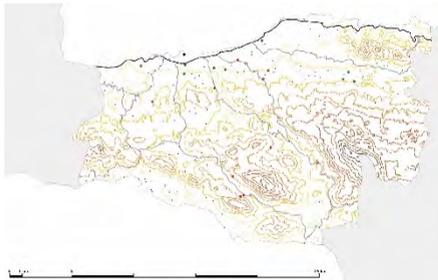


Fig. 5- The prefecture of Rethymno (Emma Maglio, 2016).

### 3.2. Architectural analysis of the building

The small tower in Giannoudion is situated on the side of the hill to the north of the village (Fig. 6). In the south façade we can still see the traces of a barrel vault, probably having connected the tower to a ruined barrel-vaulted building that stands to the east of the tower. The opening of a door in the tower above this

vault suggests the presence of a horizontal connection with the adjacent ruins. Perhaps a larger complex was situated around the tower, also including a second ruined barrel-vaulted structure that stands to the east of the tower.



Fig. 6- Tower-house in Giannoudion, west and South elevations (Emma Maglio, 2014).

There are three levels and a basement, perhaps vaulted, with an opening that is today bricked up. The levels were separated by wooden ceilings, whose a few traces of beams and corbels survive; each level has 2-3 windows on each side, dating back to different phases.

The top ceiling is today in reinforced concrete, partially damaged. The southern door is not the original access since it is not framed by jambs, nor has a real lintel (replaced by a wooden beam on the outside and a small tree trunk on the inside). The original elevated access is on the west, below the duct of the fireplace. To the northeast top of the building there are some corbels having supported a watch tower. A first analysis of the masonry allowed to recognize the use of limestone in medium-size blocks for strings, corbels, jambs, sills and lintels, and the decorated fireplace. There is also a widespread use of local yellowish fossiliferous limestone, as well as rare tuff and sandstone inserts, and spolia elements. The masonry is irregular and mixes

different forms and kinds of blocks. In the west elevation, we find three small wooden beams over the discharging arches of the windows and below the fireplace (Fig. 7).



Fig. 7- Tower-house in Giannoudion, west elevation, detail (Emma Maglio, 2014).

Some exterior surfaces are covered by a sandy plaster. Inside, we can observe several layers of white and ocher lime plaster, particularly well preserved on the eastern elevation.

The binder is mainly made of mud, but we can also see repairs with yellow mortar made of sand and mud, as well as lime and gravel elements.

The architectural survey carried out by means of an electronic total station was completed by a true-to-scale digital image rectification (Fig. 8). It was associated to the identification of stratigraphic units, in view of a hypothesis of a relative chronology for the whole building. The survey allowed to identify the main elements of active and passive defense in the tower-house.

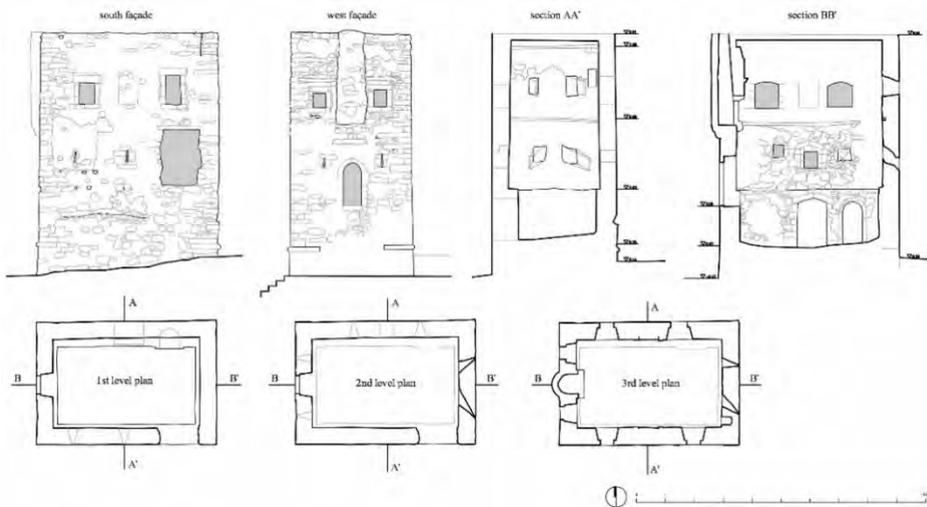


Fig. 8- Architectural survey of the tower-house, some drawings (Emma Maglio, 2016).

### 3.3. A first archaeological interpretation

The passive defense was ensured by first level above ground, probably windowless in a first phase, and by the elevated access. The devices for active protection, instead, are a watch tower, today disappeared (was it the only one?), and ten rectangular embrasures. Four of these are located on the east elevation to the second and third level above ground; the other six embrasures are on the other fronts, two on each side: those to the west are bricked up.

The east elevation, looking towards the route from Rethymno to the hinterland, was clearly the one intended for the defense.

On the second level we find two embrasures splayed downwards externally, while the two embrasures at the third level are splayed downwards internally, towards the southeast corner of the building. The four loopholes are installed in pairs; however, they do not follow a consistent pattern: they are neither aligned nor centered on the façade.

The rectangular splays are irregular and somewhere curved, and the plaster prevents any further analysis (Fig. 9).



Fig. 9- Tower-house in Giannoudion, interior east elevation (section AA' in Fig. 8) (Emma Maglio, 2014).

In the South front, the two embrasures at the second level are horizontal, and it is likely that a third loophole with the same features was replaced by the ruined door. In the North elevation, the two embrasures at the second level had to defend the central window at the same level: this would seem confirmed by the fact that they are horizontal and splayed internally. Similarly, it is likely that the loopholes on the west front, today bricked up, defended the main access, but here too the plaster prevents to observe the direction of the splays. All inspected loopholes have a triangular plan, but the measure of the angles is approximate. They were arranged for soldiers armed with missile weapons from a kneeling position. The absence of signs of enlargement suggests that even during the Ottoman rule throwing weapons continued to be used, taking into account that the Ottoman arches were shorter compared to the Western ones, and that larger embrasures were needed to use guns. No traces of spatial subdivision

are in the building. At the second level, the small window flanked by loopholes probably lighted up a warehouse and was also involved in the defense. At the third level there was the real mansion of the lord: we can see a fireplace made with sculpted blocks of white soft limestone. The couples of rectangular windows of the North and South fronts replaced former windows opened up at the center of the façades: one of the current windows reused a part of the jambs of the former window, and we can see traces of reparations in the masonry (Fig. 10, 11).



Fig. 10- Tower-house in Giannoudion, exterior North façade, detail (Emma Maglio, 2014).



Fig. 11- Tower-house in Giannoudion, interior North façade, detail (Emma Maglio, 2014).

All these windows are rectangular, but the interior lintel blocks on the North elevation have an angled form: this can be frequently found in rural houses of the island. A second type of windows is on the west elevation: two quadrangular openings flanking the fireplace make up a homogeneous whole with it (this is confirmed by the presence of wooden lintels), probably contemporary to the windows placed at the same level on the other façades.

This first analysis thus allows to state that the tower was built for military purposes, with the top level intended as a dwelling. In a second phase, the residential use probably took over, without giving up the defensive function. In a further step, the tower-house was probably associated with other non-defensive buildings.

#### 4. Conclusions

The analysis of the case-study, with respect to a first study of the inventory of houses, opens to various issues. The first deals with the dating of the buildings, which is unknown for almost all of them, and with Venetian and Ottoman architectural models that were surely adapted to local skills and materials. A relative chronology of a sample of mansions will be proposed after removing plaster, carrying out localized surveys and taking samples of

building material. A second question, which requires a study of written sources, concerns the buildings' relations with the villages, the territorial routes and the other fortifications on the island: fortified houses were part of a system put in place by both colonial and local powers for land government as well as landscape construction. It is definitely about to study fortified houses and tower-houses as part of a Mediterranean built heritage, for which an urgent sustainable conservation strategy has to be found.

#### Notes

<sup>1</sup> The book will collect the proceedings of two international workshops organized in the framework of a research project coordinated by E. Maglio and N. Faucherre (Aix-Marseille University, 2013-2014).

#### References

- Arel A. (1993). "About the 'Hasan paşa Tower' at Yerkesigi, on the plain of Troia" in *Studia Troica*, 3/1. Von Zabern Ed. Darmstadt. pp. 173-189
- Damaskos D., Plantzos D. coord. (2008). *A Singular Antiquity. Archaeology and Hellenic Identity in Twentieth-Century Greece*. Benaki Museum Ed. Athens. p.418
- Davies S., Davis J.L. (2007). *Between Venice and Istanbul: Colonial Landscapes in Early Modern Greece*. The American School of Classical Studies at Athens Ed. Princeton. p. 283
- Gasparis C., "Il villaggio a Creta veneziana" in Lefort J., Morisson C, Sodini J.-P. (2005). *Les Villages dans l'Empire byzantin. IV<sup>e</sup>-XV<sup>e</sup> siècle*. Lethielleux Ed. Paris. pp. 237-246
- Georgopoulou M. (2001). *Venice's Mediterranean Colonies: Architecture and Urbanism*. Cambridge University Press Ed. Cambridge. p.398
- Gerola G. (1905-32). *Monumenti Veneti dell'isola di Creta*. Istituto Veneto di Scienze, Lettere ed Arti Ed. Venice, Vol. 4
- Γιαπιτσόγλου Κ. (2012). "Πύργοι-οχυρές κατοικίες του νομού Ρεθύμνου" in *Η Οχρωματική Αρχιτεκτονική στο Αιγαίο και ο Μεσαιωνικός Οικισμός Αναβάτου Χίου*. Υ.Π.Α.Ι.Θ.Π.Α. Ed. Chios. pp. 175-185
- Lock P. (1989). "The medieval towers of Greece: A problem in chronology and function" in *Mediterranean Historical Review*, 4/1. Routledge Ed. London. pp. 129-145
- Kolovos E. et al. (2007). *The Ottoman Empire, the Balkans, the Greek lands: toward a social and economic history*. The ISIS Press Ed. Istanbul. p. 361
- Rackham O., Moody J. (1996). *The making of the Cretan landscape*. Manchester University Press Ed. Manchester. p. 237