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## Fabrizio Maria Oliverio,

Murgie: the fortified Bruttian site (Crotone, Calabria)

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# Murgie: the fortified Bruttian site (Crotone, Calabria)

We have begun this work in the hopes of studying the specifics of all the previous investigations of archaeological excavations and historical cartography sites, according to the information provided by the common technical offices of Strongoli and tools used in the province of Crotone, such as aerial photography, blueprints and all of the cartography related to the plateau of Murgie and all areas within its limits. The area of Murgie was first identified by Juliette De La Genière in 1971 and later some recoveries were made by the superintendent for archaeological heritage in 1976 and by regular excavations in 1983, 1988 and 1990. The oldest recovered items in the plateau probably date back to the end of the Paleolithic era, in addition to some fragments of the flint industry. As far as the 4th – 3rd centuries B.C. are concerned, they are the most prolific in producing artifacts and in terms of demographical growth of the area. The most recent evidence is a whole brick found during a survey and it can be compared to other examples which come from Crotone's higher topographical areas dating back to the 2nd century B.C.. To carry out this analysis we used sophisticated tools such as centimetric GPS and total stations. Through this work, we have investigated and identified all the Bruttian era's defense systems, and moreover we have investigated how it relates to the plateau and its building methods.

During the survey in the field, many obstacles turned up because of the thick vegetation and the cultivation in this area, treating of agricultural grounds, and changes in the ground because of the use of mechanical means in the area. This research has given new data and information which has added to the research carried out last century and that should be completed with a real campaign of stratigraphic excavation.

### Introduction

The aim of this investigation was to create a specific topographic and archeological cartography of the defense system of Strongoli's Murgie, between Casabona and Torre Melissa.

Thanks to the project that UNICAL (Calabria University) gave me, I was be able to do this research and, with other colleagues we aimed to protect and revaluate the scientific data which was the main purpose of this project.

To carry out these analyses we used sophisticated tools such as centimetric GPS and "total station" to get more detailed findings.

With the data we got through this powerful and new GPS tool, in the exposed, uncovered areas by the

ground and vegetation areas it was possible to detect how the walls had evolved, while it was hypothesized, with great probability, how the walls had developed in the hidden areas. New reliefs have given certain data to compare with the old topographical and archaeological cartography<sup>2</sup>. In addition to all these survey tools there are also many photos which allowed us to provide documentary evidence about all the anomalies and news of Murgie's site. Through this work, we have tried to understand and categorize the whole fortified system of the Bruttian age and hypothesize the evolution of this system in relation to the plateau and its construction method. During the survey in the field, many obstacles turned up because of the thick vegetation and the cultivation in this area, treating of agricultural grounds, and changes in the ground because of the use of mechanical means in the area. This research has provided new data and information which has added to the research carried out last century and that should be completed with a real campaign of stratigraphic excavation.

### Geological and Geographical Overview

Murgie is an area made up of a wide plateau with a slight incline and three steep sides (Fig. 1). It extends through the foothills along the Ionian sea, in the area north of the Neto river, more precisely 25 kilometers from Crotone's central area<sup>3</sup>.

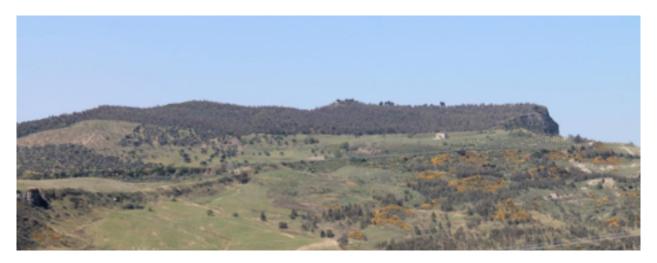


Fig. 1. Murgie's plateau seen from Strongoli (Crotone). (Image by Author)

The orographical system of this district is characterized by a series of mountains and clay hills, which give the entire area a wavy look.

On the western side of this hill a large rock of stratified arenite rises up, more than 400 meters height. The land extends to cover an area of 6.97 square kilometers that looks out over the Neto river valley. The plateau's location makes it an easy stronghold.

Three out of four of the sides are steep, representing a wonderful point of observation over all the landscape and moreover a natural defense. The eastern side goes down to the valley, creating the only available access.

Geological conditions (Fig. 2) seem to be characterized for the most part by tertiary sediment outcrops of the age between the Holocene and the Miocene. In the stratification, we can see sandstone quarry breakthroughs, which are randomly located where it is possible to reach this material and where it is

<sup>2</sup> See De La Geniére 1991; Medaglia 2010.

<sup>3</sup> The area of Murgie, located on the paper 238 IV quadrant NW on the Calabria geological map (1:25000).

also quite easy to carve out and carry4.

The mechanical action of atmospherical agents is significant and can be seen more evidently at the top of the mountain where it is sandy.

The tops of the mountains, because of these phenomena, tend to be subject to landfalls.

Ground permeability is generally high<sup>5</sup>.

Sandstone thickness is significant and, in many of the plateau's areas, it is more than 1200 meters.

It is hard to find out outcrops where it is possible to study the whole formation due to the impressive thickness and significant dislocations.

The low inclination of the Arenaceous layers shows quite a significant tectonic asset which can be seen through movements which are not very frequent into sandy expanses<sup>6</sup>.

Generally, the landslide phenomena identified represent a reaction to superficial movements, with variable speeds, from slow (clayey flows) to fast (collapse phenomena)<sup>7</sup>.

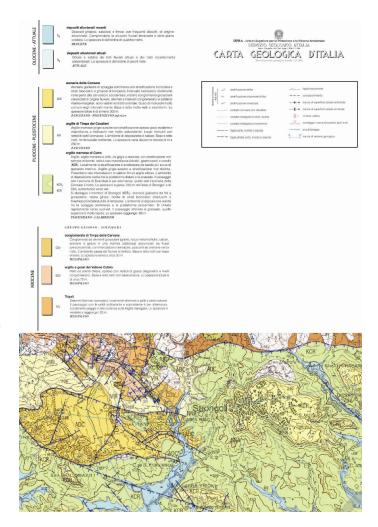


Fig. 2; Geological map of Italy, F. 562 Cirò.

### Historical and Archeological Summary

Strongoli's Murgie area was reported for the first time by J. De Geniere in 1971<sup>8</sup>. Later, some bronze fibulas and some thick ceramic fragments of ceramic ere discovered out by the Superintendence for archeological goods in 1976<sup>9</sup>, which is why regular excavations have were in 1983, 1988 and 1990<sup>10</sup>. The oldest testimonies about the plateau probably trace back to the end of the Paleolithic age: in fact, during a recent survey some flint fragments were found.

Some obsidian splinters, maybe Lipari type, excavated during some surveys done at the tableau, located a few meters east of "Casa Murgie", are proof of a settlement during the Neolithic age.

Based on occasional recoveries, it is possible to affirm that during the first Iron Age, the settlement

- 4 Generally permeable because of porosity and split, this sandstone is characterized by low permeability.
- 5 Henderson 1973, 5.
- 6 Henderson 1973, 5-6.
- 7 Structural plan 2002 n. 19.
- 8 De La Geniére 1971, 271.
- 9 Foti 1976, 149-150.
- 10 De La Geniére 1987; Lattanzi 1988, 55-556; Lattanzi 1990, 249.
- 11 Medaglia 2010, 151.

was characterized by scattered groups of huts with their related burial groups. During this phase, the established burial practice was inhumation in a single grave<sup>12</sup>.

In the decades following the Achaean Kroton foundation, fragments from the first colonial period have been certified in the Murgie area (end of 8th – 7th century BC).

This is an interesting fact because it testifies to the last artifact on file from this age between the Iron Age and early antiquity (7th – 6th BC)<sup>13</sup>.

Nearby paste vases and raw clay of local production, and many Corinthian vases, are evidence of the intense trade activity with Achaean Kroton from the first half of the 7th century BC<sup>14</sup>.

Certainly Greek cultural influences had to be very strong as they are recorded in a native sanctuary, which keeps its main specific features and it is characterized by typical Greek customs and traditions<sup>15</sup>. In fact, from the 7th century BC, Mugie's scattered building layout had a sanctuary located in the highest area (about 400 meters a.s.l).

By the middle of the 7th century BC, there is the leaving behind of burial practices in support of cremation <sup>16</sup>, as seen in the discoveries at the necropolis.

In the 5th century BC, burials have been found which testify to the abandonment of the cremation ritual to make room for inhumation, with "alla cappuccina" graves being the most frequent.

Thanks to the excavations in 1988 of the Comunelle area, we have been able to identify a necropolis area with more than fourteen graves from the 5th century BC<sup>17</sup>, with a double sloping architecture and Attica kraters prevailing.

Near the robbed graves, we can see bronze fragments of lekythoi and painted black cups on the ground from about the 5th century, bronze strigil fragments and mirrors and aphoriskoi made of yellow and blue glass paste.

On the Murgie plateau, traces of an intense occupation have been found, characterized by the abandonment of the scattered nucleus model in favor of the creation of regular structures.

The sanctuary's frequentation is continuous and the buildings seem to be located inside the western perimeter. Between 409 and 360 meters above sea level, some buildings have been identified with stony walls and shingles, divided by narrow rooms<sup>18</sup>.

Survey results, done by the Superintendence for archeological goods in 1983 with archaeologists like C. Sabbione and J. De la Genière, showed new important data <sup>19</sup>. Focusing on city walls of Murgie they did not aim to identify the chronology of the defense system, and especially, hypothesizing the evolution that they have within the plateau. At the beginning the idea put forth was that they allowed for a defense system, that appeared in the 4<sup>th</sup> century B.C. at the moment when the habitation seems to bee more urban. In regards to the rearrangement of the 4<sup>th</sup> century B.C. it is important to note that the houses investigated in the excavation within the city walls of 1983 all have the same orientation, which shows the existence of regular and planned partitions<sup>20</sup>.

- 12 Osanna 1992, 173.
- 13 De La Geniére, Sabbione 1984, 166.
- 14 De La Geniére, Sabbione 1984, 166-177.
- 15 De La Geniére, Sabbione 1984, 173-174.
- 16 De La Geniére 1991, 112.
- 17 Medaglia 2010, 151.
- 18 Medaglia 2010.
- 19 De La Geniére, Sabbione 1984.
- 20 Lattanzi 1983, 576.

Later, starting from the second half of the 5th century BC, Petelia positioned itself as an important centre regarding Lucanian settlements, and obviously this innovative process interested Murgie's centre, too.

Political-military events of the 4th century BC and the evolution of the fights among Italian groups led to the establishment of the Bruttian confederation<sup>21</sup>.

The 3rd century BC represents the last phase of Murgie's occupation: not even a single Roman fragment has been found. Only the existence of terracotta fragments arrive to us dating back to the first decade of the 3rd century BC, which lead us to believe that the sanctuary has been very frequented up until the last part of the building<sup>22</sup>.

Moreover, there is the presence of two money treasures found at different times (1965: about 800 AE of several mints; 1974: about 20 AE of brettis)<sup>23</sup> and generally dating back to, in lieu of more precise indications, between the 4th and 3rd century BC.

Near the lowest part of Murgie's plateau, some ruins belonging to a rural detached house with 2nd to 1st century BC materials have been discovered.

### New Data

The feature of Bruttian Murgie's fortified centre is the triple city walls which protect the tableau's grounds almost entirely, and the development of the defense system during the Bruttian era is known because of ruins which can be seen in the thick vegetation.

The upper city wall (Fig. 3), which may also function as the containment of the upper terracing, follows geomorphological conformations of the ground and includes a 13 hectare area within a sanctuary, and the Bruttian building is located on the highest plateau point.



Fig. 3. Murgie, upper city wall. In this sector, 357 m a.s.l., the wall can be seen which develops from east to west over 4.50 m and the wall is 80 cm height. There are several squared and regular blocks and the biggest one is 62 cm in length. These sizes show the structure difference compared to the middle wall which presents much bigger sandstone blocks. The thickness of the wall is not able to be analyzed because of thick vegetation. The building technique seems to be pseudo-isodomum. There are parallelepiped blocks usually cut in an approximate way and arranged irregularly. (Image by Author)

<sup>21</sup> Guzzo, 1986, 203-204.

<sup>22</sup> De La Geniére, Sabbione 1984.

<sup>23</sup> Medaglia 2010, 153.

During the latest surveys, the highest point of the city wall became visible in a few areas and it crosses a part of the tableau, with a height difference towards the northeast/southwest, with a straight evolution.

Thereafter, at about sanctuary level, the city wall bends and goes down towards the hilly slope to protect one of the sides (west) which is extremely exposed, trying to adapt the fortification to the natural preexisting features.

In spite of what we had assumed about topographical reconstruction, which took place in the 1980s<sup>24</sup>, and according to what we successively identified in aerial photographs<sup>25</sup>, it is evident that this wall circuit rings around the attachment plateau located at 376 m a.s.l., and it should be considered as part of the settlement.

Wall outcrop sections (Fig. 4) allow us to establish some technical features of the circuit, which can be compared to the fortifications built in southern Italy and more specifically in northern Calabria, during

the second half of the 4th century BC.

The plateau, taking advantage of the geomorphological features of the site, is installed directly on the rock, which was probably already prepared to receive the first row of blocks, especially at points strategically less important and less vulnerable.

The median walls, similar to the one located higher up but almost twice as long, encloses an area of approximately 36



Fig.4. Murgie. Middle wall section. (Image by Author)

hectares and may have been built before.

Subsequently, for logistical requirements and other aspects, the upper wall was built.

The different execution observed in the two fortifications (the upper and middle one) could be due to simultaneous use of workers who had a different mastery of construction techniques<sup>26</sup>. The median wall follows a north-south path, sometimes tortuous, marked by different geomorphology levels of the terrain. Halfway there is a small jump in altitude, due most likely to the main entrance of the bottom wall flanked by a quadrangular tower. In this area, a second holy area was probably located near "Casa Murgie". The need to enclose the upland with double walled fortification was a typical characteristic of the Bruttians, in order to defend the livestock and, in the case of Murgie, also the water source.

<sup>24</sup> De La Geniére, Sabbione 1984, 165.

<sup>25</sup> Ceraudo 2003, 355.

<sup>26</sup> Probably the defense part of the Murgie has not been built with an uniform technique; often, two different building techniques were used in the construction of the defense wall, according to the defense needs (Taliano Grasso 1995).

A third wall, located between 250 and 290 m a. s. l., should close the fortified system of Murgie, made in order to block the north-east side of the upland that is less naturally protected and is home to one of the entrances<sup>27</sup>. About this lower wall, we cannot find, at the moment, evidence on the ground<sup>28</sup>, which has always been worked on to promote agriculture and where an olive tree grove is located. The only reliable data of the lower wall are in the few areas where it emerges from the ground. We know of these sites through direct testimonies of locals, but these testimonies have yet to be substantiated by indisputable archaeological evidence. It is difficult to trace the dating of the three walls and the temporal sequence of their construction. A survey carried out in 1983, through an excavation project carried out by the Superintendent of archeological goods<sup>29</sup>, at the foot of this wall, and in the northern sector, has offered a terminus post quem for its construction in the second third of the 5th century BC30. It is conceivable, however, that the lower wall (Fig. 5) and the median one were previously built, thicker and longer, as measured in the investigated point in a recent re-

connaissance 2.65 m in width. We propose considering the two walls as part of a unified program<sup>31</sup>; at this time, this is the most likely hypothesis. They surrounded the majority of the plateau and they protected the water source, the sacred area at an altitude of 339.7 m a.s.l. and a scattered building nucleus of the 5th century BC.

The upper wall (Fig. 6) may have been built in a different period, and this is shown by the different types of execution detected, which could be due to the simultaneous use of workers with a different mastery of construction techniques. All of this is evidence that the settlement was concentrated in the western part of the plateau, excluding the scattered



Fig. 5; Lower wall. Evolution of the wall. (Image by Author)



Fig. 6. Mugie; This wall portion has been cleaned during the 80's by the excavation managed by the Superintendence, which discovered some graves of the 7th century BC located at 334 m a.s.l. The building technique of the wall is pseudo-isodomum; part of the wall can be transversally measured in addition to sandstone rocks, usually small and cut, positioned in relation to bigger blocks which reach 1.70 m of height with the presence of back fill as well.

Part of the wall is still intact thanks to the vegetation thickness that has protected the conservation of this piece. (Image by Author)

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<sup>27</sup> De La Geniére 1991, 114.

<sup>28</sup> Genovese 2012, 72.

<sup>29</sup> De La Geniére 1987

<sup>30</sup> De La Geniére 1991, 115.

<sup>31</sup> De La Geniére 1991, 115.

building nucleus of the 5th century BC.

The morphological configuration is also decisive in the choice of sectors to fortify; in fact, the walls have been located on the northern and southern slope, where the slope, not steep enough to form a natural defense, has been strengthened with defensive measures. On both the eastern and western sides, however, no evidence of defensive works were found because of the bumps and steep shape of some parts of the slopes that became a natural defense.

The choice of building materials is, without doubt, linked to local resources; the great availability of local cutting stone justifies the monumentality and strength of the walls<sup>32</sup>, especially the middle one, built with large blocks of sandstone that definitely came from the quarries located nearby, noticed during the various investigations<sup>33</sup>.

There are two attested quarries (Fig. 7): one positioned further downstream at an altitude of 246.5 m a.s.l., from which the materials for the construction of the lower and middle wall were probably extracted, and a second quarry positioned higher, at an altitude of 380.7 m a.s.l., which provided material for the construction of the upper wall, the sanctuary and part of the houses. Another important detail to note is the difference between the previous archaeological and topographic maps of



Fig. 7. Murgie. Sandstone mine located on the east side of the plateau. (Image by Author)

the '80s, which show the evolution of the walls, and what has been completed during the last survey with GPS points<sup>34</sup>. Here we can trace a comparison between the topographic map of J. de La Genière and the one with the new GPS points. The main difference is in the two walls, middle and upper, which hint at different paths and follow different altitude jumps. Poor visibility of the bottom wall does not allow for new information to be obtained compared to the previous map data; therefore, you can overlay the current map to the one produced by de La Genière (fig. 8).

This new scientific data provides the possibility to understand in detail Murgie's plateau, without mistakes, allowing for a new interpretation of the defense system. This study lasted several years to allow for some revolutionary discoveries for the topographic and cartographic sector, in contrast to the past incorrect certainty.

At the moment, we have the possibility to refer to a new topographical and archeological cartography

<sup>32</sup> Monumentality of the defense is attested to by the source of the important Bruttian centre of Petalia. A common element in Italian culture is represented by the monumentality of the fortification actions which was the presentation of a city.

<sup>33</sup> In some areas, next to sandstone blocks, we can also see the use of conglomerate rocks (Medaglia 2010, 151).

<sup>34</sup> Topcon gps Gr-3.

Fig 8. Topographical and archeological map of Strongoli's Murgie site (Crotone). Compared to De La Genière and Sabbione's old cartography. (Image by Author)

of Strongoli's Murgie (fig.8), much more detailed, above all for the right direction of the fortified city wall, with the wish that this cartography will be consulted to give value to an endowment that has lost value because of the incompetence of the people.

In addition to the defensive system of Murgie, which is one of a kind, there were also other fortified systems. The optimization of the complex system of fortified centers with which the Bruttians controlled the territory between Thurii and Kroton (Fig. 9) was based on direct visual communication between the various oppida, in order to detect dangerous situations and give help, if necessary, to one or more centers under enemy attack<sup>35</sup>. Moreover, one could constantly monitor the entire area of relevance having complete control over it. These settlements, sometimes born ex novo and sometimes subject to a longer occupation linked to the non-Hellenic populations<sup>36</sup>, have very similar orographic characteristics and they are placed on the top, (which can be flat or constantly sloping), of heights that can be naturally defended and, geologically, almost always made up of formations of Pliocene sandstone. It has been speculated on several occasions that these loci muniti constituted the real backbone of the Bruttian defensive system. The organization of the settlements followed hierarchical logic in which a fortified oppida chain was subordinate to a greater center and they were placed at no great distance from one another and visually connected to each other<sup>37</sup>.

The position of the majority of the fortified sites is topographically interesting. The fortifications seem to be designed to protect all the access points to the area of Sila<sup>38</sup>.

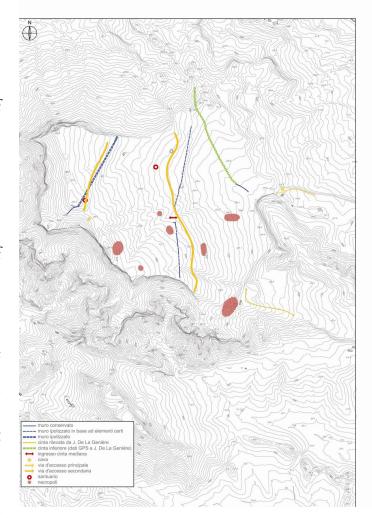




Fig. 9. North-side of Calabria. Calabria's Fortified centres north-side, between Thurii and Kroton.

<sup>35</sup> Taliano Grasso 1995, 275-291.

The interested period to study defense setups is referenced to the 4th century B.C.

<sup>37</sup> Medaglia, Taliano Grasso in press.

<sup>38</sup> Medaglia, Taliano Grasso in press.

In fact, the oriental side of Sila's massif is strongly overseen from Castiglione di Paludi to Strongli-Petelia; this last one added to Murgie's defence of the beginning of Neto valley. The same data showed the mouth of the Savuto river, controlled by Pian della Tirena centre<sup>39</sup> to control the river flow which represents the natural way to reach the north, Cosenza, and on the west side to the Plateau of Sila. Torano controlled the valley of the Crati, in to the hinterland of Thurii <sup>40</sup>. Torre Mordillo and Serra Castello controlled the Sibaritide and Crati's flow at its beginning in the plain. In Serra Castello some stratification studies done during the last decade of the century have revealed round structures with a gap <sup>41</sup>;

Maybe it is a building with defenses in the hall.

Marcellina is located to control the Lao river, a natural way to the access the Tirrenic hinterland.

There are three buildings techniques at bettie's fortifications <sup>42</sup>; the first one is in polygonal blocks, located on two curtains with émplecton, some of them have more careful definition of the blocks. The second one is characterized by the use of parallelepiped blocks as we can see in the majority of sites



Fig. 10. Fortified site of Castiglione di Paludi. Photo from hall with view of the two towers. (Image by Author).

mentioned: Castiglione di Paludi (fig 10), Strongoli and a part of Pian della Tirena.

As far as Cosenza is concerned, "rocks of rectangular tuff" were used. In Paludi, the curtain is simple for the most part except for the side of the second valley. In Strongoli, the structure had to be composed of èmplecton, but there are no signs of an interior curtain.

The third one is composed of ashlar blocks, spaced out with stone slabs. They form a double cur-

tain with empleteton.

This technique is employed in Marcellina and Pian della Tirena.

Also near Strongoli, as for Murgie, there is a natural fortification with walls and overhang.

During the excavation in the 90's for methane pipelines<sup>43</sup>, in the second cross street a part of dry wall was discovered, made from areanaria stones, which, on a stratigraphic base, can be considered as the first structure that is referred to by Petelia, and defined by Strabone, as the metropolis of the Lucani.

<sup>39</sup> Orsi 1916, 335-344.

<sup>40</sup> De la Genière 1977, 421.

<sup>41</sup> Guzzo 1980, 21.

<sup>42</sup> Taliano Grasso 2000, 109-111.

<sup>43</sup> In 1995 and 1996, A. Taliano Grasso, director of the Superintendency for Archeology in Calabria, conducted important archeological excavations in relation to the realization of the methane net in Strongoli's area.

The wall of the Lucan phase seems to be near another more recent structure, attributed to the bettia's phase about the end of the 4<sup>th</sup> and 3<sup>rd</sup> century B.C.

It is built with a double wall of stones and pebbles.

The city wall on the north-east side has "an access door to the city with a pincers model"<sup>44</sup>, and this city wall included all Strongoli's plateau made by two flat spaces joined by a central gap, with a building area of about 100 hectares <sup>45</sup>.

During the excavations, the orientation of the walls allows us to assume that Brettio's centre on the west side of the terrace was equipped with a regular structure of the urban layout<sup>46</sup> and located on the main street which followed the longitudinal axis of the plateau, from west to east which crossed orthogonally several little streets<sup>47</sup>.

A different case is the one that concerned Kroton city which had some natural controls in the form of some hills with different heights (S. Lucia, Carrara, Cimone Rapignese, Monte Viscovatello, Vigna Nuova, Batteria); some of these were interesting because of strategic interests to control access ways and weak sides of this settlement.



Fig 11. Murgie upper city wall. Because of the external wall located in the valley, there is the nucleus of the wall with small stone size and back fill. Besides acting as defense equipment, it functions also as a containment wall. (Image by Author)

Unfortunately, it is not possible to rebuild this huge system. Perhaps it was built with stone blocks and raw bricks and the summit was made with terracotta shingles. We found the presence of reused materials and this allows us to understand that it was built, or rebuilt, during Dionysius' besiege, if the latter was in fact able to force it<sup>48</sup>.

The evolution of the wall, the building supposition, follows a slope from the Santa Lucia hill to the one near by Carrara<sup>49</sup>.

According to current excavations, the building of hellenistic walls can be finally traced back to Della Batte-

### ria's hill and descending to the sea.

In conclusion, we can say that in northern-central Calabria the archaeological evidence allows us to record a series of fortified walls, erected around the middle of the 4th century BC and surviving into the next century, which identify defensive structures related to the society of the Bruttians. The position of the fortifications is related to the settlement pattern typical of the Italics, while the technique, and the idea of fortification itself, are consequences of the cultural exchanges and of the close contact with the Italiotes.

<sup>44</sup> Guzzo, Luppino 1980, 860.

<sup>45</sup> Brocato, Taliano Grasso 2011, 155

<sup>46</sup> Spadea 2005, 535-536; Medaglia 2010, 169; does not agree Verbicaro 2011, 522-523

<sup>47</sup> Medaglia, Taliano Grasso in press, p. 25.

<sup>48</sup> Spadea 1998, 32.

<sup>49</sup> Spadea 1998, 32-33.

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