

THE ENCLOSING WALL OF SCIACCA : HISTORY OF A RESTORATION

by Michele Benfari

Architect Soprintendenza ai Beni Culturali and ambientali of Agrigento

Abstract

The conservation and the fruition of Sciacca walling circuit is a problem which has been faced taking into consideration the double aspect of this work of art, the cultural one and the material one.

Two kinds of knowledges have been useful for that: the first is aesthetic and storic (recognition of the cultural value of the work and definition of the methods used), the second is technologic (recognition of the materials to be restored, their problems and individuation of the modern conservation and restoration techniques).

To assert the importance of the fruition of a part of the walling circuit has been almost an obligation, made easier by its simple and aulic characteristics and by the natural inclination of the work itself: all that has been sustained by the Comune of Sciacca and Soprintendenza B.C.A. of Agrigento, so that the restoration of the walling circuit could coincide with the conservation of the storic memory of its community and at the same time as a way to relaunch the cultural and the socio-economical aspects of the town.

The different phases of the restoration and of «mise en valeur» have translated the natural «indication» given by the work which through new steps, inside the walling circuit, taken back again the original meaning of that antique building.

Introduction

The historical sources consider Sciacca as a place where people lived since the prehistoric age: the historian Mario Ciaccio goes further and he affirms that the origins of this town are older than the time when Sicani arrived here.

Some Sicane necropolis and some testimonials of a civilization which preceded Greek civilization had been found in the first years of the XX th century. In the oldest Sicilian storiography, written by Fazello and Amico, these very old phases concerning Sciacca are not mentioned and it is only now thanks to a renewed interest for archaeology researches that ceramic vases are found, in the

vaporous depths of the Monte Kronio, with decoration imprinted on the clay, before cooking them, with the pressure of a shell on the same clay.

These vases go back to 7500 b.C. (old neolithic).

This kind of technique has been for the first time documented in the cave of "Fico" and it is called "Kronion style".

This latest has been later recognized as the way of making and decorating ceramic which can be also noticed all through west Sicily and Malta territory, while in the east part, near Siracusa, a kind of ceramic develops and it is called "Stentinello" from a village found by Paolo Orsi at the end of the last century.

Living in the Kronion caves decreased since the medio-neolithic and, it was over at the end of the Eneolithic age about 3800 years ago.

This event, was connected with the dramatic vaporous fact, which made this place not very comfortable and so Greek people began attending that place for religious reasons and then for therapeutic reasons too, as some works concerning structures and buildings built just to convey vapour in only one direction testify: for example "Dedalo's antro" .

Diodoro Siculo from Agira affirms that for first time Dedalo himself used this "Antro" as a therapeutic place.

Pomponio Mela (40 b.C.) gives us information about the presence of Sicani population in Sciacca. In his book "De descriptione Siciliae", he writes : "*Inter Pachinum et Lilibeum possidere Sicani e Agracam et Heracleam et Thermam*" (Sciacca).

Since the developing of the Greek colonies, Selinunte had reached the limits of its territory with Mazara in the West part and with Thermae Selinuntinae (Sciacca) in the East part.

And it is some centuries later that this old village populated by artisans, who made ceramic vases, was also inhabited by a part of Selenuntine population who had survived Annibale's destruction (408 b.C.).

Later, after the fight between Cartagine and Rome which ended with the victory of the latest (210 b.C.), Sciacca becomes a postal place: it is understood by the "*Peutingeria cart*" , a very old geographic map, which dates back to the XIII th century, written on the basis of some documents (which go back to the age of Costantino and Augusto), where it is possible to find a place called *Aquas Labodes*, called by Romans "Thermae Selenuntinae", today called Sciacca.

In this area it is possible to find the Arabian group (840 a.C.), with a kind of independent urbanistic typology, in a concave space surrounded by rocks disposed as an anfithatre which represented an element of defence facing the sea.

So, this natural element, although it was never considered as a real enclosive wall, can be seen as a first defensive building.

It is important, then, to point out that the successive defensive structures will follow the trace marked by the natural orography of Sciacca. During the Arabian domination Sciacca had already reached a good urbanistic organization which went, also, throughout the country. Some examples of this organization are the two areas of "Figulini" and "Cadda", each of them is characterized by a peculiar ethnic-corporative aspect. Later, the Arabian, with the developing of the Rabato placed in the upper part of the city with an urbanistic organization divided in very long rows containing long commune areas (the courtyards), started coining money with the Emiro Zyadat Allah (835 a.C.). When the count Ruggero D'Altavilla will enclose the city (1090), forming the Norman city in that area named "Ruccera", the perimeter of the walls will end in the South part with the points where the curves of level grow

deeper and deeper , to mark a descent towards the sea, and in the North part will consist of just the rock where will be built the "Old Castle" at the bottom of the Rabato.

The reconstruction of the perimeter of the Norman walls, although the important interest in the latest years, is revealed neither through documentations nor through real, concrete elements, this is because the city has had during these years a dramatic illicit, which has destroyed even its Arabian and Spanish routes and streets . It is to be told that in the first years of the XX th century have been found tombs with Arabian epigraphies in places which suggest us that the Arabian population had economic relationships with the Norman population.

Memorial tombs in four languages (Latin, Greek, Jewes, and Arab) suggest us the important multi-racial relationship among the different civilizations living in this island during the XI th and XII th centuries. The developing of the Norman domination led to a different kind of administration which tended to be defensive, then, the building of the new enclosive walls and of the "Rocca". All that gave to the city the aspect of an insular place. In 1200 Sciacca had been recognized by Federico II from Svevia a state property, so Sciacca will have representatives in the parliaments.

It was in that moment that Norman walls were consolidated and some areas were widened so as to improve the defences of the town.

In 1335 and 1336 the new defensive walls were built, ordered by Federico II D'Aragona, this wider circuit was connected with those places and areas in the North and South part with the opportunity to open new entrances: "Porta di Mare, Porta San Salvatore, Porta Palermo, Porta Bagni, Porta San Calogero". The defensive principle of those walls was that of an enclosing group of walls made stronger by the building of towers.

In 1380 was built, in a dominant position, the Castello Luna, whose architectonic structure had its important centre in the strong quadrangle tower from which it was possible to gather the wavy coast of "Capo Bianco" as far as the old Eraclea Minoa.

In the XVI th century the defence of the city had two enclosive walls, the widest, the one built by Federico, gathered the other one built by Ruggero D'Altavilla.

But it is in the XVI th century that this defensive structure had a real military meaning and it was organized through gerarchies and relations among the datum points of the circuit which nowadays can be still recognized.

In 1534 Carlo V° tried to rebuild the walls of the city. This work, started during the age of the Viceroi Gonzaga and the engineer Ferramolino from Bergamo, ended in 1554-55 with the Viceroi De Vega, it consisted of some bastions in the highest part of the polygon of the walls built in the XIV th century.

The new construction marked the old circuit of the walls now adapted to the new defensive reasons. According to the local sources the bastions were the "Bagni", the "Alfieri", S.Agata", "San Salvatore", and "De Vega".

Their realization follows the needs and the military techniques of that age: the shortness of the wall, greater thickness, inclined masonry and difference of their forms which, in its plant, is very protruding with respect to the tallest part which has a hearth-shape and it is made up by faces, big ears and sides for the defence of the bottom part of the enclosing walls. In some parts of the wall of Porta San Calogero we can notice a series of battlements which denote a kind of defence realized both with fire-arms and shooting arms.

And, always along these parts it is possible to note four corbels with a double volute profile which probably supported a little tower to guard outside, it was

a characteristic of a defensive technique not yet replaced by the use of the gunpowder.

In Simancas, in Spain, two graphic representations show a plan of extension of the walls. The first, by Gabrio Serbelloni, intended the restauration and the reorganization of the old enclosive walls wanted by Federico.

The second one, by Tiburzio Spannocchi (1558) gathered, with the rest of the city, the "Borgo dei Figuli", which was very important for its ceramics. This last plan, had to had a mere character of historical recuperation of the Figuli area, caused maybe by different architectonic emergencies of that area rather than by military reasons.

Actually, the Spanish domination, for the first time had a real complete control over the territory and it was possible thanks to the precise descriptions of all the geographic military areas of the Sicilian coasts given by Spannocchi and Camilliani since 1584.

So, we can say that the location of the first Arabian and Norman settlements represented a kind of indication for successive developing phases of the city.

And, also, the location of the doors in the description of the two wall-circuits seems to underline an unique, common direction: Porta San Salvatore and Porta di Mare replace Porta Mazara and Porta Sant'Elmo.

We can believe that in the plan of the extension of the walls, the geomorphologic situation has not represented the only reason for the shape of the circuit, but we think that antropomorphic elements can be important reasons for that, too.

Modern studies on fortification have shown that fortify is connected (until the late Renaissance) to the necessity to build a "sacre-limes".

Fortification is often accompanied by propitiatory rites. All that has led to an allegory of the shape of the circuit which can be resumed with the "star theme" which is a common subject of the XVI th century literature.

Then, there are not reasons connected with military necessities. The configuration of the most important points of the circuit, that later will determine the building of bastions in the XIV th century, develops together with the city. As for Sciacca, the enclosing circuit was obviously connected with the residential organization and with the developing of new services.

The East-West direction is the most important one, it was because Sciacca was to be considered as a way connecting different more important areas: the Agrigento-Mazara axis, which has given birth to long areas, divided by large and longitudinal streets and small trasversal streets. This axis finds its most an evocative meaning in the urban doors; Porta Bagni which was the entry door in the East part was demolished in 1861. As for "Porta di Mare" we have only the traces of the sharp arches still evident on the surface of "Sant'Antonio Abate" church, while, as for "Porta San Salvatore", placed in the West part and dating back to 1580 (Renaissance), it is possible to notice the arch and the two colums supported by two stylized elephants.

The outside of the door is richly decorated with arabesques and volutes according to the Spanish Arabian taste.

In the upper part of the colums we can notice capitals in the Ionic style which finish with roses and lion heads; while in the upper part of the door, on three stony projections, there are the Austrian coat of arms, Sciacca coat of arm and Sotomajor coat of arm, who was the capitan of the city.

"Porta Palermo" recently restored is, instead, a remaking of 1753 (under Carlo III Borbone's reign). The retrospect is very important for the presence of the antique woody wings reinforced by iron bands, while the baroque outside, very

similar to a triumph arc, is made up by four doric ashlar semi-columns surmounted by the trabeation which sustains the plastered upper part. In the upper part, two ashlar pilaster strips frame the memorial band, they are sided by volutes which connect them to two pedestals on which there are cone shaped ornamentations. A big stony eagle, the Borbonic coat of arm, is placed in the upper part of the door with some geometric designs. In the North-West part, dating back to the XVI th century, there is the last door: " San Calogero door" facing Mount Kronio and the African coast. Since it had a merely functional role, it was an urban entry, the door has a severe aspect and it is made up by seventeen blocks of limestone, without that kind of decorative attributes which characterize the plastic-architectonic research of the other two doors. Over the big keystone of the arch a hollow indicates the presence of an araldic coat of arm.

THE STUDIES AND THE RESTORATION

The plan of the restoration of Sciacca wall has been understood, since the beginning, as an organic and common action of preservation, consolidation and conservation according to the different parts and phases of the plan.

This is because of the economical problems of the Soprintendenza Beni Culturali and Ambientali in Agrigento which has mastered the work. Then, we have thought it better to work on that part of the wall which from "Bastione San Calogero" arrives as far as "Castello Luna". This area, which is 500 metres long and has homogeneous walling structure and buildings elements all through its circuit, needed, more than the others, very important and urgent consolidation works, so as to stop the destructive erosive phenomenon of the elements. The restoration of the walling-circuit has represented an organical proposal which has reached its concrete phase after a series of analysis, researches and studies, for a better and deeper knowledge of the building. The cooperation with different professionals has made it possible to reach a plan for the restoration which, with a common, general and necessary intuition, has formulated organic proposals and correct methodologies, forgetting all kind of empirism. The first phase of the research has pointed out the geologic survey, made all along the circuit, revealing the presence of ashlar elements often placed as plain of foundation of the bottom part of the wall. The vertical fessures stopped the original continuity of the stone, creating rocky volumes to be consolidated or plated. All the fessures in the wall have, however, excluded whatever kind of responsibility of the foundation system as far as the monumental structure is concerned; actually, in some cases, because of the presence of some fractures in the rocks, we have foreseen an intervention in the cavity with no pushing cement mortars injected with a low pressure.

Through a series of static verifications, made on the basis of the new rules concerning the building in sismic zones, some perforations have been made along "San Calogero bastione". using pvc plastic tubes 12 cm large, bent so as to reach the foundation axis with their ends placed on the strongest base with a safety-valve every 33 cm. From a technical point of view the method has given the opportunity to fit pressures and volumes of injection to the territory, which, in its two stratum has developed in a very strong conglomerate improving the characteristics of the foundations and, avoiding the very expensive works of propping. To restore the very eroded and detached areas so as to reestablish the original resistance of the material, and, to fight against the tensive-stresses caused by bending, the walls have been rebuilt with walling taken from places where breakings had taken place.

The consolidation phases of the outside structures has taken place after an accurate analysis of the lithic material and of the bed mortar. All that has given the opportunity to make reclamations where necessary. With the exception of the struts, made with limestone, the stone used has been always the same: a yellow fossiliferous limestone affected by disintegration phenomena with a natural falling of dusty material.

Sometimes, the surface of the stone was covered by calcium carbonate concretions which gave the surface of the stone a reddish colour, while the mortar was composed by calcite with a quite uniform structure often disintegrated because of the mechanical action caused by the root system of the tick vegetation.

In some examples has been noticed gypsum, or crystallised gypsum, along already placed fissures and touching mortar and granules. With a series of analysis made with diffraction x-rays and electron microscope, it has been possible to find the chemical matrix of the mortar which was composed by air-hardening lime inert based carbonate-silicate; moreover, the mortar had a very low magnesium without granules caused by a bad turning off: all that has pointed out that, lime had been extracted by the cooking of limestone with a good result of well seasoned limeputty. The bed mortar of the squared ashlar used in the struts, has showed the same structural composite characteristics of the mortars used in those stony, formless parts of the wall. The only difference is the more uniform granulometry of the frame, since, it is deprived of its rough element.

After some analysis and attentive geometric and photographic study, it has been possible to choose adequate and suited methods, materials for the consolidation and the restoration of the walling structure, avoiding possible effects which can appear when slurry injection or ethoxylene resin injections are used.

Then we have tried to prop and consolidate with mortars based on slaked lime and hydrated lime, very fine marble dust and pulverized stony elements. On the surface, the gaps have been filled with calcareous stone of the area of different sizes, interrupted by a row of kiln-fired clay, following the old technique of the parallel recourse, however deflected with respect to the original ones.

All that has pointed out the new intervention, avoiding whatever imitative temptation.

A fundamental common problem of the three doors has been revealed in the bottom part of them, where the hygroscopic reascending of the water was more important revealing a loss of lithic material and wide lacking of mineral salt.

On the surface of the stone, 'big black crusts very rich in sulphate calcium, biological organisms like green algae, pigeon guano, have provoked a serious degradation of the structures.

So, after a series of researches on the cleaning techniques we have preferred both dry and humid cleanings.

Where the crusts were well cemented we have chosen the dry technique with abrasive treatment performed with sandblasting nozzle 0,8-1,2 mm diameters, using abrasive dusts of different granulometry. On those areas protected by frames and on the decorative elements where the black crusts were harder, the dry treatment has been preceded by absorbing emollient compress of clay (Sepiolite) and pulp of cellulose with ammonium carbonate, while the plastered surfaces have been first disinfested by green algae with a long-term biocide (Preventol 20% water solution) and then, they have been integrated with wood-fibre of plaster (polifilla) with addition of acrylic resin in

watery emulsion (Primal Ac 33), selected inerts and natural pigments. Some stony parts have been furnished with little V.T.R. bands 3,6 mm. diameter, fixed with pre-polymerized two parts epoxide (Eurostac 2001 to 20% in Solvostac solution Ces 2004), while the gaps have been integrated taking care of the "lips" of the lithic original material and, then, chiselled with a three teeth width lightly squared instrument.

The last restoration phase was concerned with the superficial protection of calcareous elements, through the uniform and subtle application of silicate-ethyl, so as, to represent an important and good resistance to the water penetration and of the polluting gas. A great interest in the two woody parts of Porta Palermo, dating back to 1753 (Carlo III Borbone's reign), there has been lately.

Before starting whatever kind of restorative intervention some samples, taken by an entomologist, have been observed and it has been noticed that the degradation of the wood were caused by the presence of some Anobium-insects. The continuous exposition of the antas to the climate and the lack of protective measures had provoked the presence of xilofagi-fungus which had caused the so-called "carie bianca" and then the destruction of the antas. To disinfect the antas a series of products with "permetrina" and clorofene gases against fungus and bacteria have been used, on the contrary, for the consolidation have been used a series of low-density resine products to be injected in the wood.

As a conclusion, we can say that the conservation and the fruition of Sciacca walling circuit is a problem which has been faced taking into consideration the double aspect of this work of art, the cultural one and the material one.

Two kinds of knowledges have been useful for that: the first is aesthetic and storic (recognition of the cultural value of the work and definition of the methods used), the second is technologic (recognition of the materials to be restored, their problems and individuation of the modern conservation and restoration techniques).

To assert the importance of the fruition of a part of the walling circuit has been almost an obligation, made easier by its simple and aulic characteristics and by the natural inclination of the work itself: all that has been sustained by the Comune of Sciacca and Soprintendenza ai Beni Culturali and Ambientali di Agrigento, so that the restoration of the walling circuit could coincide with the conservation of the storic memory of its community and at the same time as a way to relaunch the cultural and the socio-economical aspects of the town.

The different phases of the restoration and of "mise en valeur" have translated the natural "indication" given by the work which through new steps, inside the walling circuit, and ways again travelled by wood and iron runways have taken back again the original meaning of that antique building.

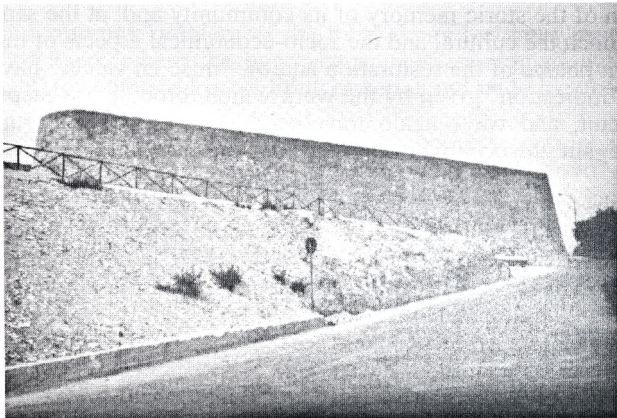
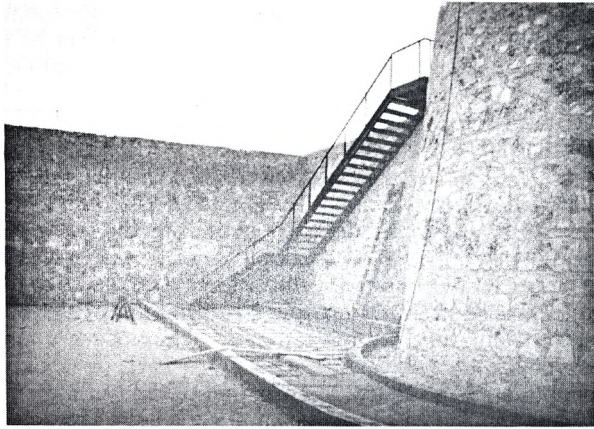
Special thanks to:

Arch.M.Leggio, Arch.T.Giaccone, Arch. V.Motta, Arch. F.Mannuccia, Arch. N. Piazza, Arch. G. Renda, Ing. A.P. Oliveri, Mr. M.Catalano, Prof.G.Liotta from Palermo University, Prof. R. Alaimo from Palermo University, Dott. G. Leto Barone entomologist, Dott. A.Benfari

Builder: Emma Restauri, San Cataldo (Cl)

Marciane Restauri - Sciacca (Ag)

L'ISOLA - Laboratori di Restauro, Barcellona (Me)



Bibliography

Historical Bibliography

- E. Aguilera Provinciae Siculae
Parte I-Pa 1740 M.S.
- M. Amari Biblioteca arabo-sicula
Torino 1880-81
- D. Amico Dizionario topografico della Sicilia
Palermo, 1885
- Bellafiore La civiltà antica della Sicilia
Firenze, 1963
- S. Cantone Sciacca e i suoi monumenti
Tip Fazello, Sciacca 1974
- T. Fazello De Rebus Siculis
Palermo 1568
- Jdrisi Il libro di Ruggero
- P. A. Piazza Atlante di storia urbanistica siciliana
Ed. Flaccovio, Palermo 1983
- F. Savasta Il famoso caso di Sciacca
Palermo, 1843
- I. Scaturro Storia di Sicilia
Roma, 1950
- M. Vitale T. Fazello, la sua vita, il suo tempo, le sue opere
Palermo, 1971

Technic Bibliography

- G. Albanese, G. Renda V° congresso sull' alterazione della pietra
Losanna 1985
- M. Benfari Atti del convegno su intonaci e coloriture
architettoniche-Viterbo , 1993
- M. Benfari "I beni culturali", Sciacca città' murata Ed.
Betagama, Viterbo, 1995
- L. Caleca Tecnologie di consolidamento delle strutture
murarie-Palermo, 1983
- S. Mastrodicasa Dissesti statici delle strutture edilizie, Milano
1983
- P. Rocchi Il restauro delle costruzioni in muratura , Roma
1980
- Lazzarini, Tabasso Il restauro della pietra, Padova 1986
Group petrographic Convegno ICOMOS
of the stone Pavia, 1986