

Evjeni MATO (THOMAGJINI)

## CHRONICLE OF RESTORATION INTERVENTIONS IN BUTRINT NATIONAL PARK FOR EXAMPLE THE RESTORATION OF THE CIRCUIT WALL ALONG VIVARI CHANNEL AND BUTRINT'S LAKE

**Key words:** *Butrint National Park, Butrint Foundation, Restoration, Vegetation, Lake Butrint, Fortification wall, Conservation, Medieval masonry, Hellenistic wall*



*Fragment of the circuit wall (Northwest Spur) along Butrint's Lake after restoration*

**Abstract:** *Butrint National Park is the most important historical and archaeological area in Albania; a living example of cultural diversity and historical periods; where Greeks, Romans, Byzantines, Angevins, Venetians and Ottomans have left their mark. In 1992 it became the first archaeological settlement in Albania to be designated as a UNESCO World Heritage site. Keeping this status requires total commitment to protection, conservation and promotion of its outstanding universal values.*

### **A short chronology regarding restoration work in Butrint**

The history of archaeological excavations in the territory of Butrint National Park starts with the Italian Archaeological mission lead by Luigi Maria Ugolini during the spring of 1928 which lasted until 1943. The focus of their attention was given to understand the nature of the Albanian underground archaeology, merged with the enthusiasm of uncovering as many objects as possible. At the beginning the excavations were done under difficult working conditions with a lack of important means for the unrehearsed and delicate works as the archaeological excavations are.



*Fig. 1. Restoration work in the Baptistery of Butrint lead by the Italian Archaeological Mission, during '30*

Despite difficulties the mission achieved both great restoration work on most of the monuments uncovered during excavations, as well as landscape improvement: cleaning up, consolidations, reinforcement of walls at risk of collapse, opening of new paths, construction of a small pier etc. The Baptistery's mosaic saw the first restoration work during 1930. The entire surface of the mosaic was established and some of the missing tessera were added<sup>1</sup> (Fig. 1).

Archaeological practice at the time was based on written rules like the "Archaeological Convention of the Albanian and Italian Governments", which also specified the fate of the excavated archaeological objects. In a way, we may say that these were the first steps of the administration "rules" of this archaeological area because the mission appointed wardens to supervise the monuments, clean up the archaeological excavations and guard the area<sup>2</sup>.

After the Second World War, and with the organization of Albanian archaeology, a new campaign of archaeological excavations began. In Butrint this began in 1956 and lasted to the beginning of the 1990's. At the beginning of 60's with the opening of a new

road, the Institute of Cultural Monuments organised a conservation plan. A new team of skillful workers was established, whose duty was to maintain the monuments inside the archaeological area, as well as to organise a restoration and reconstruction programme for many monuments.

During the communist regime the excavations were led by Dhimosten Budina, the first student to train in Moscow for archaeology. After 1960, in the light of the information from Ugolini and Albanian colleagues like Selim Islami, Skender Anamali, Budina performed archaeological excavations not only inside the ancient city of Butrint but also beyond it, as in Kalivo, Finiq, **Çuka** e Ajtoit etc.

In 1990 Albania started to emerge from the framework of its communist heritage. The Institute of Archaeology initiated projects in collaboration with Katerina Hadzis (from the Technical University of Athens), and from 1994 on, with the Butrint Foundation.

Archaeological excavations after the 90's intended to define more precisely the changing character of the history of the development of the city, rather than identifying single monuments or specific periods (unlike the intention of the Italian archaeological mission in 1928).

<sup>1</sup> Luigi M. Ugolini, *Butrint- Miti i Eneas (Gërmimet)*, Instituti Italian i Kulturës, Tiranë, 2000, pg. 53.

<sup>2</sup> Luigi M. Ugolini, *Butrint- Miti i Eneas (Gërmimet)*, Instituti Italian i Kulturës, Tiranë, 2000, pg. 61

The English - Albanian archaeological project in Butrint which started in 1993 (financed by the Butrint Foundation<sup>3</sup>, intended to study and conserve the site. Its main focus was closely attached to the fate of the finds uncovered during the period of the two World Wars, based mainly on the corner-stone of research undertaken by the Italians<sup>4</sup>. So work focused on accumulation of electronic archives, on the realisation of the archaeological survey that led to archaeological excavations in the Vrina Plain, Triconch Palace, Diaporit and Butrint's surroundings.

With the expanding of archaeological excavations the need to protect, conserve and generally manage this archaeological area became paramount. Butrint Archaeological Park now was very important not only nationally but internationally.

Up this point, protection, conservation and restoration advanced in parallel to archaeological excavations, but after 2000 was considered the main challenge for site management.

The modern philosophy of conservation began to be summed up in three principles:

- the archaeological ruins should be conserved, if possible, in situ
- ruins should be preserved as found (and not restored)
- whatever is not chosen to be exposed to the public should be back filled<sup>5</sup>.

After '90s the conservation projects were completed by the Institute of Cultural Monuments (Tiranë), the Butrint National Park in collaboration with Butrint Foundation that financed these projects.

In regard to conservation intervention, just like in any other archaeological site in Europe, the main focus was to preserve what had been excavated. So work would focus on the critical survey of the existing evidence, and mainly compiling studies around

the monuments, rather than on new archaeological excavations<sup>6</sup>.

Under these conditions, conservation projects after 2000 (apart from the conservation of monuments and consolidation of the masonry) were mostly focused on landscaping, tourist infrastructure, the backfilling of a series of monuments, prevention of their further deterioration, the management of vegetation growing on and around the monuments, and the training of staff.

All further intervention for the protection and development of Park was done in respect of site's Integrity and Authenticity<sup>7</sup>, and gave this site the attribute of World Culture Heritage with extraordinary universal value, but also, in respect to the Albanian Card of Restoration, Venice Card and the European Convention on the Protection of Archaeological Heritage.

Butrint's Integrity as a World Heritage Site is also connected with the fact that the area isn't suffering the negative effects of development or neglect. In spite of modern development or urban expansion, the integrity of Butrint's World Heritage has not been threatened.

Authenticity is connected to the excellent protection of the site in spite of human impact on nature, shown through the survived monuments, archaeological resources and the surrounding environment. In essence, criteria for the invasive restoration consists on, whether it is carried out according to right standards, uses material the same as the originals and property exposes the same universal values after all intervention is complete.

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<sup>3</sup> Richard Hodges, Sally Martin, "Protecting a 'homeric landscape', the making of the Butrint National Park, Albania" Conservation and management of archaeological sites Volume 4, Number 3, James&James (science publishers) London, 2000, pg 186.

\*Lord Rothschild with Lord Sainsbury of Preston Candover, created a charity foundation (Butrint Foundation) located in England, aiming the protection and development of Butrint's area for the general public benefit.

<sup>4</sup> Oliver J. Gilkes, "Si e humbi perëndesha kokën e saj dhe rrëfenja të tjera: Ugolini dhe Miti i Eneas", Butrinti në Shekuj, Tiranë: 2011, pg. 34

<sup>5</sup> Sally Martin, Management Plan of Butrint National Park 2000-2005, pg 55

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<sup>6</sup> Alessandra MeluccoVaccaro, "The management of Pompeii", Conservation and Management of Archaeological sites, Volume 3, Number 3, James &James, London, 1999, pg 172.

<sup>7</sup> Operational Guidelines for the Implementation of the World Heritage Convention, UNESCO World Heritage Centre, November 2011, pg. 129



*Fig. 2. Presence of vegetation near and on the wall's structures*

### **Restoration challenges after 2000**

#### **Restoration of the circuit wall line along Vivari Channel and Butrint's Lake**

Conservation is still the most important issue for Butrint National Park. Especially because of, the presence of the forest and vegetation inside the circuit wall of the archaeological area. In the long term, the effect of untreated vegetation and lack of restorative intervention will bring deterioration of exposed monuments, as well as to unexcavated archaeological ruins.

The problem of uncontrolled growth of vegetation is present almost on all the monuments. Its decaying effect is greater on the monuments' structures built with mortar, in which the roots penetrate more easily (Fig. 2). This risk is also present on dry stone especially in cases where trees have grown above and place horizontal pressure by dislodging the upper part of the wall's structure. In this case the consolidating works are simple, and can be done by light technological intervention, such as mechanically cutting of the trees, or injecting chemicals into them, the clearing of vegetation up to a distance of 3-4 m around the monument, and filling the parts cleared of vegetation.

The situation is more complicated in cases where massive trunks have penetrated the monuments, weakening their structure, causing fracture and disintegration leading to complete collapse. The situation is also complicated in cases where decayed roots create cavities in which the water enters more easily



*Fig. 3. The roots and a massive trunk inserted in the structure of a medieval wall*

and as a result leads to structural collapse (Fig. 3). This situation requires better evaluation in order to understand damage to the site by tree roots<sup>8</sup>.

<sup>8</sup> Giulia Caneva, Simona Ceschin, Giovanni de Marco, *Mapping the risk of damage from tree roots: Domus aurea, Rome*, Conservation and Management of archaeological sites Volume 7, Number 3, James & James, London, 2006, pg 164.



Fig. 4. Location of the restored circuit wall along the Vivari channel and Butrint's Lake



Fig. 5. Mechanical cleaning of deteriorated roots of the trees and other organic remains

One of the specific cases of realization of restorative work throughout the years in Butrint was the restoration of the circuit wall along the Vivari Channel and Lake Butrint (Fig. 4).

One can identify constructions of different periods starting with Hellenistic traces and continuing to Late Antiquity and Medieval times. The structures of the Hellenistic period are preserved in fragments close to Roman constructions (roman masonry), sometimes mixed up with Medieval structures (medieval

masonry) or sometimes preserved like a spolia<sup>9</sup>. (For example the fragment of the defence wall between Water Gate and Lake Gate or Lake Gate and Lion Gate). Only in the construction of the Late Antiquity wall are identified a range of construction techniques, that bear witness to the presence of a large group of masons and stone-carver engaged in this work<sup>10</sup>.

This diversity has made the process of restoration more complicated because on one hand there was the complexity caused by degradation of the structure and on the other it was important to be very professional to reach aesthetical interventions in order to save the special historical periods and techniques.

Before every intervention, the work consisted of full documentation of different fragments of the circuit wall line. Continuing with the complete removal of the vegetation and creating a buffer zone of 2 m around the wall, cleaning up of the rotted roots and other organic remains, taking care of saving the dislodged stones of the structures (Fig. 5).

<sup>9</sup> [www.butrintconditionsurvey.com](http://www.butrintconditionsurvey.com)

<sup>10</sup> Nevila Molla, Maria Francesca Paris, Francesco Venturini, *Material boundaries: the city Walls at Butrint, Butrint 4 (The archaeology and Histories of an Ionian Town)*, pg. 260.



Fig. 6. Cleaning the organic remains and mud left in the inner part of wall line, with flowing water

To prevent further infiltration of the roots of the trees inside the structures (which in the past has been the main cause of wall lines destruction) they were gradually desiccated by injecting herbicide into the tree's trunk based on **Glyphosate 36%**, mixing it with water to a ratio of 1:1, while local bushes and grass were treated with herbicide to a ratio of 1:3. This was only used in those cases where the mechanical clean up (cutting and uprooting) was likely to destroy the structures.

After the mechanical cleaning of the inner part of the structure, rinsing it with clean water to remove all the organic remains, the next step was to consolidate all the movable stones and the delicate lines of the structure with lime mortar (Fig. 6).

In cases where the fallen stones were found *in situ* and their original position was easily recognised, they were placed back to their position in the structure. When the stones were not *in situ*, then no attempt was made to guess at their reconstruction.

The wall sections that needed drastic conservation were documented, the stone's position was registered, they were carefully dismantled, and were reconstructed based on prior documentation (Fig. 7).

The consolidation of the wall's surface in general was very limited and the filling was made several centimetres inside to distinguish the new intervention from the original part.

Regarding the restoration of the structures that date from Late Antiquity and Middle Ages in this section of the wall; after analyses of original mortar samples, a ratio of 3:1 (Sand aggregate and lime – aged a year) was found to be the nearest to the original mortar.

The difficult part was the intervention done on the multi-period line walls, where different tech-



Fig. 7. Fragment from the Circuit wall line; after its cleaning from the organic remains and vegetation and after its restoration and consolidation

niques are obvious. Among them was the section 5a-5r on the circuit wall, close to the Lake Gate which included sections of the original Hellenistic wall and fine medieval infill masonry using Hellenistic spolia<sup>11</sup>. After removing all the vegetation, degraded tree trunks and organic remains, all the movable material was registered. The second phase was injecting lime mortar in the medieval part and in the inner part of the structures. Where fractures were visible liquid mortar was injected (Fig. 8).

Another issue caused by the presence of the massive vegetation roots was noticed on north-west spur. After the removal of tree trunks, thick layers of organic remains were left behind which caused deterioration of the original structure, also shunt of verticality with high risk of collapsing some parts. By mechanically removing the degraded material, a huge layer of mud going up to the rock bed of wall line in a length of 3 m high it was noticed. In this layer neither organic remains nor traces of original mortar were noticed, this gave the impression that this layer of mud was used as aggregate for the connection of the inner structure of the wall. Meanwhile traces of mortar were noticed only in the outer side of wall surface (Fig. 9). In this case work consisted in the continuation of consolidation without the removal of all aggregate layer (the case of red mud), by adding the stones found in-situ and filling of the outer line with lime mortar. Considering the construction technique, this wall fragment was constructed in a hurry at a later phase as a support for the rest of the wall.

This wall line is located very close to Butrint Lake. The presence of water has covered the bases causing this degradation of terminal parts of the structures. It

<sup>11</sup> Monumentet 52, 2011- 2014, Kronika e punimeve restauruese, pg. 174



*Fig. 8. Fragment of the circuit wall line form Lake Gate to Lion Gate after restoration*



*Fig. 9. Documentation of the construction technique on the northwest spur and the presence of mud in the inner part of the structure*

was in need of not only consolidation of the wall but also of creating supporting structures and refilling a platform to stabilize the foundations and to avoid the penetration of water inside the structure.

Restoration projects in Butrint, in particular that of circuit wall line along the lake, aimed at not only improving structural stabilisation of the monuments and preventing their further degradation, but also preserving the environmental context of the archaeological monuments ensemble, improvement of presenting the archaeological area to visitors, management and reducing impact of the environmental changes.

Besides these restorative projects, Butrint has been used as summer school for many Albanian and foreigner students. At the same time the Restoration Summer Course was also organised with students from different parts of Europe. The purpose of which was training and teaching modern standards of conservation in order to create a corpus of professionals ready to support the initiatives of conservation in the future.

## ХРОНИКА ЗА РЕСТАВРАЦИСКИТЕ ИНТЕРВЕНЦИИ ВО НАЦИОНАЛНИОТ ПАРК БУТРИНТ - ПРИМЕРОКОТ НА ОПКОЛНИОТ ЗИД ПОКРАЈ КАНАЛОТ ВИВАРИ И НА БУТРИНСКОТО ЕЗЕРО

### *Резиме*

Историјатот на реставрацијата на спомениците во Бутринт започнуваат со археолошките истражувања во пролетта на 1928 г., од Луици Марија Уголини. Покрај ископувањата, истовремено се одвивало и реставрирањето на спомениците. По втората светска војна, со етаблирањето на археолошките институции, започнале и новите истражувања и реставрации. Институтот за Културните Споменици, заедно со екипа на специјалисти ги креирале програмите за конзервација и реставрација за повеќето од спомениците на овој локалитет.

По 1990-те години, Албанија излегува од рамките на комунистичкото наследство. Во рамките на англискиот и албанскиот проект Бутринт, фокусот бил кон проучување и заштита на локалитетот (што е финансиран од Фондацијата Бутринт од 1993 г.). Проектите за конзервација биле реализирани од страна на Институтот за Заштита на Културните Споменици (Тирана), Националниот Парк Бутринт и Фондацијата Бутринт. Процесот на заштита, конзервација и реставрација продолжил заедно со ископувањето, но по 2000 г., овој процес за раководството на локалитетот претставувал голем предизвик .

Фокусот на овие интервенции, како и во другите археолошки локалитети во Европа, била да се заштити ископаниот материјал, со почит кон интегритетот на локалитетот, а во рамките на Албанскиот договор за реставрација, Венецијанскиот договор, и Европската конвенција за заштита на археолошкото наследство. До денешен ден клучна улога претставува конзервацијата и заштитата на Националниот Парк Бутринт, а тоа пред се должи на големиот раст на шуми и вегетација внатре во опколните зидови на овој археолошки простор.

Во текот на овие години највпечатлив случај е реставрација и заштита на опколниот зид покрај каналот Вивари и Бутринтското Езеро.

На овој локалитет можат да бидат забележани неколку градежни техники од различни периоди, почнувајќи од хеленистичкиот период, доцната антика, средновековието, како и сполии од хеленистичкиот период. Комплексната разновидност во самата реставрација пред сè се должи на деградирањето, а кое пак изискува професионална и естетска интервенција според периодот кога е граден и самата техниката на градење. Пред секоја интервенција се превземале неколку чекори, прецизно документирање на различни партии од зидот, отстранување на вегетацијата, чистење на корените и органските остатоци, чистење со вода, како и консолидирање на одвоените камења. Во посериозните зафати, камењата се вадат и потоа се вградуваат во оригиналната позиција, и тоа според предходна извршена документација. Реставрацијата никогаш не се реализира според претпоставки.

Според истражениот примерокот на оригиналниот малтер од опколниот зид што се наоѓа покрај Бутринтското Езеро, се покажува дека овој малтер е најблизок до кречениот малтер 3:1 (мешавина на збир од песок од реката и креч што одстоил барем една година).

Во Бутринт, кампањата за реставрациските интервенции особено на опколниот зид на Бутринтското Езеро, имаат за цел за заштита на околината во рамките на овие споменици. Подобрувањето на квалитетот на презентирањето на локалитетот на посетителите ќе им овозможи поголеми подобност за следење и толкување на остатоците од антиката, што претставуваше и една од насоките на оваа камања.

Впрочем, сите проекти овозможија добри услови за создавање на локални специјалисти, и специјалисти од странство, кои ќе бидат потпора во идните конзерваторските иницијативи.