Virtual Reconstruction of Lost Cultural Heritage – The Case of the Historical Church of Pammegist Taxiarch Archangel Michael in Medieval City of Corfu. A holistic Interdisciplinary approach, in Challenging Times enhancing Sustainable Urban Development

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doi: 10.12681/ta.34998

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To cite this article:

Virtual Reconstruction of Lost Cultural Heritage
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Abstract. The present work is about the application of digital record of Lost Cultural Heritage monument in Corfu island - the case of the Church of ‘Pammegistos Taxiarch Archangel Michael situated in the heart of the oldest medieval district of ‘Campiello’ in the Old Town of Corfu, built the 14th century. Today, the building has been demolished and a homonymous square has been created in its place. The "Taxiarch square" is a free space formed randomly, violently and remnant of the bombings of the 2nd World War. Considering an essential step in understanding and conserving as accurate as the values of the memory of the glorious past, creating a as close as possible digital record of the most important monument in the area for the future, providing a means to communicating the knowledge and value of the tangible monument to the society. Our effort to provide the locals with the necessary information and knowledge of the past architectural and monumental structure of the city in order to ensure a sustainable and conservative development of these areas for the purpose of upgrading the living standard. In our Challenging Times, the data acquired from in-situ research, archives, bibliography and areal photography applied to 3D modeling of important monuments of Corfu Old Town - a UNESCO World Heritage Site in Greece results into tangible reconstructions of the archae-ological, architectural and artistic structure of monuments that may evoke the involvement of the citizens of Corfu in their maintenance and conservation. Our approach consists of using in the contest of the combined methods and data, planning through field and desk. We can affirm that we designed and developed, for the first time, a 3D Modelling of the Taxiarch’ church and its bell-tower situated in ‘Campiello’ district in the Old Town of Corfu. Having used ancient maps, the Land Registry of 1947, the Cadastre map of 1954, for georeferencing purposes it was necessary to select peculiar points with known coordinates, recognizable on the ancient map and still existing on current representations. Applying the comparative method, the analyses were concentrated to the basic characters of the selected points themselves (e.g., planimetric precision, graphic representation on the ancient maps, etc.). These points were considered landmarks because of their lesser reliability as compared with the usual topographic reference benchmarks. In our case we
selected lots of reference points throughout the area, to find out the elevation data of the object. At the same time, we used Drones Tech. We tried to investigate the changes in the urban fabric of the old city of Corfu and in the next stage of work, under a subtractive choice of approach, a 3D Digital Model of the church has been designed and developed.

**Keywords:** Lost Cultural Heritage, documentation, elevation data, Orthodox church, Old-Town, Corfu, Digitization, 3-D Modelling,

1 **Introduction**

The Church of Pammegistos Taxiarh Archangel Michael situated in the heart of the oldest Corfu district, ‘Campiello’ [1], not recognizable today, has been narrated as an important religious and social center of the 18th century. ‘Campiello’ was built on the hill, nearby the sea, to provide basic defense advantages, antedating even its fortifications. The small areas where the street widens discovers some old gothic arches incorporated into house walls, relief heads (so called ‘mori’), dating back to the Venetian rule. The narrow uphill streets, surrounded by large buildings consisting of five or six floors, attest to the use of building construction methods opposed to those that are specific to the climate of Corfu.

![Fig.1. Campiello, Distinct urban units, Old Town of Corfu, source: "Multicultural Tourism Pilot Project, Municipality of Corfu Development Enterprise (ANEDK), European Commission DG XVI, ‘Culture’ ERDF, Article 10, pp.8.](https://www.splrare-books.com/collection/view/panoramic-view-of-corfu)

At first glance these buildings recall the architectural rhythm of the coastal houses of Northern Italy, ascertaining the “naval affinity” of Liguria (north-western Italy), with Venice, which consist of tall buildings surrounding the narrow “carruggi” and in a picturesque way, extends towards the sea. The Venetian architecture with the narrow streets that ends up in real “campiella”[1], transformed into small squares often adorned with the green of trees and with the presence of no pointed bell tower [fig.2,3,4], also of Venetian style. The ‘campielli’ with the churches were the centers of parishes, meeting-places for the aristocracy, to exhibit wealth and piety and a means to express individuality. Literally, during the Venetian domination the hill of Campiello [fig.1,5] was densely built and framed up with many Orthodox churches, such as the Holy Virgin Our Lady of Antivouniotissa, ‘Pammegistos Taxiarch Archangel Michael’, the ‘Christ Pantokrator -Transfiguration of the Savior’, ‘Holy Virgin of Kremasti’ with its small square and a cistern, that is reminiscent a small "Campo Veneziano" [2], Saint Nicolas 'dei Vecchi’, and Saint Helena (today does not exist). What seems lacking in "elegant disposition" in the districts of the old town extending to the sea, responds, on the contrary, precisely to the altitude requirements of the area.
Today's Taxiarch ‘square’ is a free space formed randomly, violently and remnant of the bombings of the Second World War [fig.6,7,8,9]. After having sustained big structural damages, during the WW2 Italian bombings of the island, the local authorities demolished entirely the Church of Taxiarch as well as other considered “dangerous” buildings in the attempt to modernize by opening up free spaces and by maximizing the fluidity and accessibility of the area.

1.1 Historical and architectural evidences

Case study: The church of Pammegistos Taxiarch Archangel Michael in the exopolis/suburbium (out of the Old Fortress - Byzantine city of Corfu) on the so called “Judean Mountain” [3], dated back to the 14th Cent. [4]. Having been a small construction, but a very important church, later, on 1489 there were placed the Sacred Relic of Saint Spyridon, the Patron of Corfu, probably remaining there until 1528/31, when the Saint’s church was constructed [5]. In 1729 it was again renovated from the ground up [6]. On March of 1725 the Sacred Relic of Hagia Theodora, the Empress, remained until 1841, then, on 1842, moved to the current Metropolitan Church of the Most Holy Theotokos Spilaiotissis (Grotta) - Hágios Blásios and Hágia Theodora Augusta (Empress, 842-855) [7]. Having had the ownership status ‘Jus Comunitaris Publicus’ [8] the Pammegistos Taxiarch church served from 1712 to 1799 as the first Cathedral of the Orthodox Church and the seat of the Great Protopapas. After the reinstatement of the episcopal throne of Corfu until 1842 it served as the Metropolitan Orthodox Church [9]. The building was bombed in November 1940 by the Italians and suffered extensive, but not irreversible damage [10]. Having decided to “raze” the Taxiarch church and reconstruct only the ‘Christ Pantocrator’ church, we have the information that probably, under the protection of the Bishop Methodios Kondostanos the extant parts of the temple, the icons, the sculptures, banners and torches were removed and placed in ‘Rolina’ basement - the building along Garitsa seaside [11], and some of them were ‘lost’ forever. Nevertheless, what remained was demolished. Having received an irreversible decision, the local authorities destroyed the remains of the church and its beautiful,
surviving bell-tower [fig.4,8,9] "Abyssus abyssum invocat", ('One misstep leads to another').

Initially, before 1386, probably, the church was a single-aisle temple dedicated to Archangel Michael in honor of the byzantine ruler, Michael II Komninos Doukas.

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**Fig. 6.** 22.8.1948, Corfu, Old Town. Demolished buildings register (red) after WW II. Courtesy of Mr. Kollas Leonidas.

**Fig. 7.** The church after the Italian bombings WW B', newspaper: 'Kathimerini' (Η Καθημερινή), 31 December 1940.

**Fig. 8.** (α, β), Pieris, I., *Thomas Flanginis and Corfu*, Bulletin of the Society of Corfiot Studies, Corfu, 1993.

**Fig. 9.** Ventouras, N., Taxiarch church after the WW B’ bombing, vignette, Corfu 22.12.1940.
(called Michael Angelos in chronicle sources), ruler of Epirus and Thessaly (from ca. 1230) [12]. Later, was widened in the type of a three-aisled basilica. In the 16th and 18th cent., because of the Ottoman incursions the construction was seriously damaged.

The architectural type of the church of Pammegistos Taxiarch Michael is a three-aisled, timber-roofed basilica [fig.10,11], according to the Ionian Islands style, shaped under the influence of the Western church. Having acquired, later, elements of baroque style, the Taxiarch church, we must admit that a small number of dated buildings correspond to the "baroque" and "rococo" in Corfu town. The monument is poorly documented. The three-aisled basilica rarely occur as an exception, whether in the Old Town of Corfu, there are the churches of Virgin Mary of the Foreigners and the Most Holy Theotokos Spiliaotissis (originally built as a single-aisle chapel and later expanded to a greater three-aisled church), while the number is greater in the region. The orientation of the Ionian Islands’ temples was not fixed but it was influenced by factors directly related to the topography of the area, meaning the main street or the square, the shape of the plot etc. Especially in the large temples of the city, the religious imperatives were often reconciled with the data of the space, with the consequence that the sanctuary often showed a deviation from the East.

Fig.10. Interior of the church, early 19th Cent., photo, courtesy of Mr. Thymis Constantine.

Fig.11. 3D modeling [22].

Fig.12. The floor at the most churches in Old Town of Corfu, were built of stone in square slabs, off-white and pink colour, diagonally placed in a chequerboard ornament arrangement.
The three-sided apse of Taxiarch’s temple was situated on North-East. The main entrance was placed respectively on the long sides on South and North of the temple, - a peculiarity of the Orthodox churches in the Ionian Islands, mostly due to orientation. In that case the main entrance and the main facade ‘create’ a second transept-axis of the temple, perpendicular to the strong longitudinal axis, resulting in the creation of a center inside the building, geometric and symbolic. This difference in access reflects issues concerning the positioning of men and women in the temple. Essentially, by asking for the distinguished access of women, a different functional type is created, according to which the western entrance is addressed exclusively to women, especially young and unmarried ones, and leads to the gallery. So, the entrance and the façade are considered secondary.

In Pammegistos Taxiarch Archangel Michael’s church the gallery occupied the western part of the temple [fig.15], constituting architectural element, part of the general composition of the interior decoration. Studying the project-study provided by Mrs. Karydi, Alex., Architect NTUA, Urban and Regional Planning MSc., the researcher responsible of the project in 1997-8 [11], who I heartfully thank for the precious information, we come to the conclusion that there was a covered gallery on the West of the building - the so called ‘Volto of San Michele’ (named by the church) connecting the temple with the adjacent building and a porticus to communicate [fig.14].
The gallery or 'gynaikonitis' occupied the western part of the temple, constituting architectural element, part of the general composition of the interior decoration. The entrance in West was situated in a lower level, under the volt, having two-sided stone stairs and a metallic fence, probably. The overall length of the construction is approximately 26,40 m., the overall width is 13,95 m. and its total height calculated, might had been approximately 11,7 m. [fig.21].

According to the archaeological findings, there were unearthed partly, two phases of the building and we assume that were a third one which correspond the earliest phase.
of the temple [11]. We assume that the 1st phase corresponds in the period of the Despotate of Epirus (13th-14th cent.), then the Byzantine influence was much stronger in the entire city of Corfu and the temple was a small, one-isled church [fig.21] with a semi-circular apse and probably named by the Despote Michael II Komnenos Doukas (ca.1230-1266/8), often called Michael Angelos [12].

Our approach consists of using in the contest of the combined methods and data, planning through field and desk. We may argue now that we designed and developed, for the first time, a 3D digital Modelling of the Taxiarch’ church and its bell-tower situated in ‘Campiello’ district in the Old Town of Corfu. Having used ancient maps, the Land Registry of 1947 [fig.16], the Cadastre map of 1954 [fig.17], for georeferencing purposes it was necessary to select peculiar points with known coordinates, recognizable on the ancient map and still existing on current representations. Applying the comparative method, the analyses were concentrated to the basic characters of the selected points themselves (e.g., planimetric precision, graphic representation on the ancient maps, etc.). These points were considered landmarks because of their lesser reliability as compared with the usual topographic reference benchmarks. In our case we selected lots of reference points throughout the area, to find out the elevation data of the object. At the same time, we used Drones Tech. We tried to investigate the changes in the urban fabric of the old city of Corfu and in the next stage of work, under a subtractive choice of approach, a 3D Digital Model of the church has been designed and developed [fig.11, 13, 15, 24,29].
Inside the church there was a ‘typical Corfiot’ stone iconostasis [13], framed by icons of Cretan and Ionian Islands painting techniques worked by well-known hagiographers and mural paintings [14].

Fig. 18/ a). The two-sided icon of *Virgin Hodegetria ‘Demosiana’*, Palladio of Corfu. 18/b). Back-side, Saint Arsenios, Archbishop of Corfu (IXth Cent.). Probably work of Ioannina Hagiographers. Date: last quarter of 14th Cent. (Photo: “Byzantine and post-Byzantine Art in Corfu”, Sacred Metropolis of Corfu, Paxoi and Diapontian Islands, Corfu, 1994).

Fig. 19. Michael Damaskinos, ‘Great Deesis’, 16th C. At the Episcopal Residence, came from the demolished Church of Pammegist Taxiarch Archangel Michael, Campiello, Corfu [14].

Fig. 20. Michael Damaskinos, ‘Saint John Chrysostom’, 16th C. At the Episcopal Residence, came from the demolished Church of Pammegist Taxiarch Archangel Michael,
Virtual Reconstruction of Lost Cultural Heritage – The Case of the Historical Church of Pammegist Taxiarch Archangel Michael in Medieval City of Corfu. A holistic Interdisciplinary approach, in Challenging Times enhancing Sustainable Urban Development

Fig. 21. Plan of the church with its constructive phases [phase (1) is hypothetical], Program Contract of the Old Town of Corfu, Ministry of the Environment, Urban Planning and Public Works of Greece, Ministry of Culture, Public Enterprise for Urban Planning and Housing, Municipality of Corfu, Bureau of the Old Town of Corfu [11], [2].
Fig. 22. a). View of the ‘Taxiarch Square’ and the ‘apse’ of the church outlined with low, concrete wall. b). 3D modeling [22].

Fig. 23. Western side of ‘Taxiarch Square’, Campiello. Photo: E.Polymeri.

Fig. 24. 3D modeling [22].
An important architectural structure part of church’s complex was the bell-tower of Taxiarch, a ‘baroque style’ construction, situated on the northern part of the building, as drawn by Angelos Yiallinas on 19th cent. [fig.4, ref. 15]. Having survived the bombings of WW B’ in a very good state of conservation, the construction was demolished, immediately after the local authorities’ decision. The dimensions of bell-tower’s basis calculated, were approximately 3.50 x 3.50 m and its height approx. 17.20 m [16]. During the archaeological excavations that took place on 1997-1999 according to Mrs.Karydi, A. [11] there were found traces of two phases of the apse according respectively in two different historical periods and probably, we support, one in 15th cent., when it was reconstructed and the Sacred Relic of Saint Spyridon was housed in and the second perhaps in the period when Taxiarch’ Church became the Seat of the Great Protopapas or when it became Metropolis. During the works in 1997-8, there were unearthed four graves of distinguished officials at least one of the Great Protopappas, the head of the Orthodox Church and the Sacred Congregation/Order [17]. Having been placed in the area of the templon, not usual to burial practices in Byzantine period [18], we assume that they were built earlier, when the church was smaller and were placed in the area out of the church. The graves were built with marble stone of local origin and their dimensions were 100 x 75 cm.[fig.9]. Important is the fact that part of the icons, are saved and exhibited to the metropolitan church of Spileotissa, the Metropolitan Seat and one in private collection [19] the festive gilded icon of Archangel Michael [Fig.23] and some other are now exhibited in the Holy Fathers’ church situated in the top of the homonymous hill in the Old Town of Corfu.

**Fig.25.** a). Interior, templon, early19th cent., photo, courtesy of Mr.Thymis Constantine. b). The silver gilded festive icon, photo E.Polymeri.
Inside, the *templon* was built by stone, was high organized in three levels and an iconographic program was adopted. On the Northern part of the building there was a *proskinitarion* with the festive icon of The Virgin ‘Demosiana’, one of the oldest in Corfu. According to the ‘Baroque style’ the *proskinitarion* was shaped like a "tempietto" decorated with figures of angels in segmental triangles, on clouds, waving acanthus leaves and a pomegranate hanging in the center [Fig.30]. Through our research we found that the beautiful sculpture fragment, made of marble is placed in wall at the *prothesis/presbytery* of Saint Antonio’s church in Spilea – Old Town of Corfu. Another, exceptional piece of art is the Archangel Michael [Fig.28, 29] which today decorates the roof of ‘Christ Pantocratoras’ church and we strongly believe that it was part of the decoration of Archangel Michael Church [11]. The Angel is represented on a circular pedestal and the height is 1.25m. This magnificent piece of art dated back in the 18th C. crafted by a prominent mid-18th-century Italian sculptor Torretto/ Giuseppe Bernardi (24 March 1694 in Pagnano – 22 February 1773 in
Virtual Reconstruction of Lost Cultural Heritage – The Case of the Historical Church of Pammegist Taxiarch Archangel Michael in Medieval City of Corfu. A holistic Interdisciplinary approach, in Challenging Times enhancing Sustainable Urban Development

Venice). He was also the first teacher, among others, of the famous neoclassicist, Antonio Canova.

Fig. 29. Pammegistos Taxiarch Archangel Michael church and the Angel of Torreti, 3D modeling [22].

Fig. 30. Proskinitarion of The Virgin, Northern part of the church. Decoration (yellow arrow), sculpture fragment, marble. Photo. E.Polymeri.
Both churches, ‘Pammegistos Taxiarch Archangel Michael’ and ‘Christ Pantokrator - Transformation of the Savior’, on 1922 sheltered temporarily the Armenian refugees coming in Corfu from Asia Minor.

Conclusions

The present work is about the application of digital record of Lost Cultural Heritage (LCH) monument in Corfu – Old Town. The concise presentation of our approach, which propose a framework for the field of the prominence of Cultural Heritage (CH) in historic cities against Climate Change (CC). Given to the fact that the evolution of technology has given an abundance of methods and equipment at the same time, we have the possibility to reach with precision the 3-D Modeling of the lost monument, designed and developed, opening efficiently new orisons to the locals, in upgrading the living standard, while through culture and dialogue we might provide the necessary transformative dimension that ensures the sustainability of development processes.

References

1. The campiello (campiéllo s. m. [lat. mediev. campitellum, dim. di campus «campo») in Venetian town planning identifies a smaller field, roughly corresponding to the squares or large towns and often lacking the main characteristic of the Venetian fields, namely the well from which to draw water. In many cases the ‘campiello’ is made up of a simple extension of a ‘calle’ or is a small appendage of an adjacent field.


10. Karydi, Alex., Architect NTUA, Urban and Regional Planning MSc., the researcher responsible of the project in 1997-8, AUTOPSY MEMORANDUM OF 10.11.98 IN THE RESEARCH EXCAVATION OF THE PLACE OF TAXIARCH MICHAEL CHURCH AT HISTORICAL CENTER OF CORFU AND UPDATE OF DEVELOPMENTS OF 11.11.98.


Virtual Reconstruction of Lost Cultural Heritage – The Case of the Historical Church of Pammegist Taxiarch Archangel Michael in Medieval City of Corfu. A holistic Interdisciplinary approach, in Challenging Times enhancing Sustainable Urban Development

19. Leader, A., https://italianartsociety.tumblr.com/post/114486142065/by-anne-leader-giuseppe-bernardi-called-torretto: Giuseppe Bernardi, called Torretto, was born on 24 March 1694 in the Veneto town of Pagnano. The son and nephew of sculptors, Bernardi became one of the leading north Italian sculptors of the mid-eighteenth century. He was also Antonio Canova’s first teacher. From the 1730s on, Bernardi worked on a large project for the church of Santa Maria della Fava in Venice to sculpt eight, monumental marble statues of the four Evangelists and the four Fathers of the Church. The clay sketches, or modelli, are now in the Birmingham (AL) Museum of Art.

20. 3-D Modelling, designed and developed: Monastiriotis Charilaos - Civil Eng., Foteinos Christos - Structural Eng., Michalas Demetrios - Civil Eng.