

Interim Meeting of Five ICOM-CC Working Groups, that is organized in collaboration with the Istituto Superiore per la Conservazione e il Restauro (Rome), 23 – 25 March, 2010

## Byzantine church of Taxiarchis Michael in the island of Andros: science made visible through symbolism and allegories

“Harmonia est Discordia concors: Harmony and discord as preserved in restoration works”

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The development of Byzantine architecture in Greece paved the way for a series of important monuments built from 1040 on. One of those monuments, the church of Taxiarchis Michail built in 1158, is to be sited in the island of Andros (north-west Aegean sea) at “Messarià” that was the medieval both Byzantine and Venetian capital of the island. (Figure 1)

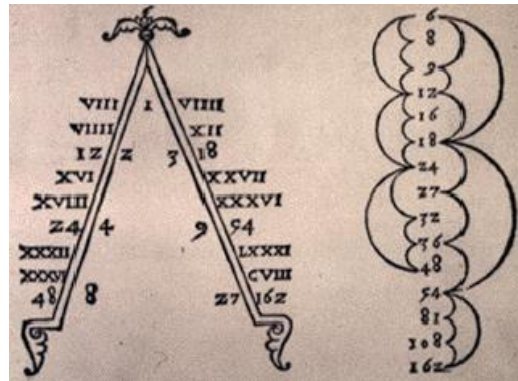


Figure 1. Andros, Messarià, church of Taxiarchis Michail, north side. Figure 2. Theorica Musica, F. Gaffurio, Milano, 1492

After the breakdown of the Byzantine Empire by the Crusaders in 1204 the Aegean was taken over by the Venetians. Andros was given to Marco Dandolo, the nephew of the Doge of Venice, and remained under the rule of the Venetians until 1566, when Andros was seized by the Turks. The Venetians in order to protect the island from the pirates and the Turks, built castles towers and lookout posts

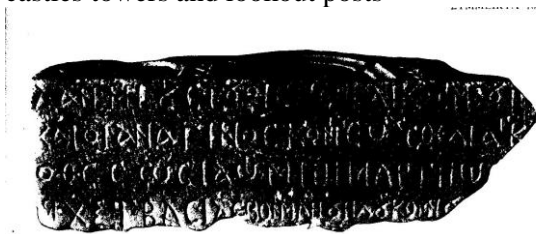


Figure 3. Andros, Messarià., church of Taxiarchis Michail, inscription of dedication  
Figure 4. Andros, Messarià, Private Tower Lookout post

Despite the medieval and picturesque aspect of the church, the accurate architectural survey revealed its harmonious proportions and ratios between the whole and its elements. The church located at the island of Andros a crossroad of the Byzantine Empire on the road to Italy and Constantinople, not far from Athens, may itself reveal certain historical facts and symbolisms. The cross-in square plan domed church of Taxiarchis Michael dates from 12<sup>th</sup> century and its model is due to the Byzantine Renaissance both of the House of *Komninoi* and of *Macedonians*. In particular it dates from 1158 a.C [ORLANDOS, (1955-56)] as it results from two dedicatory inscriptions on the two marble octagonal columns that support the dome to west. It is one of the few Byzantine monuments whose dating is not only based on stylistic ground

The main castle and the centre of administration was built by Dandolo on the eastern side of the island on a naturally fortified rock surrounded by the sea at the end of a peninsula. This rock was fortified by a wall all the way around and inside was a

### Description of the church

The church of Taxiarchis Michael is a cross-in-square plan domed church of 11<sup>th</sup> c. as it results from the dedicatory inscriptions preserved *in loco*. Furthermore, there remain many open questions associated with the foundation of the first church at this place. An initial construction at this place can be probably attributed to the 80 c. a.C., when at the island there was a school of Philosophical Studies [*Oxford Dictionnry of Byzantium, (1991)*], where the future Byzantine Emperor Leon the Sofos (775-780) was upgrading his education taking lessons near the known Byzantine scholar *Michail Psellos*.

Usually we don't have many informations about patronage of middle byzantine churches<sup>1</sup> As resulting from the relative sources, *mechanikos* was present at the Roman and Byzantine Architecture until 6<sup>th</sup> c. From 6<sup>th</sup> century on there was God that was the Creator of everything with some exceptions

The architect-engineer has been replaced by the term builder or technician that was a sort of Scientific practitioner

This church is among the few middle byzantine churches that we know the patrons and the owners.

**1. 1<sup>st</sup> inscription of dedication** of the church of **1158** is as following [Orlandos Anastasios,(1955-56)], as preserved in *loco*

« +Ο πάνσεπτος ναός ούτος ο του / μεγάλου ταξιάρχου Μιχαήλ ανοικοδομήθ(η) επί β/ασιλέως κυρού Μανουήλ του Κομνηνού, Πα/τριάρχ(ου) κυρού Λουκά, κτητόρων δέ/συνεύνων Κωνσταντοίνου / κε Ηρίνης ού κλήσις εστήν επονήμω/ς Μοναστηριώτου κε της Πρασίν (η)ς μηνή Μαρτ(ίω) ιν(δικτιώνος) ς έτους, ςΧΞς »= **1158** [ORLANDOS, ANASTASIOS,(1955-56)]

As it derives from the above inscription, the sponsors of the construction of the church were Konstantinos Monastiriotis (*Κωνσταντίνος Μοναστηριώτης*) and his wife Eirini daughter of Prasinou), that belonged to noble families of the island.

<sup>1</sup> Ν.ΙΩΑΝΝΙΔΟΥ-Ι.ΧΑΝΔΡΙΝΟΣ, Ο κτήτορας και το αρχιτεκτονικό έργο στα μέσα βυζαντινά χρόνια, Περίληψεις εισηγήσεων, 23ο Συμπόσιο Βυζαντινής και Μεταβυζαντινής Αρχαιολογίας και Τέχνης, Αθήνα, Μάιος 2003, σελ.46-47



Figure 5. 1<sup>st</sup> inscription of dedication of the church of **1158** scalped on the upper part of North column

2. The 2<sup>nd</sup> inscription of dedication of the church is inscribed on the south octagonal column of the church and is preserved nowadays *in loco*. The inscription is as following:

+ Τόν σόν  
οικέτην  
Μιχαήλ.....προ  
Τος.....πα  
Κ.....ς  
Κ.....ς  
Τ.....τιω  
.....π  
ου.....τ  
εν.....η

3. The 3<sup>rd</sup> inscription, scalped on a piece of white marble (transferred to the Museum of Classical Antiquities of Andros) was to be found in the Altar of the church (Figure 5).

Δανιήλ του Σγουρισμένου και Κοσμά του Πικρί  
Και οι αναγινόμενοι εύχεσθε δια τ(ον) κτίτορα  
Π Θε(ός) σώι αυτ(όν). Μηνί Μαρτήω  
Έτ(ους) ζςχς βασιλέβοντος Μανουήλ (=1158) του Κομνηνού

The 4<sup>th</sup> inscription of dedication of the church was engraved on the marmoreal epistyle of the south entrance of the church, in 1772. This inscription that is preserved up today *in loco*, testifies the opening of this entrance by the expenses of Francesco del Gaspari Delagrammatica (1772) (Figure 5,6)

ΦΡΑΝΤΖΕΣΚΟΥ ΠΟΤΕ ΓΑΣΠΑΡΗ ΝΤΕΛΑΓΡΑΜΑΤΙΚΑ (Francesco del Gaspari Delagrammatica) :ΑΦΙΕΡΩΘΗ ΠΑΡΑ ΦΡΑΝΤΖΕΣΚΟΥ ΠΟΤΕ ΓΑΣΠΑΡΗ ΝΤΕΛΑΓΡΑΜΑΤΙΚΑ Η ΘΥΡΑ ΑΥΤΗ ΔΙ ΕΞΟΔΩΝ ΑΥΤΟΥ 1772



Figure 6. Andros, Mesarià, Taxiarchis Michail, south side, iscription of 1772 (survey drawing arch.Γ.ΤΣΙΡΩΝΗΣ, conceded by Greek Ministry of Culture, 2<sup>nd</sup> Ephory of Byzantine Antiquities)

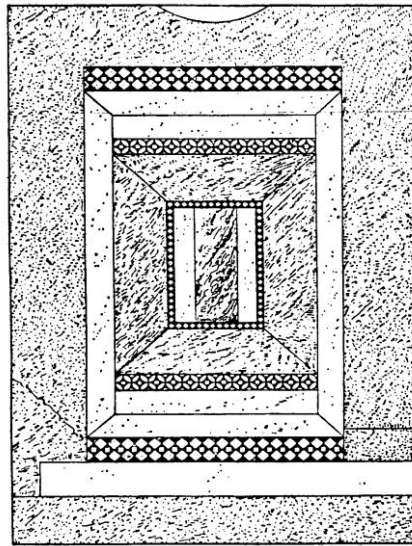


Figure 7. Andros, Messarià., church of Taxiarchis Michail, pavement, “opus sectile”

The revetment of the flooring of main church is almost totally consisted of rectangular grey-blue slabs mixed-with white slabs and some reddish plates from the neighboring island of Skyros. At the center of the pavement that is the core of the church a rectangular piece of “opus sectile” (sometimes called omphalos) is to be found. (Figure 7).

This mosaic is composed by a remarkable diversity of small pieces of marble. This diversity is to be noticed for their colors and tones as for their provenance. The central slab of the mosaic is of yellow-like marble from the island of Skyros. Other marble pieces (tessere) are white, mauve-like, meantime some other tessere are dark. The outer borders of the mosaic are consisted by dark-blue marble.

Some restoration of the church may be attributed to the Venetians, that occupied the island from 1204 to 1566. Sandstone, soft limestone and some marbles composing the western and southern portal and other parts of the church may be attributed to the Venetians.

Otherwise, the design of the initial church and of the successive historical phases and the use of the appropriate lithic materials were no doubt intended to focus to the importance of the church. (Figure 8,9).

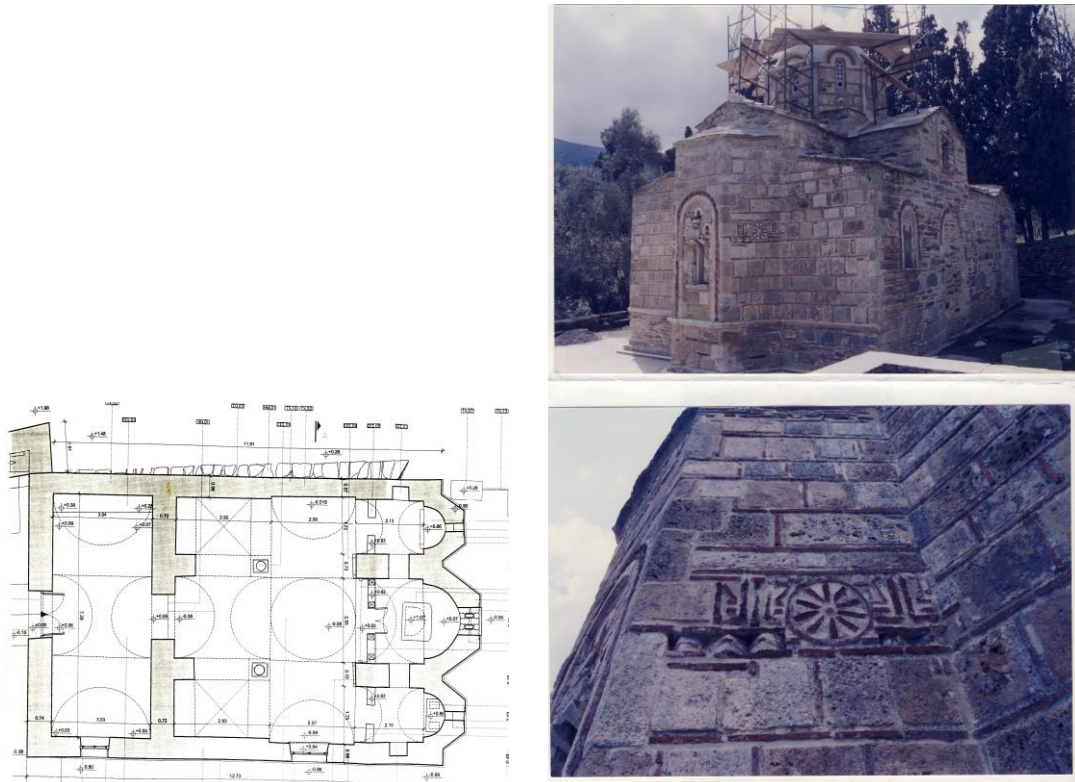


Figure 8. Andros, Messarià., church of Taxiarchis Michail, ground plan (survey drawing, arch. Γ. ΤΣΙΠΩΝΗΣ, conceded by Greek Ministry of Culture, 2<sup>nd</sup> Ephory of Byzantine Antiquities)

Figure 9. Andros, Mesarià., church of Taxiarchis Michail, east side, circular motive with symbolic meaning

### Analysis of the construction

Despite the fact that the church nowadays appears like a picturesque medieval monument on basis of an architectural survey, one can notice its harmonious proportions. The combinations between the proportions of the church and her elements result to be as following: 3:2, 4:3, 2:1, 3:1, 4:1, 9:8.

“- The fifth, the interval between Do and Sol, defining an interval of five tones, expressed by the ratio 3:2, which in the ancient Latin nomenclature of fractions was defined as sesquialtera, meaning one and a half;

- The fourth, the interval between Do and Fa, defining an interval of four notes, expressed by the ratio 4:3, in Latin sesquitercia, or one and a third;

- The eighth, the interval between the Do that opens the musical scale and the Do of the next successive octave, expressed by the ratio 2:1, in Latin dupla, or double;

- The triple, 3:1;

- The quadruple, 4:1;

- The tonus, although not a proper interval, is an essential in the definition of the Pythagorean scale, 9:8, in Latin sesquioctavus, or one and an octave” [WITTKOVER, RUDOLF (1964); PINTORE, ANGELA (2004)]

During renaissance people seem to have discover again the theories of harmonious proportions of the ancient philosopher Pythagoras Leon Battista Alberti studied carefully the harmonic musical ratios that he set forth in De re aedificatoria [Pintore,

(2004)]. These harmonic ratios we can find in many other renaissance churches <sup>2</sup> [IOANNIDOU, NIKOLIA (1998)].

The dimensions of the church are multiples of number (3) or they have among them the following relations 1:2, 2:3, 3:4, 8:9, that go back to Pythagoras and Platon [FRONTEROTTA, FRANCESCO (2003)] theories about Universe Harmony [WITTKOVER, RUDOLPH, Rudolf (1964)]. Middle byzantine scholars continued being occupied by those theories about Universe Harmony and also they were giving private lessons of Circular Education<sup>3</sup>, consisting in instructing *Tetractys*: Arithmetics, Music, Geometry and Astronomy. *Tetractys* (Quadrivium) is an equilateral triangular mystic symbol very important to the secret worship of Pythagoreanism. Later on George Pachymeris (1242-1310c), Quadrivium (*Tetractys*) was the whole of four the lessons we have already mentioned<sup>4</sup>.



Figure 10.a.. Manuscript of Iliad, beginning of 6<sup>th</sup> c. that was in use at Byzantium as a manual L.LYBERI <http://vizantinonistorika.blogspot.com/2013/10/h.html>

The lithic materials [LAZZARINI, LORENZO, (2007)], used at the church, their elective use at the various historical phases, the use of local or imported stones, their origins, their relations to monuments of classical antiquity can help to the research of previous constructions at the same place [IOANNIDOU, NIKOLIA (2005)] with focus to the symbolism of those stones.

In medieval times as in byzantine times people believed that through art and architecture they could capture more absolute truths which could only be accessed by indirect methods. Thus, they sometimes used a metaphorical and suggestive manner,



Figure 10.b.The Harmonic Scale F. Gafurio, *De Harmonia musicorum instrumentorum*, 1518

<sup>2</sup> NIKOLIA IOANNIDOU, 1998, La lunghezza della chiesa (30,00 m) di San Giorgio dei Greci di Venezia (1539-1577) rispetto alla larghezza (14,40m) sta in un rapporto di quasi  $\frac{1}{2}$ , che può essere confrontato con l'accordo di ottava (dupla) secondo la teoria dei rapporti armonici della scala pitagorica...";

<sup>3</sup> LEONIDAS LYBERIS, <http://vizantinonistorika.blogspot.com/2013/10/h.html>

<sup>4</sup> PAUL TANNERY, *Quadrivium de Georges Pachymere, ou Το Σύνταγμα των Τεσσάρων Μαθημάτων (αριθμητικής, μουσικής, γεωμετρίας και αστρονομίας)*, Texte revise et etabli par le R.P.E.Stephanou, Città del Vaticano, Biblioteca Apostolica Vaticana, MCMXL

endowing particular materials or objects with symbolic meaning, like the circular figure on the east side of the church (Figure 9).

Symbols [BATTISTINI, MATILDE (2002)] in art are humans' oldest form of visual communication. Artists have incorporated symbols into their work since humans first began to delve into the world of visual expression and they painted on cave walls. During later times, those unable to read could still follow religious events by looking at and understanding the paintings in their churches. Puzzles, riddles, and symbols are still part of the vast appeal of art. (Figure 10)

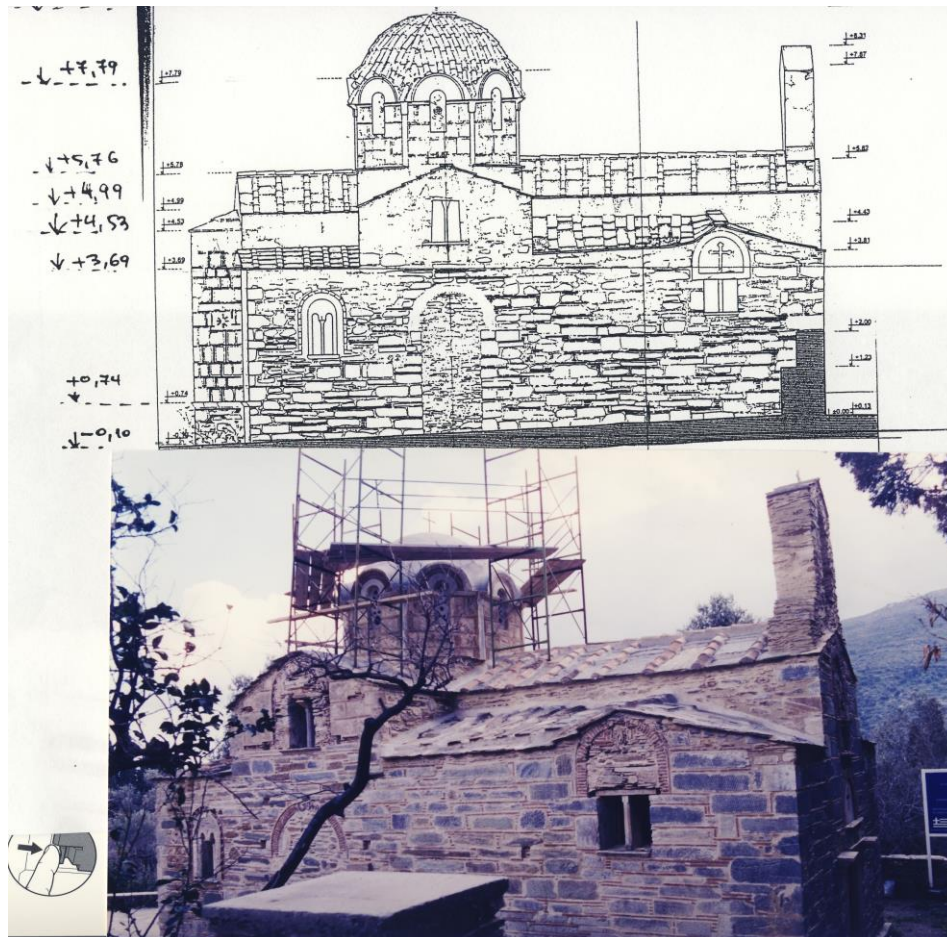


Figure 11. North side (arch.Γ.ΤΣΙΡΩΝΗΣ, conceded by Greek Ministry of Culture, 2<sup>nd</sup> Ephory of Byzantine Antiquities)

Figure 12. Andros, Messarià., church of Taxiarchis Michail, north side

The physical universe, then, and an architectural construction is a kind of language that invites a spectator to decipher it, although this does not yield a single message so much as a network of associations. Those symbols are not allegories, intended to represent; they are instead intended to evoke particular states of mind.

Otherwise, in the history of all monuments there are various events that are irrevocably associated with the popular imagination of that monuments. The remembrance of those events has been sustained through popular stories, pictures and testimonies and through the presentation of officially sanctioned histories. But the

memories people hold of significant events are intimately connected with a specific sense of space and place.

As for harmony and discord as preserved in restoration works we are referring to “Restoration” as a human act that has the purpose to extend the natural cycle of life of the physical elements that constitute and transmit the image of a piece of Art or Architecture. The main restoration principles applied to the Art handicrafts are valid also to Architectural single monuments

Franchinus Gaffurius, (1451-1522) was an Italian music theorist and composer of the Renaissance. He was an almost exact contemporary of Josquin des Prez and Leonardo da Vinci, both of whom were his personal friends. He was one of the most famous musicians in Italy in the late 15th and early 16th centuries. He was one of the renaissance people to rediscover the **musical ratios** and to set up the theory about *Harmonia est discordia concors* [GAFFURIUS, FRANCHINO, (1518)] or “*Harmony is discordant concord*, propounding the thesis that harmony results from two unequal intervals. (Figure 2) The musical ratios theory in architecture can be simply expressed as in figure

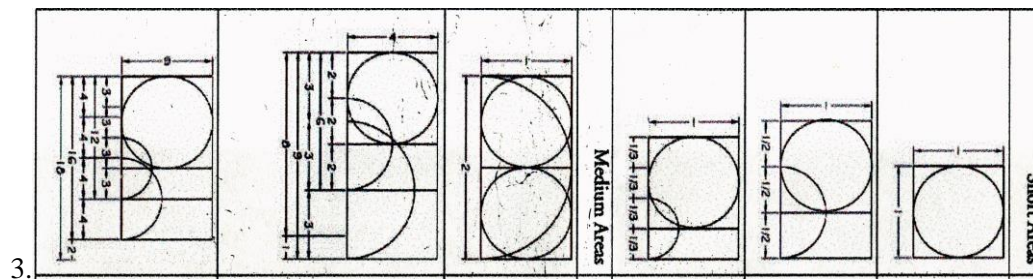


Figure 13. Geometric-musical analysis (Angela Pintore, 2004)

### Restoration Principles

Preservation as a human activity existed throughout centuries but only after the French Revolution of 1789 preservation began to express the current concept of Restoration that means that we preserve a handicraft not only for necessity reasons but in order to transmit it as a piece of art or architecture to the future generations.

The various theories of preservation and restoration are depending on the different meaning people gave to the term restoration (preservation, restoration, rehabilitation, restoration critical theory, restoration creative theory, integrated restoration theory, re-use etc). Those types of restoration put every time under discuss the authenticity of the restored piece of art and of architecture.

The main restoration principles applied to the Art handicrafts are valid also to Architectural single monuments or to Architectural historical ensembles as the historical centers.

Several explications concerning Restoration origins exist. Some people believe that is a modern activity which has its origins in the end of 18<sup>o</sup> century. All these explications are correct as they are based on the different context that one gives to this human activity.



Two main tendencies can somebody notice in Restoration process throughout centuries: The first one tends to equalize restoration to pure conservation and the second permits to restorer the liberty to express his creativity

If we accept that there is creativity in restoration process of architectural monuments or architectural complexes (historical centers) then Restoration is equal to Architecture.

Independence of Art has been recognized in 19<sup>th</sup> century by the new Science of "Aesthetics". For the first time History of Art became independent from artist's lives.

The main representatives of Restoration Critical Theory in the days before the Second World War were : Giulio Argan [Argan, Giulio.(1939)], A.Pica, Roberto Pane, Cesare Brandi [Brandi, Cesare. (1963)] e Renato Bonelli [Bonelli, Renato (1963)].

Before the Second World War, the main movement in restoration was the one called Philological Restoration Theory , as a result of the principles of Scientific Restoration. This rigorous Theory and its principles have been proved inadequate in order to reply at the several restoration cases.

In 1939, Giulio Argan, set up the first principles of Restoration Critical Theory, as they were expressed in his publication [ARGAN, GIULIO (1939)]. The issue of this Theory was for its main part due to Professor Cesare Brandi of the University of Rome. In fact he was teaching History of Art, and in 1939 became the Director of Istituto Centrale di Restauro, that was founded in the same year. [Brandi, Cesare (1963) ]

The main principles of this Theory are the following:

1. We call Restoration every human activity (conscious act) that has the purpose to extend the natural cycle of life of the physical elements that constitute and transmit the image of the piece of Art or Architecture.
2. If we consider that Architecture is a piece of Art, this piece of Art is determined by its double nature. If its double nature consists in the historical one and the artistic one, then restoration is the double act of its restoration as a piece of Art and as a piece of Architecture
3. The same principles that apply to Restoration of Art handicrafts, «moveable and immovable» are valid also in architectural monuments restoration.
4. Restoration is the methodological moment of the recognition of a piece of Art in its double nature, both aesthetic and historical, in order to be transmitted in the future

It is possible that restoration is not a simple conservation but has also to integrate the pieces that are missing of a piece of Art or Architecture

In the first years following the Second World War Creativity Restoration Theory was announced by A.Pica and it was first published in 1944 [PICA,A (1944)].

If the original piece of art or architecture is distinguished for its harmonious proportions and its harmony as it happens at the church of Taxiarchis Michael in the island of Andros, can restoration ensure the preservation of those original features?

The design and the structuring of *Taxiarchis Michail* church and its square as described above could be interpreted in various ways:

1. Use of an architectural-harmonic design,

2. Use of some measuring and structuring methods based on a geometric system of proportions (quadratura) in use from the 10<sup>th</sup> to 15<sup>th</sup> c.<sup>5</sup>
3. Use of specific numerical measurements of length of Byzantium of 10<sup>th</sup> c. (10th-Century Instructional Manuals by "Heron of Byzantium")<sup>6</sup> based on the archetype manuscript *Vaticanus graecus 1605*<sup>7</sup> where is specified that for specific numerical measurements of length the author uses the following, the finger (δάκτυλος= 1,95 cm), foot (πούς=31,23 cm) etc.

On the basis of the survey, we attempted to analyze the architecture of the church of St. Michael in the island of Andros. We studied carefully the combinations between the proportions of the church and her elements and the relations between them that would recall the harmonic musical ratios as above mentioned. Harmonic musical ratios have become the element that had characterized Renaissance architectural theory, inaugurating a tradition that will begin to see a decline only in the eighteenth century.

In spite of the myriad difficulties of establishing if these speculations had indeed any concrete effect on architecture, it is clear that Leon Battista Alberti's theory as expressed in *Del Re Aedificatoria* is not the result of individual reflection, based solely on the classical sources that Alberti himself explicitly cites in his treatise, but rather is the culmination of an age-old tradition of thought that, during the whole arc of the Middle Ages, had deepened the study of the symbolic and expressive value of harmonic ratios.

Rudolf Wittkower, cited that in fact, it was only in 1558, with the essay by the Venetian Zarlino, that the natural scale would be reintroduced. This choice, made possible in the context of a more general mutation in scientific and philosophic thought, sacrificed the symbolism traditionally tied to the definition of the musical scale, but led to a greater euphony, which had become necessary with the ongoing development of polyphonic music. In parallel with the changes that had come about in music theory, architectural theory as well, beginning with Palladio, introduced the rediscovery of the natural ratios as possibilities for correct design.

The harmonies that Alberti used to give structure to this theory of harmonic areas are those of the Pythagorean scale, the only ones that were deemed valid in medieval musical theory. In *De re aedificatoria*, Alberti does not linger over a complete description of musical theory but rather limits himself to listing the principle ratios :

The fifth, the interval between Do and Sol, defining an interval of five tones, expressed by the ratio 3:2, which in the ancient Latin nomenclature of fractions was defined as sesquialtera, meaning one and a half.

<sup>5</sup> HANS BUCHWALD, *Sardis E church, a preliminary report*, JOB(2<sup>^</sup>), 1977, p.265-299

<sup>6</sup> DENIS SULLIVAN, SIEGECRAFT, *Two 10th-Century Instructional Manuals by "Heron of Byzantium"*, *Dumbarton Oaks Research Library and Collection, Washington D.C., 2000, p.23, on defence of fortified positions*, including a number of 10<sup>th</sup> c. Byzantine texts that have been the subject of recent scholar attention, based on the archetype manuscript *Vaticanus graecus 1605*, For specific numerical measurements of length the author uses the finger(δάκτυλος= 1,95 cm), foot (πούς=31,23 cm) etc.

<sup>7</sup> [https://digi.vatlib.it/view/MSS\\_Vat.gr.1605](https://digi.vatlib.it/view/MSS_Vat.gr.1605)

The fourth, the interval between Do and Fa, defining an interval of four notes, expressed by the ratio 4:3, in Latin sesquitercia, or one and a third.

The eighth, the interval between the Do that opens the musical scale and the Do of the next successive octave, expressed by the ratio 2:1, in Latin dupla, or double;

The triple, 3:1; The quadruple, 4:1; The tonus, although not a proper interval, is an essential in the definition of the Pythagorean scale, 9:8, in Latin sesquiocavus, or one and an octave.

Firstly the restoration “in loco” of the two marble octagonal columns of the church, that bear the inscriptions of 1158 a.C. and of 1775 creates many problems (Figure 11,12).

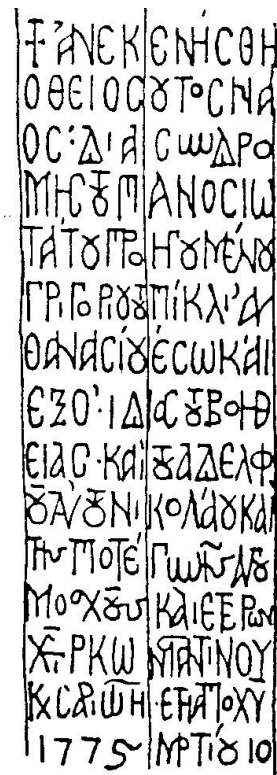
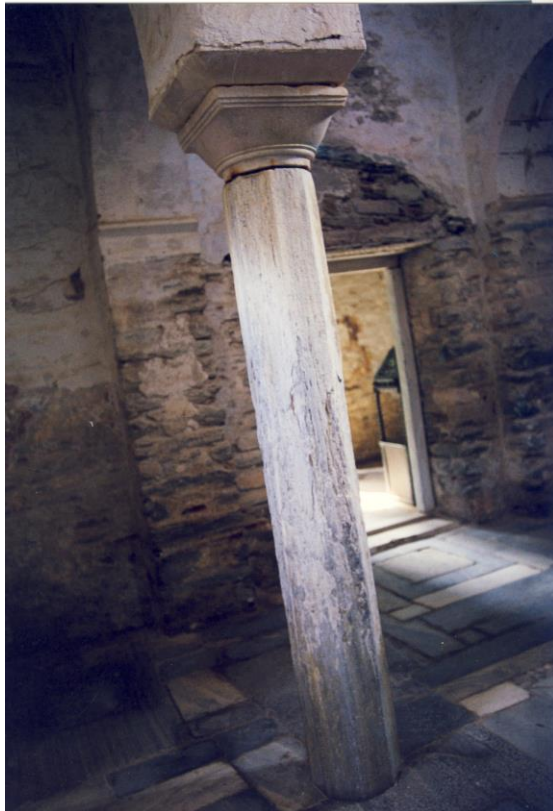


Figure 14. Andros, Mesarià, church of Taxiarchis Michail, interior, south column of support of the dome

Figure 15. Andros, Mesarià, church of Taxiarchis Michail, interior, inscription on the north column of support of the dome

One has to consider their origins, their material, their possible ways or restoration as this church is one of the few Byzantine monuments whose dating is not only based on stylistic ground.

After all, following some restoration examples, our purpose is to think over restoration project-restoration works as preserving the original “harmony and discord” coexisting in many Byzantine, renaissance and modern monuments.

Concerning the aesthetic aspect of a work of art, any reintegration can be referred to the experience gathered in the Gestalt-Psychology in assessing the visual weight of

different types of reintegrations in relation to the existing original surfaces [CARBONARA, GIOVANNI, (1976)] Bright additions can easily detract attention from the old patinated originals. Once the creative process have been completed, the resulting work of art exists in the world as a presence in human consciousness. Restoration can then be contemplated, but every time it is undertaken, it must be based on a singular recognition of the work as a work of art as a special product of humanity [JOKILEHTO, JUKKA(1999)].

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