
THE NARRATIVE DECORATIVE SURFACES AT THE SPANISH COLONIAL MISSION CHURCH OF SANTA MARIA DE CUEVAS IN NUEVA VIZCAYA WHERE RELIGION, ART & SCIENCE MEET

**Karla Muñoz-Alcocer^{1, 2, 5*}, Laura Fuster-López²,
Jose Ramón Ruiz-Checa³ and
Maria Luisa Vázquez de Ágredos Pascual⁴**

¹*Misiones Coloniales de Chihuahua A.C (MCC), Historical Heritage Laboratory (LPH),
H. Colegio Militar 4700, Col. Nombre de Dios 31300, Chihuahua, México*

²*University Polytechnic of Valencia, Department of Conservation and Restoration of Cultural
Heritage, Camino de Vera s/n, 46022 Valencia, Spain*

³*University Polytechnic of Valencia, Department of Architectural Construction, Camino de Vera
s/n, 46022 Valencia, Spain*

⁴*University of Valencia, Department of Art History, Avenida Blasco Ibáñez 28, 46010, Valencia,
Spain*

⁵*Tecnológico de Monterrey Campus Chihuahua, Colegio Militar 4700, Col. Nombre de Dios,
31300, Chihuahua, México*

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Abstract

This paper presents the conservation research project that has been carried out in the last 10 years to preserve the building and the artworks of Santa María Cuevas, a Spanish colonial mission founded by the Jesuits missionaries in 1678 at Nueva Vizcaya (Mexico). Located in the Mexican state of Chihuahua, this church continues to be the centre of the cultural and religious traditions of its community. Of particular interest is the complex polychrome technique and wooden ceiling structure. The original paintings narrate the Assumption of the Virgin Mary. In this paper, special attention is given to the studies that are currently being undertaken to interpret the narrative iconography that the Sicilian missionary Luis Mancuso together with the painter Domingo Guerra designed and painted in 1700.

Keywords: Chihuahua, Spanish, colonial mission, iconography, conservation

1. Introduction

The project ‘Mission of *Santa María de Cuevas*: A Mission for Chihuahua’ is administered by Misiones Coloniales de Chihuahua, A.C as a multi-disciplinary exercise that has succeeded in assembling historians, conservators-restorers, architects and other specialists working together to gain a

*E-mail: karmuoal@doctor.upv.es, tel.: +393392461850

better understanding of the historical past of Northern New Spain through the study of this historic mission founded towards the end of the 17th century.

This initiative is part of a larger and more ambitious project entitled *Una Misión para Chihuahua: Sus Misiones Coloniales* (A Mission for Chihuahua: Its Colonial Missions). The main goals of the various programs and activities within this project are the safe guardianship, research, preservation, conservation and promotion of the cultural heritage, as a way for local development. The project aims to recover construction techniques, traditional crafts and activities in order to reinforce the cultural identity of the people who live in these sites now and in the future. The project also aims to set the balance between the preservation of both tangible and intangible cultural values, without losing sight of the social needs.

The village of *Santa María de Cuevas* is located in the arid foothills of Northern Mexico's Sierra Madre Occidental, 60 miles southwest of the capital Chihuahua and 250 miles south of El Paso, Texas. The village is the site of one of the most significant examples of colonial architecture in Mexico: a late 17th century church that survived until today in good condition (Figure 1). It contains the oldest example of colonial figurative wall painting discovered to date in Northern New Spain as well as an elaborated painted wooden ceiling that is unique in the region and in all of Mexico (Figure 2).

Santa María de Cuevas was founded by Jesuits between 1651 and 1678 as a mission for Tarahumara Indians. There are records that a church was built at that time. It is uncertain if the original church is part of the current one or if it was re-built in 1696 when the Sicilian missionary Luigi Mancuso S.J arrived to Santa Maria [1, 2]. What is certain, however, is the date in which the church was completed, the date is found next to the painter's signature: *Domingo Guerra F. Ano D 1700* under the monogram IHS - *Jesus Hominum Salvator* (Jesus, the Saviour of Men) at the upper decorative frieze in the presbytery.

The church consists of a single nave with three-sided apse, a small baptistery, and a sacristy. The facade is decorated with a well carved and cut sandstone portal, composed with the traditional volute used by the Jesuits to decorate the facade of their churches. Following decorative elements in Mannerist style, the monogram of the Virgin Mary crowned is at the center of the façade. At the bottom, is again the monogram IHS, announcing the dedication of the church to the Assumption of the Virgin Mary in the presence of the Jesuits. In the interior, the most important architectural element is the wooden ceiling (sp. *alfarje*) made of large beams (530 x 30 x 15 cm) and planks of wood between them. Above this structural system, a wooden structure (sp. *tejemani*) serves as support for a layer of compacted earth (its thickness ranging between 40 and 50 cm).

This horizontal surface named *alfarje* and the wall paintings were used by the missionary Mancuso and the painter Domingo Guerra to represent the main aspects of the iconography of the Virgin Mary in order to narrate the mystery of the Assumption.

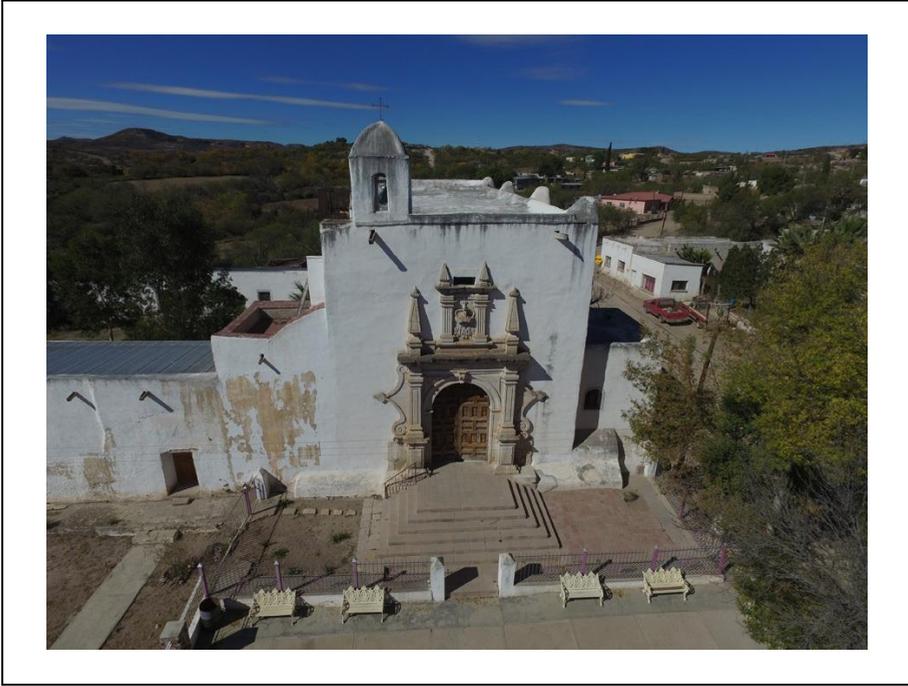


Figure 1. Main façade of Santa Maria de Cuevas.



Figure 2. Interior of Santa María de Cuevas mission church. View of the polychrome wooden ceiling and the decorative figurative paintings in the arch.

To understand how the decoration of *Santa María de Cuevas* was made up, it was necessary to consider all the existing information referring to the Ascension of the Holy Virgin Mary, especially since 14th century. Over this century the cult of Mary and its iconographic representation increased significantly to approach and humanize the Christianity to the faithful of the time [3, 4]. During a condition assessment of the church (and of its artworks) it was found that the wooden tablet ceiling (Sp. *entablado superior*) was composed of eight symbols or litanies of the Virgin Mary in the center and botanical elements that cover the complete surface to its edges and that these elements were only one part of the tale. The remainder of the tale is located on the lime plaster covered walls. Together with other four Mission Churches, built by the Jesuits with decorative wooden ceilings during the same period of time, this church is the only one displaying a narrative decoration (Figure 3).

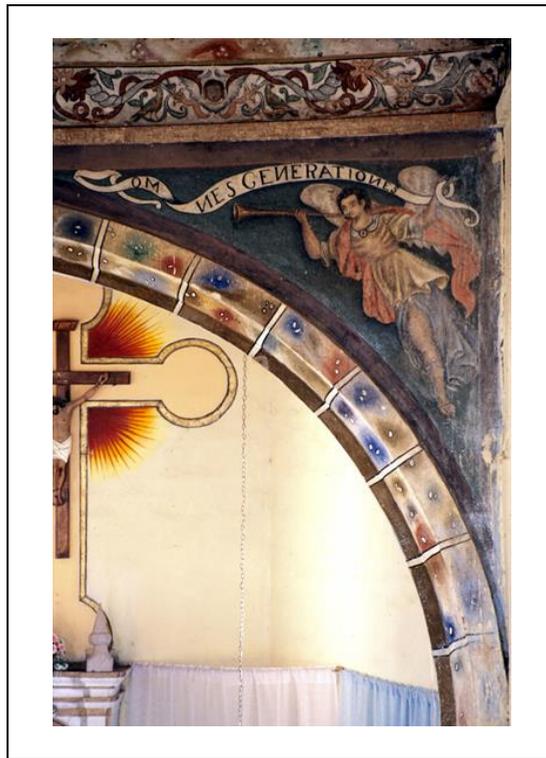


Figure 3. Archangels, proclaiming the *Magnificat* “*Beatam Magnificat omnes generationes*” (Luke 1.46-55), are displayed on the main arch of the church.

2. Experimental

A recent research project has been investigating this polychrome wooden ceiling from an interdisciplinary perspective: the iconography interpretation, the constructive system, the design application and the physical-chemical characterization of its constituent materials, in order to enhance the historical

and artistic values that this church represents for the Mexican community, as well as, to determine the most appropriate conservation strategies for its preservation.

The current project at *Santa María de Cuevas* mission church aims to achieve several different research goals including: 1) the study of the iconography and iconology of the pictorial designs, 2) the creation of a natural resources database to aid in understanding the regional materials that were available to artists working in these remote regions during the 17th and 18th centuries, and 3) the physical-chemical characterization of the materials and techniques to develop appropriate conservation strategies. To do this, micro-samples were taken in order to determine the materials and the paint techniques used to decorate the wooden ceilings and walls. Techniques, such as Fourier Transform Infrared Spectroscopy (FTIR), Scanning Electron Microscopy coupled with Energy Dispersive Spectroscopy (SEM-EDX), Gas Chromatography and Mass Spectrometry (GC-MS) and Light Microscopy (LM) were applied at the Smithsonian Institution. Recently FTIR and LM analysis were carried out at *Laboratorio de Patrimonio Histórico*, lab owned by *Misiones Coloniales de Chihuahua A.C* in collaboration with the *Tecnológico de Monterrey Campus Chihuahua*. Lastly, Fiber Optics Reflectance Spectroscopy (FORS), and X-ray Fluorescence Spectroscopy (XRF) are being currently conducted by the Institute of Physics of the *Universidad Autónoma de Mexico*. In this article, the methods to document and assess the condition of the decoration of the church will be presented.

2.1. Materials and methods

The iconography and iconology study of the decorative surfaces at *Santa María de Cuevas* mission church has been possible thanks to the graphic documentation (photos and graphic design studies), as well to the condition survey that the no-profit *Misiones Coloniales de Chihuahua A.C* (MCC) has developed in this church since 2002, in collaboration with local and international institutions.

2.1.1. Photographic documentation

General and close-up digital photographs (Nikon D1X0) and slide film (Nikon F5) were taken by the Museum Conservation Institute (Washington D.C.) during the project *Imaginería de Las Californias*. More than 1500 images were taken from 2002 to 2007. Later on, images of the decoration and architectural elements have been taken for conservation and research purpose by MCC.

The documentation was made focusing on two objectives: first, to document the condition of the architecture building as well as its decorative artworks in ceilings, choir, and walls since this would help to establish priorities,

conservation strategies and procedures; and second, to document the artwork for an historical and artistic study.

2.1.2. *Uncovering wall paintings*

In order to determine the presence of original wall paintings and to understand the iconography revealed in the wooden ceiling, several tests were made in the nave, narthex, choir, presbytery and sacristy walls. These tests consisted in removing seven layers of whitewash and vinyl paint applied in previous interventions. Iconographic motifs and decorative friezes were found, allowing the complete reading of the narrative decoration that describes the moment of the Assumption of the Virgin Mary (Figure 4). The most significant revealed motif was in the window frame of the choir: a lily flower (with the same monogram as the crowned Virgin Mary located at the centre of the main arch). This flower is related to Immaculate Conception of the Virgin Mary. In the narration of the decoration, this lily represents the Virgin Mary as a human, before her death, before her assumption and before being crowned as mother of God.

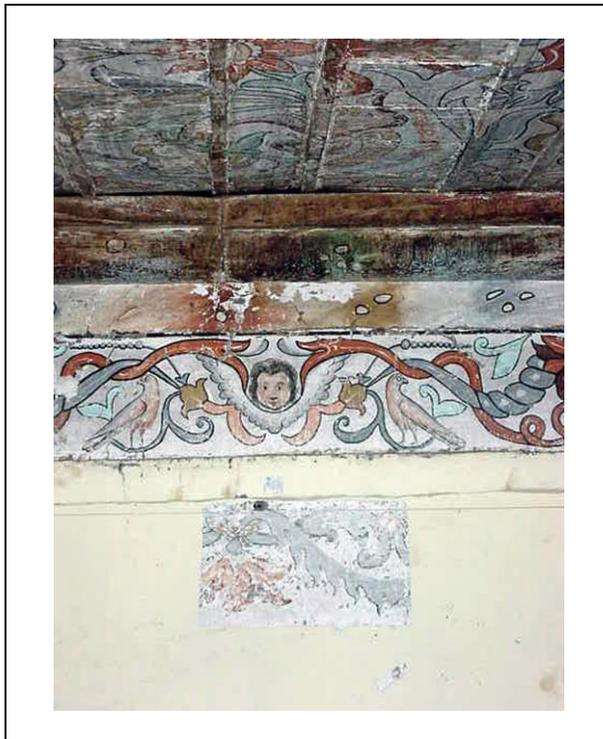


Figure 4. Uncovering of the walls. Original wall paint was found behind seven layers of whitewash and vinyl paint.

2.1.3. Graphic design

Using Adobe PhotoShop® and Illustrator® software, it has been possible to simulate a map of the nave ceiling. Through this map the method and technology of application that the author could have been used to decorate the nave's ceiling was studied. This was done with the aim of obtaining a better understanding and interpretation of the artwork, as well as the results of the chemical and technical analysis of the samples extracted. The study was fundamental to select the areas where the samples should be taken to be representative enough.

3. Results and discussion

In order to explain the iconography of the decoration at *Santa María de Cuevas* mission church, it was necessarily to understand the different aspects of the iconography around the Virgin Mary, especially the one that regards to the Immaculate Conception and the Assumption.

Over the centuries, and according to the acceptance and recognition of the Immaculate Conception of Mary (born without the original sin), as well as the assumption of her body to Heaven by the Catholic Church, artists have illustrate the dogma of faith through their sculptures and paintings, so Christians could adore and venerate Her.

The Council of Ephesus in 431 proclaimed the divinity of Christ and with this Mary was recognized as mother of God, receiving the name of 'Virgin Mother', 'Luminous Fountain', 'Incorruptible Vase' [5]. However, it was until December 3, 1563 when the Council of Trento officially established by decree the veneration, invocation of the Virgin Mary as well of the Saints. Soon after the Council was done a new art treaty named *De picturis et imaginibus sacris* by Jan Van der Meulen which was published at Lovanio in 1570 [6]. In accordance with this writing source, the iconography of the Immaculate was established as the *Tota Pulchra*, based on the text of the *Cantar de los Cantares*. The Virgin Mary is represented as a young girl, and around her there is the sun, a star, a moon, the door of Heaven, Lily with thorns, unspotted mirror, between others. [5] These iconographic attributes were named as *Laureat Litanies* in 1587 [7]. Treaties such as the *Pictura Sacra* (Federigo Borromeo in 1624) o *El Arte de la Pintura* (Francisco Pacheco, 1638), where the painter describes the image of the Immaculate Conception, cited these attributes [6, p. 66].

Reviewing the artworks, paintings and sculptures created over the centuries at different artistic periods, the theme of the Assumption of the Virgin Mary involves four moments: a) before the death of Mary when the Angel announces her death and she encounters her son, b) the moment of Her death around the apostles, c) the moment of the Assumption, d) the Coronation. All these moments have their variations in the representations. In some cases, more than one moment can be represented in the same painting.

In *Santa Maria de Cuevas* the representation of the Assumption was explained using the symbolism of the *Tuta Pulchra* and Immaculate Conception's iconography, which show us the moment of the Assumption and at the same time her Coronation (Figure 5). Example of this representation is the Immaculate Conception painted by the Valencia painter Vicente Macip in the middle 16th century.

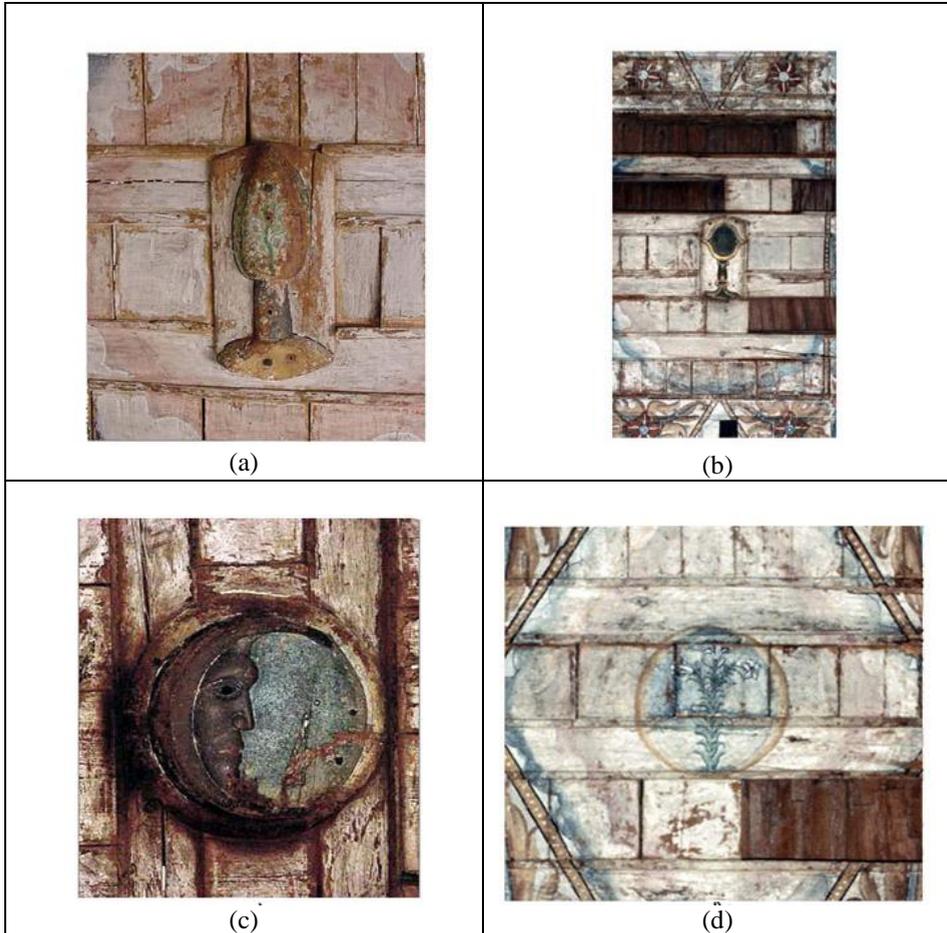


Figure 5. Litanies symbols of Santa Maria de Cuevas polychrome wooden ceiling: (a) detail of a Cyprus tree, symbolizing her incorruptibility and strength in confronting sin; (b) general view of Mirror of justice litany symbol (it is possible to see the overall display of the litanies on the ceiling); (c) the Moon and the half Moon, representing chastity, and the bridge between Earth and Heaven. d) the lilies, which represent the purity of the Virgin Mary.

The uncovering of this wall will not be done until conservation funds have been assigned. It will not be fair for the community to uncover the wall if there is no any conservation treatment following. Based on the uncovering made at the rest of the walls, it can be assumed that some kind of altarpiece or figurative

representation of the Assumption or the Immaculate can be found. Unfortunately, the interpretation of the decoration of *Santa Maria de Cuevas* will not be done until the wall of the altar will not be studied. However, from what is known today, it is possible to gather a good idea about what the missionary Luigi Mancuso and the painter Domingo Guerra wanted to represent and to teach to the Indians, so they could learn the dogma of the most controversial item of the Christian faith.

The decoration of the mission church of *Santa María* can be read or interpreted it in two directions: from choir to narthex and from top to bottom. However, according to the studies, the nave ceiling was painted from the arch to the choir. The research undertaken in this study led to the identification of the composition through the calculus of proportions in the geometrical figures that comprises it, approaching to their iconographic and cultural significance in most cases. As a result, it was demonstrated that the rectangles and floral modules follow the Golden Mean developed by the Renaissance mathematician and architect Leonardo de Fibonacci. As well as the numeric sequence: 1, 2, 3, 5, 8, 13 to mention some [7, p. 66].

According to the iconography of the Assumption of the Virgin Mary mentioned above and the Theory of Iconography by Lorente, it was possible to identify the celestial world of the narrative composition in the ceiling structure. As it happened in many religions in Antiquity, the triangle or triad is considered the triplicate of the Unity. It expresses the perfect divinity and represents the sacred trinity, being the numbers of God and Heaven. The squares/rectangles represent the materiality of earth, the planet, the four seasons, and the cardinal points. In the nave there are seven symbols by way of 3 and 4, three rhombuses and four squares, this being the cosmic number, the union of the sky and the earth. This represents the whole of the physical cosmos, which was composed by the five planets that were known in the 17th century: Mercury, Jupiter, Venus, Saturn and Mars, and the two celestial stars: the Sun and the Moon. Likewise, the religious and liturgical sense of number seven is ‘the Grace of the Holy Ghost’, being also the number of the Virgin Mary and having various examples of the presence of seven in the Virgin. The litanies of Mary are the most known ones: which are 55, 12 of which are for God and 43 the most saintly Virgin [7, p. 214]. The circle, present in the entire celestial world, is the symbol of perfection and the changeless movement and, in this sense, the eternity [7, p. 51].

As with the central rectangles, the multiplication of the sides of the average module results in number 1.618, which indicates that the module follows the proportion of the Golden Aura. The upper frieze that delimitates the ceiling represents the moment when the angels came down to accompany the departure of the body of the Virgin Mary (Figure 6).

The botanical ornamentation, that surrounds the squares and the rhombuses, is constructed by flowers, leaves and blue creeper that are showing a certain circular rhythm. This complex is reflected, forming what we call a ‘module’, given the endless number of elements found in this area. These represent the garden of fragrance flowers, which angles offer to the Virgin as the

symbol that she is the most beautiful flower the Universe, “as the heart of Mary is a flower garden”, words that S. Bonaventura has repeated [8]: “*Hortus delirium in quo consita sunt universa florum genera et coloramenta virtum*” (Spec. Cap III).

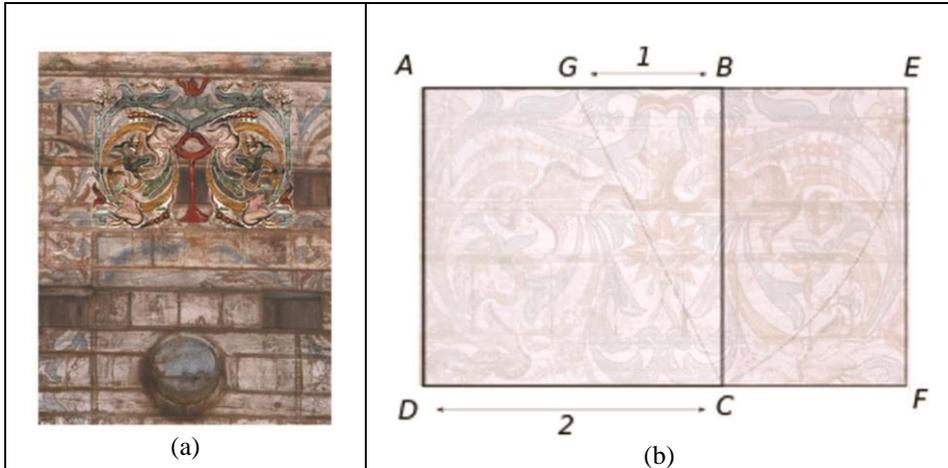


Figure 6. Details of the ceiling remarked with the use of computer design software: (a) interpretation of the design of the central module, where pieces are lost, (b) module of the botanic flowers studied by the Golden Triangle.

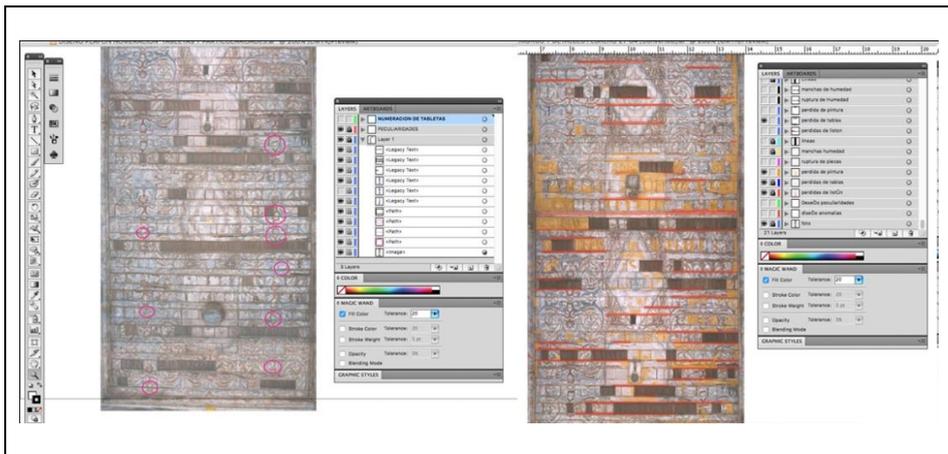


Figure 7. Study of the nave of Santa Maria de Cuevas polychrome wooden ceiling using Adobe Illustrator. The program enabled the production of a map of the ceiling, as well as identification of anomalies in the design, wooden structure and losses in the paint. This helped to establish the state of conservation of the ceiling.

Finally, the lower earthly world, formed by the skirting, is decorated by elegant flowerpots following the Italian Renaissance style, under the wall paint from the northern wall in the narthex area. This decoration is different from the one found at the centre of the nave within the same level.

Even though the appearance of the presbytery is similar to the rest of the nave, it exhibits some peculiarities. Since the artist's signature is in this area, it could be expected that the painter concluded his work in this part of the church. However, due to the floral decoration that surrounds the sun's square as well as the deformations, irregularities and indecisions in the adaption of the design, it is possible that the master that painted or directed this work, was not the one who applied the model in this area.

The software Adobe PhotoShop® and Illustrator® were used to create a map (juxtaposing high resolution photographs) of the ceiling of the nave of the church. Through this map it was possible to study the following aspects: a) the design elements and their anomalies, b) proportions used to create the decorative motives all over the ceiling, c) assess the state of conservation from the wood structure and the polychrome decoration. These programs allowed for the organization of each study on different layers, allowing for a partial or a complete reading of the ceiling (Figure 7). Moreover, by reproducing the design of the decorative motives of the church on walls and ceilings through PhotoShop®, it was possible to establish at least two different hands and skill sets: the faces of the angels and principal botanic motives were made with great ability, and were certainly done by the painter Domingo Guerra; the marble design from the frame moulding of the church and secondary botanic elements were done with less skilled hands. Here the traces of the brush strokes break instead of flow as in those made by an expert hand.

This demonstrates the presence of a number of people taking part in the creation of the painting and this was revealed by means of Adobe PhotoShop® and Illustrator® software. In this way, the technique and the possible procedures used by the authors of the decoration of the walls and ceilings of the mission could be deciphered.

4. Conclusions

Thanks to the information obtained in the study, it is evident that the Mission - Church *Santa María de Cuevas* was constructed with great care and much influenced by the European style and patterns.

As demonstrated in the design study, it was possible to identify the use of the proportions of the Golden Aura developed by Leonardo de Fibonacci. By means of different graphic solutions such proportions are presently encountered in the architecture. It is possible that the finding of this proportion system used in decoration and architecture in Europe is not of great importance for that period, since it was quite a common and accepted model to achieve a reliable construction. Nevertheless, it is the context what makes this finding a great discovery. Despite no other surrounding mission has been studied as deeply as *Santa María*, and it is possible to find this same proportion system in both the constructive systems and the decoration in other churches. However, there are elements in *Santa María* that have not been found in other regions of Mexico.

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References

- [1] Z. Márquez Terrazas, *Misiones de Chihuahua Siglos XVII y XVIII*, Consejo Nacional para la Cultura y las Artes, Mexico D.F., 2008, 74-78.
- [2] C. Bargellini, *Anales del Instituto de Investigaciones Históricas*. Universidad Nacional Autónoma de México, **29(91)** (2007) 9-30.
- [3] G.A Havers, *Vivieron el Evangelio*, 5th edn., Librería Parroquial S.A de C.V, Mexico D.F. 1992, 345-348.
- [4] S. Voragine de la, *La Leyenda Dorada*, 6th edn., Vol. 2, Editorial Alianza, Madrid, 1994, 850-861.
- [5] G. Nicodemi, *La Vergine dalle Origini Al Rinascimento*, Arte Sacra Italiana, Collezione Iconografica, Torino, 1923, 5-7.
- [6] B. Nieto, *La Asunción de la Virgen en el Arte. Vida de un Tema Iconográfico*, Afrodisto Aguado S.A, Madrid, 1950, 16-31.
- [7] J. Esteban Lorente, *Tratado de Iconografía*, Ediciones Istmo, Madrid, 1990, 38-86, 211-217.
- [8] S. Rossi, *La Assunzione di Maria Nella Storia dell'Arte Cristiana*, Casa Editrice Elpis, Napoli, 1949, 11-134.