

MATERIALS AND CHROMATIC TECHNIQUES APPLIED TO THE RELIGIOUS ARCHITECTURE OF THE 18th CENTURY IN VALENCIA (SPAIN)

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The study of different materials and chromatic techniques applied to the religious architecture of the 18th century, comes characterized by an historical and technical analysis, of which the necessary data take shelter where the essential characteristics of influential an aesthetic one are contemplated, dominated by the diverse interventions reformed in the Valencian temples. The colour, determined by theoretical and technical parameters acquired important protagonism to turn the architectonic spaces and elements into a scene where it was obtained visual effects according to the processed pictorial processings.

The applied colour and it's different processings in architecture, would leave from a new thought carried out by different intellectuals and academic artists who would raise in their agreement the new aesthetic concept in works of new construction or the reforms taken in the city of Valencia.

The academic essence initiated from the defense of classic ideals and theories in all the branches of art, developed in architecture the foundations of solidity, utility and beauty. These foundations, to a certain extent, would be those that would be in charge of imply to the painting and, of course, to the colour like integral part adapting in terms like: function, order and harmony in architectonic spaces.

With the Antonio Palomino's figure at the beginning of the seven hundred it would propose the encounter of architecture and painting like a whole, characterized in a language where as much the chromatic images and forms were adapted to the temple surfaces.

The colour in architecture of this first stage of the century, still conserved a six hundred luxury, between the idea of external and expressive beauty of the sculptural faces and the spiritual thing, an approach to the divinity accentuating itself with intense polychromes centered in the altars, altarpieces, in showy gilded of wood statues that covered totality the structure of the inner space.

The architectonic characteristics of the constructions and the colour applied to them, are defined by the construction with natural materials of the own territory, materials brought from the city neighborhoods, marbles, specks, stones, wood for altars with the conditions and properties of these, which adapted and take formed in the developed constructive works during this century by the craftsmen, artists and architects.

With the creation of the Royal Academy of the Noble Arts of Saint Charles, an interesting artistic development in the baroques remodelings of the temples had Valencia, characterized by the presence of an ornament made by painters and sculptors artists formed in her, managing to create an unfolding of techniques and procedures that were added to the domain of the design. Remodelings constituted by games of forms adapted to the gothic construction, alternating the luminance effects of hollows and reliefs in the elements, varying in chromatic intensities and chiaroscuro in the forms.

The colour in architecture, in this first academic process, took part with the artistic work presence and with the scenography representation based on false perspective being with all the masters in the interiors of the temples. The colour appeared in the altars and altarpieces decorations with a strong contrasts of materials, the polychrome wood, with the imitation of marbles, in walls frescos, in pavements inlays, skirting boards or coatings covering ashlars.

The studies related to each one of the lessons of Fine Arts, formed architects and artists from the theory concerned by other academies already consolidated. It began to pass a time where the limits and the requirement towards the good taste, it seemed to take towards the purest concept of the classic ideas, although still it will be left the continuous use of schemes and past forms.

An idea of good taste which is more approached to the processing of the orders and construction of the architectonic space with a free character of ornaments without strong chromatic contrasts, where definitive the application of colour would have to articulate with elements and to vary in his intensity. The diverse applications of colour has constituted, along with materials and techniques, a very appreciable artistic culture which in spite of the attempts towards the diminution of the baroque chromatic values, did not disappear absolutely in the architectonic accomplishments.

The simplicity and purity of colour were the highest communicated by the theoreticians illustrated as at its moment proclaimed the great teachers. The french and italian aesthetic theories more spread in Valencian means, had a great influence in architects and painters who tried to project in their works the new language carried out by the idea that the ornament must be useful with a defined function.

The colour like visual effect that reinforces the forms and makes it more stable and balanced, integrating the elements and that cause sensations to the spectator that can or can't remain submissive in an atmosphere created on purpose in the architectonic space. As much as Rafael Mengs, as Francisco Milizia, are like the main protagonists of theories on the beauty and the good taste of arts.

Tie to the neoclassic theories, the constant references to works of the Renaissance and the great teachers like Alberti, Leonardo or Palladio, made proclaim that the objects "design" was before painting or colour. Nevertheless they analyzed the colour through physics and perceptive effects that produced in objects or sensation of beauty of the purest colours.

The reasons of all were to verify that theories on the colour applied in architectonic forms produced certain visual sensations of proximity or distance, as well as the visual deceit as much in the interiors as in the exteriors of the temples.

The colour integration in architecture must have that purity and luminosity with no need of mixture, the white colour and the use of rich materials, was the foundations to demonstrate the thesis that the beauty and balance are provided by the harmony and simplicity.

The attempts to produce and to recover in architecture that "secret harmony" from the own conception and construction and the adaptation of elements as a whole, completed with the lightness and colour elegance in the neoclassic temples, but that did not get to settle down totally in works made in Valencia.

As much the italian ideas of Vicente Carducho, as the written ones by Antonio Palomino about the colour practice helped to establish the good taste concepts defined in architecture through parameters of perspective, mathematics, optics or the most suitable materials, respecting the temple structure.

But, it would be in the middle of the century, the constant debate on architectonic adornment and defense of the own professional identity which stayed solid in works made by artists who took part in architectonic works.

The colour did not leave at any moment for being and for appearing in the interiors of temples with altars or altarpieces made with marbles, stuccos, frescos, inlays or in the outer coatings slightly covering ashlar describing with light pretended the imitation of work materials.

The time of consolidation of the academic period, left established the limits and exigencies of the new classic ideas. Demonstrated in published texts against architectonic adornment and in defense of the good architecture and good taste.

Examples like the inner remodeling of the Cathedral with a new architectonic language projected by Antonio Gilabert and in whom it takes part the concepts and classic compositions in a palladian motive. The existing colour in chapels and lateral altars, pilasters and cruising arches that, at the moment are recovered, presented a refined processing and of aesthetic taste different from the applications that were made until that moment.

Five years before the works of the Valencian Cathedral were undertaken, Gilabert finished the project of Jose Puchol in the Pías Schools Church. Perhaps, the theory concepts of the good taste in the Valencian academic period had in this architectonic space one of the most excellent constructions of neoclassic characteristics.

Studying the colours that comprised the trowel of the great artists and painting knowledgeable, we have tried to develop in a very concrete scheme that organization and classification as well as the origin of the most used colours during the 18th century. The colour in architecture of the 18th century was united to the work material, the marbles, specks and stones had great visual value in elements that articulated spaces. The most suitable techniques for the inner coatings were the stucco and the frescos, studied during the academic period.

The theories, the treaties on painting and techniques of coatings in antiquity architecture in the middle of the 18th century, had great repercussion thanks to the spaniard treatise of art and pensioners who went to Italy. The studies and experiences made about the ancient colours classification, the application of colour in diverse surfaces, the processing adapted for the exteriors and interiors and mainly by demonstrated admiration by the classicism or the Renaissance that took to the knowledge on good taste.

The most studied techniques in these treaties were the used ones by the greek-roman world, encaustic, fresh and gouache. Appropriate techniques for the surfaces previously prepared according to the old theories, are architectonic tables, fabric or adornments. To based on these theories in texts of Plinio and Vitruvio among others, had great repercussion in the academic artistic circles.

The trowel of colour, recommended for these techniques and their later restoration, had to be prepared with natural pigments, allowing to mix with tails and waxes, because the combination of these matters would be the useful ones to be able to use them in open or closed places. Also, the studies on the colours conservation, surfaces adherence or the process of durability and preservation before the climatic changes, allowed to know the possibilities use for architecture.

The colours of natural pigments named and used during the classic antiquity studied and analyzed chemically in Italian present works of investigation, classified as it follows:

Yellow: yellow ocher, chalk (yellow clay), land of shade, oropimiento, ochre territories coloration in general according to the zones.

Blue: overseas (lapis lazuli), azurite, blue pompeyan.

White: white lead, cerusa, chalk, plaster.

Black: smoke, natural (pirolusita), coal.

Purple: coming from Tiro (according to Plinio recommends).

Red: sinopia, red ocher, vermilion or cinabrio, red lead, dragon blood.

Green: green land (verdaccio) green of Verona, malaquita, crisocola, chromium.

According to the building construction and the procedure applied in the work plaster, certain colors were recommended according to the technique to use, the quality of the arranged materials, the luminosity and the humidity whereupon it counts the architectonic spaces, according to they are in exteriors or interiors.

Therefore, we found in the work of Cennino Cennini, one first contribution and a complete treaty of Art written at the end of the 14th century, in which it described to the most suitable colors according to the support or the form to apply in the painting, appropriate instruments, and mainly the method to obtain the colour. Colours obtained of minerals and vegetable species according to the territory, its mixtures and the form of processing.

They would be the painters with its respective treaties like Vicente Carducho in the 16th century and Antonio Palomino in the 18th century, those which made a complete scheme about the recommended colours for the techniques to use in fresh paintings in the interiors, which would be applied with extraordinary lightness modeling the architectonic elements respecting the tried architectonic space. The recommendations on the colour selection and the applied technique, still are used by restorers and painters at the moment, except for those colours that by its physical and chemical characteristics are not adapted to some outer wall supports.

The most necessary mineral colours named and more used were the *limeWhite, light and dark ocher, red ochre or red earth (it indicates of the Levante), glass blue, earth or mountain green, shade of Italy and coal black*. For the accomplishment of the stuccos art, these colours would become to mention, indicated as the most appropriate whose chemical characteristics maintained the purity and durability in the continuous supports and coatings.

The recommendations on the most used colours for the temples during the 18th century then, consisted of which during decades was chosen for the pictorial techniques, adapting to the places and architectonic elements. In 1785, it appears the work of D. Ramón Pasqual Diez, who recommends colours to use for speckled stuccos, colours recommended in the previous years.

Significantly, as much the treaties of the 18th century, like those which were widely dedicated on the elements and classic decorations carried out in the Renaissance, were the base of the continuators in the successive works throughout the century.

These theories inevitably communicated by academic means, caused that it took place certain changes of techniques and chromatic application. As much the artists painters as the architects, agreed in which the colour to apply in the inner architectonic spaces was white. Theoretically, the elements and architectonic structures must have the importance that the assembly required, with order and function, also the materials had to adapt to the constructive design without being pretentious nor exaggerated.

All of them coincide in demonstrating how a space dedicated to spiritualism had to be of extreme decorum and beauty. The religious symbolism, between the form, light and colour was left certainty in all classic writings. The search of the colour trowel was clearly identifiable with the forms required in the temples.

All the importance of the shining surfaces for Alberti is come off and that the colours must enter to form part of forms and architectonic spaces like a whole, without generating visual confusions nor altering the element parts.

This would come to generate certain conclusions about the architectonic polychrome and its effects, according to the classical tastes. The colour takes part in the materials like architectonic substantial element, the coating methods can alter or unify spaces, the used

techniques to make the polychromes in the temples are limited in a religious symbolism. The expressive value of the colour in the inner religious spaces are based on the cultural and particular characteristics of each civilization and place.

The most characteristic examples of the neoclassic temples in Valencia, were those constructed in the second half of the 18th century, coincident with the referred academic activities in the previous sections. These temples, the Church of the Pías Schools and the Church of Temple, adapted certain similarities with the classic temples, as much in the construction of the building as in the development of the plant and the inner architectonic assembly.

Really, there is a constant and a certain trowel of colour, made specific by materials and techniques applied in the religious constructions of this period, that constitute the characteristic of Valencian churches, and that present certain formal differences between one and another determining by chromatic changes, not very consequent with the established classic norms.

When it disappear in temples, by the rule of the Royal Academy the use of wood in the altarpieces, the marbles and stones were the used materials, as well as the interventions in the stucco technique being made superb imitations of these noble materials being applied in ornamental covers, bases, columns or skirting boards, ornamental elements in the inner religious spaces.

Used to consolidate, to decorate and to articulate the elements ready in the architectonic work, it excessively did not please to the academic ones of the moment, since indeed the ornament in temples appeared like exaggerated and inserted with the idea to establish an architecture reasonably more beautiful, without this technique was beyond the proposed objectives.

The results that obtain by means of the mixture of colour and the matter to obtain the visual deceit, are appreciable and they are located in important parts of the architectonic work, by its texture, brightness and technical quality.

In our study on the valencians churches, still shows to these qualities in the interiors, the colorations of this procedure are wide and we cannot establish a Colour Chart generalized for all of them, since each one acquires a unique protagonism and the qualities in this technique are varied.

As far as the exteriors of the temples we can emphasize the existence of colorations in certain parts of the ornamental cover, cornices, eaves, even architectonic details constituted by designs where the material imitation is evident, emphasizing the work materials by means of incisions in the ashlar joints or well painted the tried divisions of ashlars. The colours and techniques used in these outer parts of the architectonic work once again indicate artistic and aesthetic the knowledge of which they applied to them. The coloured revoke and the painting to the water lime, were the techniques that in the passage of time still last unalterable in some elements as it shows the photographed images of the still existing temples.

EMPLOYED TECHNIQUES IN VALENCIAN CHURCHES OF THE 18th CENTURY.



Inner space of the Valencian Cathedral, girola. Painted with the stucco technique. Actually restored.



Inner space of the Pías School Church. Painted with the stucco technique, bottom, pilasters y decorative details.



Inner sapce of the Temple Church. Ceiling painting on fresco technique.



Exterior ornamental cover at the Temple Church. Feigned ashlars over ashlars.



Brick imitation. Coloured feigned St. Thomas Church.



Exterior ornamental cover of St. Thomas Church. Architectonic elements in different tones of painted cornice. Watery lime paints.