Architectural ceramics and color: The convent of Santa Clara in Xativa

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ABSTRACT
The tradition of architectural ceramics in Valencia is exemplified by the Convent of Santa Clara in Xativa, where it becomes clear the versatility of this material that meets both the requirements of monumentality linked to the Church and the utilitarian ones related to a residence. Following the historical vicissitudes of the building, the high quality of the pieces contained in it has led to re-use in locations other than the original, creating new compositions with parts from different sources and chronologies, generating areas of great originality and visual richness because its brightness and color.
Keywords: Glazed tile, glaze, pigment, mass production, colorimetry, Spectrophotometer.

1. INTRODUCTION
The production of architectural ceramic coating, which has a long tradition in the region of Valencia, lived during the Baroque period -specifically in the second half of the XVIII century- a moment of glory. The architectural elements were invaded by a ceramic coat colors, achieved with the use of only five oxides, used in an unusual way until this moment. Thus, pieces were prepared for paving, lower balconies, socles, (the last ones classified into three categories: religious matter, profane matter or tiles composed of series (1)) altars, street altarpieces, stairs, kitchens, garden benches, door jambs ... and so on, whose brightness, color and line gave a visual richness to the areas where they were located. This ceramic production had strong representation in the church buildings. This circumstance was habitual specially in the case of convents, because different ceramic uses came together in them: both associated with the Church, with religious theme showed in an enormous variety of saints panels, and with the domestic application related to the residencial use of the convent utilized in the elements listed before. One of the most characteristic examples of ceramics in religious architecture is found in the Convent of Santa Clara, located in the Valencian town of Xativa, which was declared cultural interest property (in Spain, BIC) in 2003.

2. DESCRIPTION OF THE BUILDING AND ITS RELATION TO CERAMICS
The Convent of Santa Clara in Xativa, founded in 1324 as a result of the will of Doña Saturnina Entenza, widow of Roger de Lauria, who was admiral of Aragon, was a flagship building linked to the order of Franciscan Poor Clare Nuns, which met throughout its history many elements of property and very rich elements in accordance with the
nobility that was linked to. The legacy that remains today is a vague reflection of the power that occurred in the past, that was very important and that manifested itself also by its rich decoration, as evidenced by the description in the XVIII century by Alberto Pina (2). In it, and making direct reference to the architectural ceramics which is the subject of the article, lists some ceramic elements existing then, such as pavements cloisters, the lower choir, the choir loft, the presbytery of the “big room” and the blue glazed ceramic tile of the towers, so characteristic in Valencian architecture, now missing. The chronology of the ceramic covers basically from the seventeenth to the twentieth century, with interesting pieces from the eighteenth and nineteenth centuries. This work focuses especially on mass production of the eighteenth century, widely used in the socles, which were based on designs more or less standardized and whose different combinations (of “two” of “four”, etc) created a continuous mantle of a coherent overall composition. It should be pointed out that parts product series were repeated indefinitely, with little variations, which are the result not of an automated repetition but a rationalization of the production process, based on the stencil technique (3)

There are no documentary evidence of the cost and origin of the existing parts in the books of payments and receipts of the Convent of the time consulted in the Archives of Reino de Valencia, but the design and characteristics of them, in many cases coincide with the scheduled by Inocencio Perez Guillen (4) shows that it come from existing factories in the city of Valencia, in which was located the center of ceramic production standard throughout the region. The vicissitudes of history have caused that the convent has gone through different stages of construction, of greater or lesser significance, being the Spanish Civil War, an event particularly critical in the current configuration of the building, due to the demolition of two of the four wings that were organized around the cloister and the subsequent reconstruction of them with a materiality and aesthetic different from the original. Some ceramic elements from the demolition of these parts were reused in different locations of the property (which gives an idea of the positive assessment of this product because of its quality) without reference in most cases of the original location or as even of its overall design, as in the case of alleged hagiographic panels, whose pieces were randomly repositioned without a given composition. Nowadays, the interesting ceramics are concentrated mainly in southern and eastern areas (which survived the demolition) and specifically in the choir of the Church, in two parish rooms located on the second floor of the south wing, in cemetery, in the kitchen, in the patio area attached to the kitchen, in the so-called “stay of the abbess”, on the stairs leading to these rooms from the kitchen, and balconies of the bedrooms which are situated on the refectory. Of these, there are currently classified as real property in the Valencian Community, by the Ministry of Culture, twelve tile elements, of which nine relate to pavement tiles, one tile-panel, another tile-set and finally the tile-socle of the high choir. These remains are evidence of the ceramics that had significant presence there, as we mentioned earlier, which corresponds to the power that had the convent, described as “one of the most magnificent of its kind” (5).

3. METHODOLOGY OF WORK

The work focuses on the tiles of the room of the abbess, who is included, in part, in the catalog of the Department of Culture mentioned above. This room was created in the 40s of last century, when an intermediate floor of 100 square meters approximately, based on metal beams, was built on the kitchen, and subdivided the space next to the refectory. For paving were used basically mass production pieces of different chronology (mainly eighteenth and nineteenth century, as well as some elements of the second half of seventeenth century), and some remains of
elements that are supposed to be panels of assorted themes. The size of the pieces is, in general, 21x21cm, -dimensions that were imposed on the valencian factory production specially in the XVIII century- except those belonging to XVII century, whose measurement is around 11’5 x 11’5 cm, and represent a minimum area of the whole. In total, we are talking about 2200 pieces, placed all of them trying to find a coherent overall composition with the surface where they are located. Thus, the parts belonging to the XIX century (about 1080 units) are located in the northern part of the stay, which is the broadest, the ones dated at the end of XVII century (120 units) are concentrated in the central area, under the pointed arch which divides the space; the south part contains approximately 300 tiles of the XVIII century, framed by a border of some 180 pieces of XIX century, and finally there are some 520 pieces located in the south, of several chronology. Focusing on the south, with tiles manufactured by mass production belonging to the XVIII century, it is curious how, in some cases the form of placing them is reinterpreted trying to adjust to existing units, (some of them were designed for socles) which are not allowed to be ordained under the arrangement which were originally designed, so they were combined according to the taste of the executant. Thus, in some sub-groups the proper organization of certain tiles is subverted to be placed, for example, “of four” -that is, forming small compositions with four parts (Figs 1 and 2)) – although not having been designed with this purpose and trying to get a certain symmetry about the axis north-south of the room. The result shows that there must have been some planning in the arrangement of all parts to achieve this overall composition, but looking for this effect of a carpet that today we can contemplate.

A study that aims to document and catalogue the characteristics of these pieces of the XVIII century, by using reference cards, is currently conducting. These cards contain a description of the pieces, indicating the measurements, chronology, typology and decoration of the tiles, and a list of color values obtained with the use of measuring instru-
ments, such as a spectrophotometer Contact CM-2600d / 2500d Spectrophotometer (spectral type) managed by a specific software. The obtained data indicate the descriptive color and their difference in CIEL * a * b * "e, likewise, we make a specific color chart reference to the NCS color chart (Natural Color System) for further documentation and for the sake of a possible restoration of the ceramic pieces. We must indicate that the application of technological instrumentation enables and assists the chromatic reproduction of the parts if it is convenient, though possibly it is made with the same colors of pigment that might be used at the time of its preparation.

3. RESULTS AND DISCUSSION
In this sense, we must point out that just as in the past the colors were much flatter, based on a pure thick brush, towards the XVII century the colorful of the Valencian baroque ceramic develops its personality, and it is done an infinite number of mixtures based on the five oxides traditionally used: copper oxide for green, cobalt for blue, antimony for yellow, iron oxide for ochre and orange and finally oxide of manganese for violet purple and purplish brown, all them so cleverly mixed on the palette or on the tile itself that they got so many shades as their imagination and skill made possible (6). Thus, depending on the saturation of the pigment, the amount of water for each application, the number of passes of each stroke, the mixture of oxides, etc. we will get plenty of nuances. The result is that the range obtained in the data collection is very extensive -particularly with regard to the parts pertaining to pictorial sets no "standard", that is, custom tiles, whose ornamentation was usually based on thematic landscape, decorated with flora and fauna, and occasionally with human representations (7) - but, in general, the families of colors are usually limited to an amount more or less bounded.

4. CONCLUSIONS
The objective of data collection work is multiple:
- Firstly it comes to documenting the existing assets with a view to possible redevelopment of the stay following the draft Rehabilitation of the convent, so that there is a reference to this stage of the building's history.
- The aim is, likewise, get real and objective data for the color of the tiles for possible restoration and / or replacement (according to the criterion of chromatic reintegration most suitable in each case), studying the evolution of color along the years from the application of enamel, so you can identify one color state a specific time. Thus, besides the size, theme and composition of the pieces, we have the color as a distinctive factor in dating.
- Analyze the visual richness of the ceramic-and, consequently, the spaces in which are placed, noting the tonal range of the obtained data. This shows the aesthetic aspirations, and not only the merely utilitarian ones, of the tiles, that entail a great work that is between craftsmanship and artistry, which is a reflection of the Valencian culture and tradition and deserves to be recognized and preserved.

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REFERENCES
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