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THE PRELUDE OF PORCELAIN IN PORTUGAL

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Only the abstract of this contribution, that was scheduled as the invited lecture in the XVIIth Conference on Clay Mineralogy and Petrology, is here published. The author is preparing for publication an extended text with the same title of his lecture at the meeting as a book in Portugal.

ABSTRACT

The Portuguese were the first who introduced and commercialized in Europe the porcelain produced in China, where this interesting utilitarian and decorative type of ceramics has been produced, at least since 400 a.C., being the initial product entirely reserved for the emperor´s palace.

Within the Europeans the Portuguese were in the last positions concerning the porcelain manufacture in industrial terms. The industrial production of porcelain has started in 1710 in Meissen (Germany), in 1727 in Sèvres (France) and in 1746 in Plymouth (England). As a matter of fact, the first porcelain industrially produced in Portugal has taken place in 1834, at the Fábrica de Porcelanas Vista Alegre, located in Ílhavo, a small town nearby the town of Aveiro. The factory was founded in 1824 by José Ferreira Pinto Basto. Vista Alegre porcelain is commercialized world-wide being distinguished by its excellent quality and design.

The production of hard porcelain or Chinese porcelain did represent an important scientific, technological and cultural revolution in all the European kingdoms. As a matter of fact, porcelain manufacture did represent the transition from the empirical to the scientific concern, in the area of ceramic materials. In Portugal, about fifty years before the industrial production of porcelain that was carried out in 1834 by Fábrica Vista Alegre, several laboratory tests have been carried out in Lisbon, regarding the production of hard porcelain. Such tests took place in the period 1773-1783, undertaken by the lieutenant-general Bartholomeu da Costa, member of the Academy of Sciences of Lisbon, and they were carried out at the Laboratories of Guns and Instruments of the Artillery Foundries.

Some of the pieces (medals/cameos) made of porcelain that have been produced by Bartholomeu da Costa are part of the museum collections of the Academy of Sciences of Lisbon, being stored, preserved and exhibited in the Council Room of Dona Maria I Room.

We looked at and analysed porcelain pieces of which manufacture is attributed to Bartholomeu da Costa, some belonging to the Academy of Sciences of Lisbon, others belonging to the private collections. Within all the studied porcelain pieces, four of them produced both in 1773 and in 1775, were selected, based on the extraordinary quality of the porcelain and on the peculiarities shown by their respective compositions. As a matter of fact, some mineral raw materials, such as talc and calcite, which are not part of the porcelain formulations currently produced, have been incorporated in the ceramic pastes. The results of analyses being carried out on those four selected porcelain pieces are herewith disclosed. X-ray micro-diffraction was the principal analytical technique being employed, allowing the identification of the high temperature crystalline phases (mullite, quartz, cristobalite, cordierite and diopside) and the presence of glass. Plates containing photographs revealing the peculiar morphological features of the studied porcelain pieces are presented too.