The Johnston – Vieillard manufactory (19th century, Bordeaux, France): preliminary results on ‘white earthenware’ production

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INTRODUCTION

The Johnston – Vieillard manufactory used to be an industry in the Bordeaux area (France) for several decades in the 19th century (1835-1895) [1]. The factory produced white earthenware, a particular class of ceramics which was invented in the 18th century in England [2]. The present piece of research focuses on the technical evolution of the white earthenware productions during the different stages of the French factory life. The discovery by the Centre archéologique préventive de Bordeaux Métropole, in 2015, of dumps of the factory containing rejects from the different production periods as well as the absence of the manufacture archives (that was lost, destroyed) justified the interest in this recent ceramic. That’s why objects are the best carriers of information concerning the process of its own fabrication. Thus, we are concentrating on the characterization of the paste, to answer the following questions:
(1) Is it possible to differentiate the different productions of the factory from a mineralogical and chemical point of view?
(2) What is the process used in the preparation of the paste and the firing process of the ceramic?

HISTORY OF THE JOHNSTON – VIEILLARD MANUFACTORY

1829: Two merchants, Mr. Lahens and Mr. Rateau, founded the first manufactory of white earthenware of Bordeaux area. For a few years, they worked with a ceramicist: Honoré Boudon de Saint-Amans.

In 1834, David Johnston, a wealthy dignitary, bought a mill located on the quays and co-founded with Boudon de Saint-Amans a manufactory of white earthenware in the English way.

Declared bankruptcy, the arrival of Jules Vieillard in 1840 revived D. Johnston Company. In 1844, it was finally liquidated.

RESULTS AND DISCUSSION

1) Presence of calcined flint in white earthenware body's

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- presence of calcined flint in the body of all samples (like Maggetti et al. in [3]).
- % increases the whiteness of the body [4].

2) Evolution of composition of recipes?

- **SiO₂**, **Al₂O₃**, **K₂O**, **Fe₂O₃**, **CaO**

- Paste chemical composition measured by SEM-EDS for different chronological periods (average of samples of the same period expressed in wt %)
- Variation of **K₂O** between 1830 and 1885
- Addition of K-feldspars (fluxing materials) and diminution of clay portion.
- Evolution of chemical composition of body
- % Change in paste recept.
- *What about technical choices and economic issues?*

3) Firing process

- **T = Tridymite**
- **C = Cristobalite**
- **TRANSLATION ZONE BETWEEN 1845 AND 1885: PRESENCE OF T AND C**
- **Change in the firing process**
- % Increase in the firing temperature

PROSPECTS...

- Investigations about potential raw clay materials.
- Quantification of different components of earthenware body.
- Relationship between the evolution of body and glaze composition.

**REFERENCES**

[4] A. Bourgeois, Traité des Arts Céramiques de la Pratique (1840)

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