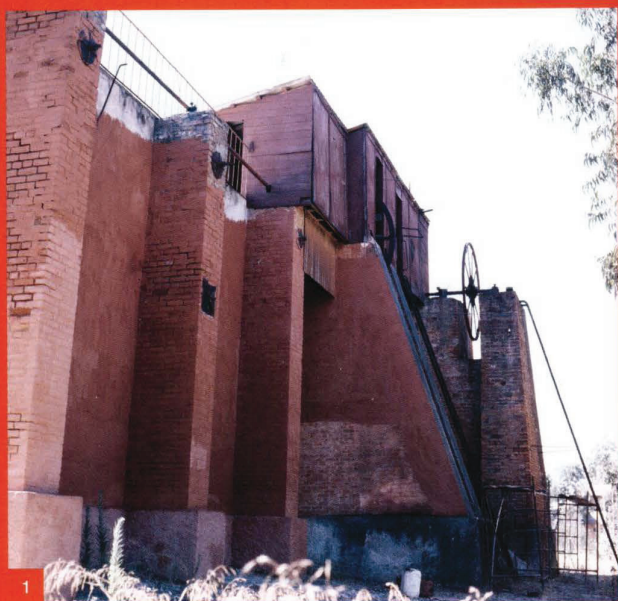


The Gunpowder Factory in Vale de Milhaços

*Uniqueness and Innovation of a industrial complex belonging
to the Portuguese industrial heritage*

Jorge Custódio | Professor of Industrial Archaeology, Faculdade de Ciências Sociais e Humanas, Universidade Nova de Lisboa
Manuela Moreira | Translation



1 | Ecomuseu Municipal do Seixal (EMS) - Ecomuseum Unit of ancient Vale de Milhaços Gunpowder mill. Crushing workshop, with metal-edge runner and one of their power transmission houses, with a platform of aerial mechanical motion (west side layout).
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A little bit of history...

In the late nineteenth century, more precisely in 1895, a factory for black gunpowder production was settled in Vale de Milhaço de Baixo, in the Municipality of Seixal. The initiative was due to the industrial entrepreneur, Mr. Libânio Augusto de Oliveira. It occupied eleven hectares of a pine vegetation, away from villages and a few hamlets that in this time characterized the landscape and typical housing spot in that area. This original plant, that could start having obtained one specific License in 1894, lasted only a few years, being then passed forward to the business partnership of Francisco Carneiro & Comandita (1896-1898). Immediately after, it went through a further transferring procedure, this time onto a company, designated Companhia Africana de Pólvora, SARL (1898-1921). On April 3rd, 1897, there was a tragic explosion; on its hot embers the Companhia Africana de Pólvora, SARL rebuilt the plant according to a new industrial plan, which was revolutionary for its time, pushing the company to a more developed technological level than that of the by the time existing State factory in Barcarena, Municipality of Oeiras, now converted into a Black Gunpowder Museum.

The Companhia Africana de Pólvora, SARL was constituted with German capital, and it worked maintaining a very strict industrial organization between the late nineteenth century and the first World War. The black gunpowder in the meanwhile had turned into a fruitful business, as it had been liberalized by the options that allowed its peaceful application and its use as leisure activity among the working classes, specially for hunt chasing. Since the mid-nineteenth century the Nation-States and the imperial economic power gave start to the development of political and military strategies, which led to the manufacture of new types of gunpowder, based on modern chemical processes (like guncotton). This state of affairs explains the low political commitment by the Portuguese governments in relation to the Portuguese black gunpowder produced in Barcarena, whose technological gap is evident between 1880 and first World War (1914-1918).

The Gunpowder Factory / "A Fábrica da Pólvora" in Vale de Milhaços took advantage from the decree that liberalized the trade and the industry regarding gunpowder in Portugal (1879). The events related to the English Ultimatum and the national reaction to the import of British goods are the most relevant aspects of the policy framework of that time that are connected to the production plant complex of



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gunpowder in Vale de Milhaços. The commitment to a greater national involvement in Africa, was the stimulus for the manufacturing of an ordinary kind of gunpowder, not for military purposes, but thought for stone quarries and mines, so as to enable the construction of railways, public utilities, bridges and seaports in Angola. Thereby competing with the gunpowder production in Barcarena.

The participation of Portugal in the Great War had an immediate impact on The Companhia Africana de Pólvora, SARL, both for political and economic reasons. The beginning of international confrontations in Africa has led to restrictions on trade of gunpowder in Angola. In Portugal the German interests began to be persecuted. This aspect had negative consequences within the Company, because of the capital that composed the society itself, and also due to the privileged relationship towards the German economy that the company was dealing with. The commercial blockade started by the State Monopoly stakeholders that were stimulated by the interests of the Barcarena plant, contributed to the shutdown of the factory. The "financial degradation", that was followed up by the international economic crisis, led to the fact that the Company did not find the energy to resist against the 1919-1921 juncture.

After the company break-up, its real estate was sold and a new company was founded. In this case a sort of a family-type company came to birth, which manager was Mr. Francisco Camelo. Its name was : Sociedade Africana de Pólvora Limited. This society kept the prominent role managing the production unit between 1922 and 2001, going through different distinct administration periods. At the beginning it succeeded in regaining back the Angola market, whereas the development process taken back from the 1st period Republic seemed unstoppable. The new Company owners recover and put into action the running and management of the

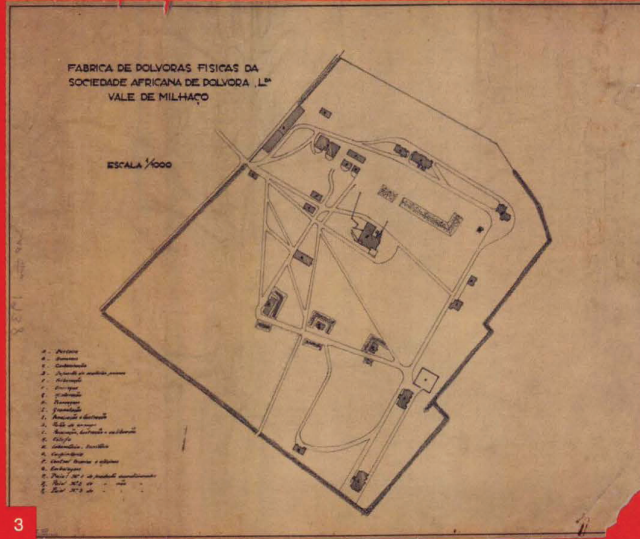
industrial production plant they had inherited from the Companhia Africana de Pólvora. A few years later the production was diversified, thereby establishing new workshops units on the land available.

“An unique site in terms of industrial heritage”
(Eusebi Casanelles, 1999)

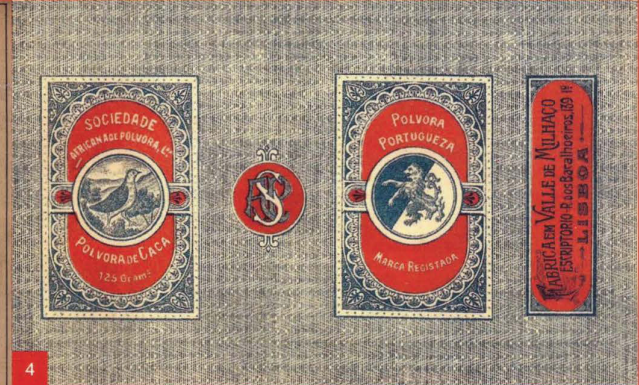
The enhancement of the industrial heritage in Vale de Milhaços started in the early 1980s. At that time, the Sociedade Africana held the plant in operation, went on up-keeping the plant itself, on the basis of the technological production system and process used in the late nineteenth century. A steam engine dated 1900 remained in operation and provided the motion power to all workshops producing the gunpowder, exactly as it was when the factory was established. The detached beam engine house was the heart of the plant. For safety reasons the engine house was isolated from other workshops. It turned out to be the best solution for the introduction of steam power in the industrial production of gunpowder in Europe and Portugal during the industrialization era. Similar to the Sevran Livry engine house on gunpowder plant (1873) in France. The motion power was conveyed to the different workshops connected to the net of the gunpowder production units through one complicated system of aerial mechanical transmissions by means of cables, giving evidence of the most modern contributions in the 19th century in the field of industrial mechanics (Gustave-Adolphe Hirn system).

The persistence and keeping over the time of the same technological processes and production methods for gunpowder of that time, which

21 EMS - Ecomuseum Unit of ancient Vale de Milhaços Gunpowder mill. Lubrication of the steam-engine oil-cup, made by the engine driver, Francisco Moura. ©EMS / CDI – Rosa Reis, 1998



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3 | Layout of the physicals gun powders plant. Sociedade Africana da Pólvora, Lte. © EMS / CDI

4 | Gunpowder packing product for hunt chasing. Chromolithography. Near upon 1930-1940. Sociedade Africana de Pólvora. Private collection

maintained the same type of industrial plant that was typical in the late nineteenth century as well as the corresponding production machines, the various aspects related to the memory and to the social identity of the complex existing in the Milhaços Valley, were in fact the real reasons why since the beginning we took the decision to choose and consider this site and all its manufacturing group of buildings as national industrial heritage. It is remarkable the case of the steam engine that can be seen - a [Joseph] Farcot & Fils, 1900, 125 horse/power – which needed a increased major attention, because the steam engines had stopped working in Europe after the World War II and the Marshall Plan (1947). The maintenance of its longitudinal mechanical transmission system (different of irradiant system of Sevran Livry) was even more amazing, since that sort of functioning process had been set aside after the electricity revolution.

Mr. Kenneth Hudson's (1916-1999) visit in Vale de Milhaços was a special moment, as he recognised the value of this heritage site at a time in which this sort of topic discussions regarding the protection and preserving of industrial monuments was a new subject in Portugal (1986). To succeed with the preserving action of this industrial production plant could only then be possible in case of an actual intelligent attitude by its owners, along with a clear willingness from the side of the public cultural authorities.

During the 1990 decade many initiatives were developed in relationship to the cultural value of the heritage existing in Vale de Milhaços, which have become a good example for our country, notwithstanding the fact that there were complicated difficulties connected with the practical carrying out and accomplishment of the cultural aims of the project concept, which included the realization of a museum in the industrial plant building. The functional Cycle of the industrial factory represented a conditioning aspect for the enhancement or archaeological values process, which was made feasible only because of the good will shown by its owners. In the end the local City Council of Seixal decided to get involved in this process, thereby opening the opportunities and allowing the creation of a new phase in the Gunpowder mill of Vale de Milhaços. It is his emergent cultural Cycle (Michel Rautenberg, 2003).

During the 100th centenary of the factory in 1998, the echoes of its financial situation were well known, and so were the owners' intention

to close it down. At this point the Ecomuseum in Seixal granted the work of the inventorying of its assets in situ, it also created a tourist circuit to let it be visited. Last but not least, the Ecomuseo made the procedures for its sheduling and classification feasible. The most genuine archaeological evidences of the industrial plant in Vale de Milhaços became then ownership of the Municipality of Seixal, constituting itself as the specific Unit or Nucleus of the Ecomuseum and also as pole of the industrial circuit heritage of the county. The classification process is not yet fully completed, being dependent on an official resolution and on the ministerial approval. At this point in time studies and analysis are being carried out regarding the area of protection of the industrial complex, whereas it is a "Property of Public Interest" – this category includes the ground site, the buildings, the integrated equipment, machinery and tools and the diffuse heritage. Further on it also includes a steam engine and a boiler, this one dated 1911, which are used for usage / activity demonstrations, which demand periodic regular and appropriate conservation and maintenance procedures.

This industrial complex of Milhaços Valley is a special case of the gunpowder industry in Portugal and to some extent it is also from an international point of view. Not because its scale was somehow amazing, nor because it has had any particular transcendent meaning in the field of gunpowder production in Portugal. But, most of all it asserted itself as an example that shows the survival of technical and social procedures that were used during the gold steam age and also of the mechanical transmissions. The group of buildings and this particular industrial complex as a whole brings together the manufactured machines forming the complete mechanical scenario, focusing on the central role played by power during the gunpowder production, which is based on mechanical procedures (showing the beginning of mechanization) by means of energy generated in transmission power singular houses, linked to the isolated workshops where its diagram of production took place ■

NOTA: A versão integral e em português deste artigo encontra-se disponível em www.gecorpa.pt