

# To observe to learn: portuguese worker's visits to the world exhibition<sup>1</sup>

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## 1. Introduction

From the mid-19th century on, World Exhibitions were privileged spaces for the dissemination of progress in science, technology, and industry, at the international level<sup>2</sup>.

For this reason - and in line with other countries - in Portugal the government, the institutions offering technical education and the societies connected with the industry, all provided funds to some workers' representatives, from several different industries, so that they could visit the World Exhibitions to study the progresses of technology and industry, presented at those events by various countries.

In return, these workers should presented a report on the research they had done during their visits. They were expected to refer the improvements which, in their view, should be introduced in Portugal, in the industrial branches they represented.

The main goal of this paper is to analyse some examples of study trips to the World Exhibitions taken by Portuguese workers, addressing the way in which the reports submitted by these industrial workers described the exhibitions, and the industries and industrial objects displayed by various countries, as well as the technical innovations and industrial processes shown on those occasions.

## 2. Learning, with the goal of applying and teaching: workers' study visits to the World Exhibitions

The industrial exhibitions staged in the first half of the 19<sup>th</sup> century were considered as ways of promoting technical divulgation and of learning new manufacturing processes, based on observation. As early as 1840, the *Sociedade Promotora da Indústria Nacional* (Society for the Advancement of National Industries) had argued that “of all the means employed so far to spread among manufacturers the knowledge of the best processes for the making of any article, none has produced more efficient results than the public Exhibitions of industrial products”<sup>3</sup>. This is why World Exhibitions were seen as a way of making workers familiar with the development of industry in other countries, prompting the government, as well as associations linked to industrial concerns, to send workers and apprentices to these events<sup>4</sup>.

In 1855, the government considered it wise “to provide the country's industrialists with the means to witness, in the coming Universal Exhibition, the improvements which the most valuable arts and crafts practised in Portugal are likely to require; and since the surest way of attaining this goal is the study carried out, in that Exhibition, by men who are used to the practice of industrial labour”, it

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<sup>2</sup> For that reason different kind of persons visited the World Exhibitions. About the Portuguese case see A. Cardoso de Matos, “À mi-chemin entre études et « plaisir »: les visites des Portugais aux expositions universelles de Paris (seconde moitié du XIX<sup>e</sup> siècle)”. In CARRÉ, Anne-Laure, CORCY, Marie-Sophie, DEMEULENAERE-DOUYÈRE, Christiane et PÉREZ, Liliane (dir.), *Les expositions universelles à Paris au XIXe siècle. Techniques. Publics. Patrimoines*, Paris, CNRS, Paris, 2012, pp. 299-314 and M. H. Souto, *Portugal Nas Exposições Universais (1851-1900)*, Lisboa, Ed Colibri, 2011.

<sup>3</sup> *Annaes da Sociedade Promotora da Indústria Nacional*, 2nd series, 4, 1840, p. 74.

<sup>4</sup> Several other countries sent workers to the Universal Exhibitions. On the Italian case, see A. Pellegrino, “Italian workers and the Universal Exhibitions of the 19th century. Imaginaries and representations of technology and science”, *Quaderns d'història de l'enginyeria*, 2012, vol. XIII, p. 97-114.

instructed the head of the *Instituto Industrial de Lisboa* (Industrial Institute of Lisbon), the engineer Fradesso da Silveira, to appoint 5 workers from Lisbon, and another 5 from Porto, to visit the Exhibition at the government's expense.<sup>5</sup> The *Associação Industrial Portuense* (Porto's Industrial Association), too, sent to the Paris World Exhibitions representatives of the various industries present in the city, in an initiative aimed at stimulating the modernization of the various industries<sup>6</sup>. Not all the "workers" chosen, however, had the same status: this word could sometimes refer to the owners of small workshops, at other times meaning salaried employees<sup>7</sup>.

In 1862, the government again funded the trip of 10 workers – 5 from Lisbon and 5 from Porto - to the Paris World Exhibition. The director of the *Imprensa Nacional* (the national press institution), Firmo Augusto Pereira Marrecos, was asked to select a worker from his institution. His choice fell on José Maurício Velloso who, at the end of his study trip, produced a thorough report on the various branches of the typographical industry<sup>8</sup>. The remaining workers were chosen - with the approval of Joaquim Henriques da Silveira, then chairman of the board of the *Associação Promotora da Indústria Fabril* (Association promoting the manufacturing industry) – by an assembly of delegates from trade associations, convened by the director of the *Instituto Industrial de Lisboa*, at the time Joaquim Júlio Pereira de Carvalho.

## 2. Portuguese workers in the 1888 Universal Exhibition

The decision to send workers to the World Exhibitions was made, in some cases, by the municipalities: on July 25<sup>th</sup>, 1889, the Municipality of Lisbon approved the grant of subsidies to workers from various branches of industry, so that they could make a study trip to Paris. Twenty areas of industrial activity were selected: Machine workers; Tailors; Carpenters; Saddlers; Cutlers; Bookbinders; Tinkers; Lithography; Engraving and galvanoplasty; Ceramics; Cabinetmakers; Goldsmiths; Shoemakers; Carriage makers; Stonemasons and plasterers; Wood carvers; Passementerie; Typographers; Coppermiths and tinsmiths<sup>9</sup>.

Workers from all the selected industrial sectors met - on the initiative of the *Sociedade de Artistas Lisboense* (Lisbon's Society of Craftsmen), along with other workers' associations - and elected two delegates to go to the Paris Exhibition. The workers' mission, headed by two engineers, left Lisbon by train on September 9<sup>th</sup>, 1889, and arrived in Paris on the 13<sup>th</sup>. During their 22-day stay in Paris, these workers switched between visits to the Exhibition and calls to the most important factories.

On their return, in keeping with the agreement made with the Lisbon Municipality, they presented their reports on the trip. Those reports vary widely in their degree of development and technical detail. This reflects the existence of different levels of technical training on the part of the authors, and also the troubles experienced by some workers when trying to collect complete information on the products and manufacturing processes presented at the Exhibition.

Joaquim Gualdino Pinto, representing the professional group of iron boiler-makers, noted some of the difficulties he faced during his visit to Paris: "The Universal Exhibition of Paris – that immense gathering of labour and intelligence, that immense conjunction of human knowledge – was in fact a tough task for a worker who lacked a perfect command of the country's language. Besides, twenty

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<sup>5</sup> *Diário do Governo*, nº 78, 1855, p. 377.

<sup>6</sup> Workers from all the trades were supposed to present reports. The first to do so was the one sent by the representatives of the ceramics industry. *Jornal da Associação Industrial Portuense*, vol. V, nº 2, 30 September 1856, p. 17.

<sup>7</sup> One of the difficulties facing the study of workers' trips to the Exhibitions lies in the very definition of the term "worker". As was the case in other European countries, in Portugal too the word did not always indicate the same category of labour. It could range from small industrialists, atelier apprentices or workers in large enterprises, to those who provided home service. Anna Pellegrino had already mentioned this difficulty concerning the Italian workers who travelled to the Universal Exhibitions. A. Pellegrino, "Aux Olympiades du progrès: les ouvriers italiens aux expositions universelles au XIXe siècle", *Documents pour l'histoire des techniques*, nº 18, décembre 2009, p. 115.

<sup>8</sup> I. F. da Silva, *Dicionário Bibliográfico Português*, Lisboa, Imprensa Nacional, 1858-1923, vol. XIII., vol. XIII, p. 140.

<sup>9</sup> Arquivo Histórico Câmara Municipal de Lisboa, caixa s/nº

workdays were a short time in a place where so many varied and important things claimed our attention simultaneously, where the items concerning the studies we wished to undertake were dispersed, where it was forbidden to touch objects on display or to take notes, where no interpreter was available to provide the explanations we needed in order to successfully perform our mission, where, in conclusion, the visitors, naturally keen to see everything, forced us to move along more than we would wish to; it became difficult to perform the detailed studies we desired”<sup>10</sup>. Despite the difficulties it describes, this report is rich in detail, showing us that the trip enabled its author to learn about the developments in the construction of machines and other iron objects attained in the various countries represented in the Exhibition.

For some of the workers who visited the Exhibition, the main difficulty lay in the fact that what they saw were the finished industrial products, not allowing them in most cases to know their manufacturing processes. This difficulty was stated by the representative of smelters in his report:

“Despite the abundance of products from every industry presented at the Exhibition, and the mechanical industry being the one which prevailed in terms of the quantity and variety of articles on display, still I can declare that, for the smelter, elements of study were not abundant. The smelter must see the objects as they leave the foundry to spot the hints which point to the procedures followed in the various steps of casting”<sup>11</sup>.

In an attempt to overcome these difficulties, the engineers in charge of this mission made sure that the workers involved should visit the most important plants, so that they would be able to complement the information collected at the Exhibition.

On their return from the study trip, the workers who had visited the Paris Universal Exhibition were supposed to transmit to their colleagues in the same industrial sectors the knowledge they had acquired<sup>12</sup>. However, some of the workers sent to the Exhibition failed to hand in their reports, a fact which led Cavalleiro Sousa to consider that “either they studied nothing, or what they did study is unworthy of being made public. On the other hand, though, how could they have done so, barred as they were from analysing the objects on display, being allowed to see them but not to touch them?”<sup>13</sup>.

### 3. Final remarks

World Exhibitions were seen, among other things, as learning environments and, consequently, several institutions - both public and private - sought to facilitate workers’ visits to these events. Through these initiatives it was hoped that, as was the case with engineers’ and industrialists’ visits<sup>14</sup>, study trips by workers would also be a way of promoting the divulgation and transfer of technology.

From what we know, however, the level of knowledge acquisition by workers at the Exhibitions fell short of the desired objectives, although a global evaluation is yet to be made of the practical results of those visits on the development of industrial activity.

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<sup>10</sup> “Relatório do delegado da classe dos caldeiros de Ferro”, Arquivo Histórico Câmara Municipal de Lisboa, caixa s/nº.

<sup>11</sup> “Relatório do representante dos fundidores”, Arquivo Histórico Câmara Municipal de Lisboa, caixa s/nº.

<sup>12</sup> Research carried out to date does not enable us to decide whether or not sending workers to the World Exhibitions resulted in the transfer, divulgation and later application of new technologies and manufacturing processes.

<sup>13</sup> A. E. F. de Cavaleiro e Sousa, *Uma Visita à Exposição Universal de Paris em 1889*. Lisboa, Lucas & Filho 1892.

<sup>14</sup> A. Cardoso de Matos, «World exhibitions of the second half of the 19th century: a means of updating engineering and highlighting its importance» in *Quaderns d’Història de l’Enginyeria*, vol. VI, 2004, pp. 225-235.

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