

# Environmental Conflicts in Mining, Quarrying, and Metallurgical Industries in the Iberian Peninsula (19th and 20th Century): the Role of Institutions

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Since the 19<sup>th</sup> c., environmental degradation due to industrial activity, mainly in the mining, metallurgical and textile sectors, gave place to serious social conflicts in Spain and Portugal. This panel studies the evolution of these conflicts before the “Ecological Era.” Pollution not only threatened public health, as well as flora and fauna, but also exerted a negative influence on other economic activities such as agriculture or livestock farming (or even fishing). Pollution was at the root of the conflict at the turn of the 19<sup>th</sup> c., a quarrel that opposed traditional local economies and the *status quo* that benefited from these against the new and powerful industrial initiative. Prompted by the modernization frenzy of the 19<sup>th</sup> century, a liberal legislation frame smoothed the progress of industrial entrepreneurship in the Iberian Peninsula. In this context, State policies openly gave way to the penetration of industry, providing a political umbrella and legal coverage to the environmental damages infringed by industrial agents. Although these conflicts appeared as early as the 1850s, they achieved their climax from the 1880s until the First World War, as in other European countries. When pollution problems could not be solved through voluntary agreements, there were several options: parts sought legal remedies within the judicial system, normally through damage compensation; a regulatory system could be established; or it could be a combination of compensation and public arbitration that became the key element in the resolution of the conflicts. This panel analyses the role in the conflict of Spanish and Portuguese institutions from the middle of 19<sup>th</sup> c. until the middle of 20<sup>th</sup> c. In this context, the behavior of Spanish and Portuguese governments and judicial systems as well as the influence of social agents is emphasized. Moreover, the fundamental intervention of local communities and their leadership in antipollution campaigns has to be stressed.

## Papers

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## Environmental conflicts in the pyrites mining industry in Portugal (1850-1930)

Paulo Guimarães

During the second half of the Nineteenth century, the development of the mining industry in Portugal was export oriented and led by foreign capitals. Those mining enterprises used local vital resources, changed landscapes, became a source of air and water pollution, and of social conflicts.

In this paper we analyze three environmental conflicts derived from the environmental disruption due to the modern development of the pyrites mining industry in Portugal during the long period of material progress and relative prosperity (*Regeneração*) and the New State. Considering the facts shown by local records, parliamentary papers and State archives, we reconstruct some of those conflicts, identifying social actors, strategies and forms of resolution.

The comparison between open conflicts across distinctive social and geographic contexts and time periods have shown different and recurrent behavior and bargaining strategies by landowners, peasants, fishermen and mining companies within the unequal relationship established between them and the Liberal State in order to face the environmental damages created by the mining and metallurgical industry.

We show that those different group strategies were the result of the highly unequal power distribution, and of the resources they were able to mobilize. The State action was presented and *understood* as mediator and regulator within this framework, and so the parliamentary debate promoted by agrarian landowners during the First Republic. The legal and juridical framework that come out from this experience have not reinforced the power bargaining of the landowners and farmers in such way that they could prevented and jeopardized the mining and industrial interests often promoted by foreign companies.

## **Towards a Rhetoric of Pollution: an Introductory Analysis of Discourse in Spanish Mining Pollution Conflicts at the Turn of the 19<sup>th</sup> C.**

Garrido Camacho, P.  
Pérez Cebada, J. D.

Miners and farmers have had a problematic relation. In Spain, the great development of the mining sector from the end of the 19<sup>th</sup> c until the First World War coincides with a strong environmental degradation in the most important mining basins. Tensions derive sometimes in great social problems and renew their traditional antagonism. Although there were conflicts in other mining areas in the country at the turn of the century (Murcia, Almería, Bilbao, Asturias, etc.), the conflict between the Antismoke League (La Liga contra los Humos de Huelva) in the Huelva pyritic basin is the most relevant one. The smoke question was debated in newspapers, academic articles, informative pamphlets, even books, promoted by both parts in the conflict. Both sides sought to exert an influence not only on decision makers, but on public opinion, an unprecedented event in Spain. This paper analyses how both contenders, mining firms and antipollution groups, build their own language in order to evaluate damages to property caused by pollution. An analysis of their discourse show that each side of the conflict used a distinct language and different means of argumentation (valuation languages, in Martínez Alier's words) to defend radically different sets of values. The language of firms was that of economic compensation and the defense of property rights. They debated from a position of technological and scientific superiority, and their ultimate goal was to convince public opinion that they worked for a higher good, not only for the welfare of a community but also for that of a whole nation or even world progress. Antipollution groups also defended their own conception of property rights. Their concept of damage also included social, cultural, even spiritual elements, difficult to evaluate from a monetary point of view, and their argumentation was often not based on scientific theory, but on practical knowledge. Concrete proofs and particular cases were the evidence to show that pollution was irreversibly modifying their environment and their traditional way of life. Finally, it can be noted that throughout the conflict both languages evolved so that each of them appropriates that of the other.

## **An adversarial relationship: industry and environment in the river Ave basin**

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### **ABSTRACT**

One of the most significant consequences of the industrialization process of the river Ave basin, started in 1845 with the foundation of the first modern industrial unit, was the deterioration of their environmental conditions, mainly through the pollution of its waters. Although since the late nineteenth century, with the legal definition of the Hydraulic Services' competences (Act n.º 8, December 1st, 1892) and, after, with the Water Act of 1919, the administrative procedures to be adopted in cases of environmental transgressions had been established, only after the 1930s they began to know the proper response from the public entities.

With this paper we intend to present and clarify the issues of the industrial water pollution in the river Ave basin, based on consulting and analysis of the water public domain records existing in the archive of the North Region Hydrographic Administration, emphasizing a historical-geographical framework.

Are mainly the textile industries, in its operations of bleaching and dyeing, those that most contributed to the pollution of the waters of the river Ave basin, although also know complaints and transgressions related with the tanning industry, in Guimarães.

Another issue closely linked to environmental degradation in the river Ave basin resulted from the extraction and cleaning of metallic minerals, namely tin and tungsten, during the World War II. In the forties and fifties, laundering metal filings in metallurgy workshops to recover small quantities of copper, through primitive processes, constituted another example of environmental pollution, especially in this stretch of the river Este that runs through the city of Braga.

As we attempt to show, most environmental transgressions occurred mainly in the Middle Ave water courses and in the transition to the Lower Ave, both along its main river, as along the river Este, in a lengthy historical and continued process and that only deserved special attention by the competent authorities after the second half of the twentieth century.

# **Using legislation and expertise to solve the conflicts between industrial development and environment in the cities: The case of Lisbon in the 19th century.**

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During the 19th century the city of Lisbon experienced a great industrial development. Although an important number of factories continued to be located in the centre of the city, new factories were settled in the new urban areas located east and west of the city near the Tagus river. Metallurgical and gas factories were often constructed near waterways, for large quantities of water was needed to supply steam boilers or for several industrial processes such as cooling hot metals surfaces and to make chemical solutions as well. Waterways also provided the easiest and less expensive means of disposing of soluble or suspended wastes. The concentration of factories in specific areas increased the air pollution. The diffusion of the steam engine and of new process of manufacturing in those factories created important environmental problems and conflicts between the industrialists and the population of the neighborhood.

In the case of Lisbon, from 1840 onwards, they were constructed important factories, namely metallurgical and gas factories in the area of Boavista and Alcântara near the river Tagus. The production of these factories introduced in Lisbon a new factor of environment contamination that was regularly considered the responsible for some of the diseases of the population.

The aim of this paper is to analyse: how the development of the metallurgical and gas industry in Lisbon created urban conflicts and environmental problems; how the politicians, engineers and scientists tried to control and solve those conflicts and problems, namely through the legislation, licensing control and the inspection of the factories, or proposing technical changes in the processes of industrial production.