

## **Le Gaz Journal: Genesis and defense of the interests of the gas industry 1857-1895**

In 1812, the first company engaged in manufactured gas production was established in London. In the continent, Brussels and Paris were the pioneers in adopting this lighting technology at the end of the 1810s. Subsequently, Berlin in 1827, Vienna in 1833 and Turin in 1837 joined the process.

Meanwhile, in the Iberian Peninsula there was no public street lighting until 1842 and 1848 in Barcelona and Lisbon.

In Europe, the widespread application of public gas lighting did not occur in the most technologically advanced countries until the mid-nineteenth century, while its widespread use in homes did not take off until the mid-1880s, due, among other factors, to the advances occurring within the context of competitiveness with electricity after its emergence on the energy market at the beginning of this decade.

From a spatial point of view, the gas industry had to overcome different political and economic barriers within the transnational context. In this way, the engineers and industrialists created new spaces for discussion and disseminating all aspects related to the sector. The creation of exhibitions, associations, academies or periodical publications contributed to the socio-professional recognition of the engineers.

In this place we will focus on how gas journals acted as defenders of the interests of gas industry. Specifically, it focuses on the French journal *Le Gaz* during the second half of 19<sup>th</sup> century and how it acted as an advocate of the gas industry versus the emerging power of electricity.

### **Specialised Gas Publications**

In the case of gas, the first periodical and specialised publication was issued in 1847 by George Barlow in London, under the name of *Gaz Gazette*. However, this publication was not widely accepted and was in circulation for less than a year. Also in London Thomas Barlow created the *Journal of Gas Lighting* in 1849.

Barlow's initiative served as a model for different people in Europe and the United States to start their own journals. In this way, in 1852, *Le Journal de l'Éclairage au Gaz* in Paris was created. The following year, *Gas and Water Times* began to be published in London. In 1857, again in Paris, *Le Gaz* began to be published and one year later, in Germany, it

did it the *Journal für Gasbeleuchtung*. Finally, to finish with the pioneers of technical gas journals, we will refer to the *American Gas-Light Journal*, founded in New York 1859.

The journal *Le Gaz* began its trajectory in Paris in 1857 and was published until 1939. Its founder and alma mater, Émile Durand, had worked since his youth on the management of lighting contracts with different city councils. In 1853, he began his career in the specialised press, collaborating with the *Journal de l'Éclairage au Gaz*.

The journal was born with the aspiration of defending the users from the irregularities committed by the *Compagnie Parisienne*. However, the line followed by *Le Gaz* gradually transformed, which is revealed in its sub-title which changed from “journal des consommateurs des gaz” in 1857 to “Organe spécial des intérêts de l’industrie d’éclairage et de chauffage par le gaz” in 1862. Its relevance is evident in the many references made to it in the principal periodical scientific publications of Europe and the United States. On the other hand, Émile Durand was a partner of the Society for the Development of National Industry of France and a member of honour of the *British Association of Gas Managers* and of the *American Gas-Light Association*.

After the death of Émile Durand in 1886, his son Paul Durand took over the management of the journals, while Gustave Jouanne became responsible for the technical editing. They were both engineers with professional experience in the gas sector.

Since its foundation, the journal contributed to the expansion of the gas industry through the diffusion and discussion of the principal technical advances in gas. Furthermore, it carried out an intense education and dissemination work aimed principally at consumers and, subsequently, at entrepreneurs and gas factory directors. All in all, the emergence of electricity represented a new challenge for the journal. Having been born and expanding during the “belle époque” of the gas monopoly, the development of electricity would be identified from an early date as a threat to the gas interests that could not be ignored. Each advancement in electricity was addressed and often questioned by *Le Gaz*. In this way, mentions of its competitor became more frequent with the passage of time.

## **1.1. *Le Gaz* and electricity**

### **1.1.1. The origins of electricity and laboratory breakthroughs**

In the mid-nineteenth century, electricity had not made it out of the laboratory, suffering from deficiencies that prevented its industrial use.

The first reference made by *Le Gaz* to electricity was on 20 February 1858. It described the electric lamp developed by J.B. Pascal. However, the interest did not reside in the information about the new invention, but in the reflection made by the editor.

Despite the embryonic phase of electricity, Émile Durand, being prudent and to some extent visionary, gathered news referring to the possible competitor. Although the day when the electricity would become a threat was still distant, it would come and the gas industry had to be prepared to face it. In the words of Durand, “*l’indifférence tue comme la crainte*” or “indifference kills like fear”.

### **The 1860s: The Serrin regulator, lighthouses and the beginning of the public debate**

The first public use of electricity, in terms of lighting, was made in a field where gas had not eliminated the traditional systems, namely in lighthouses. In the United Kingdom, the experiments had begun in 1857. However, it was in France, where, from 1863, the use of electricity in lighthouses progressed with force.

The information referring to the lighthouses in the specialised gas press did not strictly respond to the fear of a threat or possible competition as gas was not used in these places. However, the demonstration of the feasibility of voltaic arc electric lamps for these uses gave rise to the first attempts to apply it to the cities.

Due to its nature, the voltaic arc could be useful for lighting large spaces such as crossroads or squares. The enthusiasm shown by supporters of the new energy source was widespread. According to them, electric lighting would eliminate the insalubrity caused by gas and its filtrations and the fire risk. It would also be more comfortable, safer and cheaper. In response to this acclamation, *Le Gaz* plainly pointed out all of its weaknesses, namely, the flickering, extinctions, the cost of installation, the production cost and its excessive and unpleasant brightness.

Despite the optimism of the electricity supporters, the attempts to light large urban spaces had been unsuccessful. The flickering and blinding light was not received well by

the population and electricity demonstrations were abandoned. Nevertheless, despite its limitations, electricity had become part of the public debates.

### **1.1.2. The 1870s: The Gramme Dynamo and Yablochkov candles. The beginning of the technical competition**

The 1870s began with an enormous step forward. Gramme designed a new electric generator that was much more efficient than previous generators.

Also In 1876, Paul Yablochkov invented the electric candle, which did not need a regulator and used alternating current produced by the Gamme dynamo. Although the electric candle did not resolve the characteristic flickering of the arc, it mitigated it. The symbiosis between the Gramme dynamo and the Yablochkov was formalised with the creation between the two of the Société Générale d'Électricité in 1878.

We can pinpoint this date as when the technical competition between gas and electricity began. The imminent danger, now seen as such by the gas industry, came principally from the Société Générale d'Electricité. This company obtained a permit to light the Avenue de l'Opera. However, despite initial fervour, they had to abandon it in 1882 due to the lack of profitability it brought. The discourse of *Le Gaz*, which, until then had been limited to reporting the electrical advances without judging them, became harder and more thorough. The comparative analyses between the economy and use of gas and electricity multiplied as did the indication of the deficiencies of the latter.

He also criticised the lack of innovation due to the monopoly and encouraged gas companies to test and experiment with high-energy burners.

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### **The 1880s: The International Exhibition of Electricity of Paris and the incandescent lamp**

In 1878, Edison was making significant progress with incandescent electricity. Edison referred to the beginning of electricity as a network system, like gas, which rang alarm bells in the gas press. Durant counter attacked, underlying the abandonment of investors and the lack of confidence in Edison's company in the United States. He also included articles from other gas journals that opposed Edison, such as *Gas and Water Engineering*.

The International Exhibition of Electricity in Paris in 1881 marked a tipping point in the development of electricity, due to the media repercussions that it had and its

investment attraction capacity The specialised and general press reported on it with opposing views. *Le Gaz* continued with its sceptical discourse along with disqualifying elements.

Despite the turbulence caused by the inventor, electricity prices were not competitive until several decades later Electricity, similar to gas in its beginnings, was a luxury. However, the number of electrical installations increased, resulting in a correspondingly higher number of accidents caused by electrical installations, which were skilfully magnified in *Le Gaz*

On the other hand, the proliferation of serious fires because of gas in theatres throughout the world intensified the controversy regarding the safety of the different energies. The specialised electricity press claimed that the technology of electricity was safer while in *Le Gaz*, G. Jouanne wrote an article defending the old gas. In his opinion, these types of incident were not due to the nature of gas, but to the lack of regulation and the negligence of those responsible for its installation and maintenance.

### **1.1.3. The 1890s: the legal battle**

Throughout the whole of France, certain local governments ignored the concession contracts in order to allow electric power lines in the public streets. Meanwhile, the gas companies regarded these actions as a violation of the agreements signed and brought their claims before the judiciary.

From the outset, *Le Gaz* exhibited a preference for the legal and contractual issues of the gas industry over the technical details. The journal gave a detailed account of the jurisprudence resulting from the many conflicts between the gas companies and municipalities and congratulated those gas companies that committed to supplying electricity themselves, avoiding any possible conflicts with emerging companies.

Most sentences of the French Conseil d'état were favourable for the gas companies, marked the jurisprudence to follow in future lawsuits. Of course, the journal celebrated this decision and reported on the immediate repercussions that it had in the cities, which had to cancel agreements with emerging electric companies.

Despite the optimism, the warning was clear. The gas companies had to use their privileged position and undertake the introduction of electricity according to their own terms.

In short, we can see that *Le Gaz* was a journal committed to the interests of the gas industry. While it was originally dedicated to bringing new energy closer to consumers, with the emergence of electricity, it focused all its efforts on combating competition. From the beginning, it did not underestimate electricity and followed all its advances to prevent the gas industry. Later, when technical or legal competition became a reality, it campaigned against the new companies in order to continue defending the interests of the old industry.