THE SIEGE - ON THE 1899 BUBONIC PLAGUE EPIDEMIC IN PORTO

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Can we learn something from the 1899 bubonic plague epidemic that led to the siege of Porto, isolating the town for a few months? Ricardo Jorge, responsible for identifying the infectious agent, coordinated the medical research and the actions to fight against the epidemic. Considering how serious the disease was, the Government authorities in Lisbon decided to isolate the city, forbidding the circulation of people and goods, which led to fierce reactions by Porto's inhabitants. This epidemic was also the first public health crisis, and photography played a relevant role in documenting it, mainly due to two photographers from Porto: Aurélio da Paz dos Reis and Guedes de Oliveira.

The first case of bubonic plague in Porto, considered the third major global plague epidemic, was recorded on July 9 1899, by Ricardo Jorge. At the time, Ricardo Jorge was the physician in charge of the Municipal Health and Hygiene Services, which he established in 1892. He was a physician and academic of great status, dedicating himself to public health issues for quite a long time. Ricardo Jorge would become a major reformer, after starting to work at the Directorate-General of Public Health in Lisbon.
It was the first major epidemic with a remarkable photographic record. There are plenty of photos by the amazing Porto photographer Aurélio da Paz dos Reis, and others by Photographia Guedes, a photography shop that was famous in the city, at that time. The pictures show the actions carried out to address the epidemic, by health brigades and firefighters, as well as the backstage work at the laboratories, performed by medical personnel, under Ricardo Jorge's guidance. They also document several protests by the city's population and living forces.
It was the end of the 19th century, a period of deep social and economic changes in the city, with the arrival of industrialisation, new technologies and photography.

Porto's intellect... belonged to the Positivism generation. The generation that came after the Romantic generation of Café Guichard and Águia de Ouro. In 1878, the magazine O Positivismo emerged, produced by Teófilo Braga and the doctor Júlio de Matos, director of the Conde Ferreira hospital. In 1882, the magazine had made a thorough review of the Evolution of Species' Darwinism. Republicanism seemed committed to garner the Scientism that grew in Europe due to the second industrial revolution. Aurélio is 20 years old, and he already collects newspaper clippings. That is probably how he was exposed to Charles Darwin's ideas, by reading the O Positivismo. The works he eventually bought, maybe during one of his trips to France, are the most representative of the new evolutionary materialism: On the Origin of Species and The Descent of Man.

M. do Carmo Serén, Manual do Cidadão Aurélio da Paz dos Reis, CPF edition, 1998

Figure 1 - Dr. Ricardo Jorge at the Municipal Bacteriology Laboratory, 1899. Ricardo Jorge would confirm the diagnosis of plague on August 8, 1899, photographed by Photographia Guedes (courtesy of Municipal Archive of Porto)

Figure 2 - August 24 1899 - Meeting of traders and businessmen from Porto at the Palácio da Bolsa, to discuss the consequences for the economy of the sanitary siege, decreed by the government, photograph by Aurélio da Paz dos Reis (courtesy of CPF - Portuguese Centre of Photography)

Figure 3 - Shop window in Porto, protesting against the sanitary cordon, decreed by the government on the proposal of Ricardo Jorge, who is represented by a doll they call "The Inventor of the Pest", photograph by Aurélio da Paz dos Reis (courtesy of CPF)

CHRONOLOGY OF EVENTS

July 4 › 1899	**Ricardo Jorge was informed about some sudden and unexplained deaths, which would have occurred at Rua da Fonte Taurina, in Ribeira. He visited the place after two days, and totalled four fatal cases among ten infected. They all lived "in miserable and filthy buildings" he would write.**
July 9 › 1899	**Ricardo Jorge would write: "a bacillus that microscopically covered the morphology of that of the plague - short, solid, bipolar interior, intermediate white space".**
July 12 › 1899	**For the first time, in a report sent to the Civil Governor, Ricardo Jorge identifies the disease as bubonic plague, explicitly and quite clearly.**
July 28 › 1899	**In a report, Ricardo Jorge reiterates his conviction that it is, in fact, bubonic plague.**
August 8 › 1899	**After a bacteriological examination, performed in the municipal laboratory that he had established, Ricardo Jorge confirms the previous diagnosis of plague. This diagnosis was validated by the laboratory work performed by Câmara Pestana, director of the Bacteriology Institute of Lisbon.**
August 17 › 1899	**The Government issued a decree establishing the first sanitary measures on the city.**
August 23 › 1899	**The army surrounded the city; entering and leaving is strictly restricted, for both people and goods. The "siege", as it will be remembered, will have very negative consequences, leading to great economic uncertainty, unemployment and famine.**
August 24 › 1899	**Meeting of traders and businesspersons from Porto at the Palácio da Bolsa, to discuss the blockade and the city's sanitary siege (photographed by Aurélio da Paz dos Reis).**
October 4 › 1899	**Ricardo Jorge leaves Porto, to assume his position at the Directorate-General of Health and Public Charity.**
December › 1899	**End of the siege.**

The photographic record of the 1899 bubonic plague was made possible by the advances in photography and the remarkable photographers from Porto. Since the official invention in 1839, the evolution of photography was quite fast, leading to quality pictures and, above all, vivid portraits of day-to-day life. The development of lighter/simpler equipment and glass negatives (1851) enabled the easy and *ad infinitum* reproduction of copies, while the adoption of sophisticated techniques e.g., gelatine silver and silver bromide (1880), contributed to accelerate the process and obtain snapshots. Moreover, and unlike all expectations, all these innovations arrived quickly to Portugal, particularly to Porto. The photographers kept themselves updated about what was happening in France, leading to the immediate dissemination and testing of all the major developments.
The photographic record of the events took place quite naturally in this context, eventually leading to photojournalism. Both Aurélio and Guedes de Oliveira are fine examples of this developing connection between photography and journalism. The development of socially inclined photography took place simultaneously, in order to expose the situation of poorer and more vulnerable individuals. These new fields expanded the scope of what would later become documentary photography.
At the same time there were remarkable breakthroughs in the field of Public Health. In 1882, Koch discovered the tuberculosis bacillus. It was the beginning of Medicine based on science, replacing the Medicine based on old wives' remedies and empirical procedures, without scientific evidence. The advances in microbiology were the main cause of the aforementioned breakthroughs in Public Health. Having identified many of the microbial pathogens that caused most of the contagious diseases that plagued Europe at that time, the scientific community was able to understand a little better the mechanisms of disease spreading, and was able to address them more effectively. The plague that tormented Porto at the outset of the 20th century would play a key role, by accelerating change - through the valorisation of laboratory work and the microscope, as resources to support medicine. It would also contribute to a deep reorganisation of Public Health Services.
Ricardo Jorge would be a key agent in this reform: first in Porto, as head of the Municipal Public Health Services, and then in Lisbon, at the Directorate-General of Health and Public Charity, and then at the Directorate-General of Public Health, during the Republic.

How the plague was addressed - the siege of the city

The irony that History keeps underlining: the third plague epidemic that devastated the city of Porto came from the province of Yunnan (China), appearing around 1840. Hence, it would take about 60 years to travel to Porto, with the first cases identified in 1899. At that time, travelling took place at different speeds, even for the infectious agents.

The "siege", enforced by the central Government in Lisbon, and against local authorities, was ruthless.
For this reason, many people perceived the siege as a retaliation against the actions on January 31 and the pro-Republic movements in Porto. Many people protested against this decision, in an attempt to force the Government to overturn it. Some historians claim that this traumatic event may have conditioned the future attitude of the Porto inhabitants towards the capital, always characterised by a critical distancing, along with a constraining subservience, blaming Lisbon for everything that happens in the region, but also the inability to assert autonomy. In fact, people interpreted the siege as a humiliation for the city, leading, at a certain point, to an uprising against the healthcare services and Ricardo Jorge himself. He would eventually leave the city, disheartened, and assume the position of Inspector-General of the newly established Directorate-General for Health and Public Charity . This DG would constitute an important milestone in the history of Public Health in Portugal, leading the reform of Public Health services in the country, by publishing the General Regulation of Health and Public Charity Services, in 1901.
The siege would only end at the end of December, just before Christmas, when the number of infectious cases was very small. However, some believe that the disease remained active in Porto until 1915. Due to a series of fortunate events, the final number of deaths turned out to be much lower than expected, given the severity of the disease: there were "only" 132 deaths.

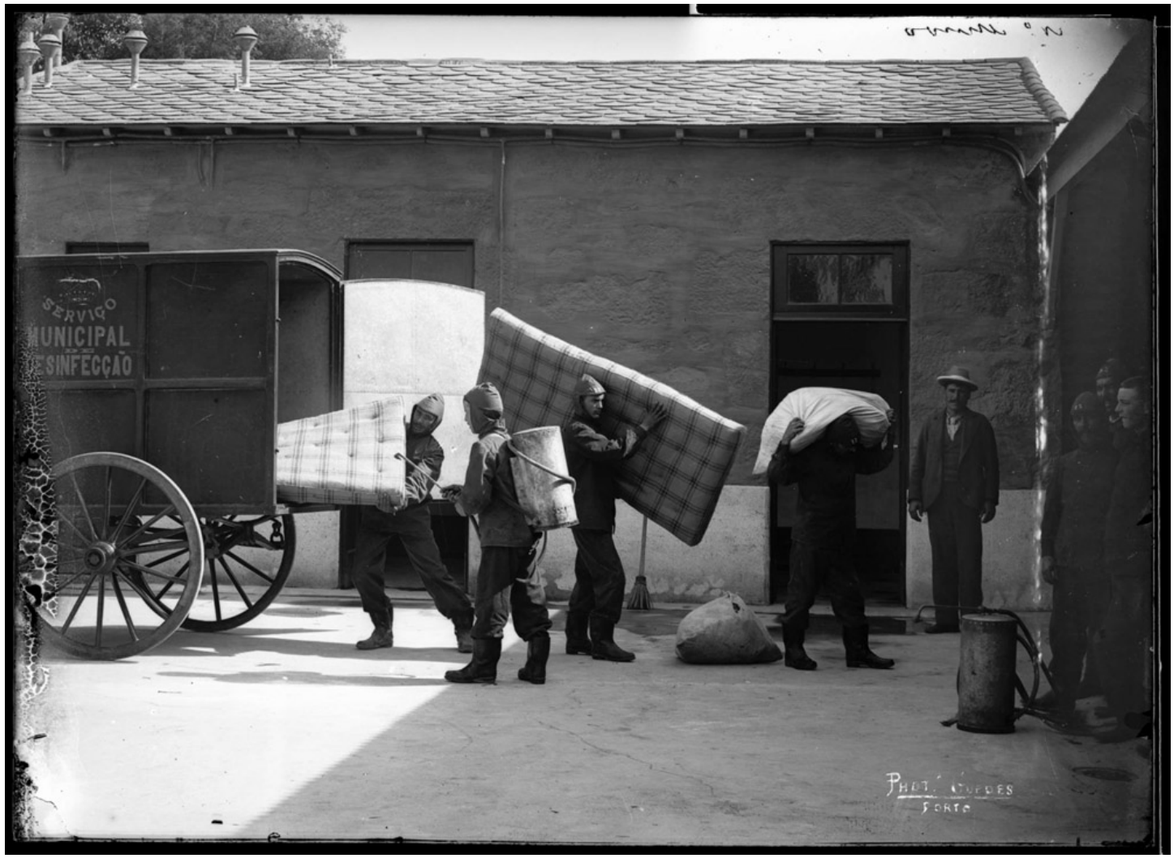

Figure 4 - Car from the Municipal Disinfection Service, of a special firefighter brigade, participating in the cleaning of unhealthy houses in Porto, to prevent the spread of the Bubonic Plague, photography by Photographia Guedes (courtesy of Municipal Archive of Porto)

Figure 5 - Health technicians prepared to perform the disinfection, photograph by Aurélio da Paz dos Reis (courtesy of CPF)

Analysis of the 1899 plague and the siege of Porto

It is now possible to state that the relatively limited character of the 1899 epidemic in Porto has pretty much nothing to do with the sanitary siege decreed by the central Government. This siege did not work that well, since it was not planned in advance and the city did not have the required conditions. The success is associated with other decisions made by the accountable physicians, mainly the campaigns to exterminate rats, and a set of social and environmental circumstances that fortunately did not favour the spreading of the disease. The dominant species of flea in Portugal was ineffective in transmitting the bacillus, and some believe that the rats have probably developed an immunity, associated with a mutation of the bacillus, the Yersinia pseudotuberculosis. The low mortality rate of the disease may also explain the opposing reply to the siege by the Porto bourgeoisie, which perceived other diseases - tuberculosis or typhoid - as more threatening than the plague itself.
Even though the military siege of Porto is considered today as an unjustified and even counterproductive action, since it discredited the healthcare services, leading certain people to hide several cases of infection - as Ricardo Jorge said in his report: "at least a fifth of the cases are unknown" -, medical practices in this fight against the epidemic seem to reflect modernised knowledge and procedures. As examples, the bacteriological analysis and the field actions, namely against rats, identified as bacillus carriers. Moreover, the isolation of infected patients , the disinfection of homes, the vaccination of people who had contact with infected individuals, the use of disinfectant to wash the streets and sewers and the cremation of corpses were proven adequate and very effective measures.
Something that seems undeniable is the fact that the plague detected in Ribeira finally exposed to public eye a dirty city, without sanitation, often without drinking water, with very low housing conditions and serious health problems.

It is crucial to destroy, as soon as possible, the filthy neighbourhoods where the plague looms, and the inhabitable 'ilhas', cesspools of diseases... in order to completely eradicate the evil, it would be necessary to clean up the city, completely destroying three neighbourhoods: Barredo, Fonte Taurina and Miragaia.

Ricardo Jorge, Demographia e Hygiena na cidade do Porto

In fact, the majority of victims belonged to the poorest strata, who lived without the least hygiene conditions. These circumstances favoured the development of pests, such as mice and fleas, and consequently, the spread of diseases. The physicians and the most progressive members of society began to advocate the importance of better housing conditions, while demanding fundamental sanitary conditions. The standards of hygiene and habitability no longer belonged exclusively to the private sphere, but became a duty of the State and Public Health Services.
After the decree of October 4 1899, which established the Directorate-General of Health and Public Charity, to where Ricardo Jorge was hired, and its regulation in 1901, there was still a crucial step to take: to cut the secular, umbilical cord that connected the public health to charity in Portugal. This would only happen in 1911, after the establishment of the Republic, with the creation of the Directorate-General for Health, by decree of the Minister of the Interior, António José de Almeida. Ricardo Jorge would then be appointed Director-General of Health. Ricardo Jorge would always remain a critical voice in advocating the health and well-being of the population, often speaking against Government excuses for the lack of resources, or the decisions to stop investing in sewerage systems, hygiene and healthcare services in the cities.

We are now in the age of a new fundamental right, of a general physical morality, according to which an urgent matter emerged, despite all other political and collective concerns: the international solidarity for hygiene.

Ricardo Jorge, in the preamble of the decree establishing the DGS reorganisation, in 1926

Figure 6 - Firefighters disinfesting a coffin, photograph by Photographia Guedes (courtesy of Municipal Archive of Porto)

1. The first epidemic dates back to the 14th century, while the second dates back to the 16th and 17th centuries

2. The author refers to Aurélio da Paz dos Reis, a prominent Porto-original and photographer, whose pictures keep us company in this article.

3. Câmara Pestana replaced Ricardo Jorge in Porto; he got infected, and died on November 15 1899, at the age of 36.

4. In order to understand how limited the bubonic plague was, one can compare it with the cholera epidemic, called cholera morbus or Asiatic cholera, which arrived in Western Europe between 1826 and 1830, and was reported extinct in 1837. It spread across Russia, Germany, England, France, Spain and Portugal, and might have caused over a million victims. The cholera invasion in Portugal took place in January 1833, in the city of Porto, with the arrival of the ship London Merchant, carrying troops destined to join the liberal army. The epidemic soon spread, with the first deaths recorded in April 1833, at the S. José hospital, in Lisbon.

5. They were sent to a hospital called Guelas de Pau, established in 1884 to isolate and treat cholera patients. In 1899, the hospital was adapted to receive patients with bubonic plague; it was then named Senhor do Bonfim hospital; finally, in 1914, it was renamed Joaquim Urbano hospital.

6. Approximately 75% of the plague cases recorded during the outbreak in 1899 correspond to inhabitants of 'medieval' Porto - Sé, S. Nicolau, Vitória and Miragaia - where the living conditions were significantly worse.