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Disease and Public Health (Portugal)

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In recent years, the number of studies on the Portuguese First Republican experience has tripled. The centennial commemoration of the Republican regime in 2010 was a powerful incentive. The aim of this article is to provide a synthetic but comprehensive view of the difficulties Portuguese public health authorities faced during the First Republic's regime (1910-1926), focusing on the difficulties exacerbated by the war (food shortages, social and political unrest). The article examines the structure of the public health authority as well as its response to specific health crises (typhus, flu, smallpox epidemics) and long-term endemic diseases, particularly tuberculosis.

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Introduction

In October 1910, a republican [revolution](#) overthrew the constitutional monarchy that had ruled [Portugal](#) since 1834. Republican [propaganda](#), active since 1880, had promised that the new regime would offer solutions to the ever growing political and social unrest.^[1] Politically liberal, but somewhat conscious that the state had to intervene more decisively in everyday life, republicans promised that more people would be able to vote, labour relations would be fairer to the workers, the [African colonies](#) would, at last, contribute to the nation's well-being, and Catholic thinking's influence on public life, especially in education, would be lessened or removed. In short, another kind of Promised Land awaited the Portuguese people with the Republican regime.

In recent years, studies on the First Republican experience have tripled. The centennial commemoration of the Republican regime in 2010 was a powerful incentive. The aim of this article is to provide a synthetic but comprehensive view of the difficulties the Portuguese public health authorities had to deal with during the First Republic's regime (1910-1926), focusing on the difficulties exacerbated by the war. The article examines the structure of the public health authority – developed in the beginning of the 20th century and unchanged during the Republican years – as well as specific health crises (typhus, flu and smallpox epidemics) and long-term endemic diseases, mainly tuberculosis. In doing so, the article considers fundamental and/or recently published works on public health, welfare, food shortages, rising prices and unemployment.

Throughout the period considered, the main question remained unchanged: what should the role of a modern state be? On the one hand, growing state intervention was seen as a menace to individual rights and liberties and a goal that was financially impossible to achieve without heavily raising taxes and strongly expanding public administration. On the other hand, the social and political pressure of an increasingly organised worker's movement – though this was mostly felt in an urban context – was a powerful incentive to promise and/or defend the extension of public intervention.

Public Health Administration

In 1899, an epidemic of bubonic plague was declared in Oporto. The local public health authorities, led by [Ricardo Jorge \(1858-1939\)](#), were quick to respond. For the first time, diagnosis was supported by microbiological analysis. The epidemic was contained by quarantining the sick and suspected cases, all of them remanded to hospital, and ordering the disinfection of houses and clothes. Though public health authorities did not recommend it, the government ordered the city's quarantine. This episode marks a turning point in public attitudes towards state intervention in matters of public health.^[2]

The great Portuguese epidemiologist, Ricardo Jorge – who was also a professor at Oporto's Medical

School – was brought to Lisbon. The important legislation on public health that ensued undoubtedly carries his mark. The first substantial change was the creation of the first Directorate General of Health and Public Beneficence. The new public health regulation published in 1901, and only replaced in 1927, is a masterpiece of compromise between the assumption that health must continue to be an individual responsibility and the need for enlarging the state's intervention. But it was also very clear that all changes must be achieved with great parsimony.^[3]

For the first time, however, improving public health at home was more important than preventing foreign and exotic epidemics from entering Portugal. As cholera, yellow fever and bubonic plague ceased to be a constant menace, greater attention was devoted to the prevention of other contagious diseases, to improving sanitation, providing water supplies and medical care, and implementing vaccination programmes.

The responsibility of public health care was carefully split between local and central administrative authorities and a new public health administration emerged. Drawing on the old tradition of the *medicos de partido* (doctors employed by municipalities), some of these local doctors were appointed as officers of health. They were to play a big role carefully supervising sanitary conditions in their districts, reporting monthly to the next level in the health hierarchy. In cases of emergency, e.g. an epidemic, officers of health had to report by telegram. Their duties were extensive, with a daily routine that included visiting and treating the sick poor, despite long distances and bad roads, overseeing vaccination programmes, pressing local authorities in matters of public health interest – unsanitary dwellings or industries, need for sewers, lack of drinking water, infrequent street cleaning – conducting food and beverages inspections, noting local hospital needs and examining prostitutes. Frequently, difficulties arose with local authorities. Local party politics played a big role and insufficient local budgets were an issue. No one had a clear definition of the state's role in those matters.

Social Unrest and Food Shortages

Poverty, unemployment and dirtiness were most visible in the cities, the primary target of medical attention. The last decades of the 19th century and the first decades of the 20th were a time of huge urban growth. Lisbon and Oporto attracted many peasants who believed they could make a decent living working in factories (while many others chose to immigrate, mainly to [Brazil](#)). Disappointment soon followed as little and bad housing, low wages, long work hours and high prices made life very difficult. In the periphery of towns, slums grew.

Republican, socialist and anarchist propaganda blamed the monarchy, [the church](#) and capitalism. Strikes for better wages, an eight-hour work day and some sort of employment security became more frequent and the number of labourers' associations grew enormously. These associations provided some medical assistance and help with burial costs; they often promoted some night schooling and invited politicians to speak to their members; they also provided a meeting place

where workers could discuss their problems and plan their strategies for getting better working conditions.

In the first years of the Republican regime, social unrest grew stronger. Political instability, the constant menace of a monarchist revolution, disappointment in the unfulfilled republican promises, and rising living costs led to strikes. Frequent public meetings attracted hundreds of workers. Sometimes, these meetings escalated into violent rioting. In 1912, the army and police brutally repressed a general strike in Lisbon, which had arisen out of solidarity with the Alentejo labourers' demands. Throughout the war years, the army and the police were frequently called to ensure order in the streets.

In the countryside, there was also social unrest. In some regions, textile manufactories concentrated a significant underpaid and overworked population. Overall, religious feeling was still strong in the countryside. Therefore, legislation that altered traditional Catholic practices and rituals was met with great resistance.^[4]

In the following years, strikes and public demonstrations were evidence of the growing labour unions' strength. In January 1914, a railway strike involved 7,000 workers; in June 1914, angry flour mill workers, fearing a severe lock out, demonstrated against the importing restrictions imposed on wheat. 1914 was also the year when the food shortages began to be felt; some shops were raided by an angry population in Lisbon and Oporto. The cost of living increased continually and a new legislation allowing rents to go up escalated protests.

In the same year, the German menace to the Portuguese colonies of Mozambique and Angola grew stronger and two Expeditionary Army Forces were sent, one to each colony. In 1915, new colonial armies were sent to fight German forces. The public budget was stressed to the limit. In January 1917, the first Portuguese battalions joined the English and French armies in the European trenches. Other battalions would follow.

The years 1915 to 1918 were indeed very difficult: food shortages (flour, meat) induced the approval of legislation forbidding the exporting (or re-exportation) of wheat and livestock. In March 1916 a new *Ministério do Trabalho e Previdência Social* (ministry of work and social providence) was created. This was a precocious (and failed) attempt at establishing some sort of embryonic *État-Providence*; in 1919 there would be an attempt to create a social security tax.^[5] In October 1916, a decree ordered wheat farmers to deliver all production to the state in order to ensure army supplies and prevent price hikes and bread shortages. Throughout 1917, rationing and food shortages continued to provoke riots and many groceries and warehouses were raided; the severe police repression contributed to general social unrest.

A successful *coup d'état* led by Sidónio Pais (1872-1918) in December 1917 was both a reflection and the cause of many demonstrations and conflicts. After the election on 28 April 1918, he became president of the Portuguese Republic until December 1918. He was an authoritarian but very charismatic figure and firmly encouraged private charities to further their social action. Setting an

example, he funded public kitchens. In fact, the last decade of the 19th century had seen private and/or religious kitchen soups appear in Lisbon and Oporto. Located in the poorest boroughs, they provided cheap or free meals to families requiring help to soften the harsh living conditions. The most well-known soup kitchen was the one established by the Maria Luísa de Sousa Holstein, Duchess of Palmela (1841-1909) in 1893.

In March 1918, hunger and food shortages led to the creation of yet another new ministry in an attempt to coordinate food distribution and transport. This *Ministério das Subsistências e Transportes* (Ministry of Subsistence and Transportation) would last until 1932, a sign that difficulties remained throughout the 1920s.

Assessing the impact of the Republican regime, established in 1910, is a matter of some difficulty. Important measures were taken to improve public health and care. These included the creation of an independent *Direcção Geral de Assistência* (directorate general of welfare) in 1911, the reform of the University of Coimbra Hospitals and the creation of a maternity hospital in that city in 1911, the reform of mental asylums, the creation of the conditions that ensured the obligation of smallpox vaccination and revaccination, also in 1911, and the restructuring of Lisbon's hospitals in 1913 and again in 1918. Important measures were also taken to improve worker's conditions, for example legislation that enforced a day of rest per week, reinforcement of legislation regulating the work of women and children, new legislation regarding work related accidents, and the effort to establish a social security tax. All of the above point to the unequivocal will to further the state's intervention. However, political and social unrest from 1912 onward, the very serious debate over the need for Portuguese participation in the European war and the money needed to do so – no one questioned the need to defend Portuguese African colonies – and the overall liberal political culture all worked against any increase in public health spending.

Fighting Infectious Diseases

It is debatable whether the disappearance of cholera, yellow fever and bubonic plague epidemics was the result of better sanitation and public control, growing immunization of the population or the result of weakening bacteria. Probably all of the above are factors that have to be taken into account. One thing is certain, poverty, overcrowded housing, dirtiness, lack of sanitation and malnutrition were the ideal conditions for the proliferation of contagious diseases.^[6]

Though the distinction between bacterial infectious diseases and viral diseases was not clearly understood, in either case, the state response was pretty much the same: in the absence of a really effective prevention – either in the form of education, sanitation and/or vaccination – fighting infectious epidemics rested on semi-improvised and underfunded measures. These were temporary and clearly inspired by military strategies: the infected territory would be divided in smaller districts, each with a medical officer of health and a pharmacy. Improvised isolation hospitals would take care of the sick and the [Red Cross](#) or the army were asked to ensure the removal of patients. The help of

the police was essential. Each morning policemen would take note of the addresses of the new cases and a visit by the medical officer of health ensued. Diagnosed and serious cases would be removed to a quarantine hospital; baths and disinfections could be compulsorily ordered for families and neighbours. The disinfection of houses (usually through lime washing) and personal objects (subject to disinfection kilns) was ordered.

This plan had been tested successfully as mentioned above. Of course, laboratory testing was assured, but medical officers of health usually did not wait for the results to be confirmed: clinical experience and the relatively new science of epidemiology were the basis of a more or less prompt course of action.

Bacterial Epidemics

Though legislation and public health administration were designed to respond swiftly and decisively in matters concerning public health crises, the threshold of state intervention was a matter of some difficulty. For instance, in January 1912, a serious typhoid epidemic broke out in Lisbon. From January to March 1912, parliamentary discussions debated if this epidemic was serious enough to warrant more public expenditure, or if the number of identified cases and deaths were on par with the usual season's typhoid epidemiology.^[7] In this instance, matters were serious enough to command a state intervention in the city's water supplies and a strong enough public response ensued to contain the epidemic (which was only declared extinct by late May 1912).^[8] But it was not clear how many had to die or get sick before the public administration took action.

Typhus

Typhus, popularly known as "prison fever", "pauper's fever" and "hospital fever", was also a common winter disease. Wherever overcrowding, unsanitary living conditions and the proximity of hays and animals were part of daily life, one could expect a moderate and localised seasonal appearance of typhus. Armies could also count on the danger of typhus epidemics and every army general knew that a battle defeat could be the result of disease.^[9] This had been the pattern throughout the 19th century.

However, it had been a long time since a serious epidemic of typhus had appeared and many young physicians had not seen a single case. So the news of a typhus epidemic raging in Oporto in 1917 was rather a surprise. The epidemic lasted until 1919 and was especially serious in northwest Portugal. Oporto and Braga were the most affected cities. Some cases were detected in Lisbon and in the Algarve but they were rapidly dealt with. They were all passengers who had just arrived from the infected areas and no other cases followed.

During the epidemic, the usual plans were put in action.^[10] Isolation hospitals were improvised, sick people were quarantined and mandatory house disinfection was commanded. The city of Oporto

was divided into fourteen health districts in which police and medical personnel conducted daily rounds. Furthermore, probably for the first time on such a scale, delousing, baths, shaving and hair cutting were compulsory measures for relatives, neighbours and acquaintances of the sick in an effort to prevent contagion. Though in 1917 Portuguese soldiers stationed in France were regularly subjected to typhus vaccination, this preventive measure was not available to civilian population in Portugal.

In 1918, 6,254 cases in Oporto alone were reported with a 2 percent mortality rate. In 1919 another 2,781 people were hospitalised with a 1 percent mortality rate.

Viral Epidemics

By the mid-1910s, public optimism in the results of the bacteriology revolution declined, though Portuguese medical opinion did not dispute Robert Koch's (1843-1910) findings or doubt the need to fight disease vectors. Koch's work was well known and much appreciated. But the discoveries of bacterial infectious agents were not immediately followed by "magical bullets" – sulphonamides and antibiotics would only be commercialised in the years following the end of World War II. Therefore, and as public health authorities kept insisting, changes would have to occur, primarily, by improving sanitation and through education,^[11] both very costly means and with slow measurable results. The war also contributed in a powerful way to receding sanitation standards, further stressing public health budgets. But at least [medicine](#) was fairly certain of the causes and modes of contagion.

Viral epidemics, however, defied medical knowledge. Therefore, clinical and epidemiological data were the basis of medic and public health recommendations.

Flu

Although the flu was a fairly well known disease, in 1918 there was still some debate whether it was caused by an unknown agent or by Pfeiffer's bacillus. Every winter some cases were diagnosed and the Lisbon epidemic of 1891 was still remembered. But nothing could compare to the great [influenza pandemic](#) of 1918.

The story of this deadliest pandemic has been well studied.^[12] Portugal did not escape the viral pandemic and, as in other countries, the pneumonic influenza developed in three waves.^[13] The first started in late May 1918 and lasted through August 1918; the second and deadliest one from early September to December 1918, and the final and milder one from January to March 1919. It is conservatively estimated that 60,000 people died. More recently, demographic studies have estimated approximately 100,000 casualties. If the latter is true, it corresponds to the death of 2.25 percent of the Portuguese population in a little over six months.^[14]

Upon receiving the first news (in May 1918) reporting a contagious disease spreading in Madrid – the one country which was not involved in the war and therefore did not enforce strict [censorship](#) – the

Director General of Public Health, the renowned Jorge, did not have many doubts. It was an epidemic of influenza. From the start he cautioned other public authorities and physicians of the flu's treacherous nature: often, this apparently mild and benign ailment could have severe consequences.^[15] Unfortunately, he could not have been more right.

The second wave of the pneumonic influenza spread quickly through Portugal in part due to the army's manoeuvres and in part due to the seasonal workers' migration. Late summer county fairs and religious festivities also helped spread the disease. By late September 1918, it was clear that this was a most deadly epidemic; in the first days of October 1918, emergency funds were allocated to fighting and a special commission, led by Jorge, was in charge of coordinating and distributing resources (personnel, equipment, medical supplies). Fairs were restricted, schools delayed opening, and though public health authorities advised against public gatherings, frequent political meetings invited hundreds of attendants.

The battle against the pneumonic influenza was conducted as in other circumstances: the territory was divided into medical districts, each with a physician and a pharmacy and the police force helping out, as described above for typhus. On paper this was a very good plan, but in reality the lack of roads, the shortage of physicians – many of whom were commissioned in the army fighting in the European front or in the colonies – left many districts to fend for themselves.^[16]

Since the beginning of September 1918, the north region of Portugal, already struggling with the typhus epidemic, had called for help. Temporary hospitals had been established in various counties. And if the public health authorities did not think it necessary to propose special cleaning procedures, in many cities public opinion demanded that traditional measures be taken – for example burning tar on streets corners.^[17]

By the first week of October 1918 the situation in Lisbon was chaotic. The only isolation hospital with a capacity for 500 patients was overcrowded; three more isolation hospitals had to be improvised: one in a recently closed hospital, another in a grammar school in central Lisbon and a third one in an old convent in the central west part of town, totalling 1,200 beds added to the quarantine hospitals' capacity. Through subsequent weeks the four hospitals treated approximately 5,000 patients with a mortality rate of 27.5 percent.^[18]

In the western-most part of the capital, another isolation hospital opened, managed by the Red Cross. The Red Cross had been helping since the beginning of September 1918, sending physicians, nurses, cars, tents and supplies to many regions. In Lisbon they were also responsible, with the military's help, for the patient's transportation to hospitals.

Medical knowledge, though certain about the diagnosis, unfortunately could not recommend any effective therapeutics. The difference between life and death was mostly a matter of good nursing, good food and rest, attesting to the undemocratic nature of illness. Many private organizations volunteered: scouts helped in hospitals, kitchen soups intensified their help to families, private

charities organized by boroughs tried to take care of the sick and their families.

The un-democratic nature of illness was clear and it would remain so for many decades. And as it was noted in other countries, the pneumonic influenza of 1918 was most deadly amongst the young. In Portugal it also decimated more women than men. Population growth was thus severely compromised for more than a decade.

Smallpox

As in many other countries, in Portugal the smallpox vaccine was known and used since the beginning of the 19th century. But it remained voluntary.

It must be noted that though individual rights were invoked whenever attempts were made to make vaccination compulsory, as it happened in most other European countries,^[19] the state never hesitated to take appropriate measures to secure the country against other epidemics even when it meant disregarding those rights. The concept of vaccination, however, was difficult to understand and it came across as a deliberate and somewhat dangerous defilement of God's design and/or the violation of the body's integrity.

Finally, in 1899 a law was approved making the smallpox vaccination compulsory if the quality of the serum could be assured. And this was only possible with the Republican regime in 1911. From this point on, every newborn had to be vaccinated; children could only attend school after presenting a vaccination certificate. However, school attendance was very low and the majority of the population continued to avoid vaccination.

In the terrible summer and autumn of 1918, with typhus and the pneumonic influenza raging on, a severe epidemic of smallpox added to the difficulties. The first cases were reported in May 1918 in the Algarve and by June 1918, the first cases appeared in Lisbon. Public health authorities increased their vaccination programmes, but schools were closing for the summer and the influenza seemed a more serious problem.

In October 1918, the smallpox epidemic in Lisbon was rampant. With public budgets stressed to the limit, public health authorities appealed to the help of private organizations and citizens. Medical students in their final year were allowed to vaccinate, many citizens and private societies established vaccination posts and many more volunteered to do administrative tasks. Public servants were not allowed to work without presenting proof of vaccination.

Between November 1918 and March 1919, Lisbon hospitals treated 1,763 smallpox patients with a mortality rate of 16 percent. Preventing smallpox continued to be a major public health problem throughout most of the 20th century.

Endemic Contagious Diseases

Tuberculosis

It was only in the last years of the 19th century that tuberculosis (TB) became a major public health problem. For a long time, medical practitioners believed the disease to be hereditary. This belief, coupled with the conviction that individuals should be responsible for their health, delayed the state's intervention.

In the absence of an effective treatment, long stays at the mountain or the seaside were recommended, along with rest and good meals. Since the mid-19th century,^[20] the island of Madeira and the town of Luso in central Portugal and Serra da Estrela (the highest Portuguese mountain, also in central Portugal) were renowned for their beneficial climate and were frequented by the upper middle classes.^[21] Sanatoria, in the mountains or near the beach, were slowly established to provide treatment and care for the less fortunate.

The contagious nature of TB, proved by Robert Koch in 1882, helped to change public health authorities' and the public's opinion. The growing concern about the health of labourers, appalling living conditions, overcrowding, malnutrition, and lack of personal and public hygiene were the ideal conditions for contagion. And these were matters that could be addressed. The growing reliability of public statistics also demonstrated that TB was the main cause of death.

In the last five years of the 19th century, several private initiatives account for the public interest in fighting TB. In 1895, the first National Tuberculosis Congress took place in Coimbra;^[22] in 1899, sponsored by the Lisbon Medical Society, the *Liga Nacional contra a Tuberculose* (National League against TB, LNT) was created and, in the same year, on the queen's initiative, the *Associação Nacional de Assistência aos Tuberculosos* (National Association for the Relief of TB Patients, ANT) was formed. The two latter institutions aimed at different but complementary goals: the first one had a more scientific/clinical interest and aimed at public education and prevention; the second one more ambitiously wanted to create a network of medical care and relief aid dispensaries with the support of the state.

By 1911, the ANT was managing two seaside sanatoria, a mountain one and five district dispensaries. The Republican regime, understanding the importance of fighting TB, was also conflicted about the level of state intervention. The decree that reorganized the ANT in 1911 was a masterpiece of compromise: leaving the private organization to manage the association and its various services, the state, who in fact was the main financial contributor, claimed the right to nominate its president, the administration and the right to approve the number, category and wages of all the staff. On paper, the solution was a model of a private/public enterprise; ideally the state should coordinate medical care, hospitalisation and relief, leaving the day-to-day managing difficulties to the private sector.

During the war years, other private charities and benefactors would create sanatoria and relief funds. The TB mortality rate, however, remained high (more so in the northern part of Portugal) and in the

late 1930s public health authorities estimated that during the war years about 9,000 people died every year of TB.^[23]

Conclusion

In 1923, Ricardo Jorge, addressing the Lisbon medical students, concluded that all the efforts carefully planned since 1901 had failed. In his words, no Portuguese town was properly sanitized, sewers were still a novelty in most parts of the country, and contaminated water distribution continued to be responsible for typhoid epidemics.^[24] These structural flaws were further aggravated by the Portuguese participation in the war. In fact, the financial effort to conduct a war on two fronts (a colonial one and a European one), the conscription of men and the political and partly popular resistance to change all contributed to reduce public health expenditure. If one adds to these factors the very serious food shortages, the army manoeuvres disrespecting public health recommendations, the difficulty of finding available medical doctors (as many were deployed with the armies), and the overall social and political unrest, one understands the difficulties that public health officials faced when confronted with the very unfortunate epidemiological period of 1914-1918.

The very bleak picture of public health in Portugal between 1914 and 1918 should not cloud the fundamental question: the debate about the role of the state in matters pertaining to the health of the majority of the population resulted in fact in a broadening of the state's intervention. The outcome would have to wait for some decades. Individual rights were to be respected up to a certain (unclear) point, but few would doubt the legitimacy of the state to interfere when public health was at risk.

Curiously enough, before the war, physicians had been calling for more state intervention and for a stronger central intervention in hospitals and public health; however, after the war, they would be somewhat resistant to any legislation or measures that furthered such intervention. They feared a lessened professional status and the loss of private clientele. Contrary to what happened in [Great Britain](#), [France](#) and neighbouring [Spain](#), the very serious public health problems experienced during the period between 1914 and 1918 did not lead to a public debate over the need of expanding public health administration.^[25]

As legislation and intentions of providing health care for the deserving less fortunate was approved, even if slowly, local public health improved (clean water distribution, general public cleanliness, sewers construction, food and beverages inspections). However, it would take decades until a full national health service was put in place. Health remained largely the individual's responsibility.

Health education and prevention campaigns were always on the political agenda, but as it so often happened with legislation, the means to enforce them were always scarce. So the results would take a long time to be felt. The epidemiological transition only took place in Portugal well after World War II.

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Notes

1. ↑ Catroga, Fernando: O Republicanismo em Portugal. Da Formação ao 5 de Outubro [Republicanism in Portugal. From the formation to the 5th October], Lisbon 2000.
2. ↑ Alves, Jorge Fernandes: Ricardo Jorge e a Saúde Pública em Portugal. Um 'Apostolado sanitário' [Ricardo Jorge and Public Health in Portugal. A 'Sanitary Apostle'], in: Arquivos de Medicina, 22/2-3 (2008), pp. 85-90, <http://www.scielo.oces.mctes.pt/pdf/am/v22n2-3/22n2-3a08.pdf> [retrieved: 16.10.2014].
3. ↑ Alves, Jorge Fernandes: Saúde e Fraternidade. A Saúde Pública na I República [Health and Fraternity. Public Health during the First Republic], in: Garnel, Maria Rita Lino (ed.): Corpo. Estado, Medicina e Sociedade no tempo da I República [Body. State, Medicine and Society during the First Republic], Lisbon 2010, p. 112.
4. ↑ Moura, Lúcia de Brito: A Guerra Religiosa na Primeira República. Crenças e Mitos num Tempo de Utopias [The Religious War during the First Republic, Beliefs and Myths in a time of Utopia], Lisbon 2004.
5. ↑ Samara, Alice: Encontros e Desencontros entre a República e o Trabalho [Matches and Mismatches between Republic and Labour], in: Farinha, Luís (ed.): Viva a República, 1910-2010 [Long live the Republic. 1910-2010], Lisbon 2010, p. 161.
6. ↑ Porter, Dorothy (ed.): The History of Public Health and the Modern State, Amsterdam et al. 2006.
7. ↑ Garnel, Maria Rita Lino: Doctors and Public Health in Parliament, in: Catroga, Fernando / Almeida, Pedro Tavares (eds.): Res Publica. Citizenship and Political Representation in Portugal, 1820-1926, Lisbon 2010.
8. ↑ Jorge, Ricardo: A Epidemia Tífica de Lisboa em 1912. Relatório [The Lisbon Typhoid Epidemic of 1912. Report], in: Arquivos do Instituto Central de Higiene, 2/2 (1913), pp. 130-61.
9. ↑ Cooter, Roger: Medicine in War, in: Brunton, Deborah (ed.): Medicine Transformed. Health, Disease and Society in Europe. 1800-1930, Manchester 2004, pp. 331-63.
10. ↑ Sousa, Paulo Silveira e et al.: A Epidemia antes da Pandemia. o Tifo Exantemático no Porto (1917-1919) [The Epidemic before the Pandemic. Typhus in Oporto (1917-1919)], in: Sobral, José Manuel et al. (eds.): A Pandemia Esquecida. Olhares Comparados sobre a Pneumónica, 1918-1919 [The Forgotten Pandemic. A Comparative Study of the Pneumonic Influenza, 1918-1919], Lisbon 2009, p. 285.
11. ↑ Mendelsohn, John Andrew: Cultures of Bacteriology. Formation and Transformation of a Science in France and Germany, 1870-1914 (PhD dissertation), volume I, Princeton 1996, pp. 589-94.
12. ↑ Barry, John M.: The Great Influenza. The Epic Story of the Deadliest Plague in History, New York 2004.

13. ↑ Sobral, José Manuel et al.: Perante a Pneumónica. A Pandemia e as Autoridades de Saúde Pública [In the Presence of the Pneumonic. The Pandemic and the Public Health Authorities], in: Sobral, A Pandemia Esquecida [The Forgotten Pandemic. A Comparative Study of the Pneumonic Influenza, 1918-1919], 2009, p. 71.
14. ↑ Bandeira, Mário Leston: A Sobremortalidade de 1918. Análise Demográfica [The Over-Mortality of 1918. A Demographic Analysis], in: Sobral, A Pandemia Esquecida [The Forgotten Pandemic. A Comparative Study of the Pneumonic Influenza, 1918-1919], 2009, p. 138.
15. ↑ Jorge, Ricardo: A Influenza. Nova Incursão Peninsular. Relatório apresentado ao Conselho Superior de Higiene [The Influenza. The Recent Peninsular Epidemic. Report presented to the Hygiene High Council], Lisbon 1918.
16. ↑ Garnel, Maria Rita Lino: Morte e Memória da Pneumónica de 1918 [Death and Memory of the Pneumonic Epidemic of 1918], in: Sobral, A Pandemia Esquecida [The Forgotten Pandemic. A Comparative Study of the Pneumonic Influenza, 1918-1919], 2009, p. 225.
17. ↑ Jorge, Ricardo: La Grippe. Rapport Préliminaire Présenté à la Commission Sanitaire des Pays Alliés, Lisbon 1919, p. 33.
18. ↑ Alves, A. Lobo: Relatórios e Notícias sobre a Epidemia de Gripe Pneumónica [Reports and News of the Pneumonic Influenza Epidemic], in: Suplemento ao Boletim de 1918 dos Hospitais Cívicos de Lisboa, Lisbon 1920.
19. ↑ Baldwin, Peter: Contagion and the State in Europe, 1830-1930, Cambridge 2005.
20. ↑ Frada, João: A Luta contra a Tuberculose em Portugal Durante as Primeiras Décadas do Século XX [The Fight against Tuberculosis in Portugal during the first twenty years of the 20th Century], in: Figueiredo, Rosa et al. (eds): Portugal 1900, Lisbon 2000, pp. 91-100.
21. ↑ Lousada, Maria Alexandre: Travelers and Tourists. Portugal, 1850-1926 in: Lousada, Maria Alexandre (ed.): Travel. Travelers and tourists discovering Portugal during the first republic, Lisbon 2010, p. 69.
22. ↑ Vieira, Ismael Cerqueira: Alguns Aspectos das Campanhas Antituberculosas em Portugal. Os Congressos da Liga Nacional contra a Tuberculose (1901-1907) [Notes on the Antituberculosis Campaigns in Portugal. The National League against Tuberculosis's Conferences], in: Revista Cem 2 (2011), pp. 267-81, <http://ler.letras.up.pt/uploads/ficheiros/10429.pdf> [retrieved: 16.10.2014].
23. ↑ Correia, Fernando: Portugal Sanitário [Sanitary Portugal], Lisbon 1938.
24. ↑ Jorge, Ricardo: A Propósito de Pasteur. Discurso proferido em comemoração do centenário pastorianiano na Faculdade de Medicina de Lisboa aos 25 de Abril de 1923 [Remembering Pasteur. Centennial conference presented at the Lisbon Faculty of Medicine on the 25th of April 1923], Lisbon 1923, p. 58.
25. ↑ A ministry of health was created in 1919 in Great Britain and in 1920 in France. In Spain, there was a very serious debate over the need to create one throughout the 1920s. Huertas, Rafael: Política Sanitaria: de la dictadura de Primo de Rivera a la Ila República [Sanitary Policies: from the Primo de Rivera Dictatorship to the Second Republic], in: Revista Española de Salud Pública 74 (2000), pp. 35-43, <http://digital.csic.es/bitstream/10261/1650/1/huertas.pdf> [retrieved: 16.10.2014].

Selected Bibliography

Baldwin, Peter: Contagion and the state in Europe, 1830-1930, Cambridge 1999: Cambridge University Press.

Barry, John M.: **The great influenza. The epic story of the deadliest plague in history**, New York 2004: Penguin.

Catroga, Fernando / Almeida, Pedro Tavares de (eds.): **Res publica 1820-1926. Citizenship and political representation in Portugal**, Lisbon 2011: Biblioteca Nacional de Portugal. Assembleia da República.

Catroga, Fernando: **O republicanismo em Portugal. Da formação ao 5 de Outubro de 1910 (Republicanism in Portugal. From the formation to the 5th October)**, Coimbra 1991: Faculdade de Letras.

Cooter, Roger: **Medicine in war**, in: Brunton, Deborah (ed.): **Medicine transformed. Health, disease and society in Europe, 1800-1930**, Manchester 2004: Manchester University Press.

Correia, Fernando da Silva: **Portugal Sanitário (Sanitary Portugal)**, Lisbon 1938: tip. da empresa do Anuário commercial.

Faria, José Alberto de: **Administração sanitária (Sanitary public administration)**, Lisbon 1934: Imprensa Nacional de Lisboa.

Farinha Franco, Luís F.: **Viva a República, 1910-2010 (Long live the Republic, 1910-2010)**, Lisbon 2010: Imprensa Nacional-Casa da Moeda.

Figueiredo, Maria Rosa / Vicente, António Pedro (eds.): **Portugal 1900. 29 June - 10 September 2000, Calouste Gulbenkian Museum, Head-Office Exhibition Gallery**, Lisbon 2000: Calouste Gulbenkian Foundation.

Garnel, Maria Rita Lino (ed.): **Corpo. Estado, medicina e sociedade no tempo da I República (Body. State, medicine and society during the First Republic)**, Lisbon 2010: Imprensa Nacional.

Huertas García-Alejo, Rafael: **Política sanitaria. De la Dictadura de Primo de Rivera a la Ila República (Sanitary policies. From the Primo de Rivera dictatorship to the Second Republic)**, in: *Revista española de salud pública* 74, 2000, pp. 37-45.

Jorge, Ricardo: **A influenza. Nova incursão peninsular. Relatório Apresentado ao Conselho Superior de Higiene (The influenza. A recent peninsular epidemic. Report presented to the Hygiene High Council)**, Lisbon 1918: Imprensa Nacional.

Jorge, Ricardo: **A proposito de Pasteur. Discurso proferido em comemoração do centenário pastorian na Faculdade de Medicina de Lisboa aos 25 de Abril de 1923 (Remembering Pasteur. Centennial conference presented at the Lisbon Faculty of Medicine on the 25th of April 1923)**, Lisbon 1923: Portugália.

Lousada, Maria Alexandre: **Travel. Travellers and tourists discovering Portugal during the First Republic**, Lisbon 2010: Comissão Nacional para as Comemorações do Centenário da República.

Mendelsohn, John Andrew: **Cultures of bacteriology. Formation and transformation of a science in France and Germany, 1870-1914**, Princeton 1996: Princeton University Press.

Moura, Maria Lúcia de Brito: **A guerra religiosa na I República. Crenças e mitos num tempo de utopias (The religious war during the First Republic. Beliefs and myths in a time of utopia)**, Lisbon 2005: Editorial Notícias.

Porter, Dorothy (ed.): **The history of public health and the modern state**, Amsterdam; Atlanta 1994: Editions Rodopi.

Sobral, José Manuel: **A pandemia esquecida. Olhares comparados sobre a pneumónica 1918-1919**, Lisbon 2009: Imprensa de Ciências Sociais.

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