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# Health and salubrity in Spain: the case of the city of León from the modern age to the 20th century

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## Resumo:

*Saúde e salubridade em Espanha: o caso da cidade de León desde a idade moderna até ao século XX*

Os objectivos deste trabalho realizam-se no momento actual de analisar a evolução da política sanitária da cidade de León do século XVI. Um dos objectivos é estudar as mudanças da mentalidade dos poderes públicos com respeito à saúde durante o período analisado e, por outro lado, a resposta popular a esta política. Desta maneira é que tentamos incluir e compreender o quanto a cidade exerce uma função de inovação, a qual facilita o desenvolvimento do bem-estar. Estaremos centrados na análise da documentação municipal, eclesiástica, legislativa e dos projetos das cidades saudáveis projectadas pelos WHO EM 1987.

**Palavras chave: Política sanitária. Projectos de cidades saudáveis. Inovação.**

## Abstract

We offer an analysis of the evolution of public health policies in the city of León from the 16th century to the present, examining, on one hand, the changes in attitudes of the public authorities towards health and, on the other, the response of the citizens. We also investigate the role of the city in innovation and facilitating the development of the welfare state, concentrating especially on documents from local archives, legislation and the WHO's Healthy Cities Project of 1987.

**Key-words: Health policy. Healthy Cities Project. Innovation**

## Introduction

The city was founded by the Romans, since which time its development has been conditioned by the vicissitudes of politics and economics. While one may speak of a relative brilliance in the Middle Ages, when it was capital of the Kingdom of León and an unavoidable point of passage on the Pilgrim Route to Santiago, the first few centuries of the Modern period were a time of stagnation, with long periods of backwardness. In the second half of the 18th century, the city timidly began to take off again, but it would be necessary to wait until the second half of the 19th to see it evolving to the rhythm of the day.

Table I
The population of the city of León from the end of the 16th c. To the middle of the 19th

| | 1555 | 1561 | 1575 | 1591 | 1631 | 1759 | 1860 |
|---|---|---|---|---|---|---|---|
| Number of families | 948 | 997 | 1.274 | 918 | 1.268 | 1.621 | 2.079 |
| | 1591 | 1752 | 1787 | 1844 | 1860 | 1874 | 1897 |
| Number of inhabitants | 3.846 | 5.566 | 6.051 | 7.074 | 9.603 | 9.795 | 15.000 |

(From: PÉREZ GARCÍA, 1999: 192; FERNÁNDEZ ARIENZA, 1998: 53; FERNÁNDEZ VARGAS, 1986: 161 et seqq.)

If we consider, as De Vries does, the threshold of 10,000 inhabitants as the dividing line between an urban and a rural nucleus, then León did not truly become urban until the second half of the 19th century.

In the Modern period, the city of León had a population base that was very different from that of the other cities of Castile, which had developed in the shadow of a major commercial network formed in the 16th century. But that dynamic was to be ephemeral, and while the 17th century saw economic and demographic crises bringing ruin to those cities, León suffered less dramatically (PÉREZ GARCÍA, 1999).

The economy relied mainly on the primary sector - farming - but with little social implication, as it was mainly in the hands of 20% of the population - nobility, clergy and a small group of townsfolk - who exploited it indirectly. The secondary sector was basically made up of craftsmen, who took root in the city in the Middle Ages, to lose importance in the Modern period. It would be necessary to wait until the second half of the 18th century and the opening of the Royal Canvas Factory, before it became possible to speak of industry, but it was not to last for more than a couple of decades (RUBIO PÉREZ, 1993). Trade in León, despite a weekly market and three tax-free fairs, was a long way from the great international deals agreed in the neighbouring cities of Castile, and it was never to have much influence. León was not well connected by road.

The economic situation meant a very basic and hierarchical social structure. A small group of nobles, together with the clergy, controlled most of the local wealth and had the Court as their principal social focus. This was not to be the case of the younger sons of the nobility, who would be forced to stay in the province, but who were not going to give up. In fact, it would be they, together with a small group of townspeople, who would later occupy the main posts in the institutions of government (VIFORCOS, 1992). There were a great number of peasants and paupers.

During the old demographic regime, not only in Spain but in all of western Europe, mortality was the main obstacle to the growth of the population of cities, but migration also played a part. The death rate was considerably higher in towns than in the countryside, the reasons being that the high density of the urban population favoured the spread of disease, which was aggravated by the terrible conditions of hygiene in the cities, and the attraction of towns to migrants, and the concomitant spread of epidemics. Lastly, the position within the city of the main centres of welfare (hospitals, orphanages, etc.) and of military barracks contributed to the number of deaths.

The standard of living of much of the population was practically at starvation level, so the death rate increased at times of agricultural crises and epidemics, despite the human being's proven ability to adapt to continual states of food shortage (LIVI-BACCI, 1988). Anyone who fell ill met with the inadequacies of the medicine of the day, and such advances as did take place frequently clashed with the insurmountable barrier of popular beliefs. Another clearly negative factor was a lack of hygiene, combined with a deficient town planning to make neighbourhoods and homes even less healthy. All this meant a low life expectancy at birth, around 26.8 years at the end of the 18th century, rising to 29 in the second half of the 19th (PÉREZ MOREDA, 1980).

## 1. The mortality crisis in the city of León

The delicate natural balance, often upset by the devastating action of catastrophic death rates, was obviously the main characteristic of the local demographics before the transition to the present situation. The effects of the mortality crisis in the countryside could be worse than in the cities, for it took longer for the workforce to get back to its previous size, while migration often softened the blow in towns. Nevertheless, in moments of crisis, perhaps more so in cities with so little dynamism as León, such influxes were insufficient to make up for the ravages of death, although they did help to a certain extent. Now, despite this advantage that the town had over the country, it is also true that demographic crises hit the towns with greater virulence, affecting especially the overcrowded and underfed lower classes. At such times, the city became a trap for the less well-off, a trap from which it was impossible to get free. While the upper classes had the option of refuge in their country seats at critical times (CIPOLLA, 1993), the proletariat could only trust in Providence or in some saint with special influence in such cases, such as St Roch, to help them face the danger.

Our aim is to analyse the effects of cyclic crises of this type in the specific case of the city of León. The behavioural patterns reported here are obviously easy to extrapolate not only to the rest of Spain but also to the urban west of the period in general. Our main sources of information are the registers of deaths of the city's principal parishes: Santa María del Mercado (St Mary of the Market), San Martín (St Martin), San Juan de Regla (St John of Rule), Santa Ana (St Anne), Palat de Rey (Royal Palace) and Santa Marina la Real (St Marina Royal). The congregations of these churches made up around 68% of the population of the

city in the period, so the sample has the necessary reliability. Parish sources are a prime source of information on periods before the age of statistics. In the case of León, owing to a number of gaps in the records, we have had to make certain corrections, transporting raw data to index 100 which, generally speaking, seems to meet our expectations satisfactorily. On the other hand, the registers consulted only mention adult deaths, as those of infants, the so-called *párvulos* (those under seven) are subject to such scales of covering-up that it is better not to analyse them. Furthermore, documents lack reliability until the 1720s, so we have had to reject older information. Consequently, another type of source has become necessary for the most obscure part of the period, the 16th century, for which we have resorted to Council minutes, which, though short on numerical data, do normally reflect the moments of unusually high death rates, albeit only in the context of official policy in the face of the problem. Moreover, this source helps us to complete and complement the results gleaned from parish registers for later parts of the period, with information on the nature and origin of crises, crop failures, illnesses and wars.

The first step in the study of surges in the death rate is identifying them, differentiating them from simple seasonal glitches. A year is considered critical if the ordinary death rate is at least doubled (DEL PANTA and LIVI-BACCI, 1977). In León, because of the lack of censuses and local registers, we cannot base out study on death rates, so we have decided to base it on a comparison of the excess rate of the critical years with the annual average for the preceding five-year period. Now, such calculations can only be made from the moment when death registers become available, which makes it impossible for us to offer an in-depth study of the incidence of surges in the death rate in the 16th century. We know, through censuses and local registers, that it was a century of demographic growth. Nevertheless, from the last decades on, especially in the 90s, the tendency altered. Successive crop failures in that decade paved the way for the disastrous plague of 1599 (PÉREZ GARCÍA, 1999).

The so-called "Atlantic plague" came down from the Cantabrian region and on the way south to Andalusia filled León with corpses. Between then and the 1620s, the city went through a number of catastrophes linked both with failing agriculture and, more so, with epidemics, mainly of plague. On the 10th May 1596, León Council was informed by two representatives of the bishop of "the absolute need to assist and shelter the poor people of this city, because of the many who have fallen and are falling in it both from the Kingdom of León and the Principality of Asturias", an obvious symptom of a generalized farming crisis in the province[1]. Three years later, the Council was still very worried and looking for remedies so that "the poor walking around the streets do not suffer and die of hunger". The famine went on over the following three years, compounded in 1599 by the arrival of the plague. In November of that year, León Council agreed to grant alms of a hundred ducats to the friars of St Francis' Monastery, outside the city walls, "with regard to the great need that they have had and still have owing to the spread through this city and the kingdom of León of the disease of the plague, which many friars in the monastery have contracted through confessing, giving sacraments and helping the sick of this city to die". [2]

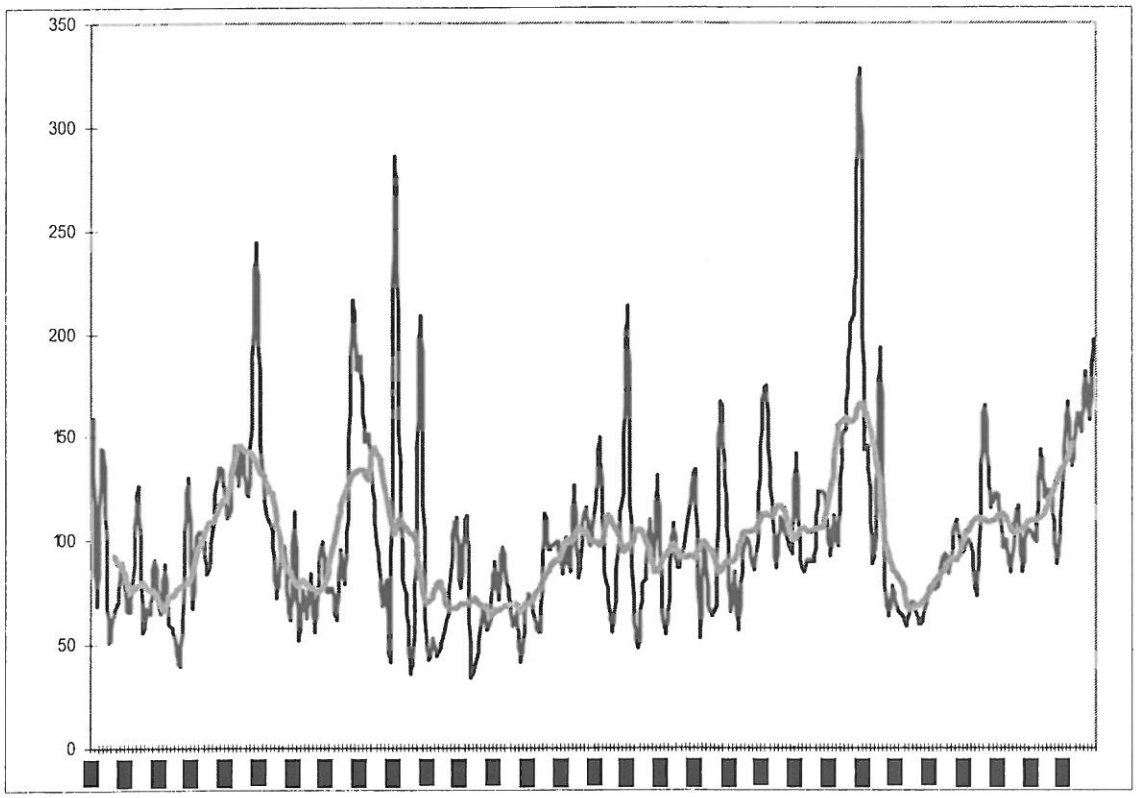
Although this period of catastrophic death rates in León was the result of the combination of so-called "subsistence crises" and the subsequent spread of the plague, we must not fall for the simplistic Malthusian explanation, for mismatches between population and production were not necessarily the causes of the crisis. Outside factors, often more important than inside ones, must not be forgotten, like the arrival of an epidemic, more often than not linked with fate than with logical patterns of behaviour. Moreover, death rates of the past have been shown to stem more from illness than from hunger (COTTS, and VAN DE VALLE, 1990: 10-15).

The great crisis of the late 16th century was not the only catastrophe in León's history during that century. Although the non-existence of registers of deaths prevents us from exactly assessing their real effects, we have collected data concerning episodes in 1517-18, 1530, 1568-69 and 1589, all apparently connected with the plague, the great epidemic disease of the 16th century. The first one (1517-18) coincides with the plague suffered in the nearby city of Valladolid. The next two are also linked with the plague in nearby areas (CARRERAS PANCHÓN, 1976). The 1568-69 episode may be linked with an outbreak of plague in 1566 in Burgos and other parts of northern Castile, which spread in the following years through Carrión and Tierras de Campos, reaching Lisbon, Galicia and Seville (PÉREZ MOREDA, 1980:135). In June 1568, León Council learnt of the arrival of the epidemic in villages of the Órbigo basin, and of the death in such places as Villaviciosa de la Ribera of "more than a hundred and fifty persons including adults and children and that it is of public knowledge that more than half the population of the place have died and that nearly half the houses are standing

[1] León Municipal Historical Archives, Box 41.
[2] León Municipal Historical Archives, Box 41.

empt[y".3] Finally, we do not believe that the supposed crisis of 1589 was quite so bad: the minutes of Council meetings for September of that year mention the Council's preparations to take on the plague that was spreading in the Principality of Catalonia, but there is no reference to that distant outbreak having any direct effect in León.

to the epidemic, but we cannot really call it a critical year. Neither can the rise of 73% reached in 1660 be considered a crisis. The moderate calm brought with it a slight recovery for the population of the city from the 40s to the 80s, but never was the birth rate as high as in the middle of the 16th century.




Graph 1
Evolution of the adult death rate for the city of león (1620-1860) (index 100)
(Source: Churches Archives and Drawn up by the author)

Our study of the evolution of the adult death rate in León (Graph 1) permits us to mark the different crisis points clearly from the beginning of the 17th century onwards. After the catastrophic 1590s, the effects of which perhaps lasted into the first years of the following century, León enjoyed a period of relative calm until the 1680s and 90s. It would seem that the 1631 typhus epidemic, accompanied by a grave agricultural crisis (NADAL, 1966) and recorded in areas fairly close by, such as Tierra de Campos, had less effect on the city. For the following year, there is a sharp rise of about 60% in the death rate, possibly due

The crisis was especially evident again in the 1680s and 90s. The first critical year was 1683, when the death rate rose by 144.3%, as the result of a combination of terrible circumstances in agriculture in the years before and the spread of a "general epidemic" (KAMEN, 1964). The situation worsened still more in two really difficult years, 1693 and 1699, with increases in the death rate of 239.7% and 138.1% respectively. In 1693, again a crop failure coincided with an epidemic. The city was invaded by a wave of hungry peasants from both the Leonese countryside and neighbouring Asturias, which was made worse by the spread of typhus. At the beginning of June of that year, the number of sick was "more than two hundred,

[3] León Municipal Historical Archives, Box 128.

not counting those in hospitals and other private houses".[4] The same deadly combination may have struck again in 1699, given the parallelism with other inland regions of Spain (PÉREZ MOREDA, 1980).

The 18th century may be considered a time of calm regarding surges in the death rate. 1749 may be considered truly critical, with an increase of 136.7%. Cereals had been in short supply in the city at least since April, and in the summer an epidemic broke out: Council records say nothing of its nature, but its presence is obvious from the decision of the Cathedral chapter in June of that year to hold prayers "for public health".[5]

Crop failures and epidemics struck León again in the first years of the 19th century, 1802, 1803 and above all 1804 seeing rises in the death rate, which for adults increased over the three years by 104.1%. It was one of Spain's most notorious crises, affecting as great a part of the country as the great "Atlantic plague" of the late 16th century. As in most of the cases set out here, the epidemic was preceded by a grain shortage, caused both by the poor harvest of the previous year and by requisitions to feed the Franco-Spanish troops in the war against Portugal. The epidemic broke out in the summer of 1802. On the 27th July León council announced that the "putrescent or inflammatory fevers commonly known as *tabardillo* (typhus) had become frequent, dangerous and fatal".[6] This awful combination lasted until 1804, the year with the highest total number of deaths for the period.

Once León had got over this period, it would suffer no more crises until the 1860s, which may be considered the year that modern demographic statistics began in Spain.

Table II

Natural population growth (‰) in the 19th century for the city of León

| Year | Birth rate | Death rate |
|---|---|---|
| 1876 | 39.7 | 47.8 |
| 1877 | 42.5 | 38.2 |
| 1878 | 42.8 | 40.9 |
| 1879 | 41.0 | 43.1 |
| 1880 | 42.5 | 46.1 |
| 1885 | 42.0 | 43.7 |
| 1886 | 49.9 | 45.6 |
| 1889 | 45.3 | 46.3 |

Source: *Censuses* and F. León Correa in *Tierras de León*, 65

In 1860 the birth rate was still high (37.6%), as was the death rate, at 31.1%. Until that date the annual pattern of León could be said to have followed the typical pattern of the old demographic regime, with more births in winter and more deaths in spring. Therefore, vegetative growth was ensured more by the birth rate than by a drop in the death rate, owing especially to a high rate of infant mortality, 40-50% of those born in León failing to reach their 18th birthday, a rate which was to increase in the second half of the 19th century.

Epidemics continued to take their toll in 1846, 1852, 1868, 1873, 1884 and 1891, on these occasions in the form of smallpox. The causes of the progressive drop in population were the lower vegetative growth resulting from the high death rate and migration, as well as the economic stagnation affecting the city. The descriptions made by Juan Madrazo in 1871 of the public and domestic health of the city make it worthy of the appellative unhealthy urban environment, brought on by generalized poverty, general lack of health and the high death rate.

The period 1900-1936 saw a drop in the death rate due to advances in health and hygiene. An important contribution to this was the opening in 1925 of the Provincial Institute of Hygiene in Independence Street, with the aim of improving hygiene and offering a number of social services, including an anti-tuberculosis unit. A major problem of the period was the epidemic of influenza, perhaps the last epidemic to bring about a death rate crisis, with 17,060 dead in León in 1918, 15.3% of whom were aged 16-30.

The natural growth of the Leonese population in the 20th century was greater than the national average until 1960, owing to the sharp drop in the national birth rate. The highest vegetative growth was in the 1950s and 60s, after which it progressively dropped. The twentieth century saw a recovery in the birth rate, although the first fifteen years were affected by emigration across the Atlantic and the great influenza epidemic of 1918. There was a notable drop in the general death rate over the first third of the century.

The high annual variability of the death rate, typical of an old-style demographic regime, did not disappear until well into the 20th century, dropping by around 8‰ from 1960 on. Vegetative growth therefore underwent a continual decrease owing to the drop in the birth rate, although the death rate remained stable. This drop in the death rate was due above all to measures aimed at improving the quality of life of the population, such as the setting up of the health insurance and the network of out-patients' clinics to treat the insured. In 1956, the opening of the maternity hospital (on the Asturias Road) by the General

[4] León Municipal Historical Archives, Box 61.

[5] León Municipal Historical Archives, Box 71.

[6] León Municipal Historical Archives, Box 79.

Public Health Directorate led to a reduction in infant mortality, for apart from attending births, it offered paediatric care to the newborn children.

Table III

Natural population growth in the 20th century (‰) for the city of León

| Year | Birth rate | Death rate |
|---|---|---|
| 1901-1905 | 37.6 | 25.8 |
| 1906-1910 | - | - |
| 1911-1915 | 32.4 | 22.9 |
| 1916-1920 | 31.8 | 27.2 |
| 1921-1925 | 33.6 | 22.3 |
| 1926-1930 | 34.0 | 19.2 |
| 1931-1935 | 32.4 | 17.9 |
| 1936-1940 | 24.8 | 18.3 |
| 1946-1950 | 24.6 | 12.4 |
| 1951-1955 | 23.3 | 10.3 |
| 1956-1960 | 22.8 | 9.4 |
| 1961-1965 | 19.8 | 8.7 |
| 1966-1970 | 16.4 | 8.7 |
| 1971-1975 | 14.6 | 8.9 |
| 1976-1980 | 16.7 | 7.2 |
| 1981-1985 | 11.8 | 7.1 |
| 1986-1990 | 10.1 | 4.3 |
| 1991-1995 | 7.1 | 4.4 |
| 1996-2000 | 6.4 | 4.6 |

Source: NATIONAL INSTITUTE OF STATISTICS - *Censuses and electoral registers*. Drawn up by the authors

## 2. Causes of mortality and the institutional response during the old demographic regime

The high death rates reached in any Spanish city from the 16th century to the 19th, in this case in the city of León, are not remarkable when one bears in mind that man's dependence on nature and the urban environment, and cohesion with them, were based on a very scant, or even non-existent scientific knowledge of topics that are on everybody's lips today, such as pollution, the environment, water quality, clean air, etc.

Many of the outbreaks of infection in the city were caused by the precarious urban infrastructure, including a deficient water supply, the lack of sewers until well into the 19th century, unsanitary burial practices, etc. This was compounded by a very low level of public hygiene, the foul air or miasmas from piled-up rubbish and the consumption of unhealthy food. If each of these factors on its own constituted a health hazard, all of them together made León a very unhealthy place indeed. Also of great concern to the council was the lack of places to shelter the poor who arrived in the cities at moments of crisis. For all these reasons, León Council made great efforts to attempt to ensure the city's hygiene, which would pay off in the health of its inhabitants.

In 1863, Díez Canseco described a city of narrow streets with hardly any hygiene, and housing that was totally unsanitary, because of damp and poor lighting, which made the houses sources of infection. But in the suburbs, conditions were even worse, for hundreds of immigrants from Galicia and Asturias lived crowded together, with begging as their only source of income. This was a problem that had been inherited from previous centuries, and which was proving difficult for the Council to solve. The minutes of Council meetings are full of references to poor strangers[7] arriving in the city at times of insecurity and in periods of famine, which were quite frequent. What worried councillors most was not just the inability to feed them and give them medical attention[8], but the fact that their lack of hygiene, undernourishment and overcrowding could occasion a spontaneous outbreak of plague in the city.[9] Illnesses of the digestive tract were to take on epidemic proportions. As a result of all these problems, poor laws were drawn up and, at the end of the 17th century, a Paupers' Hospice was set up for the convalescence of patients leaving hospital.[10] This house, which then had capacity for only ten or twelve people, was the forerunner of the Poor House, which was founded in León in 1855 as part of a national plan passed by Parliament in 1821, whereby Municipal Charity Boards were created in places with over 400 families.[11]

In the 1780s, as a result of the setting up in 1773 of the Fountains and Watermains Committee, and in line with the wish to ensure the supply of water, a network of standpipes[12] grew in the city.[13] Despite

[7] "...for the many poor now in the city, whose numbers are rising every day because of the poor harvests in the Principality of Asturias... many of the poor are dead and most of those who go to hospital die there, and some come with leprosy and walk around the streets..." León Municipal Historical Archives, Box (1699), Council Minutes, Box 63.

[8] "Many are ill on arrival and not even the hospital has beds to cure them..." Idem.

[9] "...lepers and the scabious who may infect local people..." Idem.

[10] León Municipal Historical Archives, Box 43

[11] General Charity Regulations of 1822 (Ed. MIÑÓN)

[12] Manuel Risco informs us that in 1784, work was begun on two fountains, one in San Marcelo Square and the other in San Isidro Square; in 1789, two more had been built, one Cathedral Square and one in the Market Square. However, it would seem that the last mentioned was set up before the date given by Manuel Risco, for in 1782, the parish priest of the Church of Santa María del Mercado recorded with great joy that on the 25th August at five o'clock in the afternoon, a fountain started to work in that square, which would prevent "people dying of thirst". Diocesan Archives, Register of Deaths of Santa María del Mercado.

[13] The problem of these fountains is that they all get their water from the same spring, which is near the municipal cemetery. GARCÍA Y PONCE DE LEÓN (ed. 1988)

these efforts, in 1784 the Council complained about the shortage of drinking water (CUBILLO DE LA PUENTE, 2000: 249), and in 1792, Manuel Risco wrote that residents were complaining that they often had to drink "water that was muddy and foul because of the condition of the pipes". In the 20th century, reports of people dying from typhoid fever were still to be found.[14]

The sewer system was also very precarious and it would be necessary to wait until the last twenty years of the 19th century before any sewers existed in the centre of the city[15], and as recently as 1905 it would seem that Burgo Nuevo Street still had no sewers as its many inhabitants complained of "an evil-smelling and ugly stream of filthy water" in the street.[16]

Cemeteries are also a public health hazard in cities. The order to for cemeteries to be located outside towns was passed by Charles III in 1786[17] as a result of the views on hygiene of the Enlightenment, and ratified in 1813 by the Cádiz Parliament. In the case of León, a public cemetery was set up in 1809 one kilometre from the city, although four monastic cemeteries continued to function within the city. In order to bring an end to this deep-rooted custom, both the civil and church authorities had to be very persistent in making the public understand. Nevertheless, in 1886 the Franciscans requested permission from the Council to set up a cemetery on monastery premises. [18]

León Council drew up a code of bye-laws for various purposes in 1549, showing that the authorities were aware of the link between sickness and environmental problems. That code, the origin of urban environment regulations, did not come into effect until 1669 but remained in force till 1885. Together with a set of matters mentioned in Council Minutes they were what might be called ordinary environmental principles, which would be strengthened by municipal regulations enacted as plague epidemics broke out, which could be called extraordinary environmental principles.

The aim of the bye-laws from the environmental point of view was to regulate a number of day-to-day matters such as refuse, waste water, manure (we must not forget the essentially rural nature of the city of León) and street cleaning, with a view to protecting public health. All this could be summed up as preventive measures. Enforcing the regulations and monitoring hygiene and food quality at the market was the responsibility of a municipal official called the *Fiel*[19], who also dealt with such matters as licences, prices and public safety.The great boom in hygiene would not occur until the Enlightenment of the 18th century. Some matters that the bye-laws sought to correct and which demonstrate the importance of certain "pre-hygienic" principles were as follows:

STREET CLEANING[20] (chapter XXIII of the code). Responsibility for maintaining optimal conditions lay with the residents until 1790, when the Council started organized refuse collections, but the cleanliness of the streets obviously implied not getting them dirty in the first place, so especial attention was given to the conduct of animals[21], whose excrements, food waste[22], poor hygiene and general lack of care[23] were a health hazard. In this regard, pigs came in for especially strict measures, being prevented from roaming the streets freely.[24]

FRESH AIR. Work concentrated on the prevention of miasmas and foul smells[25], which must have been very frequent, among other reasons for the lack of hygiene in the streets, where organic waste lay because of the waste water that was thrown out (espe-

[14] *Mensajero Leonés*, 1905.

[15] *Mensajero Leonés*, 1905.

[16] *Mensajero Leonés*, 1905.

[17] "Novísima Recopilación" (Collected Laws), Volume. III, Law 1 "Cemeteries shall be built outside towns wherever possible... in well-aired placed near the parishes but distant from residents' homes..."

[18] A.H.M.L. C. 750.

[19] "...a trade which can occasion much good and also much harm, for the main factor in persons' health and life consists in eating good food, which should be available at reasonable prices..." Bye-laws, p. 23

[20] It was forbidden to throw into the street: foul water, refuse, excrement and fish: "...nobody shall throw out foul water" Bye-laws p. 144; "no manure nor refuse or any other foul thing shall be thrown out onto the streets" Bye-laws, p. 147; "nothing dirty shall be thrown out of the windows." Bye-laws, p. 144; "...ordered and disposed that no woman or any other person might wash cloths or any other thing outside their door..." Bye-laws, p. 148.

[21] Another possible source of infection was dead animals on the streets, concerning which the Bye-laws establish: "if any beast or meat be found in the streets, or refuse,...then the ten nearest houses shall be forfeit to the penalties set out in these Bye-laws..." Bye-laws, p. 149. Another chapter sets out the penalties of the transgressor depending on the kind of animal that appeared dead (a dog, chicken or whatever).

[22] "...as in this City oxcarts are continually arriving and the carters feed their animals with grass wherever they see fit in the public streets and the streets become very dirty as a result,no person shall dare to feed oxen in the streets or squares of this City..." Bye-laws, p. 148; "...nobody shall dare to have manure in the street...", Bye-laws, p. 145; "...any person who does not keep clean his part of the street shall incur a penalty...", Bye-laws, p. 144

[23] "...ordered that no veterinarian should dare to bleed animals in the streets, subject to a penalty of one *real* for each occasion, and the cleaning to be at his expense" Bye-laws, p. 147.

[24] "...as there is no swineheard to look after the pigs in the suburbs of San Salvador, San Pedro and San Lorenzo outside the city walls, the residents of those suburbs have suffered and continue to suffer grave harm, both to their personal health and to their gardens and fields... and in every parish there shall be a sty for all the pigs, and all the residents... are obliged to put them in the trust of swineherds, for the good of everybody... for it is pestilential, dirty, very disruptive and harmful for pigs to wander about the City... may order be given for them not to roam the City by day or by night...", Bye-laws, p. 151.

[25] See note 1.

cially that used for cleaning fish), emanations from cesspits, fumes from the fermentation of bread, etc. In the 19th century, the Board of Public Health gave as a cause of illnesses an inefficient town planning characterized by narrow streets[26], where there was inadequate ventilation and daylight[27] could not get in.

FOOD. Food control was transferred to municipal officials until the middle of the 20th century. Since the Modern Period, the city of León had had a slaughterhouse, but such establishments, along with butchers' shops, did not fulfil the hygiene requisites necessary to guarantee the quality of meat to the consumer (CUBILLO DE LA PUENTE, 2000: 69-91). However, one of the great concerns of the authorities was that there should be fresh food on the citizens' tables. So the sale of fresh pork fat was prohibited in the summer months, no product could be applied to fish to disguise its quality, slaughterhouses were checked so that sick animals could not be killed for meat, etc. But all this control on foodstuffs was purely empirical, for those responsible were not scientists, until 1799, when the inspection of markets, etc. became the job of physicians and surgeons, who kept this responsibility until the first third of the 19th century, when they were replaced by veterinarians (CUBILLO DE LA PUENTE, 1998: 391).

EXTRAORDINARY PREVENTIVE MEASURES. In the case of the city of León, we have seen that the Council's byelaws passed at three moments of potential plague risk (in 1587, 1599 and at the end of the last decade of the 17th century, once news had arrived of outbreaks in some part of the country) were practically the same. It can therefore be said that the response of the institutions to the plague was laid down in 1587, later actions being limited to mere correcting or updating. The central point of the legislation was the creation of sanitary cordons[28] to prevent the entrance of people coming from infected places. To this end a timetable was established for entering the city and those arriving had to prove that they had no illness and give evidence of where they had travelled from. Outside the official opening time, the city gates were kept closed and watched over. Openings in the city wall were also blocked up. The success of the measure depended on the scruples of the watchmen, but as yet nothing has led us to doubt their professionalism.

At the beginning of the 17th century, the State set up the Board of Health, with local representation in the different cities of the kingdom to channel the information necessary to prevent outbreaks of plague. In 1720, the Board of Public Health became the Supreme Board of Public Health, with delegations in every province set up at different moments. The one in the city of León was opened in 1800 and, together with the Official Provincial Gazette, was the instrument of diffusion of state health policy throughout the 19th century. In 1834, for example, the Gazette published advice on health measures to prevent and treat malaria and cholera, including street cleaning and the draining away of stagnant water. Municipal banns also forbade gatherings of people during outbreaks of plague.

With the coming of the 19th century, many advances had been made in the field of medicine, but they were received with some reluctance. Smallpox vaccination, discovered in 1796, could have avoided a great deal of infant mortality. In 1804, Charles IV ordered it to be administered in the hospitals of provincial capitals free of charge, but the measure cannot have enjoyed the acceptance that one might expect, for in 1805, priests[29] were asked in their sermons to urge the faithful to have their children vaccinated, which was still the case in 1834 (FERNÁNDEZ ARIENZA, 1998).

In 1884, according to Dr García y Ponce de León, "public hygiene has not enjoyed the intervention that it deserves for its importance and by rights; only when we were threatened by Ganges cholera was an order passed to recognize some premises to be used as homes, and the people, like lazy and disloyal sons, came to shelter under the protective mantle of hygiene."

## 3. The new hygienism of the 19th and 20th centuries

### a) Hygienist and Naturalist Thought

The link between the urban habitat and health is as old as cities themselves. To see the importance of social and sanitary values in town planning and land use, it is sufficient to look at the first building regulations of our cities, which made clear provision for hygiene and health in such details as the removal of wastewater, water supply, hygiene, burials, soundproofing, etc. As R. Gancedo says, matters that are basically social and with repercussions on health have been a constant topic for debate in the city and have conditioned its eventual form, as the form and structure of a city are key factors in individual and collec-

[26] This kind of town-planning was common in the periods studied. See BETRÁN, 1996, pp. 178 and 179.

[27] See note 1.

[28] Such behaviour is recorded all over Spain and Europe. See, for the city of Barcelona, BETRÁN, 1996; for Córdoba, BALLESTEROS RODRÍGUEZ, 1982; for La Rioja, LÁZARO RUIZ and GURRIA GARCÍA, 1989); and CIPOLLA, 1993.

[29] León Diocesan Archives: Parish records of Santa María del Mercado.

tive health, and indicators for the practice and legislation of town planning (VARIOUS, 1990).

As the 19th century advanced, occupation of León's walled enclosure was very dense and the need for housing went up in proportion. The absence or inefficiency of sewage disposal systems, together with the lack of strict regulations concerning hygiene produced an unhealthy urban environment, responsible for the incubation and propagation of serious infectious diseases that affected Spanish society throughout the century. These circumstances explain the great boom in that period of so-called hygienist town planning. Several documents of recognized value socially and for town planning testify to the existence and scope of these problems in León. A report entitled "Brief Suggestions Concerning the Systems that may be Adopted for the Urban Hygiene of León" written in 1871 by the architect Juan Madrazo, while in León to direct restoration work on the Cathedral, mentions the lack of suitable services and infrastructures to ensure minimum levels of cleanliness and public hygiene, along with environmental health, which included anything basic to human life and health such as air, water, soil and subsoil. Especial stress was laid on the deplorable habits of the local people when it came to domestic and public health. The existence of whole neighbourhoods without sewage systems, the habit of throwing any kind of waste onto the public way and the "vile system of burial that reserved for the poor 'the disgusting collective graves full of half-buried bodies'" were, among many others, some of the practices most offensive to public health and hygiene.

A similar diagnosis was arrived at by the Leonese doctor Ramón García y Ponce de León when he wrote his *Topographical and Medical Study of León* in 1884. Following the thesis of environmentalist medicine - before the spread of Bacteriology - he linked the urban environment described with the propagation of infectious diseases, which were in turn responsible for the excessive death rate in the city in the second half of the 19th century. A year later the Council passed some new bye-laws when faced with the need to review the treatment thus far given to many public matters and especially owing to the need to tackle the city's serious problems of public hygiene. Although much of the new legislation concerned the generalization of more efficient methods for making the urban environment healthier, the root of the hygiene-health problem kept producing the same harmful effects as ever. This is borne out by the fact that the development project for the city of León approved by the Council in 1897 had urban cleansing as a recurring and prioritized aim. In fact, the solution to this chapter of nineteenth-century town planning would not come until the 20th century, with the passing of the Sanitation Plan, which included the building of a sewer network. In 1924, the Municipal Statute was passed, and in 1924 and 1953 the Building Regulations.

### b) The Crisis of Environmental Concerns

The new epidemics, of yellow fever and cholera, which thrust through Europe at the end of the 19th century, again showed how ineffective standards of hygiene were. The inability of the environmental system to stop epidemics was obvious. The ecological approach that had been in force since the 18th century was in crisis (URTEAGA, 1980). A contribution was made by the appearance of a new scientific discipline, microbiology, and the discovery of microbes as the agents causing most infectious diseases. The repercussions of the advances in medicine and microbiology would not be long coming to the urban scene. In 1909, Regulations were drawn up for a municipal chemistry and bacteriology laboratory, in compliance with a Royal Decree of the 22nd December, 1908, whereby any substance, product or object connected with food had to be analysed.

The most significant documents allowing us to assess the ecological background to health policies in the city of León in the first half of the 20th century are the sanitation bye-laws of 1924, the town planning and sanitation project of 1925, the municipal health regulations of 1925, the municipal hygiene regulations of 1926, the bye-laws of 1930 and the traffic regulations of 1934. These gave rise in turn to a number of subsidiary arrangements, such as the Regulations for the Cemetery, Walks and Wooded Areas and those for the Market, etc.

Public health legislation in the 20th century began with the Royal Decree of 1904 determining the need to draw up Hygiene Regulations. This was to take time and would eventually be backed up by the Municipal Statute and the Royal Decree of 1924 giving the local Public Health Committee the power to draw up orders and instructions concerning sanitation and town planning. Local Public Health Committees were created together with the provincial ones by the Royal Decree of the 11th May 1920 (See EMBID IRUJO, 1978: 574-578).

The aim of the town planning and sanitation project of 1925 was to make León a modern city and provide it with all kinds of services. It included asphalting streets and squares and the laying out of gardens and play areas for children. Apart from water supply and the sewer system, the establishment was proposed of a number of public institutions that would

soon have positive effects on urban hygiene and therefore on the health of the local people. These included the indoor food market in Conde Luna Square, a larger livestock market and a new cemetery.

Nevertheless, the precarious situation of hygiene and health and the lack of any tradition in most Spanish councils to introduce effective reforms justified state intervention. In those towns where the death rate was above the national average for five years and where there were still outbreaks of epidemics, it would be a state institution, the General Public Health Directorate, that would take the necessary measures. Health regulations were to add to the sanitation regulations that the municipal statute recommended, in order to bring down significantly the high mortality still caused by certain diseases, such as typhoid fever.

Once the crisis of the socio-environmental postulates of the late 19th century had been overcome, bacteriological discoveries again made these principles the main aim of the municipal policy. The Council developed a welfare policy based on social hygiene organizations with the aim in view of combating disease and epidemics (vaccinations against smallpox, rabies, malaria, tuberculosis, typhus, etc.), alcoholism, providing protection for mothers and children and helping the aged. To this send such organizations were set up as the *Casa de Socorro* (a first aid centre), poor houses, the *Gota de Leche* (where free powdered milk was distributed) and a free pharmacy. As well as the Board of Public Health, which had the general responsibility for attending to hygiene and health matters, the Charity Boards were set up, with the remit of looking after social and charitable activities, for which they had a census of the poor. Of especial importance in the health regulations was education for hygiene, the responsibility for which lay with the educational system and which took the form of lectures and texts that were readily understandable for the majority of the population (ALCAILDE GONZÁLEZ, 1999).

The municipal hygiene regulations of 1926 brought together the legislative arrangements concerning hygiene and health that had been developed since the turn of the century and which would have far-reaching effects on town planning. The very organization of the content of the regulations was novel, several chapters being given over to the environment: the atmosphere, land and water. The real fight against epidemics took the shape of campaigns of vaccination, free for the needy, although it cannot be denied that their curative effects were helped by the environmental measures taken to improve public hygiene. From the 1930s on, a new scientific revolution was to take place with the general spread of antibiotics (although the idea of antibiotics had been glimpsed by Pasteur and Joubert in 1877, it would be necessary for Fleming to discover penicillin in 1929).

In the second half of the 20th century, the promotion of health in towns became more urgent and important, both because of the changes in the physical and social environment of cities and nations and because of the recognition that without a healthy population harmonious development becomes impossible (VARIOUS, 1991). Back in 1948, the WHO defined health as a state of complete physical, mental and social welfare and not just the absence of disease, recognizing the close links between health, development and town planning (First World Health Assembly, 1948). At the beginning of the 1970s, principally as a result of the Lalonde Report (1974), a new era began for public health. The philosophy of the New Public Health was to avoid contemplating illness from the strictly individual point of view to set healthy behaviour into a wider social context, taking it beyond the scope of the welfare services. The new concept of health would go beyond the biomedical framework and become a socio-cultural phenomenon - it would be conceived more and more as man's interrelation with the environment, as a continual and dynamic process. Thus, the standards of health did not depend exclusively on standards of living (quantitatively speaking) and economic development was not to be the panacea for solving health problems, subjective ideas concerning quality of life receiving more importance (GARCÍA CABAÑERO, 1990).

In 1977, the 30th Assembly of the World Health Association declared that the principal social aim of governments and the WHO over the next few decades should be the achievement by 2000 of a standard of health for all the world's citizens that would enable them to lead a life that was socially and economically productive. This aim was part of the project named "Health for All by the Year 2000". One of the principles of the New Public Health was the building of a health-friendly environment. People's health is frequently determined by physical, social, economic, political and cultural factors in the urban surroundings, including processes of social unification, migration, modernization and industrialization, together with circumstances of urban life that can change with the climate, the land, population density, availability of housing, the type of industrial base, the distribution of income and transport systems (LÓPEZ LOZANO, 1990). The measures to tackle these problems in León are in the general urban planning projects (drawn up locally to comply with national law).

Within the framework of the Health for All programme, and with the needs of industrial nations to the fore, the Healthy Cities Project was born. The project develops the six principles of the programme's strategy: equity, promotion of health, participation of the community, primary care, intersectorial collaboration and international co-operation. The promotion of health should involve two fields of action, social and collective, creating an environment favourable to industrial development and encouraging attitudes favouring healthy lifestyles.

The term Healthy City seems to refer to the search for a model city as defined in the Athens Charter of 1933, whereby a city should foster material, sentimental and spiritual development in all its forms, both individually and collectively; and the basic functions that town planning should ensure are living, working and recreation, while its objectives are land use, organization of traffic and legislation (LE CORBUSIER, 1971).

The European Healthy Cities Project was an initiative of the European Regional Office of the WHO to support the renewal of public health that is happening now in many cities. The key is the creation of a network of cities to help draw up plans of action to encourage and protect citizens' health. The Agreement for the creation of the Spanish Healthy Cities Network was signed on the 8th March 1988 (published in the Official State Gazette on the 31st March 1988) by the Ministry of Health and Consumption and the Spanish Federation of Municipalities and Provinces (FEMP). Phase III of the Healthy Cities Project (1998-2002) got underway at the same time as the setting up of the European centre for urban health by WHO Europe in Copenhagen, its first aim being to promote and encourage health at the local level.

The cities have support for the achievement of their objectives in the municipal health plans and land use legislation. The health plans order, systematize and prioritize municipal programmes and their carrying out with a view to complying with the objectives set out, their basic pillars being the participation of the citizen, health education and intersectorialness (TORRES ANDRÉS, 1991). The purpose of the Land Use and Town Planning Act is to regulate certain issues linked with town planning and building, and its application should mean a substantial improvement in habitat quality.

## Conclusion

Throughout history, regulations concerning health and hygiene have been repeated with some slight alterations. During the 18th century, legislation on the quality of the environment came into force, based on the scientific principles of the Enlightenment. Nevertheless, people were not socially or culturally ready for certain changes. Even the best educated broke the rules: religious communities kept on burying bodies in churches some time after it had been outlawed, which shows some deficiency in law enforcement, which meant that citizens' co-operation would have to be sought through education.

Improving health means changing the physical and social environment of cities and the countryside. On the other hand, making cities healthier requires a clearer view of what we want for the future. The Healthy Cities Project seeks to solve some of the problems and to act in consequence, and will allow its members to keep abreast of changing circumstances, to respond to them and to pre-empt them.

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