

# Mortality in Ghent, 1850-1950

A social analysis of death

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## INTRODUCTION

Is death unjust? It seems obvious that people who have more to eat, live in a warm, comfortable house and have to work less hard, are more likely to live longer than those who do not. But do people who are able to surround themselves with luxuries, live longer than poor people? Historical demographer Massimo Livi-Bacci has shown that this logic does not always apply. In his book *Population and Nutrition* (1991) he linked the study of T.H. Hollingsworth about the life expectancies of the English Peers with the study of E.A. Wrigley and R.S. Schofield on English population history. His comparison revealed that eighteenth century life expectancies of the Peers were no higher than for the rest of the population. Only from the nineteenth century onwards a contrast between the rich and the poor appeared. This startling result formed the basis for my research on Ghent.<sup>1</sup>

My research, however, was not limited to the social differences of mortality, but also included a general analysis of mortality in nineteenth century Ghent. Up until now mortality research in Flanders has been limited to smaller communities in the countryside or to themes such as infant mortality (see C. Vandebroeke (1977), G. Masuy-Stroobant (1983) and E. Roets (1989)). In my research an attempt was made to produce a full overview of mortality in a nineteenth century Flemish metropolis. After a general survey of the most important demographic tendencies in nineteenth century Ghent, we attempted an external approach of mortality. The survey was the basis for a deeper analysis, based on the calculation of age- and gender-specific death rates, seasonal variation and research into the causes of death. Finally, a social differentiation for death was made.

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<sup>1</sup> For a detailed description of my research, see J.Backs, *Mortaliteitsonderzoek van Gent tijdens de 2de helft 19de-1ste helft 20ste eeuw. Opmaak van een sociale differentiatie voor de dood*, unpublished MA dissertation, History Department, Ghent University, 2000 (under the supervision of Prof. Dr. C. Vandebroeke). I thank Chris Vandebroeke, Isabelle Devos and Kim Verbeeck for their support and advice.

It was no coincidence that nineteenth century Ghent was the subject of my research. Ghent is a city with a rich and early industrial past. It was also a city with two faces. Its rapid industrialisation had resulted in a glaring contrast between the few 'nouveaux riches' on the one hand and the enormous mass of impoverished workers on the other hand. Hence, it provided a very interesting case study for the impact of the industrialisation on the mortality of different social classes.

## 1. SOURCES AND METHODOLOGICAL PROBLEMS

The two most important sources for my research were death certificates and censuses. The death certificates were used in two different ways. Firstly, they formed the basis of the extensive samples which were taken. For these samples, we noted the age of death by sex, profession and marital status of 19,100 individuals spread over three different periods (1846, 1869-1871 and 1910).<sup>2</sup> Secondly, the aggregated data from the death certificates, provided by the National Institute for Statistics, gave us information on the number of deaths by age, sex and month, the causes of death and the number of still-borns. The population census provided information concerning the total population by age group and gender.<sup>3</sup>

The death certificates as well as the censuses are rather reliable sources. Yet there are some smaller disadvantages. During the 1840s, for example, small errors were made, such as a faulty numbering of the certificates, writing death certificates of people who did not die in Ghent and especially the vague or incomplete indications of the profession. During the processing of the aggregated data the lack of continuity was especially problematic for a long-term analysis. Bigger problems showed up during the processing of the census. R. Lesthaeghe perceived an important under-registration between ages 12 and 15 for the Belgian statistics (Lesthaeghe, 1977, 234). On the basis of age pyramids and the theoretical model of S. Ledermann<sup>4</sup> (1969) we noticed that there was a similar under-registration in the population statistics of Ghent. Still this deviation was not to affect the quality of the research fundamentally.

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<sup>2</sup> The total sample contained 19,100 individuals: 3,554 for 1846, 12,447 for the period 1869-1871 and 3,099 for 1910.

<sup>3</sup> For this research, the censuses of 1846, 1856, 1866, 1870, 1880, 1890, 1900, 1910, 1920 en 1947 were used.

<sup>4</sup> For the use of life tables of S.Ledermann in this research, see Backs, 2000.

The most difficult part of my research was the social analysis. The death certificates state the profession of the deceased and I categorised them accordingly. I distinguished three different classes: working class, middle class and the elite.<sup>5</sup> The working class contains professions with low social status, not requiring higher education nor possession of means of production. These were mostly factory workers, agricultural workers, day labourers and handicrafts such as seamstresses, knitters and embroiderers. The middle class is a heterogeneous group which contains those professions for which little education or means of production were needed. This includes shop- and innkeepers, warehouse and smaller salesmen, lower officials, self-employed people and other handicrafts. The elite class had more means of production or a higher education such as doctors, lawyers, but also higher officials, salesmen, nobility, army commanders and higher clergy were included. For the individuals who did not work at the time of death such as children, older people and many women, I used the profession of the parents or other relatives since society at that time was very stratified and social mobility quite restricted. Many children even had the same profession as their parents. People for whom I did not have any indication of profession were excluded from analysis.<sup>6</sup> Also others were excluded because their profession gave too much doubt about social standing.<sup>7</sup>

Additional problems rose during the calculation of the life tables for the social analysis. For a correct classical life table one has to know the number of deaths by age group as well as the total population by age group.<sup>8</sup> This did not appear to be the case for the social analysis. I was, however, able to determine the number of deaths by social class and by age group by using our samples. Even though there are no major differences between the results of our life table and those of the classical life table, we want to underline that our results from the social analysis are no exact reproduction of mortality risks and life expectancies.<sup>9</sup>

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<sup>5</sup>. Some professions did not give a clear indication about the social position of the deceased and were therefore not easy to categorize. No doubt lawyers and doctors belonged to the elite and factory workers to the lowest social class, but for instance, what about shopkeepers? Death certificates do not tell if a person owned an important shop in luxury goods, or whether it was an old lady who sold some baubles to survive. Besides, although the death certificates only mention one profession, some people had more jobs at the same time.

<sup>6</sup>. The amount of certificates without profession were 11.73 per cent in 1846, 10.32 per cent in 1869, 16.56 per cent in 1870, 10.76 per cent in 1871 and 13.52 per cent in 1910.

<sup>7</sup>. I.e. farmers, drivers, soldiers, lower clergy.

<sup>8</sup>. For the construction of a life table, see Termote and Wunsch, 1978.

<sup>9</sup>. For the year 1846 and 1910 we could compare the results of our life table with the results of the classic life table and only negligible differences were noticed. For a full overview, see Backs, 2000.

Although quantitative sources were the most important ones for this research, qualitative sources were not forgotten. It concerns a number of nineteenth century reports, mainly written by doctors such as J. Mareska and J. Heyman (1846), A. Burggraeve (1854), N. Dumoulin (1879) and E. Burvenich (1889). Even though these doctors degraded factory workers to study objects, their medical essays are still valuable sources for the social history since the life of nineteenth century workers is described in every detail.

## 2. GHENT: THE MANCHESTER OF THE CONTINENT

The opening of the first mechanised spinning-mill by Lieven Bauwens in 1801 was the symbolic start of an era during which Ghent evolved from a sleepy medieval town to the notorious 'Manchester of the continent'. During the eighteenth century Flanders was mainly rural. This was the result of several agricultural developments such as the introduction of potatoes, the use of new seeds and inferior land, etc. More and more people were able to stay in the countryside, which caused a depopulation of the old towns<sup>10</sup>. The deve-

| TABLE 1 EVOLUTION OF THE POPULATION OF GHENT |                   |   |                      |
|--|-------------------|---|----------------------|
|  | <i>Population</i> | <i>Population growth<br/>(1805 = 100)</i> | <i>Annual growth</i> |
| 1805   | 55,576            | 100                                       | —                    |
| 1815   | 61,793            | 111                                       | 1.12%                |
| 1825   | 67,912            | 122                                       | 0.99%                |
| 1835   | 86,081            | 155                                       | 2.67%                |
| 1846   | 102,977           | 185                                       | 1.78%                |
| 1856   | 108,925           | 196                                       | 0.58%                |
| 1866   | 115,354           | 208                                       | 0.59%                |
| 1880   | 131,431           | 236                                       | 1.00%                |
| 1890   | 148,729           | 268                                       | 1.32%                |
| 1900   | 160,030           | 288                                       | 0.76%                |
| 1910   | 166,445           | 299                                       | 0.40%                |
| 1920   | 167,042           | 301                                       | 0.04%                |
| 1930   | 170,358           | 307                                       | 0.02%                |
| 1947   | 166,096           | 299                                       | -0.01%               |

<sup>10</sup>. In the sixteenth century 40 to 45 per cent of the population was living in urban centres. During the 18th century this declined to 20 per cent (Vandenbroeke and Vanderpijpen, 1981, 202).

lopment of cottage industry in the countryside, more specifically the spinning and weaving of flax and wool, strengthened these developments even more. For Ghent, this meant that the number of residents diminished to an absolute minimum.

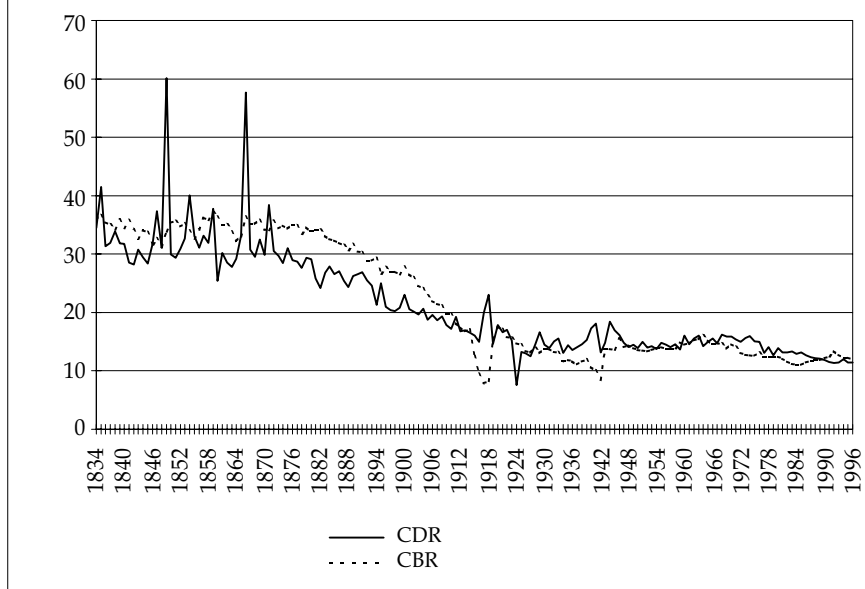
This situation seriously changed during the first half of the nineteenth century when Flanders' textile industry became mechanised. Alternatively, the cottage industry was confronted with limited growth possibilities and ended in a serious crisis. Fairly soon the mechanised cotton mills proved more productive than the work produced by day labourers in the countryside. The situation of the rural population did not improve either when several decades later weaving was also mechanised. Due to the reduction of cottage industry the small farmers were under a lot of pressure and many of them were obliged to give up their activities (Vanhaute, 1998, 59-60). These developments had an important impact on the demography of Ghent. Table 1 shows a relatively large increase of the population during the period 1800-1830, but it is not until 1830-1860 that there was a real explosion of population growth. This explosion coincides with the definitive end of the cottage industry in the linen districts. The migration surplus in Ghent is 16.9 per cent for the period 1841-1845 and still 13.8 per cent for 1846-1850. Later, the migration surplus would never exceed 8 per cent (Vermeulen, 1980, 56). However, we should keep in mind that the push-factor, namely the crisis in the cottage industry, was far more important than the pull-factor, which was the employment in the new industry. Even though this industry was partially to blame for the decay of the cottage industry, during the first half of the nineteenth century it was still of limited size in Ghent. After 1860 the population number kept on growing, but to a lesser extent. This increase was no longer the result of migration, but of natural population growth which, as we can see in figure 1, reached its peak during the years 1860-1880. It was only at the beginning of the twentieth century that population growth came to a standstill, due to the introduction of railway passes,<sup>11</sup> the implantation of industrial activities in the countryside and a diminution of the natural growth.

This important demographic explosion in Ghent had considerable economic and social consequences. Since nobody had expected such a stream of people housing conditions were miserable. Between 1830 and 1855 the population increased by 41 per cent, the amount of houses only by 28 per cent (Scholliers cited by Burnett, 1991, 164). Working-class housing, mostly rapidly built slums

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<sup>11</sup>. The success of the railways increased enormously around the turn of the 20th century. In 1890 the railways transported 1 million passengers, by 1906 this was already 6 million (Deprez and Vandenbroeke, 1989, 231).

FIGURE 1: EVOLUTION OF CRUDE DEATH RATE AND CRUDE BIRTH RATE (‰) IN GHENT, 1830-1996.



and barracks, was at its worst (Dumoulin, 1879, 79-96; Heyman and Mareska, 1845, 118-127; Bertrand, 1888; T'Serclaes de Wommersom, 1889; Steensels, 1977, 447-500). There was overcrowding, lack of ventilation, sunlight and privacy in these buildings. The many wells and small rivers in Ghent were used for water supply and as an open sewer. This had a deleterious effect on public health. Not surprisingly cholera hit Ghent five times during the period 1832-1866 (Dumoulin, 1879, 110-133). The working conditions in the textile factories were disgraceful. Due to extreme cold or heat, vulnerability to infections increased, the dangerously rotating machines caused lots of accidents and the lungs and respiratory system of the workers were affected by dust released during the cleaning and carding of raw cotton (Heyman and Mareska, 1845, 50-67). Because of the low wages people were forced to let their children work and to economise on the most elementary necessities of life such as food and clothing (Heyman and Mareska, 1845, 97-103). Karel Velle described the situation in nineteenth century Ghent: *"The neglect of the elementary principles of health protection or prevention, the limited knowledge about the danger of contamination to which one was exposed daily and the dubious feeding habits created a situation in which illness and death were almost undisputed masters over life"* (Velle, 1982, 619, my translation).

### 3. MORTALITY IN 19TH CENTURY GHENT

Before we can address the social analysis of mortality, we should briefly go into the general trend of mortality in Ghent. Figure 1 shows the evolution of the crude death rate (CDR) between 1834 and 1996.<sup>12</sup> We can clearly distinguish three different periods. During the first period between 1830 and 1875 we see a high mortality with strong fluctuations. The death peaks disappear in the second period 1875-1914 during which mortality started to decline. In the last period between 1914 and 1996 there was a low and mainly stable mortality.

However, the disappearance of death crises should be dissociated from the decline of mortality. Death crises were the result of a number of infectious diseases which doubled the CDR over a short period (e.g. the cholera epidemics of 1832, 1849, 1854, 1859 and especially 1866). Apart from the notorious cholera epidemics there were also outbursts of typhus, smallpox and influenza.<sup>13</sup> Yet the CDR remained high in years when there were no epidemics. The important factor here is the excessive infant and child mortality (see sections 4.1 and 4.2).<sup>14</sup> Another factor was the large number of adult deaths caused by tuberculosis and diseases of lungs and respiratory system.<sup>15</sup> Research of the health of the textile workers by J. Heyman and J. Mareska (1846) showed that these diseases were very frequent. Analysis of causes of death even show that at the end of the nineteenth century diseases of the respiratory system, and tuberculosis in particular, caused more than 50 per cent of all deaths. The exceptionally high infant mortality and diseases such as tuberculosis were at the basis of the high CDR, a typical phenomenon of nineteenth century industrialised towns. The same evolution was observed in Verviers (Neven, 1997).

During the period 1875-1914 death crises disappeared and there was also a general decline of mortality. The first is especially the result of a more thorough health policy. Thanks to the filling up of many ditches and ponds in Ghent and more importantly due to the construction of water pipes, there were no severe cholera-epidemics after 1866 (De Groote, 1978, 153). In a general way,

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<sup>12</sup> The yearly crude death rate is the ratio of the amount of deaths in a year to the total population in that year.

<sup>13</sup> A very deadly variation of influenza ravaged Ghent in 1836-1837, 1854 en 1867, typhus during the food crisis in 1846-1847 and smallpox infested the city during the period 1851-1856 (Comer, 1986, 69-74).

<sup>14</sup> Infant mortality is mortality during the first year of life. Child mortality is defined as mortality between ages 1 and 15.

<sup>15</sup> Tuberculosis of the lung was the most frequent variant of the disease. Miliary tuberculosis also occurred regularly, but mostly struck children.

cholera disappeared in Europe, with a last outburst during the early 1890's (Bardet and Dupâquier, 1998). A well-aimed vaccination policy against small-pox, the starting of a housing policy and slightly improved living conditions, especially at the beginning of the twentieth century, made mortality crises disappear completely. The general decline of mortality can be fully ascribed to the decline of infant and child mortality (see sections 4.1 and 4.2). Between 1880 and 1914 the number of deaths caused by tuberculosis declined from 250 to 140 per 100,000 inhabitants. At the root of this are the numerous government initiatives such as the 'National League against Tuberculosis' and the so-called 'Work for Tuberculosis' that tried to lower the risk of contamination through massive propaganda campaigns, by building sanatoria and by periodical medical check-ups in dispensaria where free consultations were offered (Velle, 1998, 143). During the last period the CDR stabilised at a low level, even though infant and child mortality continued to decline. These two age groups had a smaller impact on the CDR due to a decreasing birth rate. Proportionally, the elderly formed a larger group and hence a further diminution of mortality was slowed down.<sup>16</sup>

#### 4. AGE-SPECIFIC ANALYSIS OF MORTALITY IN GHENT

##### 4.1. An excessive infant mortality

When in 1889 E. Burvenich (1889, 8) cynically remarked, "*Tous les autres parlent des millions et des milliards que les gouvernements dépensent pour se procurer une armée solide et nombreuse, et signalent que rien ne se fait pour leurs futurs soldats et celles qui doivent les leurs procurer*", he was not exaggerating. With a death probability of 234 per thousand in 1846, increasing to 268 in 1866 and 288 in 1890, Ghent had an exceptionally high infant mortality. At the end of the nineteenth century more than one in four newborns died during their first year of life. The national average oscillated between 160 and 180 per thousand (Masuy-Stroobant, 1983, 68). Infant mortality was high in all urban-industrial centers, even in small towns rates were substantially higher than in surrounding areas. In the district of Ghent (the city of Ghent included) death probabilities around 200 per thousand were noted. This phenomenon was not restricted to Ghent alone. R. Woods, P. Watterson and J. Woodward (1988, 353-354) observed a

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<sup>16</sup> The population older than age 65 amount to only 6 per cent of the total population in 1900 against 28 per cent for youngsters under 15. Around the Second World war this proportion had changed to 13 per cent against 18 per cent.



TABLE 2 AGE-SPECIFIC MORTALITY RISKS (‰), 1846-1947

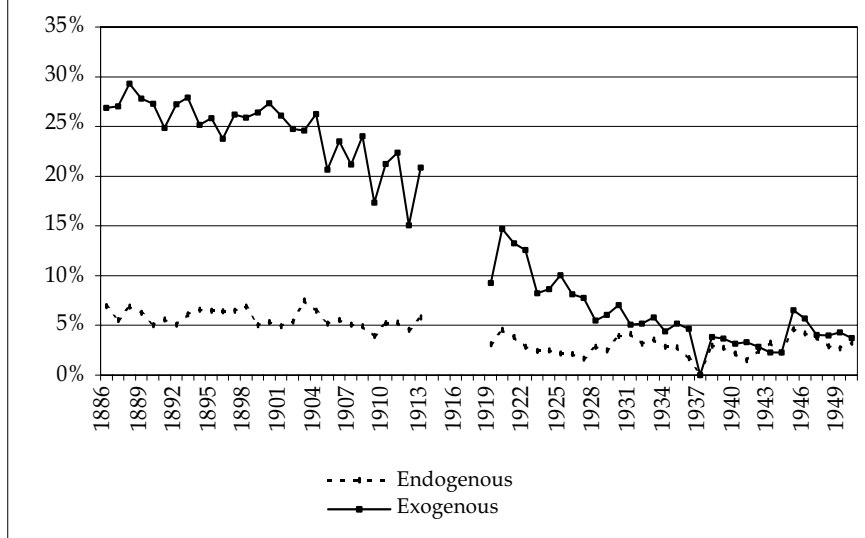
|                               | 1846 | 1856 | 1866 | 1880 | 1890 | 1900 | 1910 | 1920 | 1947 |
|-------------------------------|------|------|------|------|------|------|------|------|------|
| <sup>1</sup> q <sub>0</sub>   | 234  | 239  | 268  | 219  | 288  | 261  | 219  | 120  | 90   |
| <sup>4</sup> q <sub>1</sub>   | 185  | 156  | 219  | 127  | 142  | 85   | 81   | 61   | 38   |
| <sup>5</sup> q <sub>5</sub>   | 54   | 67   | 79   | 27   | 25   | 20   | 15   | 15   | 19   |
| <sup>5</sup> q <sub>10</sub>  | 32   | 31   | 31   | 16   | 16   | 12   | 9    | 9    | 13   |
| <sup>5</sup> q <sub>15</sub>  | 48   | 46   | 40   | 29   | 22   | 21   | 16   | 16   | 17   |
| <sup>5</sup> q <sub>20</sub>  | 55   | 63   | 62   | 41   | 29   | 29   | 19   | 19   | 20   |
| <sup>5</sup> q <sub>25</sub>  | 56   | 60   | 66   | 40   | 35   | 33   | 19   | 19   | 18   |
| <sup>5</sup> q <sub>30</sub>  | 65   | 59   | 78   | 49   | 38   | 32   | 24   | 22   | 29   |
| <sup>5</sup> q <sub>35</sub>  | 66   | 61   | 84   | 54   | 45   | 42   | 22   | 25   | 26   |
| <sup>5</sup> q <sub>40</sub>  | 85   | 66   | 96   | 63   | 59   | 47   | 37   | 30   | 33   |
| <sup>5</sup> q <sub>45</sub>  | 91   | 82   | 109  | 80   | 78   | 68   | 49   | 41   | 41   |
| <sup>5</sup> q <sub>50</sub>  | 116  | 107  | 132  | 104  | 109  | 84   | 69   | 60   | 55   |
| <sup>5</sup> q <sub>55</sub>  | 153  | 117  | 144  | 109  | 133  | 107  | 92   | 82   | 90   |
| <sup>5</sup> q <sub>60</sub>  | 199  | 162  | 197  | 149  | 159  | 146  | 142  | 128  | 125  |
| <sup>5</sup> q <sub>65</sub>  | 257  | 236  | 258  | 269  | 231  | 235  | 213  | 201  | 171  |
| <sup>5</sup> q <sub>70</sub>  | 369  | 325  | 377  | 366  | 361  | 338  | 309  | 303  | 274  |
| <sup>5</sup> q <sub>75</sub>  | 482  | 414  | 539  | 412  | 503  | 467  | 453  | 422  | 395  |
| <sup>5</sup> q <sub>80</sub>  | 632  | 523  | 687  | 645  | 715  | 610  | 624  | 613  | 546  |
| <sup>5</sup> q <sub>85</sub>  | 786  | 481  | 834  | 835  | 671  | 861  | 742  | 722  | 719  |
| <sup>10</sup> q <sub>90</sub> | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |

similar trend in England: “Infant mortality was and remained high in the urban-industrial centres of the north of England, South Wales and London, but even in the smaller towns of the south of England rates were substantially higher than in the surrounding rural areas.” The high infant mortality in Ghent implied that in 1870 life expectancy at birth was no higher than 28 years. A comparison with other large industrial towns shows that the conditions were also miserable, but not as bad as in Ghent. Brussels, Antwerp and Liège all scored better (Masuy-Stroobant, 1983, 109). Compared to England we see that only in the industrial city of Liverpool, where life expectancy was about 25 years, mortality was worse. Other important industrial centers such as Manchester (29), Sheffield (33), Birmingham (35) and Leeds (34) did slightly better than Ghent.

Analysis of the causes of this high infant mortality in Ghent revealed that 80 per cent was exogenous and 20 per cent endogenous.<sup>17</sup> The high exogenous mortality can largely be associated with inadequate care of newborn babies.

<sup>17</sup>. All deaths within the first month of life (neonatal) were considered endogenous and deaths from the second month until the first year of life (post-neonatal) exogenous (Morel, 1989, 158).

FIGURE 2: EVOLUTION OF ENDOGENOUS AND EXOGENOUS INFANT MORTALITY AGAINST TOTAL MORTALITY (%).



The nineteenth century medical reports of doctors provide examples of neglect, bad treatment and even abuse (Steverlynck, 1997). Infant care was far from perfect: “L’enfant est élevé dans une place où d’autres enfants urinent et déposent leurs excréments, où l’air n’est guère renouvelé et peut l’être difficilement. La maison est située dans une ruelle étroite, dans une impasse, où règne la malpropreté, l’humidité et où s’exhalent les émanations nuisibles” (Burvenich, 1889, 22). Clothing, housing and diet of infants were insufficient.

Chronic diarrhoea was responsible for almost 60 per cent of all infant deaths and was mostly the result of an unhealthy diet. According to doctor Burvenich (1889, 22) infants were fed a porridge of bread and potatoes diluted with water originating from the dirty wells and rivers of Ghent. Not surprisingly these habits led to high infant mortality. Nevertheless, a better alternative was available. Breast-feeding was not only inexpensive, it also strengthened the babies biological defense mechanisms and made them more resistant to infectious diseases, as Burvenich stated at the end of the nineteenth century: “Quand toutes ces conditions sont observées, l’allaitement artificiel reste encore difficile et le nombre des victimes qu’il fait se maintient bien haut. L’enfant élevé d’une façon naturelle, trouve dans le lait de sa mère tout ce qui lui est nécessaire au développement de ses organes; il croît rapidement, devient gros et gras, est agile, gai, et résiste plus facilement à toutes les causes qui s’attaquent à son existence” (Burvenich, 1889, 27).

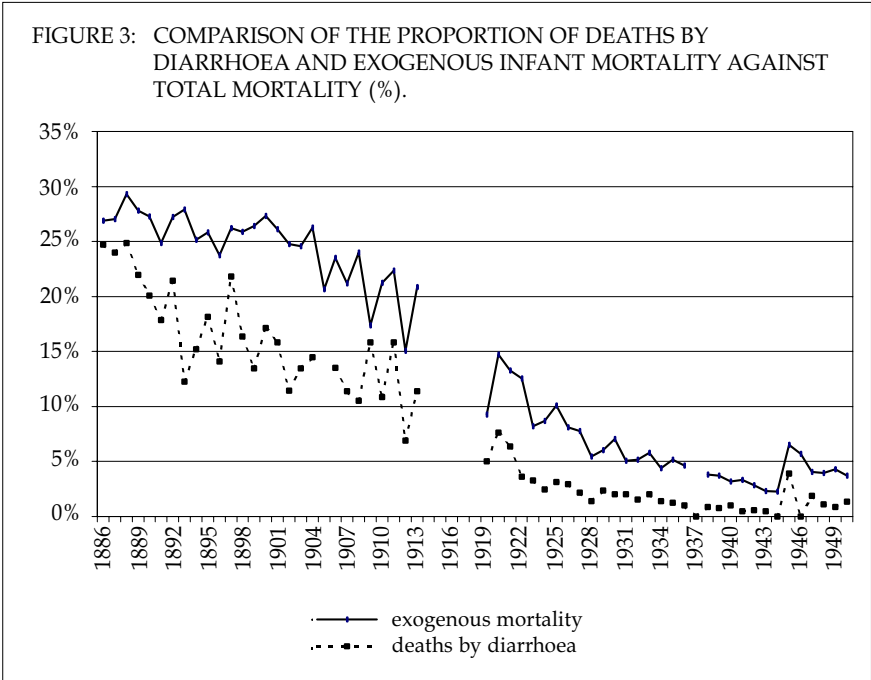
Breast milk gives the newborn a natural immunity to disease germs and hence makes them less vulnerable to epidemic diseases, but also to viruses and bacteria which cause diarrhoea. W. Farr discovered for Scotland and Wales that children who were breast-fed died to a lesser extent of convulsions, a symptom of chronic diarrhoea (Farr cited in Matossian, 1985, 193). In addition, in most cases where breast-feeding is given, the period of temporary infertility after birth – post partum amenorrhoea – is prolonged (Roets, 1989, 204). Breast-feeding therefore causes a decline of marital fertility and a decrease of the number of births generally results in a decrease of infant mortality. In spite of these unmistakable advantages neither the highest, nor the lower classes practised this to a large extent. Factory work made it almost impossible for working class mothers to breast-feed. During the winter work in the factories started at sunrise and ended at 10 p.m. and in the summertime people worked from 5 a.m. to 8 p.m. Labourers were only free on Sunday and Monday morning (Heyman and Mareska, 1845, 88). These were only the official working hours, the many abuses which were reported by Heyman and Mareska (1845, 90) are not taken into account. The elite, on the other hand, sent their newborns to nurses in the countryside where breast-feeding was a widespread phenomenon.<sup>18</sup> Nevertheless, also wet-nursing had negative consequences for the mortality of the babies: *“Les ouvriers aisés des grands centres ainsi que les petits bourgeois envoient souvent leurs enfants à la campagne, où une paysanne forte et saine partage son lait entre son propre enfant et le petit citadin [...] Une partie notable de ces enfants, aussi bien que ceux qui sont soumis à l’allaitement mixte ou artificiel, ne survit pas. Il est bien rare qu’une femme ait du lait en quantité suffisante pour nourrir deux enfants, et la mère, quand elle doit retirer une partie de son lait à un des deux nourrissons, saura bien à qui des deux elle l’enlèvera”* (Burvenich, 1889, 23). Halfway the nineteenth century the practice of breast-feeding was not applied on a large scale by any of the social classes of Ghent, which led to a general increase of infant mortality.

Between 1890 and 1920 infant mortality declined from 288 to 120 per thousand. Analysis of the causes of death (figure 3) show that diarrhoea was no longer the most important cause of death and also reveal a changing mentality in infant and child care. Nineteenth century literature and contemporary historical studies confirm that babies were no longer fed with bread and potatoes.<sup>19</sup> At the end of the nineteenth century a lot of initiatives were taken to

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<sup>18</sup>. There was a taboo on sex during the breast-feeding period. Although this taboo was not more than a relic from the Old Regime, it is not inconceivable that a lot of couples put their own desires above the needs of their children (Vandenbroeke, 1986, 150-151).

<sup>19</sup>. See E. Burvenich (1889), K. Velle (1981) and G. Masuy-Stroobant (1983).



improve childcare in Ghent. In 1869 'L'Oeuvre des Crèches de Gand', the first private crèche, was established. There were other initiatives such as the free distribution of milk and medical consultations for sick children which were mostly organised by doctors, midwives and the bourgeoisie (Velle, 1981, 86-87). At the turn of the twentieth century the principle of pasteurisation of milk was well known but because it was expensive, not always applied. Giving non-pasteurised milk caused a lot of deaths among young children because it contained several noxious micro-organisms. By distributing free pasteurised milk, doctors wanted to give the poorest a chance to feed their children healthily. Later, the government also took initiatives amongst which protective child legislation, important information campaigns such as the prohibition of the use of the 'biberon à long tube', promoting more accurate statistics concerning infant mortality, the distribution of pamphlets etc. (Velle, 1981, 88).

The improvement of the living conditions of children was very important for their mortality risks. But there was also a change in the way parents treated their children. According to C. Vandenbroeke (1998, 193, my translation): "Childcare and interest in children negatively correlate with social indicators. But, before the late eighteenth and the early nineteenth centuries, the highest social classes apparently were little concerned with child care". Until halfway the nineteenth century, a lot of children were neglected, abused or even killed (Steverlynck,

1997). Towards the end of the century a mentality change occurred; some historians even refer to the 'discovery of the child'.<sup>20</sup> Children and their education became important issues within the family. There was a growing affection between parents and youngsters (Depaepe, 1999, 16-22). An important factor of this change was a new attitude towards breast-feeding. Authorities promoted breast-feeding in working class neighbourhoods. C.Rollet (1997, 42-43) even called it 'the battle over milk'. The unequal start and practice of breast-feeding in the different social classes lies at the basis of the growing social inequality of death (see section 5).

#### 4.2. Child labour and child mortality

Even though child mortality is less striking than infant mortality, it was nevertheless as exceptionally high. Halfway the nineteenth century both matched each other, apparently because of the same causes: bad food, clothing and housing, but also general neglect and even abuse. Yet, there are fundamental differences between child and infant mortality. The most important difference is the fact that feeding problems are less important for the explanation of child mortality. While diseases of the digestive tract caused almost 60 per cent of infant deaths, for children this was only 20 per cent. In Verviers between 1859 and 1873 diseases of the digestive tract were responsible for 45 per cent of all deaths before age 1, and for 'only' 25 per cent at ages 1 to 9 (Neven, 1997, 57). Infectious diseases such as whooping-cough, measles, smallpox, etc. (more than 40 per cent) and also diseases of the respiratory system such as pneumonia and bronchitis (25 per cent) were the most important causes of death. The bad living conditions and lack of personal hygiene can explain the high child mortality. Research on child labour supports this vision. Even though nineteenth century reports try to minimise the existence of child labour, contemporary research points out that many children were employed in the factories of Ghent, as P.Scholliers (1996, 93) stated: "*The Ghent cotton mills used child and adolescent labour extensively*".<sup>21</sup> This is not surprising. The wages were much lower for children than for adults.<sup>22</sup> In some way, children were also easier to manipulate and therefore more obedient employees. At that time there was no important legislation which protected children nor any kind of obligatory education. Moreover, most families needed these extra earnings:

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<sup>20</sup> E. Shorter (1975), Rutschky (1977), L. de Mause (1980), T. Richardson (1996) and P. Ariès (1960).

<sup>21</sup> Also see De Neve (1991).

<sup>22</sup> In 1845 the annual pay of a child in a textile factory was 114 francs against 656.08 francs for an adult man (Heyman and Mareska, 1845, 103).

*“Chaque jour rapproche le travailleur, chef d’une famille en bas âge, du moment où l’aîné de ses enfants l’accompagnera à la fabrique pour l’aider dans ses travaux et apporter sa part au revenu du ménage. Som empressement à conduire ses jeunes enfants aux ateliers, loin d’être, comme on l’a dit, une acte de barbarie, n’est donc qu’une dure nécessité, à laquelle il est poussé par le désir de hâter l’heure de la délivrance de sa famille”* (Heyman and Mareska, 1845, 106). The effects of child labour were negative in every possible way. Boys were brought in massively to do small repairs between the rotating machines or to re-attach broken fibres. This was very dangerous labour, especially taking into account that workdays sometimes lasted thirteen to fifteen hours<sup>23</sup> (Heyman and Mareska, 1845, 77). Girls were mostly used for carding, where raw cotton was cleaned and made ready for spinning. This was the most dangerous part of factory work because of the release of lots of fluff and dust produced during the cleaning of the cotton. Hence, there was not only the risk of getting caught by the cogwheels of the machines, in the long term the chances of diseases of the respiratory system were just as real<sup>24</sup> (Heyman and Mareska, 1845, 78; Scholliers, 1996, 93). Thus, child labour caused an increase of mortality.

The decline of child mortality commenced during the last quarter of the nineteenth century, which is about two decades earlier than the decrease of infant mortality. The decline of infant mortality was most likely the result of improved nourishment. The first initiatives in that direction were taken at the end of the nineteenth century, but their results only appeared in the first decade of the twentieth century. The conditions for children improved more rapidly. With the legislation on child labour in 1889, an important step was taken. The minimum age for factory work was set at 12 years and boys from the ages 12 to 16 and girls from the ages 12 to 21 were no longer allowed to work more than 12 hours per day or do night-work. It is no coincidence that child mortality experienced its sharpest decline during the period 1890-1900, nevertheless many abuses persisted (see section 5). But the improvement of general living conditions, the clearing away of slums, the construction of water supply, etc also played an important role in the decrease of child mortality. Diseases of the digestive tract and the respiratory system diminished most, a phenomenon which was also observed for Verviers after 1873 (Neven, 1997,

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<sup>23</sup>. In 1845 85 per cent of the boys younger than 15 working in the textile factories had to do this job. The other 15 per cent was working in the weaving department (Heyman and Mareska, 1845, 77).

<sup>24</sup>. In 1845 70 per cent of the girls younger than 15 working in the textile factories was employed in the carding department, 23 per cent in the weaving department and 7 per cent in the spinning department (Heyman and Mareska, 1845, 78).

58-59). Smallpox disappeared too. In the first half of the twentieth century most young victims died as a result of contagious child diseases such as measles, whooping-cough, diphtheria, polio and scarlet fever. It was not until after the Second World War, with the introduction of antibiotics and vaccines, that those diseases disappeared from the statistics of the causes of death.

#### 4.3. The adults and the elderly

Until the end of the nineteenth century one in three adult deaths was caused by tuberculosis. This highly contagious disease has a long incubation period. Tuberculosis of the lung, the most frequently occurring variant of the disease, affects the healthy tissues and causes internal bleedings. As stated, the disease does not emerge at the same time for everyone. A number of factors, such as age, gender, natural resistance and genetic factors, play a role. But also several external determinants increase the chances of the disease actually breaking out, such as a high population density, insufficient and monotonous food and bad working conditions (Kiple, 1995, 1060-1061). In Ghent, where the three factors were present, the disease made lots of victims.

The many slums in Ghent were overcrowded. In 1866, for instance, 24,738 people from the 674 slums were living in 5,638 houses, which means that there were approximately 4 persons per house (Memorial de Gand, 1868). According to Heyman and Mareska (1845, 123) who examined the slums extensively, the average surface per house was 17 square meters. They were mostly single room houses, with low ceilings. When doctor Burggraeve visited the notorious slums in 1851, he stated shocked: *“Ce quartier, compris entre la rue Neuve St Pierre et celles des Femmes, St Pierre, Basse de Champs, des Baguettes et de Savon, ne renferme pas moins de douze mille à mètres [Sic]. C’est là que se trouvent les incroyables impasses nommés [Sic] Batavia, comme si le peuple lui même avait voulu les signaler comme un lieu malsain et inhabitable, et ou [Sic] un même propriétaire exploite plusieurs centaines d’ouvriers misérables pour se loger dans des taudis moins immondes”* (Burggraeve, 1851, 5). Not only these houses were built extremely close to each other, they were also very unhealthy places to live in. Accommodation was small, humid and dark because of the lack or absence of windows, draughty and cold as a result of a bad construction, dirty due to the absence of a water pump and sewers, stuffy due to the low ceiling and poorly furnished (Van den Eerenbeemt, 1976, 496). Not surprisingly contagious diseases spread extremely quick.

Mareska and Heyman observed that even though the amount of food supplied the necessary calories, it was not varied enough to be healthy. The food, which mainly consisted of bread, potatoes and some vegetables was very rich in

starch and mostly of very poor quality. Fibres, minerals and vitamins were almost absent and proteins were only present in small amounts. Proteins are necessary for physical labour and provide a higher resistance towards bacteria and viruses. Meat is the ideal food to provide proteins, but 19 per cent of the factory workers never ate meat and 29 per cent ate it only once a week (Heyman and Mareska, 1845, 109). The daily consumption was about 100 grams of meat per capita (Vandenbroeke, 1973, 118). Insufficient and monotonous food did not only increase the chances of getting tuberculosis but also raised the risk for cholera, diarrhoea, bronchitis and other infections of the lungs, measles and whooping-cough (Livi-Bacci, 1991, 36-38).

The unhealthy and very dangerous working conditions had a negative impact on the life chances of adults. The textile workers worked in extremely miserable conditions. Especially the dust and the fluff which were released during the processing of raw cotton were very harmful. The differences in temperature between the ateliers increased the risk of pneumonia and bronchitis.<sup>25</sup> Of course, most striking were the accidents. Machines with rapidly rotating driving-belts and cogwheels were a constant danger to inattentive workers who got stuck in the machines with loose clothing or long hair and sometimes got life-threatening injuries (Heyman and Mareska, 1845, 22-28).

Finally, there was also the poor medical infrastructure. Around 1880 there was only 1 doctor for 1,600 inhabitants, around 1900 this was 1 per 1,200 and before World War I there was already 1 doctor per 1,000 (Velle, 1986, 276). In comparison to the countryside, Ghent did rather well.<sup>26</sup> Of course, this does not necessarily imply that factory workers actually made use of medical infrastructure. Not only was there a financial threshold, there was also the matter of a rooted distrust towards doctors since there were many unskilled charlatans who practised medicine in an illegal way (Memorial de Gand, 1830-1840). Hospitals were avoided. Only in time of severe epidemics of cholera, typhus or influenza, people were hospitalised. The hygienic conditions were rather miserable and the risks of contamination were not insignificant. Hospital mortality was very high.

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<sup>25</sup> Some ateliers were heated to an exceptionally high temperature during production whereas others were not heated at all. The clothes of the factory workers were made out of cotton and did not protect them against cold temperatures (Heyman and Mareska, 1845, 117).

<sup>26</sup> In rural areas the proportion was 1 doctor for 3,000 to 4,000 inhabitants (Velle, 1986, 276).



At the end of the nineteenth century diseases of the respiratory system such as pneumonia and bronchitis, caused less deaths.<sup>27</sup> The decline of adult deaths due to tuberculosis was even more considerable.<sup>28</sup> On the other hand, cancer together with heart and vascular diseases became proportionally more important, in cities as well as in rural areas. At the basis of this trend lies the general improvement of living conditions. The social struggle of the workers at the turn of the twentieth century had finally started to pay off. For instance, ateliers in factories were subjected to stricter regulation, which reduced abuse. Also, higher wages gave many workers the opportunity to buy more and better food and clothing. Moreover, there were also important initiatives by the local authorities. We already mentioned the sewage, but equally important were the first signs of a social housing policy. A spectacular increase of life expectancy at birth, namely from 35, 84 years in 1890 to 53, 87 years in 1920, was the result. However, there was a down side. The number of civilisation and geriatric ailments such as cancer, heart and vascular diseases and cerebral haemorrhage increased strongly. While at the end of the nineteenth century these diseases only caused 25 per cent of all adult deaths between 15 and 65 years, in 1950 they were already well over 60 per cent. The 'success' of these diseases was primarily the result of a structurally older population, but also of the introduction of new lifestyle habits such as smoking (Kiple, 1995, 179-181).

## 5. A social analysis of death

A comparison of life expectancy of the English Peers with that of the total English population, made by M.Livi-Bacci (1991, 64-65), has surprisingly shown that life expectancy of the nobility during the sixteenth and seventeenth centuries was not fundamentally higher than that of the rest of the English population. Numerous plausible explanations for this phenomena can be given, such as a higher number of deaths amongst nobility as a result of war, the fact that breast-feeding was considered to be inappropriate in the higher classes (Vandenbroeke, 1986, 150), weakening due to inbreeding and the fact that the most important 'killers' of the Old Regime, smallpox and the plague, struck all sections of the population. However, it is striking that in the eighteenth century for the first time there were small mortality differences between

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<sup>27</sup>. The amount of deaths caused by bronchitis and pneumonia among adults in Ghent declined from 235 per 100,000 inhabitants in 1885 to 161 in 1920 and 137 in 1950.

<sup>28</sup>. In 1885 tuberculosis was the death cause of 447 adults per 100,000 inhabitants, 116 in 1920 and 66 in 1950. The decline was more important for women than for men.

social classes. Two other studies concerning this inequality during the eighteenth century, those of J. Schellekens (1989) for the Dutch villages Gilze and Rijen and of H. Schultz (1991) for the German villages Sankt Nikolai and Sankt Georgen also show a growing mortality gap between the rich and the poor. This gap grew larger during the nineteenth century.

TABLE 3 MORTALITY BY SOCIAL CLASS

|                                    | 1846  |       |         | 1870  |       |         | 1910  |       |         |
|------------------------------------|-------|-------|---------|-------|-------|---------|-------|-------|---------|
|                                    | Men   | Women | General | Men   | Women | General | Men   | Women | General |
| <b><math>1q_0</math> (‰)</b>       |       |       |         |       |       |         |       |       |         |
| Lower                              | 275   | 211   | 242     | 427   | 375   | 401     | 429   | 392   | 420     |
| Middle                             | 282   | 243   | 264     | 340   | 349   | 345     | 289   | 224   | 257     |
| Elite                              | 122   | 133   | 133     | 183   | 215   | 199     | 104   | 60    | 83      |
| <b><math>4q_1</math> (‰)</b>       |       |       |         |       |       |         |       |       |         |
| Lower                              | 302   | 241   | 270     | 385   | 373   | 379     | 182   | 202   | 192     |
| Middle                             | 312   | 346   | 328     | 279   | 317   | 297     | 131   | 116   | 124     |
| Elite                              | 108   | 192   | 145     | 121   | 181   | 150     | 41    | 18    | 30      |
| <b><math>e_{20}</math> (years)</b> |       |       |         |       |       |         |       |       |         |
| Lower                              | 29.02 | 27.78 | 28.38   | 31.07 | 26.14 | 28.57   | 34.42 | 34.90 | 34.66   |
| Middle                             | 28.86 | 32.28 | 30.44   | 30.53 | 33.25 | 31.72   | 38.13 | 40.62 | 39.44   |
| Elite                              | 37.22 | 34.12 | 35.96   | 35.00 | 38.05 | 36.38   | 43.62 | 44.69 | 43.84   |
| <b><math>e_{40}</math> (years)</b> |       |       |         |       |       |         |       |       |         |
| Lower                              | 17.84 | 19.22 | 18.54   | 19.18 | 18.25 | 18.76   | 22.46 | 23.84 | 23.14   |
| Middle                             | 20.06 | 24.78 | 22.26   | 19.35 | 22.85 | 20.88   | 23.68 | 26.57 | 25.20   |
| Elite                              | 24.51 | 23.65 | 24.19   | 21.69 | 23.46 | 22.25   | 26.76 | 26.63 | 26.70   |
| <b><math>e_{65}</math> (years)</b> |       |       |         |       |       |         |       |       |         |
| Lower                              | 5.88  | 8.11  | 7.13    | 6.45  | 7.24  | 6.80    | 7.73  | 10.66 | 9.20    |
| Middle                             | 9.27  | 11.04 | 10.22   | 7.94  | 9.22  | 8.61    | 9.80  | 10.19 | 10.03   |
| Elite                              | 11.75 | 8.93  | 10.53   | 9.42  | 10.12 | 9.81    | 8.91  | 11.27 | 10.00   |

As table 3 shows, life expectancy of the highest classes in 1846 was significantly better than for the rest of the inhabitants of Ghent and it increased until the beginning of the twentieth century. Even today the highest classes still have a higher life expectancy (Vagerö and Lundsberg, 1995, 227-229; Deboosere and Gadeyne, 2000, 25-26). Comparing the life expectancy of the middle class with that of the lower class, we get even more surprising results. Halfway the nineteenth century the lower class did better than the middle class, but in the last quarter of the nineteenth century things changed, slightly to the advantage of the middle class. Only at the beginning of the twentieth century a consi-

derable gap appeared between both classes. This contradicted my expectations. I assumed that mortality differences would diminish as a consequence of improved nutrition, better housing and hygiene during the second half of the nineteenth century. Apparently the standard of living of the workers did not improve as much as assumed. What was the cause? Why did mortality differences between the rich and the poor grow?

Other studies on social differentiation give different results. For example, in 1967 Antonovsky stated that as a result of declining mortality, differences between social classes also declined (Antonovsky cited by Van Reek and Van Zutphen, 1985, 187). More recent research of D. Friedlander showed that halfway the nineteenth century there were large socio-professional and regional mortality differences which diminished towards the beginning of the twentieth century (Ben Moshe, Friedlander, Keysar and Schellekens, 1985, 150). Only in a study by M. Haines (1985, 900) we find evidence of the opposite: *“Even in the twentieth century, when access to health care was made much more equal, relative differences in both adult and childhood mortality across social classes and occupations have not narrowed or have even increased, although absolute differences have declined”*. The distinction between absolute and relative differences is of great importance. Absolute differences also decreased in Ghent, which was a logical consequence of declining mortality. For our research on social differentiation we are, however, interested in relative differences. Apparently, those did not decline.

1846

Strong social inequality of mortality risks in a number of industrial towns during the 1840s did not elude nineteenth century reporters: *“Après cela, faut-il s'étonner de ce que la mortalité frappe dans une proportion inégale les différentes classes d'habitants? A Manchester, les chances de vie, qui sont de 38 ans pour les classes supérieures et de 20 ans pour les boutiquiers, qui habitent plus à l'étroit et souvent dans les plus mauvais quartiers, ne sont que de 17 ans pour les ouvriers manufacturiers et pour les journaliers”* (Heyman and Mareska, 1845, 127). Unfortunately, J. Heyman and J. Mareska limited themselves to Manchester because their statement does not appear to hold for Ghent. As stated earlier, in 1846 the middle class had a higher death rate than the lower class.

Age-specific analysis of the social differentiation shows that only infant and childhood mortality was higher in the middle class than in the lower class. For adults and elderly this was not the case. Two plausible reasons arise. Natality in the first generations of immigrants could have been lower and have resulted in a decline of the risk of infant mortality. Even though we are not able to provide concrete figures to support this assertion, there are some elements which should be taken into consideration. For instance, we can state that an unfamiliar environment was not stimulating to think about posterity.

Also we should keep in mind that many immigrants were confronted with the bad living conditions in the city. Moreover, between 1846 and 1856 over 60 per cent of the men and women in the age group 25-29 were unmarried, whereas this was only 40 per cent in 1880.<sup>29</sup> Not surprising since celibates tend to make the step from the countryside to the city more easily than families.

A second and more important cause can be associated with breast-feeding. There were important differences in infant mortality between urban and rural areas which could not be fully ascribed to the healthier living conditions in the countryside. We read: *“Halfway the nineteenth century there was a negative correlation between the extended cottage industry and infant mortality in Belgium. This cottage industry did not prevent mothers from breast-feeding. This is indicated by the relatively low mortality rates in the linen districts of Southeast-Flanders and in South-Flanders. The metal-districts of Wallonia also fit the idea of a low infant mortality. The districts of Thielt, Kortrijk, Aalst and Oudenaarde, the country of Liège, of Namur and Mons had the most favourable position. Equally the decline of the infant mortality in South-Flanders during the eighteenth and the beginning of the nineteenth centuries seems to be related with the rapid expansion of the cottage industry during the same period”* (Vandenbroeke, Van Poppel, and Van der Woude, 1983, 112, my translation). About the consequences of the mechanisation of the cotton industry and the accompanying concentration of industrial activities on breast-feeding and the level of infant mortality, they are just as clear: *“[...] the mechanisation of the textile industry, in which women strongly participated, could have caused a decrease of infant mortality”* (Vandenbroeke, Van Poppel and Van der Woude, 1983, 112, my translation). Because of practical reasons the habit of breast-feeding was more rooted in rural areas than in cities. However, it is unimaginable that the immigrants in the city dropped the old habit of breast-feeding. This could be a plausible explanation for the lower infant mortality in the lower classes in 1846. Indeed, the majority of these immigrants, who worked as day labourers, were lower class. In 1846 33.5 per cent of the deceased were day labourers, while in 1870 this was 15.6 per cent. Most townsmen, on the other hand, practised handicrafts and were middle class. We can make a similar analysis for the high child mortality in the middle classes in 1846. At the beginning of the nineteenth century there was a more intensive use of child labour in the cotton industry than there was in the mechanised or handicraft labour in the cities (De Neve, 1991, 62). But with the collapse of the cottage industry and the migration of many day labourers to the city, it is not unimaginable that child labour diminished among the lower classes. However, there are no concrete figures to support this. We

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<sup>29</sup>. See the censuses of 1846, 1856 and 1880.

should also take into account the general working and living conditions, which must have been a lot more favourable in the countryside than in the city, especially for children. The most important causes of death for children were contagious diseases such as smallpox, measles, whooping-cough, scarlet fever, etc. and these spread very easily in overcrowded and unhealthy urban centres. In general, we can state that in 1846 there was a large number of people in Ghent who recently immigrated from the countryside where life expectancies were higher. These immigrants did not grow up in dirty slums and severe living conditions. As a child, they did not have to work in unhealthy factories. Therefore, life expectancies of these 'first generation immigrants' must have been higher than those of the original townsmen. But how can we explain the lower mortality risks among the adults and the elderly of the middle class? These age groups were less influenced by the immigration streams during the years 1830-1850. Age-specific analysis of the migration movements tells that in particular young adults between the ages of 20 and 30 moved to Ghent (Vermeulen, 1980, 83).<sup>30</sup>

### 1870

By 1870 the structure of social inequality of mortality had changed. Life expectancy declined slightly, though most for the lower social classes. The increase of death rates can be ascribed to the higher infant mortality, the decline of living conditions, particularly in city dwellings. The growing shortage in city dwellings was mainly the result of the rapid growth of the population during the period 1840-1860. The repercussions were most perceptible during the period 1860-1880 with 1866, the year of the big cholera epidemic, as a symbolical peak. Nevertheless, during the second half of the nineteenth century Ghent had sufficient accommodation. The problem was that the building activities were exclusively tuned to the needs of higher class clientele which made the supply of comfortable houses severely exceed the demand. The majority of the working class could not afford decent housing and were living in slums (see section 2). The textile barons soon turned out to be rack-renters: maximal profits were their only concern and immigrants were seen as a welcome source of income. Even though city dwellings worsened during the period 1840-1870, working class families spent a relatively larger part of their budget on rent (Lis, 1977, 331). Apart from bad housing, they also had to save on other primary needs such as food and clothing.

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<sup>30</sup>. This is confirmed by the essay of Heyman and Mareska (1845, 83) in which they conclude that the average age of a textile worker was only 25 years.

As the income of the family head was inadequate to provide the most elementary necessities of life, spouses were obliged to work in the factory.<sup>31</sup> An immediate result was that female workers were deprived of the possibility of breast-feeding. The infants did not receive adequate meals as, due to the structural income shortage, parents were forced to choose inferior and monotonous food as a substitute for breast-feeding. Another important result of the pauperisation of the working class during the third quarter of the nineteenth century was the increase of child labour. A study on child labour in the spinning mills of A. Voortman-N.V. Texas shows that especially in the age group 10 to 14 there was a large increase, but there were also more young workers between ages 5 to 9 (Scholliers, 1996, 47-57).<sup>32</sup> The increase of child mortality was mainly concentrated in the textile and metal industry. Child mortality in the craft industry did not undergo a similar increase. An analysis of the employment of young school-leavers showed that more children, boys as well as girls, were employed in the craft sector, but that the youngest mainly worked in the factories. Taking into account that vulnerability to external conditions is inversely proportional to age, this probably influenced the higher child mortality amongst factory workers (De Neve, 1991, 139).

As for the adult and elderly population in 1870 compared to 1846, they had experienced a slight decline in life expectancy. The social gap remained considerable but stable and was, of course, a result of differences in quality of life, especially housing and working conditions.

### 1910

An increase of the standard of living should lead to a decline of social differences, but this was not the case in Ghent. On the contrary, by 1910 the mortality gap between the lowest class and the middle class had increased. Yet, excessive efforts to improve the standard of living of the working class had been made. There were restraints on child and female labour and labour regulation imposed higher wages and shorter working hours. Besides that, there were also numerous initiatives taken by the local authorities to improve the slums, to extend the water supply, to fill up canals and ditches etc. Several campaigns to promote breastfeeding and a better child protection were set up.

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<sup>31</sup> In 1845 a male textile worker earned 12.62 francs per week, but a family with 4 children needed 14.28 francs for clothing, housing and food. Moreover, within a textile factory big differences in wages existed according to age and position. Foremen received 4.33 francs a day against 0.5 franc for those who repaired broken fibres (Heyman and Mareska, 1845, 101).

<sup>32</sup> In 1842 there was no employment for boys in the age group 5-14 years, but in 1879 employment had increased to 3 per cent in the age group 5-9 and 6 per cent in the age group 10-14. For girls this increase was much bigger: from 1 per cent to 6 per cent for the age group 5-9 and 6 per cent to 30 per cent for the age group 10-14 (Scholliers, 1996, 47-57).

Driven by fear of revolts and contagious diseases, the elite started to pay attention to the bad living conditions of the lower classes. Workers were stimulated to take over the habits of the bourgeoisie. Thrift, good morals and attention for hygiene were the main principles (Steensels, 1977, 447-488). Yet, not all layers of society enjoyed this progress because mortality differences between social classes continued to increase. Age-specific research shows that the increase was exclusively situated in infant mortality and not in other age groups. For children, adults and the elderly the increase in the standard of living did not miss its effect. Why is this not the case for infant mortality? There are several explanations, all associated with breast-feeding. Breast-feeding found acceptance in the middle class sooner than it did in the lower class. After all, the idea that infants needed hygienic and healthy conditions first found acceptance within the elite who passed the idea onto the lower classes (Velle, 1982, 621-623). Middle classes, who were closest to the elite, accepted these ideas the quickest; the lower classes followed only later. Yet there are other factors. Many working families had practical problems with the care for and the feeding of their youngest. Indeed, many infants died of chronic diarrhoea which implies that breast-feeding or pasteurised milk had not reached all families yet. P. Van den Eeckhout showed that at the turn of the century female labour participation in the textile industry was still 70-85 per cent, in the craft industry 48-69 per cent (Van den Eeckhout, 1993, 97). The absence of breast-feeding finally caused an increased infant mortality for the lower classes. The influence of infant mortality on the life expectancy at birth in Ghent in 1910 still influenced the general increase of social differences.

## CONCLUSIONS

Nineteenth century Ghent was not a pleasant place to live. The bad living conditions which mainly affected the lower classes had a very negative impact on mortality. Inadequate city dwellings, the lack of personal hygiene, the inability to provide primary necessities such as food and clothing demanded their toll. Mortality was high in all age groups, but particularly for infants as a result of bad feeding habits. Industrialisation had strong negative consequences for the mortality risks of the inhabitants of Ghent and concurs with the pessimistic vision of the so-called standard of living debate.

The most striking part of this research was the social analysis of mortality differences. As expected, during the nineteenth century the poor in Ghent had a lower life probability than the elite, and this for all age categories. Mortality during the period 1846-1870 increased due to a general decline of the standard of living. The rise, however, was not equal for every social category: small for the middle and higher classes, but for the working class mortality reached its highest point. Hence, the decline of the standard of living

was worst for those already living in poverty. Epidemics mostly affected factory workers who lived in unhealthy slums. Breast-feeding habits disappeared because of the long working hours and a higher female labour participation and resulted in a huge amount of deaths by diarrhoea. Social differences for infant mortality persisted during childhood. The mentality change in child rearing and care during the nineteenth century which started in the elite and was imitated by the middle class, resulted in a growing interest in children. By giving infants better food and clothing, mortality declined. In the lower classes this change started much later and infant and child mortality remained high until the beginning of the twentieth century. Hence, the contrast between the rich and the poor grew during the third quarter of the nineteenth century.

These results have important implications for the theory of the demographic transition. It appears that the transition is far more complicated than generally assumed. Indeed, the mortality decline started two or three decades before the decline of the birth rate, but the decline was different for every age and social category. In short, the decline of mortality in Ghent started with that of adults of the elite around the mid-nineteenth century and ended with the decline of infant mortality among the working class during the first half of the twentieth century. The demographic transition was not a continuous and coherent evolution, but the result of many different social processes. Hence, not only age and sex-specific determinants have to be taken into account, but social factors are equally important. More research on the impact of social differences on demographic behaviour in the past is required.

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#### REFERENCES

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- ARIÈS (Ph.), *L'enfant et la vie familiale sous l'Ancien Régime*, Paris, 1960.
- BACKS (J.), *Mortaliteitsonderzoek van Gent tijdens 2de helft 19de-1ste helft 20ste eeuw. Opmaak van een sociale differentiatie voor de dood*, unpublished MA dissertation, History Department, Ghent University, 2000 (under the supervision of Prof. Dr. C. Vandenbroeke).
- BARDET (J.P.) and DUPAQUIER J. (eds.), *Histoire des populations de l'Europe. Tome 2. La révolution démographique, 1750-1914*, Paris, 1998.
- BEN-MOSCHE (E.), FRIEDLANDER (D.), KEYSAR (A.) and SCHELLEKENS (J.), "Socio-economic Characteristics and Life Expectancies in Nineteenth-Century England: A District Analysis", *Population Studies*, 39, 1985, 1, pp. 137-151.
- BÉRTRAND (L.), *Le logement de l'ouvrier et du pauvre en Belgique*, Bruxelles/Paris, 1888.
- BURGGRAEVE (A.), *Mémoire sur l'assainissement du quartier ouvrier de Saint-Pierre*, Gent, 1851.
- BURNET (J.), "Housing and the Decline of Mortality", in R. SCHOFIELD, D. REHER and A. BIDEAU (eds.), *The Decline of Mortality in Europe*, Oxford, 1991, pp. 158-176.
- BURVENICH (E.), *Les causes de mortalité de la première enfance dans les grandes manufactures*, Gand, 1889.
- COMER (F.A.), "Geschiedkundig overzicht van de cholera in België", *Wetenschappelijke Tijdingen*, 38, 1986, pp. 65-84.



- DEBOOSERE (P.) and GADEYNE (S.), *Socio-economische factoren in differentiële sterfte van mannen van 45-64 jaar in België*, Brussel, 2000.
- DE GROOTE (S.), *Ontstaan en evolutie van het waterbedelingsnet in Gent, 1850-1925*, unpublished MA dissertation, History Department, Ghent University, 1978.
- DE MAUSE (L.), *The History of Childhood*, London, 1980.
- DE NEVE (M.), *Kinderarbeid te Gent 1830-1914*, unpublished MA dissertation, History Department, Ghent University, 1990.
- DEPAEPE (M.), *De pedagogisering achterna. Aanzet tot een genealogie van de pedagogische mentaliteit in de voorbije 250 jaar*, Leuven/Amersfoort, 1999.
- DEPREZ (P.) and VANDENBROEKE (C.), "Population Growth and Distribution and Urbanisation in Belgium During the Demographic Revolution", in R. LAWTON and R. LEE (eds.), *Urban Population Development in Western Europe from the Late-Eighteenth to the Early-Twentieth Century*, Liverpool, 1989, pp. 221-257.
- DUMOULIN (N.), *Enquête sur les conditions hygiéniques de la ville de Gand à l'occasion de l'épidémie de choléra de 1866*, Gand, 1879.
- HAINES (M.), "Inequality and Childhood Mortality: a Comparison of England and Wales, 1911, and the United States, 1900", *Journal of Economic History*, 45, 1985, pp. 885-912.
- HEYMAN (J.) and MARESKA (J.), *Enquête sur le travail et la condition physique et morale des ouvriers employés dans les manufactures de coton à Gand*, Gand, 1845.
- KIPLE (K.), *The Cambridge World History of Human Disease*, New York, 1995.
- LEDERMANN (S.), *Nouvelles tables-types de mortalité*, s.l., 1969.
- LESTHAEGHE (R.), *Decline of Belgian Fertility 1870 - 1970*, Michigan, 1997.
- LIS (C.), "Proletarisch wonen in de Westeuropese steden in de 19de eeuw: van wildgroei naar sociale controle", *Belgisch Tijdschrift voor Nieuwste Geschiedenis*, 1977, 3-4, pp. 325-366.
- LIVI-BACCI (M.), *Population and Nutrition. An Essay on European Demographic History*, Oxford, 1991.
- LUNDSBERG (O.) and VAGERÖ (D.), "Socio-economic Mortality Differentials among Adults in Sweden, in G. CASELLI, A. LOPEZ and T. VALKONEN (eds.), *Adult Mortality in Developed Countries. From Description to Explanation*, Oxford, 1995, pp. 223-242.
- MANDEMAKERS (K.) and VAN POPPEL (F.), "Differential Infant and Child Mortality in the Netherlands, 1812-1912: First Results of the Historical Sample of the Population of the Netherlands", in R. SCHOFIELD, D. REHER and A. BIDEAU (eds.), *The Decline of Mortality in Europe*, Oxford, 1991, pp. 276-300.
- MASUY-STROOBANT (G.), *Les déterminants de la mortalité infantile. La Belgique d'hier et d'aujourd'hui*, Louvain-la-Neuve, 1983.
- MATOSSIAN (M.), "Death in London, 1750-1909", *Journal of Interdisciplinary History*, 16, 1985, 2, pp. 183-197.
- MOREL (M.-F.), "Les soins prodigués aux enfants: influence des innovations médicales et des institutions médicalisées (1750-1914). Médecine et déclin de la mortalité infantile", *Annales de Démographie Historique*, 1989, pp. 157-181.
- NEVEN (M.), "Epidemiology of town and countryside. Mortality and causes of death in East Belgium, 1850-1910", *Belgisch Tijdschrift voor Nieuwste Geschiedenis*, 1997, 1-2, pp. 39-82.
- RICHARDSON (T.), "Ambiguities in the Lives of Children: Postmodern Views on the History and Historiography of Childhood in English Canada", *Paedagogica Historica*, 32, 1996, s.p.
- ROETS (E.), "Comparatief onderzoek naar de zuigelingensterfte in Oost- en West-Vlaanderen", in M. CLOET and C. VANDENBROEKE (eds.), *Tien bijdragen tot de lokale en regionale demografie in Vlaanderen*, Brussel, 1989, pp. 192-206.
- ROLLET (C.), "The Fight Against Infant Mortality in the Past: an International Comparison, in R. SCHOFIELD, D. REHER and A. BIDEAU (eds.), *The Decline of Mortality in Europe*, Oxford, 1991, pp. 38-60.

- RUTSCHKY (A.K.), *Schwarze Pädagogik. Quellen zur Naturgeschichte der bürgerlichen Erziehung*, Frankfurt, 1977.
- SCHELLEKENS (J.), "Mortality and Socio-economic Status in Two Eighteenth-Century Dutch Villages", *Population Studies*, 43, 1989, 3, pp. 391-404.
- SCHOLLIERS (P.), *Wages, Manufacturers and Workers in the Nineteenth-Century Factory. The Voortman Cotton Mill in Ghent*, Oxford/Washington D.C., 1996.
- SCHULTZ (H.), "Social Differences in Mortality in the Eighteenth Century. An Analysis of Berlin Church Registers", *International Review of Social History*, 36, 1991, 2, pp. 232-248.
- SHORTER (E.), *The Making of the Modern Family*, New York, 1975.
- STEENSELS WILLY, "De tussenkomst van de overheid in de arbeidshuisvesting: Gent, 1850-1904", *Belgisch Tijdschrift voor Nieuwste Geschiedenis*, 8, 1977, 3-4, pp. 447-500.
- STEVERLYNCK (C.), *Kleine martelaars. Een historisch document over misbruikte kinderen, kindermishandeling, incest en prostitutie*, Antwerpen, 1997.
- TERMOTE (M.G.), WUNSCH (G.), *Introduction to Demographic Analysis. Principles and Methods*, New York/London, 1978.
- T'SERCLAES DE WOMMERSOM (A.), *La condition logement de l'ouvrier dans la ville de Gand*, Gand/Paris, 1889.
- VANDENBROEKE (C.), *Historische demografie*, Gent, 1998.
- VANDENBROEKE (C.), "Voedingstoestanden te Gent in de eerste helft van de 19de eeuw", *Belgisch Tijdschrift voor Nieuwste Geschiedenis*, 1973, 1-2, pp. 109-170.
- VANDENBROEKE (C.), *Vrijen en trouwen van de Middeleeuwen tot heden. Seks, liefde en huwelijk in een historisch perspectief*, Amsterdam/Brussels, 1986.
- VANDENBROEKE (C.), "Zuigelingensterfte, bevallingsstoornissen en kraambedsterfte (17e - 19e eeuw)", *Bijdragen tot de Geschiedenis*, 1977, pp. 133-163.
- VANDENBROEKE (C.) and VANDERPIJPEN (W.), *Landbouw en platteland in de Zuidelijke Nederlanden 1770-1844, Algemene Geschiedenis der Nederlanden*, 10, 1981, pp. 183-210.
- VANDENBROEKE (C.), VAN POPPEL (F.) and VAN DER WOUDE (A.), "De zuigelingen- en kindersterfte in België en Nederland in seculair perspectief", *Bevolking en Gezin*, 1983 suppl., pp. 85-115.
- VAN DEN EECKHOUT (P.), "Family Income of Ghent Working-class Families ca. 1900", *Journal of Family History*, 18, 1993, 3, pp. 87-110.
- VAN DER EERENBEEMT (H.), "Woontoestanden van de volksklasse in de 19de eeuw", *Spiegel Historiaal*, 11, 1976, pp. 494-501.
- VANHAUTE (E.), *Economische en sociale geschiedenis van de Nieuwste Tijden*, Gent, 1998.
- VAN REEK (J.) and VAN ZUTPHEN (W.), "Sterfte naar sociale klasse bij volwassenen in Nederland sinds de 19de eeuw", *Bevolking en Gezin*, 1985, 2, pp. 179-190.
- VELLE (K.), "De overheid en de zorg voor volksgezondheid", in J. DE MAEYER, L. DHAENE, G. HERTECANT and K. VELLE, *Er is leven voor de dood. Tweehonderd jaar gezondheidszorg in Vlaanderen*, Kapellen, 1998.
- VELLE (K.), "Gezondheidsopvoeding in België in de 19de eeuw", *Spiegel Historiaal*, 17, 1982, pp. 619-625.
- VELLE (K.), *Hygiëne en preventieve gezondheidszorg in België (1830-1914): bewustwording, integratie en acceptatie*, unpublished MA dissertation, History Department, Ghent University, 1981.
- VELLE (K.), "Medikalisering in België in historisch perspectief: een inleiding", *Belgisch Tijdschrift voor Filologie en Geschiedenis*, 64, 1986, pp. 256-285.
- VERMEULEN (A.-M.), *Sociografische doorsnede van de stad Gent in de 19de eeuw. Bijdrage tot de sociaal-stratificatorische problematiek en de integratie van de mecanografie in de geschiedenis*, unpublished MA dissertation, History Department, Ghent University, 1980.
- WATTERSON (P.A.), WOODS (R.I.) and WOODWARD (J.H.), "The Causes of Rapid Mortality Decline in England and Wales, 1861-1921", *Population Studies*, 42, 1988, 3, pp. 343-366.

## Mortaliteit in Gent, 1850-1950. Een sociale analyse van de dood

JEROEN BACKS

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### SAMENVATTING

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Is de dood onrechtvaardig? Leven de rijken langer dan de armen? Met ons onderzoek van het negentiende en twintig-eeuwse Gent slaagden we er om enige klaarheid in deze problematiek te brengen. Aan de hand van de beroepsaanduidingen in de overlijdensakten van de burgerlijke stand maakten wij een sociale analyse van de dood. Deze gegevens stelden ons in staat leeftijd- en geslachtsspecifieke sterftেকansen en levensverwachtingen per sociale klasse te berekenen.

De resultaten zijn belangrijk. We stelden een duidelijke ongelijkheid tegenover de dood vast. De hogere sociale klassen kenden een hogere levensverwachting dan de arbeidersklasse. Aan de basis van deze ongelijkheid lag het grote verschil in levenskwaliteit tussen de burgerij en het verpauperde proletariaat. De meest opvallende conclusie van ons onderzoek was evenwel dat de sociale kloof voor de dood omstreeks het einde van de negentiende en het begin van de twintigste eeuw nog toenam. Dit staat in scherp contrast met de algemene verbetering van de levensomstandigheden van de laagste klassen tijdens deze periode. De oorzaak van deze tegenstelling ligt bij de zuigelingen en de kinderen. Gent kende tijdens de negentiende eeuw een uitzonderlijk hoge zuigelingen- en kindersterfte als gevolg van de slechte voedingsgewoonten en het wijdverspreide gebruik van kinderarbeid. Ook de volwassenen- en ouderlingensterfte was gekenmerkt door sociale differentiatie, maar deze nam in de loop van de negentiende eeuw af. Dat dit niet het geval was voor de zuigelingen- en kindersterfte kunnen we verklaren aan de hand van diverse sociale en sociologische processen. Zo had het kind aan het begin van de negentiende eeuw een weinig benijdenswaardige positie binnen de samenleving. Bij de hogere en middenklassen kwam, onder invloed van de verburgerlijking, hierin sterke verandering en werd vanaf het midden van de negentiende eeuw meer aandacht aan de kwaliteit van het kind – in tegenstelling tot kwantiteit – gegeven. Bij de lagere sociale klassen startte dit proces pas enkele decennia later. De armoede en de moeilijke levensomstandigheden hadden als gevolg dat de positie van het kind binnen deze gezinnen minder belangrijk was en uiteindelijk resulteerde in lagere levenskansen en een sterke sociale ongelijkheid voor de dood.

## La mortalité à Gand, 1850-1950. Une analyse sociale de la mort

JEROEN BACKS

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### RÉSUMÉ

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La mort est-elle injuste? Les riches vivent-ils plus longtemps que les pauvres? Notre analyse de la ville de Gand au cours des XIXe et XXe siècles parvient à éclairer cette problématique. Les indications professionnelles et l'âge des décédés, mentionnés dans l'état civil, nous ont permis de calculer des quotients de mortalité par âge et par classe sociale et de mener une analyse sociale de la mortalité.

Les résultats sont importants. D'abord une claire différenciation sociale devant la mort émerge. Les élites et les classes moyennes jouissent d'une espérance de vie plus élevée que la classe ouvrière, en raison de qualités de vie très différentes. La plus surprenante conclusion de notre recherche réside, par ailleurs, dans l'augmentation de ces différences sociales devant la mort vers la fin du XIXe siècle, ce qui est en contradiction avec l'amélioration générale des conditions de vie des classes les moins aisées. La cause se trouve chez les bébés et les enfants. A cette époque, la mortalité infantile et enfantine est très élevée à Gand, en raison de mauvaises habitudes nutritionnelles et du travail des enfants. La mortalité des adultes et personnes âgées est également caractérisée par une inégalité sociale, mais celle-ci diminue au cours du XIXe siècle. Si la situation ne s'améliore pas pour les bébés et les enfants, plusieurs processus sociaux et sociologiques sont en cause. En effet, au début du XIXe siècle, l'enfant était loin d'avoir une position enviable dans la société. Toutefois, dès le milieu du siècle, les classes supérieures, sous l'influence de l'embourgeoisement, ont commencé à porter plus d'attention à la qualité de vie de l'enfant. Chez les ouvriers, ce processus n'a débuté que quelques décennies plus tard. La pauvreté et les mauvaises conditions de vie ont maintenu l'enfant dans une position peu enviable, qui avait pour conséquences des risques de mortalité plus élevés et une importante inégalité sociale devant la mort.

Western Mortality Transitions. Why did mortality start to decline in the 18th Century? What are the main factors? Let's start with the facts. The first step in mortality improvements is the reduction in the magnitude and frequency of crises but little improvement in the life expectancy (stays below 40-45 years). [show charts, pages 3 and 4 of handout]. - war less conflict less mortality from conflict. Mortality levels similar to those observed in the U.S. in 1950, but then lack of improvement in Russia, while improvements in the U.S. Why the sudden increase in e0 after 1985? Anti-alcohol campaign by Gorbachev. Mortality in the United Kingdom 20th century trends During the course of the 20th century, the United Kingdom saw a continuation of the pattern of falling death rates that began around the beginning of the 19th century. Over these two centuries there has been a change from a regime of high infant and child mortality, with a preponderance of acute and infectious diseases, to a new regime in which adult mortality predominates and chronic and degenerative diseases are the most common causes of death. Period life expectancy at birth in the mid-19th century was around 40 years for males and 42 years for females. Figure 1: Period expectation of life at birth, England and Wales, 1850-2003. 90. Mortality rates by specific cause of death in patients with asymptomatic airway obstruction followed for up to 14.5 yrs after randomisation. Special intervention refers to a 10-week smoking cessation programme. CHD: coronary heart disease; CVD: cardiovascular disease. -j: special intervention; -: usual care. Reproduced with permission 3. Traditionally, studies investigating the therapeutic benefit of a pharmacotherapy have relied on COPD-specific end-points, such as forced expiratory volume in one second (FEV1) or exacerbations. However, with the increased recognition of the role of comorbidities Child Mortality / history. Child Welfare / economics. Child Welfare / ethnology. The Federal Mortality Census Schedule records was taken in 1850, 1860, 1870, 1880, and 1885 (applicable state censuses). The census included questions about persons who had died in the year immediately preceding the census. Mortality schedules record deaths in the year preceding the taking of the census. For example, the 1850 mortality schedules include persons who died between June 1, 1849 and May 31, 1850. Because death records were not required until the late 1800s, a mortality schedule can be the only death record available. These schedules may be the only record of death for some individual