

The decline of infant mortality in the Belgian districts at the turn of the 20th century

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INTRODUCTION ¹

The evolution of infant mortality in Belgium during the nineteenth and twentieth centuries has been thoroughly analysed for the last twenty years (Poulain and Tabutin, 1997 and 1980; Masuy-Stroobant, 1983 and 1984). But analysis of the mortality decline during the very early months of life has been neglected. In this article, we locate where this decline occurred, we trace the pace of this evolution and the ages involved. The innovative part of our analysis is to identify and explain the pace of decrease of infant mortality at a more refined level than previously undertaken. In other words, how did infant mortality decline at the turn of the twentieth century at a sub-regional scale? These trends will be related to the feeding habits of babies and the policies against infant mortality.

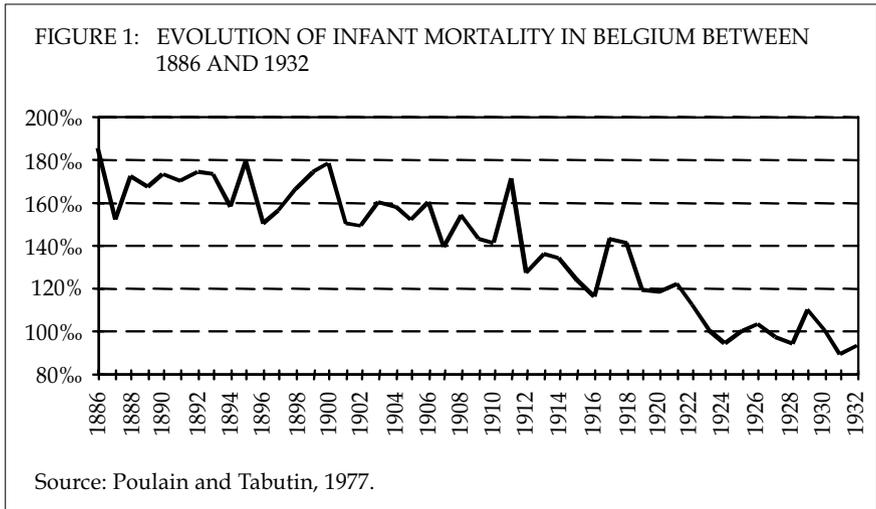
The study relies on a quantitative as well as a qualitative approach. The first part deals with a classification analysis that groups districts according to the level of infant mortality and the rhythm of decline. The second part determines the nature and the evolution of nutrition of infants at sub-regional level on the basis of contemporary medical commission reports. These also allow to investigate the importance of infant dispensaries in their fight against high infant mortality. So this analysis, which consists in tackling data and texts consecutively rather than simultaneously, is based on a methodological assumption. Any scientific approach, whether quantitative or qualitative, looks at the world only through its method and sources, but both can be distorted.

¹. I thank Catherine Gourbin and Michel Oris for their comments on this text, as well as Godelieve Masuy-Stroobant and Michel Poulain for the follow-up of this analysis.

Juxtaposing the results of both approaches, without giving primacy to one or the other, leads to potential contradictions revealing the bias. We are convinced that only a plural approach, including statistics, history, sociology and other sciences, will lead to a closer understanding of the phenomenon under examination. However, part of it will remain unattainable.

1. THE NUTRITION HYPOTHESIS

The availability of statistical data permits to start the analysis in 1886. This time period corresponds to the first stage of the decrease in infant mortality in Belgium which finishes in 1924 as shown by figure 1 (Poulain and Tabutin, 1977). It overlaps 1900, generally identified as a turning point for infant mortality at national level (Masuy-Stroobant, 1984, 15).



Why study this phenomenon by district? The value of district level analysis has been revealed through regional mapping of infant mortality for the nineteenth and twentieth centuries (Poulain and Tabutin, 1977, 134; Masuy-Stroobant, 1984, 109-113). The differences between northern and southern Belgium, that mainly appear in a very high infant mortality in the Flemish districts (north) and in urban areas, are striking but the mapping also shows that provinces are not homogenous entities (figure 3). Moreover, districts have interesting characteristics for statistical analysis, as opposed to provinces, that are socially and economically too heterogeneous (Masuy-Stroobant, 1984, 110).

A more restricted entity, the commune, would ensue an overly high statistical variability due to the low number of deaths.

We will try to analyse the regional disparities in infant mortality by favouring the nutrition hypothesis. Infant mortality policies were put into force before and after World War I. These phenomena will be linked to the decrease in infant mortality observed through data analysis. In the context of the end of the nineteenth century and the beginning of the twentieth century, the absence of breastfeeding or the precocious abandonment of it is generally identified as a relevant indicator for regional infant mortality disparities (Rollet, 1990). In this perspective, the presence of possible determinants of infant mortality, such as the quality of water and milk and the knowledge of the basic principles of child care, is more important for babies with a mixed or artificial diet. Other factors such as public hygiene or better living standards might also have reduced infant mortality. However, it should be noted that breastfeeding in itself can be considered as an indicator of improving living conditions.

2. A DOUBLE CLUSTER ANALYSIS OF INFANT MORTALITY AT DISTRICT LEVEL

2.1. Sources and methods

This study gathers 70,000 pieces of original data. Data on births and deaths by age and by district were collected at the National Institute for Statistics for the years 1886 to 1924 and were then aggregated according to specific age groups: the first month,² one to five months and six to eleven months.³ Analysis of mortality at national level stresses the reduction in first month mortality during the nineteenth century. Mortality during the first month for the whole of Belgium began to decline as early as 1870 while the decline of infant mortality after the first month started only in 1900 (Poulain and Tabutin, 1977).

² We did not split the first month into endogenous and exogenous mortality given several criticisms on this method (Tabutin, 1980). Deaths during the first month are due to handicaps or congenital malformations, complications during delivery (endogenous mortality) as well as deaths due to infections, sickness and accidents (exogenous mortality) (Poulain and Tabutin, 1977, 54).

³ Note that the upper age limit of each group is also included. So, one to five months includes deaths between one month and less than six months; six to eleven months includes deaths between six and less than twelve months.

Nutrition – artificial or natural – and the moment of weaning are direct determinants of infant mortality. Weaning can be linked to excess mortality due to what is generally referred to as ‘weaning diarrhoea’. During the first months babies are protected against most diseases by the antibodies of the mother. Doctor Dufort identified the sixth month as a traditional weaning period in Belgium at the beginning of the twentieth century: “*Le passage chez nous de l’allaitement naturel à l’alimentation mixte, ou même entièrement artificielle, se produit vers six mois*” (Dufort, 1911, 785). Therefore, the separation into two periods of mortality (one to five and six to eleven months) can stress differential regional behaviour.

The time period 1886-1924 was split into three periods with 1900 and 1914 as milestones. In the literature, the year 1900 is generally referred to as the start of the fall in infant mortality in Belgium. Hence, the period 1886-1899 corresponds to the precursory movement of the infant mortality decline, while 1919-1924 is the period of fast decline of infant mortality. 1900-1913 is the second sub-period. Unfortunately, there are no data for ages of death during World War I; mortality data for this period are unreliable (Debuisson and Buekens, 1996) and therefore have been put aside.

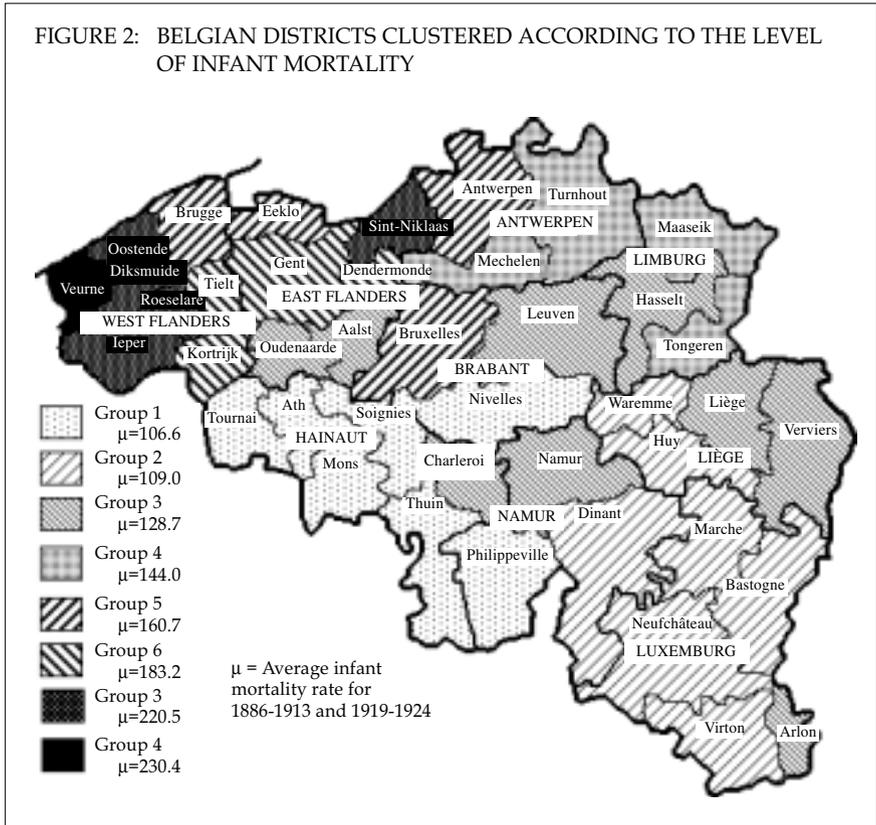
The evolution of infant mortality can be summed up by several indicators.⁴ The arithmetic mean fits this feature although it is sensitive to extreme values. The mortality crisis of 1911, for example, can inflate the mean. But if we do not take this year into account, we miss a part of reality. However, the high figure of 1911 does not express an external factor of infant mortality since crises are an essential component of the mortality structure during this period.

The indicators used in this analysis are the mean and the differences between these means for each period and age group. Facing the considerable number of variables (4 age groups x 3 periods x 41 districts), it was necessary to summarise the information. Cluster analysis appeared to be an effective method. It forms groups of districts with a similar mean and rhythm of decline (more specifically, the differences between the means of the two periods divided by a half-sum of the two means). The homogeneity of the groups was checked by the Ward method (Masuy-Stroobant, 1977, 115). Thus, the basic data for

4. An analysis of a linear regression slope was left out due to the difficulty of working with a dispersion index such as R-square, generally used to validate this regression. The R-square would have been the result of district variability due to the impact of epidemics but also to the statistical variability induced by very low numbers. Moreover, the linearity hypothesis of this decrease was very difficult to use due to the lack of data for the period 1914-1918.

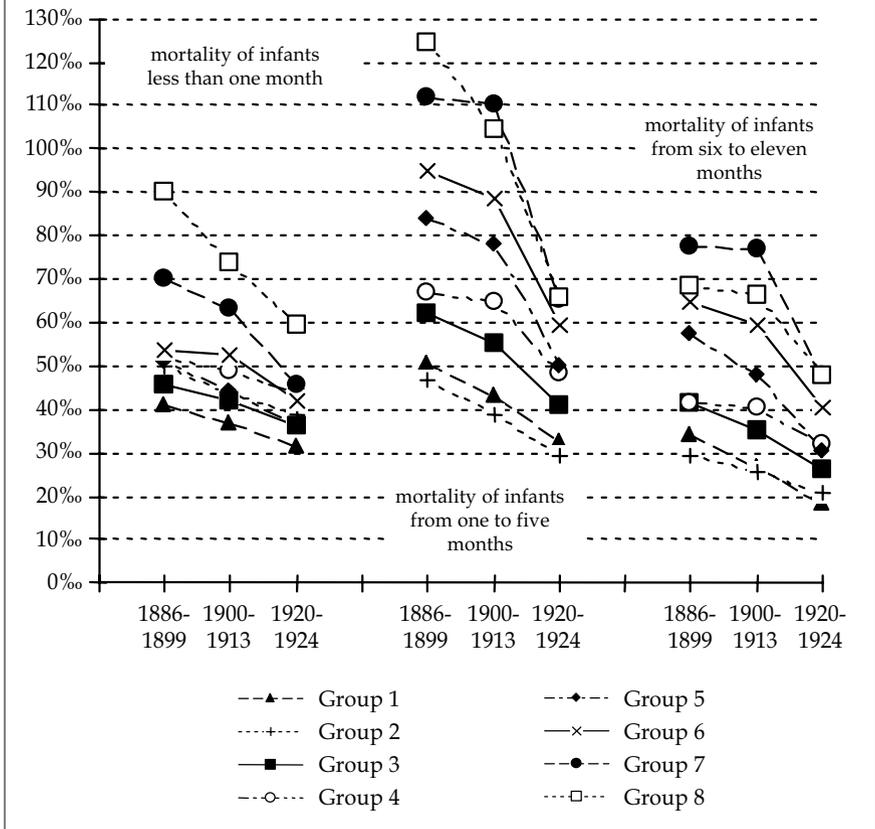
this analysis are the average level of infant mortality and the relative decline for each of the three periods. Before introducing these data into the cluster analysis, means standardisation was necessary so that no variable had more weight than any another.⁵ All data were thus centred-reduced.

2.2. Results of the cluster analysis according to the level of mortality



⁵. This calculus is useless for the relative decline since it is already standardised.

FIGURE 3: AVERAGE MORTALITY BY AGE OF DEATH FOR EACH CLUSTER⁶

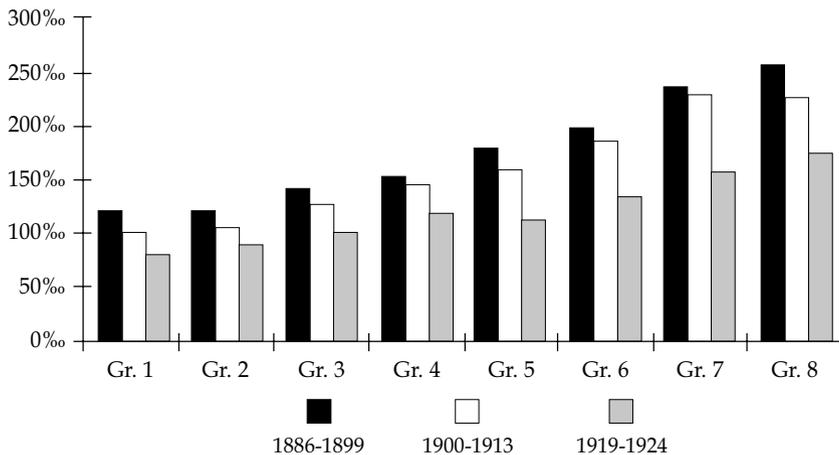


⁶ Group 1: Tournai, Ath, Soignies, Mons, Nivelles, Thuin, Philippeville; Group 2: Waremme, Huy, Dinant, Neufchâteau, Virton, Bastogne, Marche; Group 3: Leuven, Hasselt, Liège, Verviers, Charleroi, Aalst, Oudenaarde, Namur, Arlon; Group 4: Turnhout, Maaseik, Tongeren, Mechelen; Group 5: Antwerpen, Bruxelles, Brugge, Eekloo; Group 6: Thielt, Ghent, Dendermonde, Kortrijk; Group 7: Oostende, Veurne, Diksmuide, Roeselare, Ieper; Group 8: Veurne.

TABLE 1 DIFFERENCES BETWEEN THE AVERAGE MORTALITY RATE OF EACH CLUSTER AND THE NATIONAL MEAN (PER CENT)

	< 1 year			< 1 month			1-5 months			6-11 months		
	1886-1889	1900-1913	1919-1924	1886-1889	1900-1913	1919-1924	1886-1889	1900-1913	1919-1924	1886-1889	1900-1913	1919-1924
group 1	-47.5	-48.2	-28.8	-9.0	-8.5	-6.6	-26.3	-26.8	-14.3	-17.2	-17.3	-10.8
group 2	-46.5	-47.1	-19.6	0.2	-1.8	1.1	-30.0	-31.3	-17.3	-21.7	-18.4	-8.1
group 3	-25.8	-24.7	-8.9	-4.2	-3.5	-1.8	-14.8	-14.9	-5.8	-9.7	-8.8	-2.8
group 4	-15.8	-4.7	7.8	2.1	3.8	5.8	-10.1	-5.5	1.8	-9.6	-3.4	2.7
group 5	13.0	9.4	2.4	1.2	-1.4	-1.6	7.0	7.8	3.6	6.3	4.0	1.1
group 6	30.6	36.4	25.8	3.8	7.4	4.1	18.0	18.5	12.9	13.4	15.3	11.3
group 7	69.8	79.6	45.1	20.1	18.0	7.8	34.6	40.3	18.6	26.4	33.0	18.9
group 8	90.2	74.5	65.1	40.3	28.4	21.9	47.6	34.5	19.2	17.4	22.4	18.6

FIGURE 4: DIFFERENCES BETWEEN THE AVERAGE MORTALITY RATE OF EACH CLUSTER AND THE NATIONAL MEAN (PER THOUSAND)



The mapping of mortality level clustering shows the spatial pattern of infant mortality in Belgium for the end of the nineteenth century and the beginning of the twentieth century (see figure 2). The regions hence delineated do not fit province boundaries and clearly justify the use of districts in research on infant mortality.

The districts were distinguished according to the average mortality rate of

different age groups (less than one year, less than one month, one to five months, six to eleven months) calculated for three periods (1886-1899, 1900-1913, 1919-1924). The results can be seen in figure 3.

Table 1 and Figure 4 show that the ranking of each cluster stays almost the same during the three periods. However, differences between clusters tend to decrease during the last period. Group 4 (Limburg) is the exception: from a favourable situation compared to the rest of the country during the first period, infant mortality exceeds the national mean during the last period. Is this the result of a deterioration of living conditions related to the late industrial development, and the coal discovery in the Campine area?

An important excess mortality in group 7 (West Flanders) appears from the first month of life during the entire period. This excess mortality appears also for group 6 (East Flanders) but is less important and almost non-existent for the first month. According to the nutrition hypothesis, contemporary literature should confirm very precocious weaning (since the first months). E. Roets (1989, 206) refers to weaning between the third and the sixth month in the north and northwest of Flanders at the beginning of the nineteenth century. Another attempt was carried out for a single locality, Hoboken, between 1870 and 1890, where there was a break around the second month (Vandenbroeke, Van Poppel and Van der Woude, 1981, 468). The authors all use the Bourgeois-Pichat method of cumulated deaths. This method identifies the breaks of the slope of cumulated deaths as weaning periods. Due to the low numbers involved, the conclusions of these studies cannot be generalised. Comparing excess mortality by age, Godelieve Masuy-Stroobant concludes that the sixth or the seventh month is the weaning age in most provinces, with the exception of the two Flanders. Yet, in southern Belgium, this weaning moment is less perceptible (Masuy-Stroobant, 1984, 126-129).

East and West Flanders deviate further from the national mean between the first and the second period. Group 7 increases for mortality after the first month and for group 6 only the first month mortality increases compared to national standards. Veurne (group 8) goes against the trend of groups 6 and 7 as differences in this district decrease while not reaching the levels of neighbouring districts. Group 1 (Hainaut), 2 (Ardennes) and 3 (centre) show lower mortality, especially from one to five months. Mortality between six and less than twelve months is also below the national mean, but draws nearer. Contemporary literature should suggest weaning after the sixth month or healthy dietary conditions.

The cluster analysis reveals that the heterogeneity of mortality levels mainly occurs after the first month. Cluster differences during the first month are very low compared to the national mean, except for West Flanders. Decrease

of mortality at this specific age is observed at national level from 1870. The clustering established by general infant mortality levels respects the clustering for mortality at other ages.

2.3. Results of the cluster analysis according to the rhythm of decline

The clustering of relative differences gives a different distribution of districts, different from the clustering of the averages themselves but with no major change in the observed tendencies (figure 5).

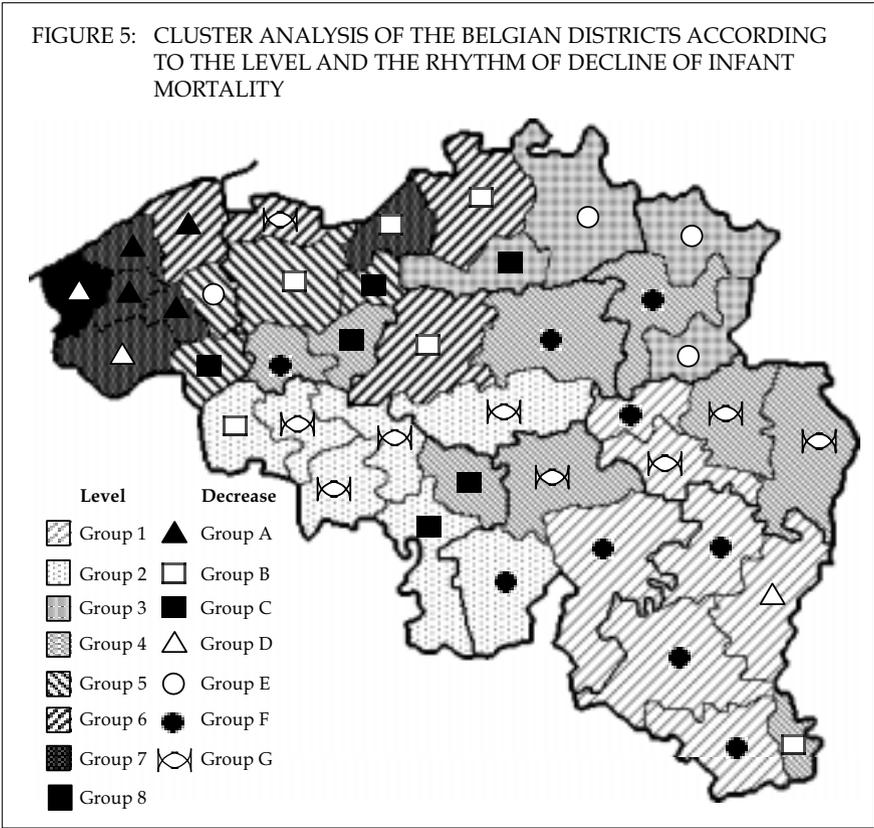
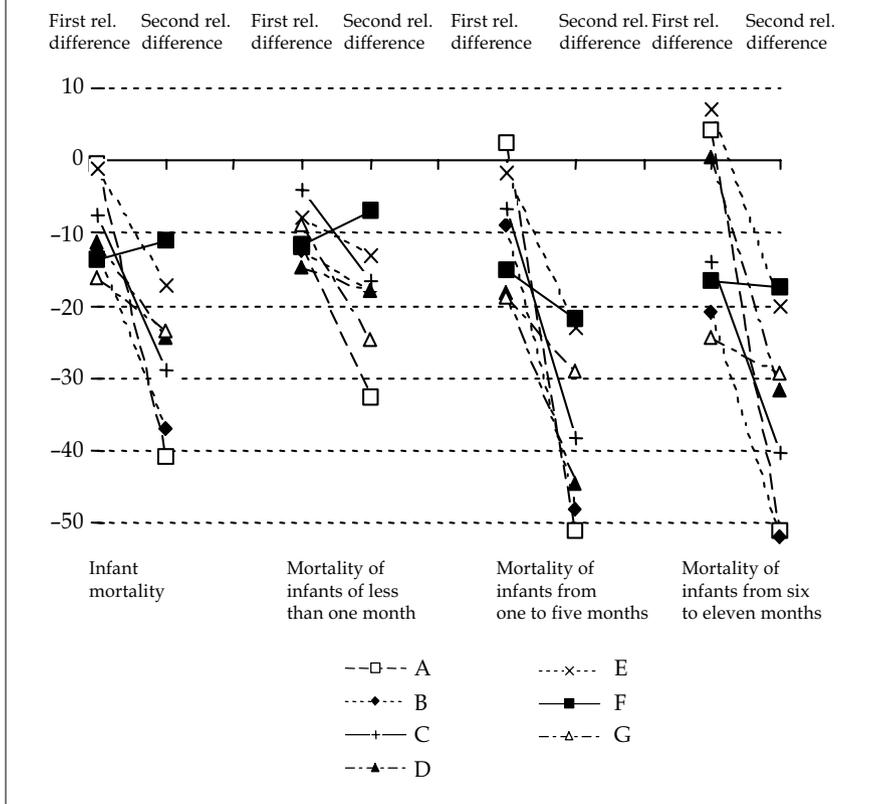


FIGURE 6: RELATIVE DIFFERENCES OF AVERAGE MORTALITY BY AGE OF DEATH FOR EACH CLUSTER⁷



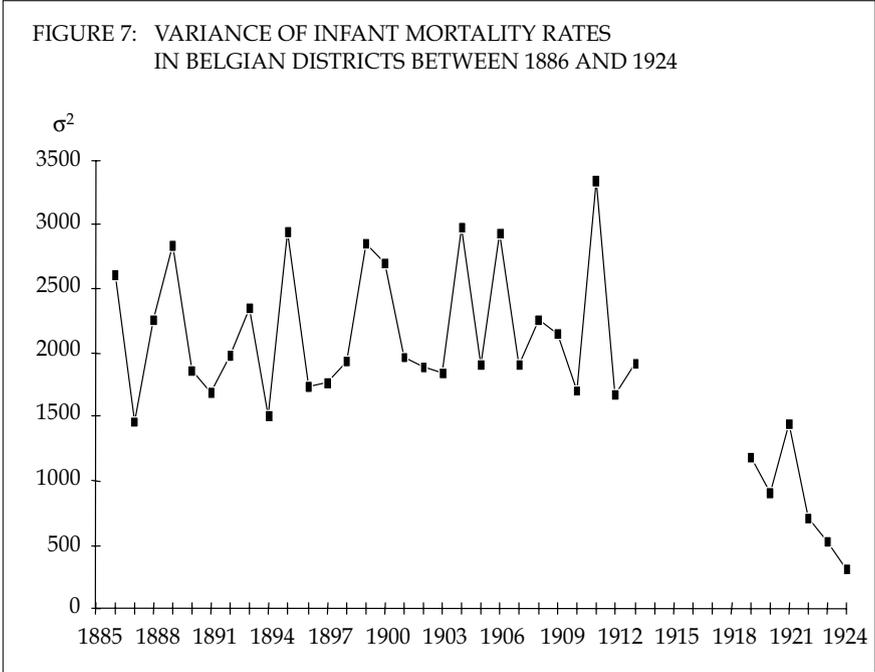
The results of the double cluster analysis clearly show where and how infant mortality decreased (figure 6). The districts that had a significant reduction (more than 10 per cent) before 1914, are groups F and G and they correspond to a major part of Wallonia (except a few Flemish districts). To these, we must

⁷ Group A: Brugge, Oostende, Roeselare; Group B: Antwerpen, Bruxelles, Tournai, Ghent, Sint-Niklaas, Arlon; Group C: Mechelen, Aalst, Charleroi, Thuin, Kortrijk, Dendermonde; Group D: Ieper, Veurne, Bastogne; Group E: Turnhout, Maaseik, Tongeren, Thielt; Group F: Leuven, Oudenaarde, Hasselt, Philippeville, Waremme, Marche, Neufchâteau, Virton, Dinant; Group G: Eekloo, Liège, Verviers, Namur, Nivelles, Ath, Mons, Soignies, Huy.

add the two large urban districts of Brussels and Antwerp from group B. The Flemish districts with high mortality levels did not show any sign of significant decrease, except group D with Ieper and Veurne. The second interval, however, does show a fall in mortality levels for northern Belgium. The large cities of Liège, Brussels, Antwerp follow this trend. This tendency is also noticeable in Wallonia, but to a lesser extent.

According to the nutrition hypothesis, it is indeed in Wallonia that improvements should occur first (Debuisson, 1994). Furthermore, the high mortality of the Flemish districts largely compensates a significant part of their delay, hence causing a radical decline of this mortality.

Observation in the following years coincides with a harmonisation of mortality levels between districts (figure 7). After 1925, it is more difficult to classify districts according to their mortality levels and rhythm of decline. Evolution of the variance of general infant mortality rates clearly shows that there is a radical decline after World War I. Mortality crises can be observed through an important increase of variance. The year 1911 marks the maximum variance during this period because of the high infant mortality due to dysentery in that year.



2.4. Geography of the decline of infant mortality

Nuances have to be made when analysing the evolution of mortality during the first year of life. For specific ages of death some trends can be observed while for others they may remain stable. These age-specific mortality variations reveal how the decline occurred and furthermore elucidate the causes of this phenomenon.

The most important results from the cluster analysis were those according to relative decline between the second and last period.⁸ It is thus necessary to analyse the differences between the two early periods (1886-1899 and 1900-1913) in order to stress behavioural differences among districts, left out by clustering.

If we define a decrease of 10 per cent as significant, then mortality during the first month before the war tends to decline in some districts of West Flanders such as Veurne, Brugge and Diksmuide while during the last two periods general infant mortality seems static (respectively -20.1, -21.2 and -23.3 per cent). Other Flemish districts follow the same trend but at a lower level: Hasselt (-15.7 per cent) and Ieper (-11.5 per cent) (Debuisson, 1994). The decline is more general in Wallonia although some centers (Namur, Huy, Waremme and Nivelles) and southern districts (Arlon and Philippeville) have a slower decline. So there is mainly an improvement in the Walloon industrial districts, the urban districts and Western Flanders where mortality levels were the highest.

The contrast between northern and southern Belgium is even more obvious for babies aged between one and less than six months. In the Walloon districts mortality rates decline while in Flanders they remain almost stable, except in Veurne, Diksmuide, Oudenaarde, Tongeren and Ghent.

The decline of mortality between six and less than twelve months during the first period groups districts where mortality has not changed, mainly West Flanders and the Campine area (or groups A, D and E). The other clusters all decline: a maximum was observed for group G. A large part of Flanders benefits from the better living conditions for babies at the end of the nineteenth century. Nonetheless, we should not forget that starting levels were very high.

⁸ Relative differences were the largest and were not centered or reduced. For a detailed analysis of infant mortality decline in the second and third period, we refer to Debuisson and Buekens (1996). The present article deals with how and when infant mortality decreased in the Belgian districts. Thus, we shall focus on the first and second period.

After 1918, a collapse of mortality can be observed for almost every age group, and in nearly all districts. There are, however, some exceptions. Group F (Marche, Neufchâteau and Dinant) experienced a slow general infant mortality decline, but mortality levels in the Ardennes were nevertheless the lowest since the nineteenth century.

In short, the decline in mortality was more important in districts where the starting level was high and where no fall was observed during the first period. If there was a fall before the war, it was far from general and it did not reach percentages observed around 1914. Thus, the war appears as a turning point. Yet, improvements occurred mainly in the Walloon districts.

3. THE REPORTS OF THE MEDICAL COMMISSIONS

Does the contemporary literature confirm these findings? We have analysed the reports of the provincial medical commissions (Rapports des Commissions Médicales Provinciales, hereafter RCMP) in order to find a relation with the results of our quantitative analysis.⁹

3.1. An administrative source

Since the Royal Decree of May 31, 1818 the provincial medical commissions had the obligation to address an annual report on the supervision of medical practices to the Department of the Interior. From 1851 onwards these reports were standardised for all provinces to allow for comparisons and from 1859 on they were published. The commissions "*s'attachent à y consigner tous les faits et toutes les observations propres à éclairer l'administration sur la situation et le besoin du service qui leur est confié*" (RCMP, 1860, V-VI). A royal decree of May 31, 1880 modified the functioning of these commissions by sending the reports to the Academy of Medicine which could comment on them (RCMP, 1891, V). The Higher Council on Public Hygiene had similar rights on the part dealing with hygiene.

Local health committees and a network of corresponding doctors were established in every province in order to give the commissions an account of local health conditions. From 1895 the number of commissions grew from nine to seventeen. Unfortunately, according to the Academy of Medicine this

⁹ For more information on the provincial medical commissions, we refer to Havelange (1990), Oris (1990), Velle (1991).

network suffered from inertia: *“cette inaction (...) est funeste pour la sécurité trompeuse qu’elle procure en faisant croire à une surveillance médicale qui, en réalité, n’existe pas”* (RCMP, 1898, VI-VII).

In 1907, the government started paying doctors who registered epidemic outbreaks but this measure did not significantly improve the information network. An important number of complaints from both the Academy of Medicine and the Higher Council on Public Hygiene (RCMP, 1910, XXVII) on the lack in efficiency of the commissions ended the publication of these reports in 1912. Also the lack in homogeneity and the anecdotal nature of the reports were important obstacles for the authorities to have a clear picture of the health state of its inhabitants (RCMP, 1909, 470). However, these reports allow historians to research local health conditions, which no other source allows. Most of the determinants of high infant mortality such as the role of midwives, the fight against matrons, infant diseases and the quality of water and milk can, through these reports, be gathered, located and dated. The medical commissions *“ont été en Belgique les seuls organismes présidant à toute l’activité sanitaire et organisant la prophylaxie publique dans leur ressort respectif, le rapport annuel offrait un intérêt d’autant plus considérable que l’on ne pouvait guère recourir à une autre source de documentation”* (RCMP, 1910, LXXII-LXXIII).

3.2. Health conditions during childhood

In order to identify the possible causes of the mortality decline, we systematically scanned the medical commission reports between 1886 and 1911, the last year of publishing. All references related to infant mortality, the diet of newborns, the quality of milk etc. were collected. Other information referring to public hygiene, especially dealing with drinking water, was also analysed. Here we present the most significant examples from this analysis, focusing on a few representative regional situations.¹⁰ For this paper, we chose three angles: urban excess mortality, Flemish excess mortality and the North-South contrast.

¹⁰ For a more detailed analysis, we refer to Debuisson (1994) where the explanation of the regional mortality levels are linked to particular regional situations.

3.2.1. Urban excess mortality

The urban-rural contrast, often stressed in mortality research, did not appear sharply in the results of our cluster analysis. If Antwerp and Brussels belonged to the same cluster of infant mortality levels, Brugge and Eeklo also were part of this group even though they did not present strong urban features. The so-called urban districts of Brussels, Antwerp, Liège and Charleroi did not form an urban cluster where excess mortality was explicit.¹¹ These urban districts showed averages only somewhat higher than their neighbouring districts. Urban excess mortality did not appear an important cluster criterion because levels among the urban districts were too heterogeneous. During the last period 1919-1924, urban districts even had lower mortality levels than the surrounding countryside and we may assume that urban excess mortality of infants disappeared after World War I.

The reports of the provincial medical commissions refer to the health conditions of children in urban environments. Antwerp suffered from the same urban problems as Brussels. There was a high number of working women who entrusted the care of their children to wet-nurses (1895).¹² According to the reports, there was also artificial feeding by the use of a long tube bottle (1896), of all kinds of bread soups, of spoilt milk (1906) and even of soporifics and opium, apparently quite common in northern Belgium (1895, 1896).¹³ According to the medical reports, this was the main cause of the high infant mortality both in urban and industrial centres. The chronology of the references does not reveal any improvement. On the contrary, the term “*abandonné*” in 1908 rather indicates a decrease in breastfeeding. In Brussels, breastfeeding was rare. Hence, the quality of the milk was essential for the health of the children. However, by the end of the nineteenth century a number of complaints were made on the bad quality (1899). Similar protests were made in 1907. Only in 1911 some efforts were made to provide unadulterated milk through the creation of a permanent milk commission (*Commission Permanente du Lait*). After World War I, the situation improved as the results of our classification analysis also showed.

¹¹. Are called urban, districts that had an important metropolis, but not constellations of little cities.

¹². Years in brackets refer to the date of the provincial commission reports. Introduction refers to the introductory chapters of these reports.

¹³. In England opium was used very frequently: “*On estimait qu’à Nottingham un quart des enfants mourait d’un excès narcotique, d’où l’accusation d’empoisonnement méthodique*” (Rollet, 1990, 59).

3.2.2. *Infant mortality in East and West Flanders*

In our classification analysis Flemish excess mortality took shape through two distinct groups, one with the western part of West Flanders (especially groups 7 and 8) and the other (group 6) with Ghent as the centre. Mortality levels in these groups were the highest. The reports confirm the absence of any improvement before World War I.

Nineteenth century Belgium can be qualified as a country developing at two speeds. On the one hand southern Belgium, along the Sambre and Meuse axis, with a prosperous coal and steel industry and on the other hand northern Belgium (Jacquart, 1907, 82), Flanders in particular, where during the second half of nineteenth century the flax industry faced an unprecedented crisis. Here female labour provided a modest, but vital salary for the survival of their household (Seeböhm-Rowntree, 1913). The percentage of working women was higher than elsewhere, especially in the area around Ghent. Women continued to work even after marriage; the textile industry was a striking example of this phenomenon. These economic circumstances had important consequences for the care of children since mothers could not breastfeed or put them into day care. There were also physiological reasons. The weakness of the mothers due to their own deficient diet and fatigue caused by long working hours reduced or stopped milk inflow. Consequently, they had to abandon breastfeeding even though their work schedule gave them the opportunity. Indeed, since 1889 some protective labour laws had been adopted, prohibiting work during the four weeks after delivery and night work for women and young girls (Masuy-Stroobant, 1984, 168-178). Nevertheless, it is difficult to evaluate how these laws were respected in every region.

The medical reports of the commissions from the districts of Ieper, Kortrijk, Roeselare and Thielt illustrate the situation well. The portrait is rather dim. Breast feeding is "*de plus en plus rare*" (1901, 1904, 1906, 1907, 1908, 1910), artificial food is "*défectueuse*" and not adapted to children's age (1905, 1908),¹⁴ dirty long tube bottles were used (1896, 1898, 1903, 1904, 1905, 1906, 1908), eggs or bread soups were given to new-born babies (1895), bread soups (1898, 1907) and even mashed potatoes (1898), non sterilised milk (1906, 1903, 1905) or narcotic syrups.¹⁵ These reports all justify the necessity of artificial feeding

¹⁴ According to Camille Jacquart child care was better in the area of Kortrijk than in other Flanders districts. The high infant mortality was the result of epidemics (Jacquart, 1907, 82).

¹⁵ To soothe screaming babies, they were sometimes administered narcotic syrups (1901, 1902, 1904, 1905, 1907, 1908). For babies and children, doctors were seldom consulted (1909).

for working women in factories (1902, 1903). Since they did not have the time to breastfeed, they entrusted their children to “*mercenaires*” (1897, 1901, 1902, 1907, 1909).

The complaints in the reports of the commissions of Dendermonde are similar to those from other Flemish commissions. Breastfeeding tended to disappear “*de plus en plus*” (1896, 1897, 1903)¹⁶ and “*peu d’enfants sont nourris au sein*” (1895). The abandonment of this practice was associated with the rise of artificial food considered as “*désastreuse*” (1897):¹⁷ “*Quand le lait de vache a remplacé le lait maternel, on s’inquiète peu de la proportion d’eau à ajouter au lait; l’eau sera bouillie ou non, peu importe; la stérélisation n’est connue que dans les bonnes familles, et encore, ne l’applique-t-on pas toujours; la propreté du biberon n’est souvent qu’approximative.*”

Flemish excess mortality was mainly caused by malnutrition that predisposed children to digestive illnesses and fatal diseases such as whooping cough and measles (Masuy-Stroobant, 1984, 119-122). For a well-fed child these diseases were harmless or they could easily recover from them. Important was the precocious abandonment of breastfeeding because children were no longer protected against infectious diseases. Artificial feeding weakened children. Artificial milk, as a substitute for maternal milk, was of bad quality, contaminated or diluted. Even the water that was added to the milk could be contaminated (Enquête sur les eaux alimentaires, 1906). At the end of the nineteenth century many Belgian cities developed a system of water canalisation. This was not the case in rural Flanders where water came from artesian wells. Water was often of deplorable quality because wells were not watertight and water preservation not controlled. By comparison, in the Ardennes, domestic water was generally better because sources were abundant and less stagnant. Finally, also a non adapted diet of solid food at too young an age, could cause death. According to a report of the medical commission of Kortrijk many villages lacked healthy drinking water and provided adulterated milk (1909). Especially during warm summer days enteritis and other digestive illnesses caused terrible losses due to the fast deterioration of water and milk.

¹⁶. Camille Jacquart wrote about a precocious abandonment of breastfeeding in the districts of Sint-Niklaas, Dendermonde and Eeklo (Jacquart, 1907, 57).

¹⁷. “*Dans la plupart des familles, on administre aux enfants, dès l’âge de deux à trois mois, des panades et puis des pommes de terre, des oeufs et de la viande*” (1896).

3.2.3. *The North-South contrast: cultural or economical differences?*

The excess mortality of northern Belgium clearly appeared on our classification map. If group 3 which has districts on both sides of the linguistic border and the industrial districts (Liège and Charleroi) are left aside, the two clusters with the lowest mortality form the present Wallonia. One cluster groups mainly the Ardennes and is rural; the other one, Hainaut, can be qualified as industrial. These two clusters, already characterised by low mortality, experienced a precocious decline of mortality.

The discourse on the health of new-borns in the reports from southern Belgium is radically different from those in the East and West Flemish commissions. The medical commission of Charleroi gives a good example. They even congratulated the people with the progress achieved in child health. Remarks were still made but they mainly refer to industrial regions where artificial feeding is common (1896), where the long tube bottle is still in use (1896, 1897) and where women “*désertent souvent le foyer pour le travail*” (1896). Nevertheless, since 1897 the harmful long tube bottles “*sont moins en faveur*” and tended to disappear (1897, 1899, 1901, 1907, 1911). The diet was better adapted to the age of the child (1897, 1899, 1901, 1902, 1911).

In industrial environments breastfeeding was not practised to a large extent. Statistical data from an infant dispensary in Charleroi in 1905 reveal that out of 128 children, 43 per cent received mixed feeding “*dès le plus jeune âge*”, 27 per cent were artificially fed since birth, for 25 per cent of them breastfeeding stopped before six months and for 5 per cent it was continued up to one year. So it appears that breastfeeding was not the rule and that a mixed diet was preferred. A lot of children were fed with illegally skimmed milk¹⁸ (1909, 1908, 1907, 1906), even though control in this area was strict.

Reports of the medical commissions of Liège on early childhood suggest that prevailing conditions around 1910 were favourable. They were even more favourable in the cities than in the countryside where the basic notions of childcare were unknown (1909, 1911). Indeed, many cities had charities that were involved in child care such as the infant dispensaries of Liège to which numerous children owed their life (1910) (see also section 3.3.2). This urban-rural contrast was also documented in reports from the medical commission of Nivelles and Leuven. In these towns, “*l'alimentation des nourrissons commence*

¹⁸. The consequences of consumption of unhealthy milk were mentioned in a report of the commission of Mons (1908, 334): “*Le nourrisson, insuffisamment alimenté, doit prendre des quantités de lait doubles. Comme conséquence de cet excès de volume, surviennent des troubles digestifs avec l'athrepsie laissant pour la vie un état de misère physiologique*”.

cependant à être surveillée de plus près” (1898) and there was milk distribution. Progress was observed in the fact that people gradually adopted *“l’habitude de faire bouillir le lait”*.

In the rural areas of Wallonia, breastfeeding was far from general. Problems linked with unsterilised milk did not seem to occur (1895) since frequent cow or goat owning (1898) eliminated less scrupulous intermediaries. Two statements suggest the use of cow milk (1895, 1898). In the district of Namur breastfeeding was gradually replaced by artificial feeding (1906, 1909). Complaints deal with *“dès lors vers l’usage des biberons à long tube, encore trop répandu en 1908”* (also in 1906, 1904) and with the poor quality of milk (1894, 1897, 1910). Yet, since the beginning of the twentieth century children’s diet was improving (1903, 1901, 1911). The improvement was particularly important because the weaning diet was, in most rural districts, bad (1895, 1896, 1904, 1905, 1908); in working-class environments, the baby received family food as soon as he or she left the cradle (1896).

The only Walloon region where breastfeeding was frequent, is Luxemburg (1895): *“Le pays possédant peu d’industries, l’immense majorité des mères sont occupées à domicile: elles soignent donc et allaitent elles-mêmes leurs enfants. Elles ne doivent recourir à l’alimentation artificielle (...) que dans des circonstances tout à fait exceptionnelles”*. In *“général”* children in Luxemburg were *“élevés, nourris par leur mère, au sein”* (1897, 1905, 1897). Nevertheless, since 1887 some observations suggest that even the Ardennes were influenced by artificial feeding fashions, even if the impact was less important (1887).¹⁹

3.2.4. Conclusion: breastfeeding is not the determining factor

According to these reports the only regions where breastfeeding was the main diet for infants were Luxemburg and possibly the district of Turnhout. Limburg, despite its high fertility, favoured this practice only for a short period. In other regions, breastfeeding was already, or was being, replaced by artificial feeding. Everywhere, artificial food was the new fashion, originating in urban environments. In many rural areas, even in Flanders, breastfeeding was still important, but artificial feeding gradually gained ground. This conclusion differs considerably from Chris Vandembroeke’s statement (1978) that breastfeeding was the norm in Wallonia and less common in Flanders during the Old Regime.

¹⁹. The report of 1896 mentions an amount of mothers who resigned themselves not to breastfeed *“qui augmente chaque année”*.

From this, many conclusions can be drawn. Breastfeeding was clearly not the main determinant for the decline of infant mortality. In most of the Walloon districts and large cities such as Brussels and Antwerp mothers had abandoned or were abandoning breastfeeding as a common habit. Nevertheless, in these areas mortality still declined. Neither was breastfeeding a necessary condition for reaching the lowest mortality level, since Luxembourg and Hainaut had the lowest rates. In the first area, according to the medical reports, breastfeeding was very common while in the second, artificial or mixed feeding was the norm. So it would be dangerous to explain excess infant mortality by weaning practices, as many analyses suggest. Better hygiene can counterbalance the dangers linked to artificial feeding.

For weaned children milk and water of good quality and an age-adapted diet are more important. Infant mortality in rural areas was often related to what doctors called "*l'ignorance des mères*". In towns the problem was associated with artificial feeding and the difficult access to healthy water and milk. Also, better living conditions in general can favourably influence children's survival.

The length of the breastfeeding period is difficult to evaluate from the reports, especially in regions along the Sambre and Meuse axis (Hainaut, Namur and Liège) where mixed feeding was used. Hence, it is difficult to draw parallels between references in the reports and the observed decline of infant mortality.

Optimistic remarks in most of these reports should be carefully assessed: improvements did exist, but according to our data, they were translated into a mortality decline that was comparatively slow in most districts. They are not comparable with those observed after the war which imply a total change in feeding habits. What happened? The medical reports suggest that a return to breastfeeding was a lost cause. Therefore, doctors focussed their energy on the spread of healthy feeding habits for children. But how was this policy implemented? And what were the results? This is our following concern: understand the harmonisation of infant mortality levels after the war.

3.3. Policies against infant mortality

3.3.1. *Policies before World War I*

At the end of the nineteenth century the medical profession started to fight against high infant mortality (Dufort, 1911). The reports of the medical commissions are witness to this new attention for early childhood and mention different policies, with varying success, before World War I. This campaign, to which we find many references in the reports, took place while public hy-

giene progressed (Kuborn, 1904). During the first decade of the twentieth century, water distribution was established (Introduction, 1905; Charleroi, 1908) and urban planning to improve insalubrious neighbourhoods was put into practice (Bruxelles, 1909, Mons, 1901-1906, Tournai, 1905). These changes had a significant impact on children's health.

The chronology of various policies against high infant mortality (Debuisson and Buekens, 1996, 276-280) evoke the trial and error proceedings in search for the best measure. The reforms were mostly led by the medical profession even though they were financed by State intervention. The first attempt was as simple as it was inefficient: it consisted in distributing information brochures when a birth was declared to the local administration (Introduction, 1905; Charleroi, 1905; De Vroede, 1981, 455).²⁰ Next, policy-makers intended to use midwives who inspired great confidence to mothers, for spreading information about baby care (Introduction, 1892, 1894, 1895; Kortrijk, 1910, 1991; Mons, 1898; Luxembourg, 1901; Havelange, 1990). However, the lack of midwives in some regions precluded immediate and efficient results. After 1906, the medical profession, assisted by the government, also organised public conferences, but according to the medical commissions, these had only feeble results. And as for the so-called milk charities (see sections 3.3.2 and 3.3.3) which had been established since 1895, those existed only in a few cities such as Nivelles, Mons and Bruxelles. For instance, in Charleroi it took until 1911 to create a Permanent Milk Commission. Its task was to insure both the good quality and the distribution of milk (Introduction, 1911; Charleroi, 1911). On the eve of World War I, there was only one option left: the infant dispensaries (Revue de l'Oeuvre Nationale de l'Enfance hereafter ONE, 1920, 476-481).

3.3.2. *Infant dispensaries*

The infant dispensary or 'Well-Baby clinic', as a possible means to fight against infant mortality, was mentioned for the first time by the medical commission of Liège in 1903 (Introduction, 1903).²¹ At the beginning of the twentieth century cities like Liège and Verviers created dispensaries (Liège, 1901). It was

²⁰. Catherine Rollet (1993, 14) mentions that *"la grande majorité des auteurs concluent en une relation positive (entre la mortalité infantile et la lutte contre celle-ci): les mesures prises auraient eu un effet réel, que traduisent, par exemple la rapidité de la baisse de la mortalité infantile au tournant du siècle et la diminution elle aussi rapide de la mortalité liée aux maladies digestives"*.

²¹. The idea of a consultation center originated in France; the contribution of Belgium was to gather them in one league in order to encourage the creation of other centers (Rollet, 1990, 391; Bulletin de la Ligue, 1908, 283).

Ernest Malvoz, native of Liège and disciple of the French professor Calmette, the inventor of the dispensary, who introduced the structure in Belgium. He promoted preventive medicine, a strategy of social medicine of which infant consultations were an important element (Colignon, 1985). A medical report gives more details on these consultations: *“On y donne des conseils aux mères sur la manière d’élever leurs enfants: régime, propreté, vêtements, soins de tous genres. Les enfants sont pesés et le poids est consigné sur un carnet de santé délivré à la mère. Des règles d’hygiène autographiées sont distribuées aux mères; elles y reçoivent de bons conseils et apprennent à mépriser les préjugés dangereux. Il existe des distributions de layettes, de vêtements, de bons de viande, de lait pour les mères qui nourrissent. Les dames patronnesses visitent à domicile pour s’assurer si les nourrissons reçoivent les soins indiqués et s’enquérir de l’état de propreté des logements. Les femmes enceintes sont invitées à se présenter au local de l’oeuvre pour y recevoir tous les conseils que leur état exige, et surtout pour pouvoir arriver à allaiter leur enfant. Enfin, pour les enfants qui ne peuvent pas être nourris au sein et pour ceux qui ne peuvent recevoir qu’un allaitement incomplet, on distribue du bon lait. Mais il faut bien noter que cette distribution de lait, malgré toute son importance, n’est pas le but principal de l’oeuvre, qui désire avant tout l’allaitement maternel”* (Marchandise, 1907, 13). In other words, babies were supervised and mothers were counselled and educated.

An infant dispensary was also founded in Huy in 1905 (Huy, 1905, 1906), in Leuven in 1904 (Leuven, 1904) and in the same year in the countryside of Charleroi (Charleroi 1905, 1906) where it reached *“des résultats remarquables”* (Introduction, 1909). Especially in the industrial province of Hainaut the number rose: Charleroi in 1904, Marcinelles in 1905, Couillet in 1906. Consultation centres were mentioned in the reports of 1909 in Jumet (created in 1905), Lodelinsart and Marchiennes. In 1911, similar dispensaries were established in Montigny, Fleurus, at the coalmine of Monceau-Bayemont and at La Providence Forge. Clearly, the institution originated in this area, thanks to the will of its inhabitants as well as of its leaders to fight infant mortality.²² In Liège, for instance, the movement benefited from the support of local politicians who were very concerned by health issues, especially after 1893 with the introduction of plural suffrage (Colignon, 1985; Neven and Oris, 1995).

²² In Monceau-sur-Sambre in 1911, *“Quand on vient déclarer une naissance à l’état civil, on remet au déclarant une carte qu’il doit porter à un médecin de son choix; celui-ci est tenu d’aller à domicile vérifier le sexe de l’enfant nouveau-né et de faire ensuite à la mère, durant les dix premiers jours, quatre visites”* (Charleroi, 1911). The centres of Liège and Charleroi were funded by the local administration (Bulletin de la Ligue, 1913, 331-334).

In Liège consultation centres were popular. After being the first Belgian locality with a centre, the five day nurseries in the city also benefited from a *Goutte de Lait* charity²³ and an infant dispensary before 1908 (Liège, 1908, 1910). The centres tried to attract “*les enfants appartenant à la classe la plus pauvre*” (Charleroi, 1905) or from the working class (Huy, 1909) even though they sometimes failed (Charleroi, 1909; De Vroede, 1981, 458). In Charleroi as in Leuven, some *Gouttes de Lait* were institutionally attached to infant dispensaries. The number of children involved was rather low, between fifty and a few hundred (Huy, 1906, 1907; Charleroi, 1911). Other large cities such as Brussels followed the trend and founded dispensaries for infants (Brussels, 1911). In Brussels it was a day-nursery, created in 1897, that at first functioned as a consultation centre. By 1905 there were already fifteen centres in the Brussels area.

The consultations appeared to be “*le meilleur et le seul moyen*” to “*faire fléchir la courbe de mortalité infantile*” (Charleroi, 1906; Introduction, 1910). Unfortunately, Belgium only had a few (Bulletin de la Ligue, 1913, annexe) and for a small number of children. Nevertheless, there is a clear link between the decline of mortality before the war and the existence of infant centres. Where dispensaries were established, infant mortality declined (of 78 consultations, 15 were located in the province of Liège, 14 in Hainaut and 18 in Brussels).²⁴ The founding of a consultation centre reveals a specific mentality in favour of action. In other words, the population of urban centres²⁵ and along the Sambre and Meuse axes were favourably disposed, more than elsewhere, to fight high infant mortality. The creation of baby care centres was only an indicator of this atmosphere.

For Belgium as a whole, the absence of a general policy on this matter before 1914 does not allow to draw similar conclusions. However, the discourse of the medical commissions remained focused on the expansion of infant dispensaries; other measures were progressively discarded.

²³. The *Gouttes de lait* charities distributed sterilised milk and provided medical supervision of babies (Rollet, 1990, 361).

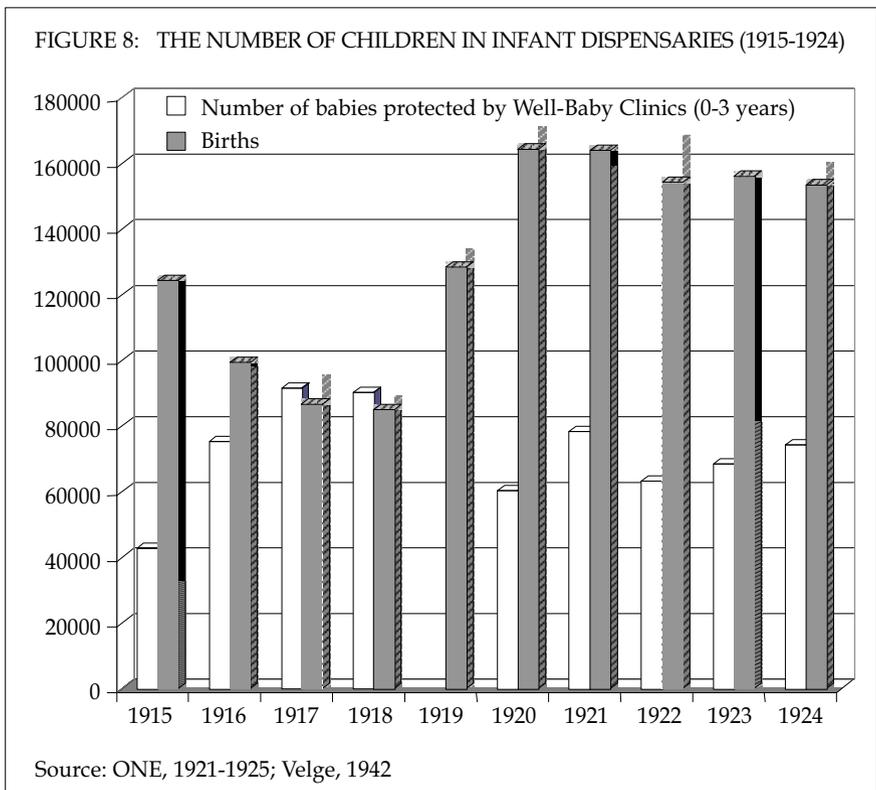
²⁴. Except in East Flanders (with 13 centres) where little progress is noted. Charities were established rather late and are not mentioned in the reports (except those from the medical commission of Ghent).

²⁵. The creation of such centres in rural areas was difficult due to distance and low density population. Catherine Rollet mentions the same problems for France (Rollet, 1990, 384-385).

3.3.3. Infant dispensaries during World War I

During World War I awareness of childhood problems increased (Debuisson and Buekens, 1996, 169-197). There was a general mobilisation of nutrition for children, propaganda for infant dispensaries was distributed among all classes and with American funding, infant dispensaries were founded all over Belgium. *“En 1918, il y avait 768 communes régulièrement desservies par une consultation de nourrissons ou une goutte de lait scientifiquement organisée, et le nombre d’enfants ainsi alimentés s’élevait, à la même époque, à 90,130”* (revue de l’ONE, 1919, 146-148). According to Henri Velge, secretary of l’Oeuvre Nationale de l’Enfance, these measures improved the fight against mortality considerably, especially in Brussels, Antwerp and the area of Charleroi.

One locality in three had an infant dispensary. According to some observations almost all infants were examined: *“pendant la guerre, (...) la totalité des nourrissons passaient par les oeuvres, non pas tant par conviction des mères, mais en vue de*



l'assistance" (Revue de l'ONE, 1922-1923, 213 and 209). But the number of protected children largely exceeded births (figure 8). Even considering the fact that consultations were open for children up to three years, the exaggerated figures are still good indicators of real figures. Besides infant dispensaries, also canteens were open to help and inform pregnant women and breastfeeding mothers. In 1918, 18 per cent of all localities offered this facility, hence reinforcing children's protection and health.

Beside these consultations, other factors also contributed to a return of breastfeeding practices. Because of unemployment, mothers were no longer forced to put their children into day care and were able to breastfeed (revue de l'ONE, 1919, 24 and 146). Moreover, milk was expensive; mothers went to the *Gouttes de Lait* or started breastfeeding again. During the war period and immediately after, infant dispensaries reached 83 per cent of breastfeeding. Also breastfeeding allowances such as food vouchers and clothing for mothers and children were offered (revue de l'ONE, 1919, 2).

The war coincided, as our data also revealed, with a well identified turning point in the fight against infant mortality. Food supervision and the diffusion of child care principles were not very successful before 1914. But during the war emergency situations had forced people to act and to safeguard children. Solidarity links were created: among generations, children, in a patriotic perspective, were considered the future of the country; among social classes, *"la guerre mettant mieux en relief les souffrances des classes déshéritées, a mis aussi plus en relief les devoirs des classes dirigeantes. Un souffle de renouveau qui nous vient des Etats-Unis et d'Angleterre, a brisé beaucoup d'anciennes formules"* (revue de l'ONE, 1919, 21).²⁶

Belgium was proud of its results in this matter, but the end of the war threatened to abolish gains made during the past years. The state was aware of this risk and created in 1919 *l'Oeuvre Nationale de l'Enfance* whose structure was based on the wartime organisation. Although the radius of the infant dispensaries was cut down a bit by the end of war, in 1919 the ONE stepped in and continued to inform on baby care. The main goal of the ONE was reached by 1924. More than to improve mortality, charities were created to educate mothers and to disseminate the basic principles of hygiene.²⁷ It was almost a

²⁶. After World War I, France benefited from efficient logistic support from the American Children's Bureau and the Red Cross (Rollet, 1990, 393).

²⁷. The National League was already advocating these objectives in 1907 (Bulletin de la Ligue, 1907, 209).

complete success: *“Si ces oeuvres, au cours des pénibles années de guerre, présentaient incontestablement un caractère de prophylaxie sociale, elles consacraient cependant en général la majeure partie de leur activité à secourir matériellement la population durement éprouvée. Et c’était surtout sous cet aspect que celle-ci et même bien des dirigeants de comités, comprenaient l’activité des oeuvres de l’enfance. Dès l’entrée en action de l’Oeuvre Nationale de l’Enfance, la situation était renversée: c’était avant tout l’oeuvre de prévention sociale, la surveillance médicale méthodique et suivie qui devait avoir la priorité, la distribution de secours devant passer au second plan”* (rapport de l’ONE, 1922, 6).

Although the impact of infant dispensaries for the decline of infant mortality is clear, Henri Velge, ONE secretary, remained careful: *“On ne peut évidemment dire que celle-ci est due exclusivement à l’effort des consultations de nourrissons. Si nous jetons un coup d’oeil sur les causes de la mortalité infantile signalées par M. Jacquart, nous pouvons constater que certaines d’entre elles sont combattues par des organismes autres que l’ONE tels, par exemple, la Société Nationale des habitations à bon marché et les autres institutions qui entreprennent la lutte contre les taudis, la Société Nationale de distribution de l’eau et les différents services qui s’occupent de la qualité des eaux alimentaires. Le développement de la législation sociale, qui a amélioré les conditions du travail, n’est pas moins important. Cependant, si le résultat acquis dans le domaine de la mortalité infantile n’est pas dû exclusivement à l’action de l’ONE, elle y a assurément une grande part”* (Velge, 1942, 75).

In Belgium the fight against infant mortality started later than in the neighbouring countries and the French consultation networks even served as role models (Rollet, 1990, 409). Private initiatives, mainly by the medical profession, were focused on making mothers aware of healthy nutrition and basic hygiene.

CONCLUSIONS: BETWEEN DATA AND TESTIMONY

The year 1900 is generally identified as the start of the decline of infant mortality in Belgium. Looking at it from a sub-regional perspective, this statement now has to be modified. It appears that groups G (the Sambre and Meuse axis) and F (mainly the Ardennes), in other words, the southern part of Belgium, experienced a significant decline before 1914. Infant mortality in these areas was already low by the end of the nineteenth century. Urban districts (group B) struck by high infant mortality also had a decrease, but to a lesser extent. The district of Veurne (group 8) also experienced an improvement of infant mortality, but it was only catching up with the neighbouring Flemish districts that had the highest levels. In the rest of the country infant mortality remained virtually stable; the change only took place after the war.

What ages were involved? Districts that had an important decrease of general infant mortality (groups F and G) before 1914 equally benefited from a decrease of mortality after the first month, this mortality being linked with exogenous causes of death. The diet of young children was one of the most important determinants. The Flemish districts where improvement for babies between one to five months was noted, belonged to group D and had very high mortality.

For urban districts (group B), it was mainly mortality after the fifth month that contributed to the decrease, even though there was some progress at other ages, mainly due to improvements in public health. Some districts of central Flanders (group C) experienced similar results.

The decline in the other districts, especially in Flanders, was mainly the result of a reduction of mortality during the first month, notably mortality linked to the health of the mother and conditions during delivery. After the war mortality levels became standardised. The very high levels observed in Flanders before the war fell. The decrease was most significant for the period after the first month, that is at ages when an appropriate diet is vital. Absent from this trend were the districts of Limburg and some in Luxemburg.

Can these results be linked to the nutrition of children? By the end of the nineteenth century, breastfeeding was abandoned despite medical recommendations. Some areas, such as Flanders, had already abandoned it and eventually all abandoned it, except the Ardennes and possibly Limburg. Therefore, it is clear that breastfeeding was not the main determinant for the decline in mortality. The major change was the diffusion of appropriate dietary rules for small children. All policy efforts aimed at promoting breastfeeding and disseminating better dietary and hygiene notions. These policies were set up while the expansion of public hygiene continued.

The war provided the opportunity, after many attempts, to create infant dispensaries throughout Belgium. This goal was pursued and accomplished through the creation of the ONE. Belgian society, especially the upper classes, became gradually aware of infant mortality around the beginning of the twentieth century. The decline along the Sambre and Meuse axis can be associated with this. In 1907, the *Bulletin de la Ligue* even evokes a real fashion for all questions related to the protection of early childhood (Bulletin de la Ligue, 1907, 195). A big step had been taken; people became convinced that measures could be taken against a problem that was previously considered unsolvable: *“Vous parlez de plus de trente mille bébés qui meurent en Belgique avant d’avoir atteint l’âge de 1 an et vous voulez que nous vous aidions à essayer de sauver tant d’enfants! Y songez-vous sérieusement? Mais c’est une chose impossible, un rêve présomptueux, une chimère! Il vaut mieux ne pas entreprendre pareille besogne, disait, au moment de la création de la Ligue, une noble femme, devenue depuis Dame Patronnesse convaincue et des plus dévouées à notre oeuvre”* (Bulletin de la Ligue, 1909, 409).

All factors related to infant mortality need a deeper analysis in order to measure the weight of each determinant. Our analysis already highlights the diffusion of appropriate nutritional rules as a significant factor for the survival of children. However, it is important not to underestimate the role of better living standards and public hygiene.

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De daling van de zuigelingensterfte in de Belgische arrondissementen omstreeks de eeuwwisseling

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SAMENVATTING

Deze studie is een analyse van de daling van de zuigelingensterfte in België tussen het einde van de negentiende en het begin van de twintigste eeuw. Een louter statistische benadering brengt aan het licht waar en wanneer de zuigelingensterfte afnam. Vervolgens worden de Belgische arrondissementen geklasseerd volgens het percentage zuigelingensterfte en volgens de relatieve daling van deze percentages. Daarbij is de zuigelingensterfte opgesplitst volgens drie leeftijdscategorieën: jonger dan een maand, een tot vijf maanden en zes maanden of ouder. De resultaten van deze kwantitatieve analyse worden vervolgens systematisch geconfronteerd met historische bronnen, met name de verslagen van de provinciale medische commissies en van het Nationaal Werk voor Kinderwelzijn. Uit dit alles blijkt dat de zuigelingensterfte voor de Eerste Wereldoorlog slechts weinig afnam. De - relatief geringe - dalingen worden tijdens deze eerste fase vooral vastgesteld in het zuidelijk landsdeel, waar de sterftegraad bij zuigelingen reeds het laagst was. Echt belangrijke dalingen treden pas op kort na de eerste wereldoorlog, die een cruciale periode blijkt voor de daling van de zuigelingensterfte in België. De inspanningen voor de verspreiding van de beginselen van kinderzorg, voornamelijk via de raadplegingen voor zuigelingen, blijken een belangrijke rol te hebben gespeeld in deze evolutie.

La diminution de la mortalité dans les arrondissements belges au tournant du XXe siècle

MARC DEBUISSON

RÉSUMÉ

Cette étude analyse la diminution de la mortalité infantile en Belgique entre la fin du XIXe siècle et le début du XXe siècle. Une démarche purement statistique a déterminé où et quand la mortalité infantile a diminué. Le recours à l'analyse de classification a en effet permis de regrouper les arrondissements belges selon leur niveau de mortalité infantile mais également selon la baisse relative des quotients de mortalité infantile. Les décès ont été répartis en trois catégories d'âges: moins d'un mois, un à cinq mois, six mois et plus. Les résultats de l'analyse quantitative ont été confrontés aux témoignages de l'époque. Les mentions contenues dans les rapports des commissions médicales provinciales et de l'Oeuvre Nationale de l'Enfance ont été systématiquement analysées en comparaison des conclusions de l'analyse de classification. Il en ressort que la mortalité infantile a peu diminué avant la Première Guerre Mondiale, les baisses relatives peu importantes sont observées principalement au sud du pays, là où les niveaux de mortalité infantile étaient les plus bas. Les diminutions conséquentes se manifestent surtout au lendemain de la grande guerre. Celle-ci apparaît comme une période-clé dans le déclin de la mortalité infantile en Belgique. Les efforts en matière de diffusion des notions de puériculture, essentiellement par les consultations de nourrissons, semblent y avoir joué un rôle non négligeable.

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