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## The Level of Births and Deaths in the Lublin Province in 1867-1912

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T a d e u s z M A Z U R

**The Level of Births and Deaths in the Lublin Province in 1867—1912**

Urodzenia i zgony w guberni lubelskiej w latach 1867—1912

Уровень рождаемости и смертности в Люблинской губернии  
в г 1867—1912 гг.

Among the changes that took place in the Congress Kingdom of Poland in the second half of the XIXth cent. demographic changes which started with a constant decrease in death level below 30‰ played a special role. That meant a complete breakdown of natural demographic system and passing on to a new stage of development of population — the first stage of demographic modernization. A high birth-rate (at the border of natural birth-rate) was maintained which with the declining rate of deaths and small proportions of emigration gave an unrecorded earlier rate of increase in the number of population, higher than that in the territories of the Prussian and Austrian sectors of the partitioned Poland, and at the same time, one of the highest in Europe. That was conditioned by the social-economic changes in the Congress Kingdom of Poland which started with the enfranchisement reform of 1864. In the provinces situated West of Vistula a factor which stimulated a high rate of population increase was the growing development of industry, whereas the essential meaning for the whole Kingdom had the changes in agriculture and specially the changes in agrarian structure being the result of parcelling out of great land property, spreading of not lying fallow three-field system and crop rotation, as well as more considerable increase of cultivation acreage and the progress of agricultural technique. The results were that global agricultural production was so high that in spite of high rate of increase in the number of population the level of consumption was over the minimum of existence. The phantoms of famine, which systematically recurred in earlier periods causing great losses in the number of population ceased to threaten.

In the period between the January uprising and the Ist World War specially high dynamics of demographic development could be seen in the industrialized Piotrków and Warsaw provinces which was due mainly to the migration from the outside. The Lublin province<sup>1</sup>, with quite a different type of economy than in the previous provinces, took the third place in the Congress Kingdom of Poland in respect of the rate of increase of the population. The agriculture prevailed here, whereas the industry did not play significant part.

At the end of 1867 the Lublin province numbered 659,5 thousand of people. By the end of 1912 the number of population increased by 998,3 thousand, that is, by 150,7%, reaching 1.653,3 thousand.<sup>2</sup> At the same time the number of population of the Congress Kingdom of Poland increased from 5.705,7 thousand to 13.055,2 thousand, the relative increase amounted to 128,8%.<sup>3</sup> The average yearly rate of increase was 1,9% in the Congress Kingdom of Poland and 2,1% in the Lublin province. According to J. M. Poursin's scale<sup>4</sup> the increase in the number of population in the Lublin province in the discussed period was explosive. Such a dynamic demographic development could be possible due to significant changes within natural movement. Further on in the paper an attempt will be made to determine new tendencies within the sphere of births, deaths and birth-rate in the Lublin province in 1867—1912 as well as their causes.

#### BIRTHS

Births are the most important element in the population natural movement because they reveal, above all, the demographic activity of the community. The number of births determines the course of the process of population reproduction. The number of births and birth-rate coefficients in the Lublin province in 1867—1912 was presented in Tab. 1.

<sup>1</sup> This concerns the Lublin province within the borders from the change of administrative division of the Congress Kingdom in 1866 to the separation of the Chełm province in 1913. This also determined the chronological frames of the paper (1867—1912).

<sup>2</sup> The data concerning the number of population of the Lublin province come from the following sources: *Otczet lublinskogo gubernatora* (for 1867—1904), Documentation Office of the Lublin Governor General, Voievodship State Archives in Lublin, *Obzor Lublinskoj guberni. Priłożenije k wsiepoddaniejszemu otczotu* (for 1872—1912). Calculations own.

<sup>3</sup> *Stosunki rolnicze Królestwa Kongresowego (Agricultural Relationships of the Congress Kingdom)*, Warszawa 1918, p. 23.

<sup>4</sup> J. M. Poursin: *Ludność świata (The World Population)*. Warsaw 1976, p. 18.

Tab. 1 Births in the Lublin province in 1867—1912  
 Urodzenia w guberni lubelskiej w latach 1867—1912

Year	Births		Number of boys per 1000 of new-born infants
	Number	Coefficient in ‰	
1	2	3	4
1867	29.080		499,2
1868	27.500	41,4	501,7
1869	24.991	37,1	500,3
1870	27.855	40,2	486,3
1871	27.028	38,4	506,0
1872	29.225	40,6	493,6
1873	29.184	39,6	496,9
1874	31.002	41,8	498,4
1875	32.972	43,6	503,4
1876	33.678	45,5	514,1
1877	31.651	40,2	492,0
1878	32.835	41,0	502,9
1879	34.503	42,1	484,1
1880	33.776	40,4	523,3
1881	34.520	40,5	500,9
1882	32.709	37,9	507,9
1883	34.841	39,7	496,5
1884	36.709	41,1	501,6
1885	38.864	42,1	504,1
1886	38.578	41,2	506,2
1887	40.847	42,2	509,3
1888	40.623	40,9	507,6
1889	41.895	40,7	510,6
1890	43.251	40,6	509,4
1891	42.805	39,3	502,4
1892	42.031	37,9	506,6
1893	42.687	37,9	(.)
1894	45.230	39,5	512,9
1895	43.533	37,3	515,3
1896	44.879	37,7	515,8
1897	45.282	37,2	512,0
1898	49.006	39,2	508,7
1899	50.524	39,4	513,2
1900	52.608	40,1	514,5
1901	55.263	41,3	517,3
1902	55.429	40,3	525,3
1903	53.443	38,1	525,8
1904	53.788	37,1	513,0
1905	50.952	35,2	523,2
1906	51.761	35,1	517,7
1907	52.574	35,1	(.)

1	2	3	4
1908	52.125	34,1	(.)
1909	54.795	35,3	(.)
1910	51.912	32,8	(.)
1911	50.468	31,3	(.)
1912	48.147	29,4	(.)

Source: Otcziot lublinskiego gubernatora (for the years 1867—1904), The Lublin Governor's Office, Voievodship State Record Office in Lublin, Obzor lublinskoj guberni. Priłożenije k wsieppoddaniejszemu otcziotu (for the years 1872—1912). Calculations own.

Źródło: Otcziot lublinskiego gubernatora (za lata 1867—1904), Kancelaria Gubernatora Lubelskiego, Wojewódzkie Archiwum Państwowe w Lublinie, Obzor lublinskoj guberni. Priłożenije k wsieppoddaniejszemu otcziotu (za lata 1872—1912). Obliczenia własne.

The data<sup>5</sup> there show that the number of births, in spite of considerable fluctuations, showed the growing tendency until 1902, and then the falling one. The birth-rate coefficients in the discussed period remained on a very high level both in the province and in the whole Congress Kingdom. That was typical of the majority of European countries, specially those which were backward in their economic development because they were just stepping into the period of demographic revolution. The analysis of the size of coefficients from that period leads to the conclusion that the birth-rate in Polish territories in the second half of the XIXth cent. was one of the highest in Europe.<sup>6</sup>

<sup>5</sup> In connection with many reservations concerning the completeness of registration of the facts from the field of natural movement in 1867—1912 a question arises as to the value of inquiries based on official statistical data. If the aim of investigations was the precise determination of either absolute values or of coefficients, then the results would not be exact. A certain positive aspect may only be the fact that in every case the direction of deviation is known. Basing on these data one can, however, investigate quite precisely the changes taking place in time, which is even a more important task for a historian than the previous ones. S. Szulc stated that the noncompleteness of the material does not significantly affect "the general image of evolution where we have to do not with minute modifications, but with essential changes (S. Szulc: *Dokładność rejestracji urodzeń i zgonów. Zagadnienia demograficzne Polski (Fulness of births and deaths registration. Demographic problems of Poland)*. „Statystyka Polski” Series C, 1936, fasc. 41, p. 133. Such changes were occurring in 1864—1912 in demographic development of the Lublin province.

<sup>6</sup> E. Rosset: *Proletariat łódzki w świetle badań demograficznych (The Łódź Proletariate in the Light of Demographic Investigations)*. Warszawa 1930, p. 46; M. Nietyksza: *Ludność Warszawy na przełomie XIX i XX wieku (The Population of Warsaw on the Turn of the XIXth Century)*. Warszawa 1971, p. 109.

Birth coefficients in the Congress Kingdom of Poland were on the level of natural birth-rate which, according to demographers is 40—45‰.<sup>7</sup> Only at the end of the XIXth cent. a slightly decreasing tendency in respect of the size of this coefficient was observable which can be explained with a gradual introduction of birth control and breaking up of natural rigour in middle-class community.<sup>8</sup> In the period of natural fertility of a family the number of children depended on reproductive ability of married couple and duration of their marriage. On the turn of the XIXth century methods of avoiding the unwanted progeny started to spread. Those were, above all, the methods which did not require the use of contraceptives: coitus interruptus and rhythm method (abstaining from sexual intercourses during woman's fertile period). At that time contraceptive sheaths started to appear, abortion was sporadically performed (certainly illegally).<sup>9</sup>

The highest birth coefficient in the Lublin province in the examined period was reached in 1875 — it amounted to 43,6‰, and the lowest one; — 29,4‰ in 1912 (the only one decrease below 30‰ in the whole examined period). According to the scale of birth-rate coefficients elaborated by an Italian statistician F. Vergili<sup>10</sup> birth-rate in the province was high — with 21 years, medium — with 24 years and low — with one year. Birth coefficients in the Lublin province were generally lower than in the whole Congress Kingdom of Poland. The Lublin province belonged to economically and culturally backward regions of the Congress Kingdom. It seems, however, that in fact the lower level of calculated coefficients was due to defectiveness of registration causing the reduction of the real number of births and overestimation of the number of population in the official statistics. Most likely not earlier than in 1903 birth-rate coefficients did not drop in fact below 40‰, and thus their level until that time can be estimated as high. Only in the last years before the Ist World War they dropped to a medium birth-rate level.

Graphically birth-rate level in the Lublin province in 1868—1912 is presented in the Diagram 1. In order to distinguish the development tendency the empirical sequence was levelled by the mechanical method,

<sup>7</sup> M. Latuch: *Demografia. Materiały do wykładu (Demography. Materials for a Lecture)*. Part I, Warszawa 1967, p. 124.

<sup>8</sup> E. Rosset: *Proces starzenia się ludności (The Process of Ageing of Population)*, Warszawa 1959, pp. 491—496.

<sup>9</sup> S. Borowski: *Funkcje prokreacyjne rodziny polskiej (Procreation Functions of the Polish Family)* [in:] *Demografia społeczna (Social Demography)*. Warszawa 1974, p. 86.

<sup>10</sup> This scale, obsolete nowadays, is fully useful for the investigated period, Rosse: *Proces starzenia się...*, p. 467.

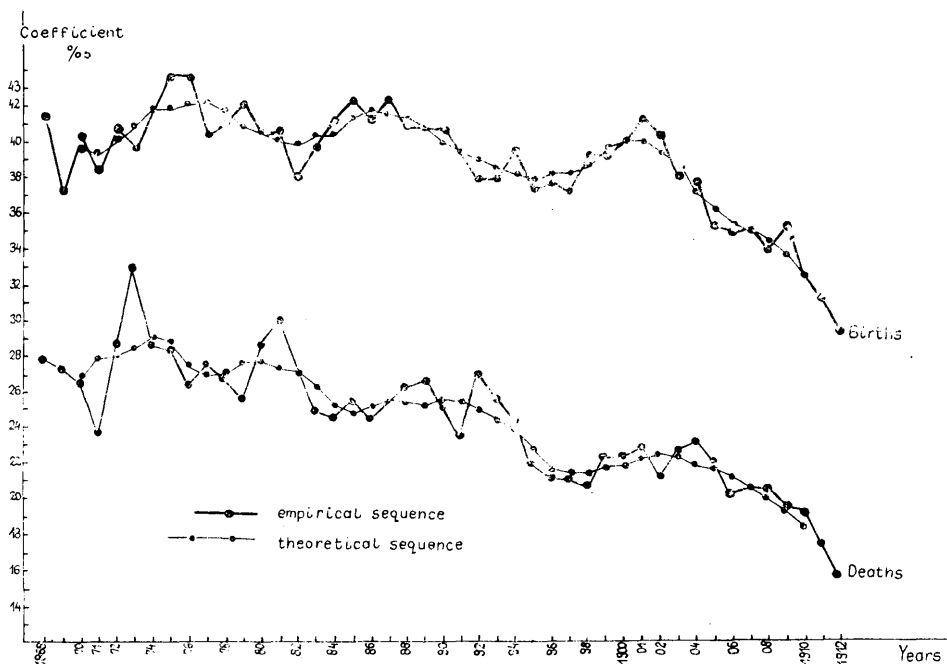


Fig. 1. Developmental tendency of birth and death coefficients in the Lublin province in 1868—1912 (the sequence levelled by 5-year movable mean)

Tendencja rozwojowa współczynników urodzeń i zgonów w guberni lubelskiej w latach 1868—1912 (szereg wygładzony 5-letnią średnią ruchomą)

by means of 5-year movable mean. This seems to be most appropriate method because incidental fluctuations, uninteresting for us were removed, whereas certain periodicity visible already in the empirical sequence was enhanced even more.

In the levelled sequence three periods can be distinguished; the first of them falls on 1871—1882, the second on 1882—1895, and the third on 1895—1910. A characteristic feature of each of them is that the coefficients grew to a certain maximum and then they began to fall gradually. In the second and third periods the time of decreasing of the coefficients value was the following:

	Coefficient value	
1871	39,5%	
1877		42,1%
1882	39,9%	
1886		41,6%
1895	37,9%	
1900		40,1%
1910	32,6%	

This proves that the birth-rate in the Lublin province in the discussed period showed a tendency to fall.

The analysis of factual birth coefficients in the Lublin province in the examined period allows to draw the conclusion that the essential change of their level can be observable since 1905. The fact that in 1905—1907 even the lowest coefficient from the previous period was not repeated proves the decided birth-rate decrease. The change in birth frequency which can be observed on the turn of the XIXth cent., the breakdown of natural fecundity were the results of several factors. Changes in birth-rate are caused by changes in fecundity, which depends both on reproductive capacity and production attitudes of population.<sup>11</sup> Reproduction capacities do not undergo, in principle, any significant changes, and in connexion with it, procreative attitudes of population determine the increase or decrease of fecundity, and thereby — of birth-rate.<sup>12</sup> To be more precise, we are concerned with procreative attitudes of the family, which in principle is the only procreative group guaranteeing biological continuity of the community.<sup>13</sup> The family is the basic social unit which decides about the birth of a child<sup>14</sup>.

The procreative attitudes of the family are determined by factors of economic, social, political and moral nature. The influence of religion, tradition, customs as well as biological factors, and specially an instinctive drift towards preservation of species cannot be neglected here.<sup>15</sup> It is difficult to determine explicitly the effect of these factors which can be either stimulative or inhibitory, depending on local conditions.

As long as high death-rate was retained, human fecundity was determined only by biological factors. Only the decline of death-rate and possibility of retaining progeny at smaller number of live births affected the weakening of, strong till now, pronatalistic attitudes. Fecundity was influenced by a psychological factor, i.e. conscious decision about the

<sup>11</sup> M. Okólski: *Rozwój ekonomiczny a zagadnienia rozrodczości (Economic development and the problem of reproductiveness)*. „Studia Demograficzne” 1971, no. 26: p. 78.

<sup>12</sup> M. Okólski: *Czynnik demograficzny w rozwoju gospodarczym (A demographic factor in the economic development)*. „Ekonomista” 1970, no. 3, p. 558.

<sup>13</sup> In the Lublin province 2,7 of illegitimate children fell to 100 births in 1867—1869, 4 in 1876—1880, 3 in 1887—1891. H. Wiercieński: *Opis statystyczny guberni lubelskiej (A Statistic Description of the Lublin Province)*. Warszawa 1901, p. 193.

<sup>14</sup> O. Łarnin: *Demografia i socjologia (Demography and sociology)*. „Studia Demograficzne” 1972, no. 30: p. 22.

<sup>15</sup> S. Zyromski: *Rozrodczość a środowisko (Reproductiveness and Environment)*. Warszawa 1972, p. 72; B. Szmulewicz: *O dwóch pseudosocjalistycznych teoriach ludności (On two pseudosociological theories of the population)*. „Studia Demograficzne” 1964, no. 5: pp. 12—13.



child's birth. The decrease in the frequency of deaths of new-born babies and children could slightly affect the decrease of the birth-rate in the examined territory only at the end of the analyzed period. In the second half of the XIXth cent. in the province, just as in the whole Congress Kingdom of Poland the death-rate in the youngest age groups, in spite of certain fall, was still very high. Its slight lowering could not essentially affect the change of procreative attitudes.<sup>16</sup>

A question widely discussed in demography is the problem of influence of the level and dynamics of economic development on the course of process of population reproduction; according to one group of research scholars the effect of economic development on fecundity is stimulative, according to others — it is inhibitory. The opinion that birth-rate is closely relevant to the increase of living standard of the community was widely spread by R. Malthus.<sup>17</sup> He assumed that natural fecundity of people is much bigger than material possibilities to survive. In this connexion the number of population must be controlled by "natural law" (acting through hunger, epidemics and wars) which brings it to the state which is possible to feed. For this reason one should not tend to economic improvement of the whole community because it will result in the increase in birth number. Thus there will have to occur some difficulties connected with respective increase of food stuffs and then "the law of nature" will act even stronger. Malthus formulated his theory in times when the development of population was indeed regulated by nature. The later reality proved, however, that the regularity is just the opposite to the one Malthus was speaking of. If the standard of living is at the border of the minimum of existence no stimuli affecting the limiting of progeny act. The growth of the standard of living causes that the possibilities of providing for the needs of a higher rank which then occur start to inhibit reproductiveness (so-called Bertillon's law).<sup>18</sup>

The economic factor did not exert any greater influence on the lowering of the level of birth-rate in the Lublin province in the second half of the XIXth cent. and at the beginning of the XXth cent., because the level of living of the prevailing part of population was very little there. The investigations by W. Styś<sup>19</sup> and S. Borowski<sup>20</sup> proved that

<sup>16</sup> Zyromski: *op. cit.*, p. 68.

<sup>17</sup> B. Szmulewicz: *Krytyka burżuazyjnych teorii ludnościowych (The Criticism of Bourgeois Theories of Population)*. Warszawa 1960, pp. 140—163.

<sup>18</sup> B. Geremek, K. Piesowicz: *Ludzie, towary, pieniądze (People, Commodities, Money)*. Warszawa 1968, p. 357.

<sup>19</sup> W. Styś: *Współzależność rozwoju rodziny chłopskiej i jej gospodarstwa (Correlation between Peasant Family and Its Farm)*. Wrocław 1959, pp. 34—35.

<sup>20</sup> Borowski: *Funkcje prokreacyjne...*, p. 102.

in the Polish territories at that time the rise of the number of children in a family corresponded to the growth of affluence. This was specially visible in the villages.

The economic-social changes caused by enfranchisement favoured the preservation of high reproductiveness among village population. The specificity of peasant family of the discussed period was that all the forms of economic activity were taking place within its frames. It was both the producer and the main consumer of goods which it produced. Peasants' economy was of self-alimentation nature, hence it was necessary to perform all these kinds of production which were indispensable for feeding the family. It required high expenditure of live work. In village families the division of activities was strictly obligatory respectively to age and sex and therefore, a full family, consisting of grandparents, parents, and a great number of children was necessary. Deficiency of labourers was much more than their excess.<sup>21</sup>

One of the factors affecting the change or preservation of the former procreative attitudes, which is strongly stressed by many demographers, is the tradition, i.e. handing down from generation to generation of certain cultural content: opinions, customs and norms of behaviour.<sup>22</sup> That factor in the period discussed exerted a great influence on retaining high fecundity, especially in villages. In the traditional rural culture both the contracting of marriage and having progeny were treated as obligation. Spinsterhood elicited contempt, and old-bachelorhood — even condemnation. Not before marriage contract and having progeny a grown-up man received the status of full rights' member of rural community.<sup>23</sup>

High reproductiveness was propagated by the Church which, in

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<sup>21</sup> B. Gałęski: *Spółeczna organizacja rolnictwa i zmiany społeczne wsi* (*Social organization of agriculture and social changes in the vilage*). „Roczniki Socjologii Wsi” 1969, Vol. IX: p. 34; D. Markowska: *Czynniki przemian w strukturze i funkcjach rodziny wiejskiej* (*Changing Factors in the Structure and Functions of the Village Family*) [in:] *Polityka ludnościowa. Współczesne problemy* (*Population Policy. Contemporary Problems*). Warszawa 1973, p. 312; D. Markowska: *Z problematyki zmian struktury rodziny (rodzina wielopokoleniowa a ludzie starzy)* *In the Way of the Problems of Changes in the Family Structure (Many-generations Family and the Old People)* [in:] *Zmiany kultury chłopskiej. Problematyka i metody prac etnograficznych* (*Changes in Peasant Culture. The Problems and Methods of Ethnographic Proceedings*). Wrocław 1973, p. 58.

<sup>22</sup> E. Rosset: *Polska w roku 1985. Wizja demograficzna* (*Poland of 1985. A Demographic Vision*). Warszawa 1963, p. 13; W. Billig: *O prawach rozwoju ludności* (*On the Laws of Population Development*). Warszawa 1963, p. 108.

<sup>23</sup> D. Markowska: *Rodzina w społeczności wiejskiej. Ciągłość i zmiana* (*A Family in the Village Community. Continuity and Change*). Warszawa 1976, p. 71.

accordance with St. Augustine's doctrine, was of the opinion that every sexual intercourse could be regarded as "good" only in case its aim was procreation. Every sexual intercourse where the possibility of conception was excluded in advance was immoral and bad. Thereby the Church stood out against all the methods of birth control, even against having sexual intercourses during woman's sterile periods; the Church also could control people through confession and affected the stability of marriage which positively affected reproductiveness. On the turn of the XIX cent. divorces were rare, they occurred only in towns.<sup>24</sup>

The separation of sexual function of a family from its procreative function is strictly connected with the problem of birth control. Certainly, the principal function of a family was and is procreation. During natural fecundity period the sexual function was entirely submitted to procreation which was expressed in the Church doctrine. It was only due to the development of medical knowledge and spreading of the methods of contraception that systematic satisfaction of sexual impulse without consequences being pregnancy and delivery became possible.<sup>25</sup> The development of education and heightening of educational level favoured this. The above-discussed factors might have an inhibitory effect on birth-rate in the upper and middle classes of the community. Only among those classes the tendency to conscious birth-control began to spread at that time.<sup>26</sup>

At the beginning of the XXth cent. birth-rate in the Lublin province was negatively affected by increasing emigration; the majority of migrating persons were young people, being in their reproductive period. Similarly negative influence could have exerted the unfavourable, also from demographic point of view, political situation of the time (Russian-Japan war, revolution of 1905—1907). The result of these factors was a decided fall of birth frequency at the beginning of the XXth cent. It cannot be thus stated that in the period discussed the modernization of births was initiated.

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<sup>24</sup> J. Strojnowski: *Problem regulacji urodzeń z punktu widzenia moralności laickiej i chrześcijańskiej* (*The Problem of Birth Control from the Point of View of Lay and Christian Morality*) [in:] *Polityka ludnościowa...*, pp. 361—363; J. Piotrowski: *Przeobrażenia w funkcjach rodziny a reprodukcja ludności* (*Transformations in the Family Functions and Reproduction of Population*, (in:) *Polityka ludnościowa...*, p. 282; Z. Jabłowska: *Rodzina w XIX i na początku XX wieku* (*Family in the XIXth and at the Beginning of the XXth Century*) [in:] *Przemiany rodziny polskiej* (*Transformations of the Polish Family*). Warszawa 1975, p. 58.

<sup>25</sup> Borowski: *op. cit.*, p. 103.

<sup>26</sup> Jabłowska: *op. cit.*, p. 59.

## DEATHS

Changes in death-rate level were the essential characteristic of demographic processes taking place in the Polish territories of the second half of the XIXth cent. Already on the turn of the 60's in the territories under German administration and in the Congress Kingdom of Poland and, slightly later in the Austrian partition death frequency dropped below 30‰. In the subsequent years the drop was proceeding until it reached ca. 20‰.<sup>27</sup> Inasmuch as in the beginning the death-rate was characterized by considerable fluctuations in the particular years, it was relatively stabilized after 1880. There was also a persistent drop of reath frequency — most earlier, since 1886 in the territories under German administration.<sup>28</sup> The drop of death-rate to the level which was not observed earlier meant the breakdown of natural demographic system in the Polish territories and entering the first stage of demographic modernization (the stage of modernization of death-rate).<sup>29</sup>

The similar changes in respect of death-rate in the second half of the XIXth cent. can also be observed in the Lublin province. This can be proved by the data from the Tab. 2, in which the numbers denoting deaths and coefficients of that element of natural movement have been compared. It results from those data that the absolute number of deaths, in spite of certain fluctuations, showed a rising tendency up to 1904. Six times, in 1873, 1881, 1889, 1892, 1902 and 1904 a more considerable increase in death number can be observed. The increased death-rate in these years was, above all, caused by a considerable increase of epidemic diseases (cholera and black smallpox).

With a very rapid development of population which was characteristic of that period in the Lublin province, the rate of increasing of death number was not too big. In a consequence this led to a decrease of death coefficient which was particularly observable in the second half of the 90's of the XIXth cent. and in 1900—1912. In the period examined

<sup>27</sup> Borowski: *op. cit.*, p. 97; T. Ładogórski: *Periodyzacja rozwoju demograficznego ludności polskich ziem zachodnich i północnych w latach 1816—1914, artykuł polemiczny (Division into stages of demographic development of population in the Polish Western and Northern territories in 1816—1914, polemic article)*. „Przeszłość Demograficzna Polski” 1972, Vol. V: pp. 115—116.

<sup>28</sup> Ładogórski: *op. cit.*, p. 116.

<sup>29</sup> The change in death-rate level was necessary for initiating the second stage of demographic modernization, i.e. the decline of reproductiveness. H. Hansluwka: *Umieralność a cykl życia rodziny (Death-rate and the cycle of family life)*. „Studia Demograficzne” 1976, no 44, p. 3.

Tab. 2. Deaths in the Lublin province in 1867—1912  
Zgony w guberni lubelskiej w latach 1867—1912

Year	Deaths		Number of deaths among men per 1000 of deaths
	Number	Coefficient in ‰	
1	2	3	4
1867	18.902	(.)	495,1
1868	18.380	27,7	494,8
1869	18.378	27,3	502,9
1870	18.156	26,5	492,5
1871	16.417	23,6	494,8
1872	20.451	28,4	489,9
1873	24.821	33,0	488,7
1874	21.232	28,7	502,1
1875	21.514	28,4	492,6
1876	20.386	26,3	499,3
1877	21.447	27,3	512,7
1878	21.590	26,7	489,7
1879	20.873	25,5	475,6
1880	23.895	28,6	489,5
1881	25.582	30,1	511,7
1882	23.374	27,1	502,1
1883	21.868	25,0	495,1
1884	21.909	24,5	484,0
1885	23.050	25,2	485,9
1886	22.859	24,4	484,7
1887	24.406	25,3	467,2
1888	25.914	26,1	494,2
1889	27.431	26,6	503,6
1890	26.770	25,1	492,5
1891	25.603	23,5	496,1
1892	29.773	26,9	503,4
1893	26.046	25,6	(.)
1894	27.760	24,3	502,0
1895	25.452	21,9	499,1
1896	25.148	21,1	506,0
1897	25.714	21,1	501,9
1898	25.757	20,6	500,0
1899	28.550	22,3	500,8
1900	29.302	22,4	501,7
1901	30.564	22,8	500,0
1902	29.108	21,2	501,7
1903	31.928	22,7	507,8
1904	33.092	23,2	513,6
1905	29.867	22,0	503,6

1	2	3	4
1906	31.891	20,3	511,7
1907	30.879	20,6	(.)
1908	31.322	20,5	(.)
1909	30.517	19,7	(.)
1910	30.597	19,3	(.)
1911	28.282	17,6	(.)
1912	25.619	15,6	(.)

Source: Otcziot lublinskogo gubernatora (for the years 1867—1904), The Lublin Governor's Office, Voievodship State Record Office in Lublin, Obzor lublinskoj guberni. Priłożenije k wsiepoddanniejszemu otcziotu (for the years 1872—1912). Calculations own.

Źródło: Otcziot lublinskogo gubernatora (za lata 1867—1904), Kancelaria Gubernatora Lubelskiego, Wojewódzkie Archiwum Państwowe w Lublinie, Obzor lublinskoj guberni. Priłożenije k wsiepoddanniejszemu otcziotu (za lata 1872—1912). Obliczenia własne.

twice, i.e. in 1873 and 1881, those coefficients reached values exceeding 30‰, whereas four times (1909—1912) they were below 20‰.<sup>30</sup>

The Diagram 1 is a graphic presentation of death-rate level in the Lublin province in 1868—1912. The empirical sequence was levelled, just as in case of birth coefficients, by mechanical method by means of a 5-year-movable mean. In the levelled sequence four periods can be distinguished: 1870—1877, 1877—1885, 1885—1897, 1897—1910. In each of these periods the death coefficients values grow to a certain maximum, and then fall gradually. The lowest and the highest coefficients in the levelled sequence can be presented as follows:

Year	Coefficient value
1870	26,7‰
1874	29,0‰
1877	26,8‰
1880	27,6‰
1885	24,9‰

<sup>30</sup> This concerns the calculated coefficients. In fact, just as in case of births, the deaths coefficients were undoubtedly higher. The difference resulted from incorrect registration of facts in the range of natural movement and overestimated number of population. Probably that difference was slightly lower than in case of births (the registration of deaths was more complete than that of births). According to M. Latuch, with birth coefficients over 30‰, death coefficients should not be lower than 20‰. With rapidly growing number of population this would correspond to the average further life of a new-born infant below 55 years. Latuch: *op. cit.*, p. 144.

1890		25,6‰
1897	21,4‰	
1902		22,5‰
1912	18,5‰	

The above data prove a falling tendency of death-rate level in the Lublin province in 1867—1912 and a certain periodicity in this field. An increase of death-coefficients in each of the mentioned periods was as a rule caused by the intensification of epidemic diseases.

An analysis of factual values of death coefficients has to lead to the conclusion that a decided and persistent fall of death frequency occurred since 1895. In 1895—1912 even the lowest coefficient of that element of the natural movement from the previous period was not repeated.

Just as in the whole province, so in its particular administrative districts death-coefficients were always lower than were birth coefficients. The number of deaths was higher than the number of births only once in Biłgoraj administrative district (1873) and Tomaszów administrative district (1869), whereas it was seven times higher in the Lublin town (in 1869, 1872, 1873, 1880, 1881, 1889, 1892)<sup>31</sup>. In the middle of the XIXth cent. a higher death-rate in towns in comparison with villages was the rule, and in the Congress Kingdom of Poland that state lasted till the beginning of the XIXth cent.<sup>32</sup> The excess of deaths was observed in Lublin, above all, in the years in which the number of cholera and black smallpox cases was intensified.

The level of death-rate was still considerably influenced by epidemic diseases. The years 1867—1912 were the years of cholera epidemic in the Lublin province (1867—1868, 1872—1873, 1889, 1892—1893, 1904),<sup>33</sup>

<sup>31</sup> *Obzor lublinskiej guberni za... god* (for 1872—1912).

<sup>32</sup> Rosset: *Proces starzenia się...*, p. 197.

<sup>33</sup> B. B. Dzierżawski, O. Hewelke, W. Janowski, J. Zawadzki: *Cholera, jej dawniejsze epidemie u nas, przyczyny, objawy, zapobieganie i leczenie* (*Cholera, Its Former Epidemics in Poland, Causes, Symptoms, Prevention and Treatment*). Warszawa 1892, pp. 11—13; W. Chwiejczak, S. Pietras: *Umieralność niemowląt w powiecie zamojskim w latach 1865—1965* (*Mortality of Infants in the Zamość District in 1865—1965*). „Annales UMCS”, Sec. C, 1970, p. 334; S. Serkowski: *Epidemiologia i profilaktyka cholery* (*Epidemiology and Prophylaxis of Cholera*). Warszawa 1965, pp. 6—8; *The cholera epidemics from 1892—1893 started in the Congress Kingdom of Poland with Biskupice village in the Lublin province, where it had been brought most probably from Rostów by a man coming back from the army*. O. Bujwid: *Kilka słów o początkach obecnej epidemii cholery w Królestwie Polskim* (*A few words on the beginning of present cholera epidemic in the Congress Kingdom of Poland*). „Nowiny Lubelskie” 1892, Vol. IV, pp. 589—592.

black smallpox (among others: 1872—1873, 1892)<sup>34</sup>, typhus among others: 1892, 1909.<sup>35</sup> These diseases caused a sudden increase of death-rate level in certain periods, whereas high death rate due to tuberculosis was permanently preserved.<sup>36</sup> Generally, it should be ascertained that the main cause of deaths in the Lublin province, just as in all communities of a high death-rate, were egzogenic diseases, i.e. infectious and parasitic diseases, air passages diseases, dysentery, and the like.<sup>37</sup> Bad conditions of housing, low sanitary state of villages, lack of medical care enhanced those diseases to spread. The village people usually lived in one-room dwellings without floor; pigsties and cow-sheds were beside. In winter the poultry and calves were kept inside the dwellings, the swine were fed there, too.<sup>38</sup> Nourishment, especially in villages, was insufficient. The peasants ate, above all, meals of vegetable origin, while meat and fats were lacking.<sup>39</sup>

Medical care was very poor. As it was estimated, at the beginning of the XXth cent. among then patients in the provinces of the Congress Kingdom of Poland only one could avail of medical help.<sup>40</sup> In 1910 there

<sup>34</sup> A. Sokołowski: *Wielkie kłęski społeczne (Ospa. Choroby tyfusowe. Dżuma. Grypa. Cholera. Choroby zakaźne właściwe wiekowi dziecięcemu. Suchoty ptuczne. Choroby weneryczne. Alkoholizm i walka z nimi. Great Social Disasters (Black Smallpox. Typhus Diseases. Plague. Influenza. Cholera. Contagious Diseases Typical of Childhood. Pulmonary Consumption. Venereal Diseases. Alcoholism) and Strife against Them.* Warsaw 1917, pp. 74—75; Chwiejczak, Pietras: *op. cit.*, p. 334.

<sup>35</sup> Sokołowski: *op. cit.*, pp. 113—115.

<sup>36</sup> Ca. 1/3 of the total number of deaths of people aged 20—40 was caused by tuberculosis. S. Bulikowski: *Jeszcze słów kilka o potrzebie upaństwowienia przepisów profilaktycznych przeciwko gruźlicy skierowanych (More about the need of nationalization of prophylactic regulations against tuberculosis of patients)*, „Zdrowie”, 1898, Vol. XIV: no. 54, pp. 366—377.

<sup>37</sup> Together with an increase of economic welfare and medical achievements the mortality caused by those diseases in Europe during the former and present centuries was rapidly ceasing. However, the decline of mortality was not selective as regards age; therefore, in spite of lengthening of the average period of men's life, the structure of population according to age did not undergo any greater changes. H. Wander: *Demograficzne i społeczno-ekonomiczne konsekwencje postępującego wydłużenia się przeciętnego trwania życia w okresie po modernizacji demograficznej (na przykładzie RFN) Demographic and social-economic consequences of the proceeding lengthening of the average life-time after demographic modernization (as exemplified by West Germany).* „Studia Demograficzne” 1976, Vol. 44, p. 83.

<sup>38</sup> K. Rakowiecki: *Mieszkania ludności wiejskiej (Dwellings of Village Population).* „Zdrowie” 1900, Vol. XVI: no. 16, pp. 186—196, no. 17, pp. 256—263.

<sup>39</sup> S. Kozłowski: *Co wiemy o żywieniu się ludu naszego (What do we know about our country people's feeding).* „Zdrowie” 1900, Vol. XVI: no. 181, pp. 441—460.

<sup>40</sup> W. Biegański: *Sprawa polityki lekarskiej ludowej, (The matter of medical folk policy).* „Zdrowie” 1903, Vol. XIX: nos. 6—7, pp. 567—576.



were 98 physicians in the Lublin province. 16,3 thousand of people fell to each of them (6,7 thousand in the whole Congress Kingdom), including towns — 2,8 thousand (1,5 thousand in the Congress Kingdom) and villages — 40,6 thousand (30 thousand in the Congress Kingdom). It should be stated, however, that in respect of accessibility of medical assistance the Lublin province was much the same as the majority of provinces in the Congress Kingdom. An exception was Warsaw which in 1910 concentrated 52,3<sup>0</sup>/<sub>0</sub> of all the physicians in the Kingdom. In the Warsaw province (including Warsaw) and in the Piotrków provinces were 75,6<sup>0</sup>/<sub>0</sub> of total number of physicians in the Kingdom.<sup>41</sup> The level of obstetric care, especially in villages, was very low. In 1910 there were 1,3 midwives per 10,000 women in the Lublin province; still lower coefficients in this respect were in Suwałki, Radom and Siedlce provinces.<sup>42</sup> The village midwives played the role of qualified midwives in villages. Their incompetent behaviour during delivery and not abiding by the rules of hygiene caused high mortality both of the new-born infants and lying-in women. Specially dangerous were internal interventions performed by village midwives, since they led to puerperial sepsis which was still very common at that time.<sup>43</sup> In case of inner haemorrhage women usually died. As it was estimated at least 5 per 1,000 of deliveries in the Congress Kingdom ended with death of a parturient woman.<sup>44</sup> A serious danger both for women and infants were deeply-rooted superstitious practices and wizardry connected with childbirth. It should be added that women worked hard through the whole period of pregnancy, their time of rest after delivery was, again, too short. It seems that the below saying can refer not only to the first but also to the second half of the XIXth century: "Our peasants often care more for the convenience of a cow in calf than for that of their own pregnant wife".<sup>45</sup>

Many new-born babies and children died because of inappropriate feeding. Those children who were stopped to be breastfed were given the

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<sup>41</sup> *Rocznik Statystyczny Królestwa Polskiego*. Rok 1913, Warszawa 1914, pp. 294—295.

<sup>42</sup> *Ibidem*.

<sup>43</sup> H. Radziszewski: *Zaludnienie Królestwa Polskiego (The population of the Congress Kingdom of Poland)*, „*Ekonomista*” 1903, vol. II; A. Jaroński: *O zadaniach społecznych lekarza prowincjonalnego w naszych warunkach (On the Social Tasks of a Provincial Doctor in Our Conditions)* [in:] *Tre Diary of the IInd Congress of Provincial Doctors on 31st May and 1st June 1914, in Lublin*, Lublin (without the date of issue), p. 57.

<sup>44</sup> L. Wiśniewski: *Dlaczego lud prosty dotąd za mało się leczy (Why Are Common People Insufficiently Cured)* [in:] *The Diary of the IInd Congress...*, p. 149.

<sup>45</sup> Z. Kuchowicz: *Leki i gusła dawnej wsi (Medicines and Sorcery of the Former Village)*. Warszawa 1954, p. 86.

same food as the older children, and the food was earlier masticated by their mothers. In villages, just as in towns the death-rate among the children was high due to diseases typical of childhood. According to the estimate, still on the turn of the XIXth century the death-rate coefficient of new-born infants (i.e. the number of death cases among children up to one year of life per 1,00 of live born babies in a given year) were on the level of 200‰.<sup>46</sup> This means every fifth child died, living not longer than 12 months.

The comparison of death coefficients shows that in the period discussed the situation as regards death-rate has improved distinctly. The constant fall of death-rate was a common phenomenon in the whole Congress Kingdom at that time. However, the demographers and historians differ in their opinions in respect of the base of this process. The following factors are considered to be the causes of declining death-rate level: the improvement of economic and social conditions, medical discoveries as well as the progress in sanitation. Undoubtedly, one of the major causes was the increment of food production which made possible to stamp out famine. Worth stressing are also achievements in the field of fighting with black smallpox and cholera epidemics. Since the 70's of the XIXth cent. vaccination against black smallpox and slightly later — against cholera — started to spread in the Congress Kingdom.<sup>47</sup> Thanks to the knowing of the causes of these diseases more effective actions preventing them to spread could be undertaken. This can be proved by the fact that in the period discussed not even once, even during the most severe epidemics in the province, the death-rate exceeded the birth-rate. Also the fluctuations in death coefficients in the successive periods of epidemics were smaller and smaller.

Medical achievements also influenced the decrease of death-rate among new-born children and lying-in women. This specially applied to the higher and middle classes of the community. This also explained the change in death proportions among men and women. Nowadays the common regularity is that the death-rate among men outnumbers the death-rate among women in all age groups. The causes of this excessive death-rate among men are of biological and social nature.<sup>48</sup> The social factors causing excessive mortality among men are dangers connected with their work, accidents, alcoholism and tobacco consumption.<sup>49</sup> In

<sup>46</sup> Rosset: *Proces starzenia się...*, p. 529.

<sup>47</sup> Sokołowski: *op. cit.*, pp. 71—78.

<sup>48</sup> E. Rosset: *Ewolucja i perspektywy trwania życia ludzkiego (Evolution and perspectives of duration of men's life)*. „Studia Demograficzne” 1975, Vol. 44, p. 33.

<sup>49</sup> Ch. Blayo: *Pewne aspekty nadumieralności mężczyzn (Certain aspects of overmortality of men)*. „Studia Demograficzne” 1976, Vol. 44, pp. 64—67; P. Ch. Matthiessen: *Nadumieralność mężczyzn w Danii w perspektywie hi-*

1867—1891 the situation in the Lublin province was just the opposite, death-rate among women was higher than among men. This, however, just as in case of births cannot be explained exclusively by the incorrectness of the statistic material. The quantitative sex ratio among newborn infants is of clearly biological nature. Sex proportions of the dead result, above all, from social causes. As demographers show the excessive death-rate among women could occur in the communities whose level of development was lower, whereas fecundity and death-rate (due to exogenous diseases) — high. At present such a phenomenon is observed in several countries in Africa and Asia, before the IInd World War — in Hungary and in Bulgaria.<sup>50</sup>

The higher death-rate among women is, first of all, the result of dangers connected with delivery (hard work during pregnancy, delivery complication, puerperal fever, and alike). Even in the group of newborn infants there was not surely such a considerable prevalence in death among boys as it is nowadays in highly developed countries. Nowadays the basic cause of death in the infancy period in these countries are the inborn defects, as well as premature birth and injuries during parturition. The boys are less resistant to these causes. On the turn of the XIXth cent. a very high death-rate in the Congress Kingdom of Poland was caused by exogenous diseases, which in the same degree influenced boys and girls<sup>51</sup>.

Since 1892 the surplus of death intensity among men was "normal" in the Lublin province; the similar situation was in the whole Congress Kingdom. This fact again proves those territories entered the period of demographic modernization.

Birth and deaths are the basic factors marking the process of reduction of population. They determine the size of increase of population which is the surplus of births over deaths. There may also occur the opposite situation when the number of deaths exceeds the number of births and then we face natural decrease. The constant positive birth-rate was characteristic of the Lublin province in the period examined (Tab. 3). This already proves that the Lublin province entered a quantitatively new period of demographic development.

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*starycznej (Overmortality of men in Denmark in historical perspective)*. „Studia Demograficzne” 1976, Vol. 44, p. 41; Rosset: *Ewolucja i perspektywy...*, p. 33.

<sup>50</sup> Bła o: *op. cit.*, p. 40—41.

<sup>51</sup> Matthiessen: *op. cit.*, pp. 40—41.

Tab. 3. Birth-rate of the Lublin province population  
in 1867—1912Przyrost naturalny ludności guberni lubelskiej  
w latach 1867—1912

Year	Birth-rate		Coefficient of demographic dynamics
	absolute number	coefficient in ‰	
1	2	3	4
1867	10.088	(.)	1,53
1868	9.120	13,7	1,50
1869	6.613	9,8	1,36
1870	9.699	13,7	1,53
1871	10.611	14,8	1,65
1872	8.774	12,2	1,43
1873	4.373	6,6	1,18
1874	9.770	13,1	1,46
1875	11.458	15,2	1,53
1876	13.292	17,2	1,65
1877	10.204	12,9	1,48
1878	11.245	14,3	1,52
1879	13.630	16,6	1,65
1880	9.881	11,8	1,41
1881	8.938	10,4	1,35
1882	9.335	10,8	1,40
1883	12.973	14,7	1,59
1884	14.800	16,6	1,68
1885	15.814	17,2	1,69
1886	15.719	16,8	1,68
1887	16.441	16,9	1,67
1888	14.709	14,8	1,57
1889	14.464	14,1	1,52
1890	16.481	15,5	1,61
1891	18.202	16,7	1,67
1892	12.258	11,1	1,41
1893	16.651	14,8	1,63
1894	17.470	15,2	1,71
1895	18.081	15,5	1,78
1896	19.731	16,6	1,76
1897	19.571	16,1	1,90
1898	23.249	18,6	1,77
1899	21.974	17,2	1,79
1900	23.306	17,8	1,80
1901	24.699	18,5	1,81
1902	26.321	19,2	1,90
1903	21.515	15,3	1,67
1904	20.696	14,5	1,63

	1	2	3	4
1905		19.977	13,8	1,70
1906		22.090	14,9	1,62
1907		21.695	14,5	1,70
1908		20.803	13,6	1,66
1909		24.278	15,6	1,80
1910		20.315	13,4	1,70
1911		22.186	13,7	1,78
1912		22.528	13,8	1,88

Source: Own calculations on the basis of the data from  
Tabs. 1 and 2.

Źródło: Obliczenia własne na podstawie danych tablicy 1 i 2.

It was formerly stressed that the number of births and deaths showed a rising tendency. However, the pace of increase in birth number was smaller but in spite of this the absolute numbers concerning the natural increase of population showed a rising tendency. The alike situation was with the coefficients of birth-rate per 1,000 people. A graphic presentation of the level of birth-rate is in Diagram 2. In order to show

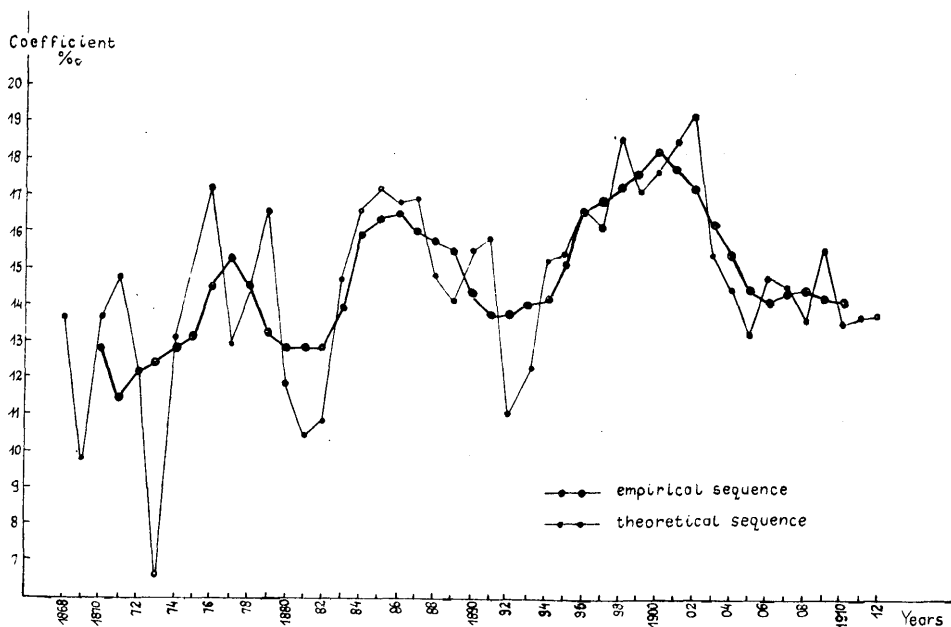


Fig. 2. Developmental tendencies of birth-rate coefficients in the Lublin province in 1868—1912

Tendencje rozwojowe współczynników przyrostu naturalnego w guberni lubelskiej w latach 1868—1912

the developmental tendency the empirical sequence was levelled by the 5-year movable mean. Four periods can be distinguished in the levelled sequence. In each of them the coefficients grow to a certain maximum and then they fall. The lowest and the highest values in the levelled sequence can be presented as follows:

birth-rate in ‰ coefficient year		
1871	11,4	
1877		15,2
1882	12,8	
1886		16,8
1891	14,2	
1900		18,3
1906	14,2	
1907		14,5
1910	14,0	

These data prove that in spite of considerable fluctuations birth-rate coefficients showed a rising tendency till 1906. The years 1883—1905 can be called the period of "demographic explosion" in the Lublin province, since the birth-rate was then high. In that period the collapse occurred only in 1892, when birth-rate coefficient was 11‰. It should be reminded that it was the year of cholera epidemic in the Lublin province which caused the sudden rise of death-rate. A particularly high birth-rate occurred since 1895 when the fall of death frequency was permanent, up to 1905 since when the level of birth-rate started to be constant. The similar period in demographic development in the Polish territories under German administration was called the "demographic explosion" by T. Ładogórski. The high birth-rate exceeding in principle 10‰ each year proves that the progressive demographic development was characteristic of the Lublin province of the whole examined period.

The absolute number as well as the calculation per 1,000 of population do not give the idea of birth-rate structure. In this connexion other measures of population reproduction are being applied in which there is no dependency on the level of birth-rate components. These measures reflect the proportions of births and deaths. The demographic dynamics coefficient is such a measure; it denotes by how many births one death has been replaced. In 1867—1912 the demographic dynamics coefficient in the Lublin province was always higher than one, i.e. the annual birth number always exceeded the death number. Permanent expanded reproduction of population in the province was then taking place. In the Congress Kingdom of Poland the surplus of deaths over births occurred twice.

In the situation of certain economic underdevelopment, which was undoubtedly characteristic of the Lublin province, the pace of birth-rate should be estimated as very high. This was due to a certain political stabilization which occurred after the January uprising as well as to other factors which diminished death frequency at the simultaneously high birth intensity. The rise of birth-rate level is a feature characteristic of the first stage of demographic modernization (modernization of deaths).

#### STRESZCZENIE

Wśród przeobrażeń, jakie dokonały się w Królestwie Polskim po powstaniu styczniowym, szczególną rolę odegrały przemiany demograficzne, zapoczątkowane trwałym spadkiem natężenia zgonów poniżej 30%. Oznaczało to całkowite załamanie się naturalnego systemu demograficznego i przejście do nowego etapu rozwoju ludności — pierwszej fazy rewolucji demograficznej. Utrzymująca się w dalszym ciągu wysoka rodność, przy spadkowej stopie zgonów i niewielkich rozmiarach emigracji, dała nie notowane do tej pory wysokie tempo wzrostu liczby ludności. Szczególnie wysoką dynamikę rozwoju ludnościowego wykazywały uprzemysłowione gubernie piotrkowska i warszawska, głównie dzięki migracji z innych regionów Królestwa. Trzecie miejsce pod względem tempa przyrostu liczby ludności zajmowała gubernia lubelska, o charakterze gospodarki zupełnie odmiennym, gdyż dominowało tu rolnictwo. W całym Królestwie, a także w guberni tej zmiany w poziomie umieralności stanowiły zasadniczą cechę procesów demograficznych zachodzących w latach 1870—1914. Przyczyn spadku natężenia zgonów było wiele, zasadnicze znaczenie miały jednak przeobrażenia w rolnictwie, zapoczątkowane uwłaszczeniem chłopów w 1864 r.

#### РЕЗЮМЕ

В числе преобразений, происшедших в Королевстве Польском после восстания 1831 года, особую роль сыграли демографические перемены, начатые устойчивым снижением смертности ниже 30%. Это знаменовало полный провал естественной демографической системы и переход к новому этапу развития населения — первой фазе демографической революции. Сохранение высокой рождаемости вместе со снижением смертности и небольшими размерами эмиграции привели к невиданным доселе темпам роста численности населения. Особенно высокой динамикой в этом отношении отличались промышленные губернии: Пётрковская и Варшавская, — главным образом, благодаря миграции из других регионов Королевства. Третье место по темпу роста численности населения занимала люблинская губерния — совершенно другого экономического характера, так как здесь преобладало сельское хозяйство. Подобно всему Королевству, в Люблинской губернии изменения уровня смертности были основной чертой демографических процессов 1870—1914 гг. Снижение уровня смертности было вызвано многочисленными причинами, в числе которых главное значение имели преобразования в сельском хозяйстве, начиная с отмены крепостного права в 1864 году.