https://doi.org/10.7592/YBBS5.07

SEASONALITY OF BIRTHS AND MARRIAGES AMONG BESSARABIAN BULGARIANS IN THE NINETEENTH AND EARLY TWENTIETH CENTURIES

Oleksandr Ganchev

PhD, Docent at the State University of Intellectual Technologies and Communications, Ukraine

e-mail: alexander_ganchev@yahoo.com

Oleksandr Prigarin

Sc.D., Professor at the Odesa I.I. Mechnikov National University, Ukraine

e-mail: prigarin.alexand@gmail.com

Abstract: The article looks at the seasonality of birth and marriage rates among the Bulgarian population in Bessarabia in the nineteenth – early twentieth centuries. The authors argue that the transition from traditional to modern models of reproduction is accompanied by a transformation in the religious identity of Bulgarians. The work demonstrates that starting a family with children becomes more secular and not as dependent on the practices of the church calendar taboos. The main determinants of marriage and birth seasonality are the mechanisms of migration and further adaptation to new conditions.

The calculations reveal the levelling and relative uniformity in the distribution of births through the months of the year. These trends highlight the transition from the traditional to the modern model. The dependence on religious factors is gradually weakening while the agricultural work cycle becomes dominant. It evidences the pronounced secularization of the worldview and social practices.

Keywords: birth rate, Bulgarians, demographic transition, demographics, marriage rate, migration, southern Bessarabia

Introduction

The working hypothesis is based on the suggestion that the transition from the traditional to the modern models of reproduction in the population (Vishnevskii 2014) was accompanied by the secularization of the religious mentality. It resulted in changes in relevant social practices: the creation of the family and the birth of the children were gradually getting detached from the church calendar taboos and increasingly gaining secular and pragmatic nature. We are going to demonstrate this trend by employing empiric materials about the seasonal nature of childbirth and marriage among the Bulgarian community of Budzhak or Bessarabia.[1] Massive formulary data expose the procedurality of these two factors of natural movement during the 1810s–1940s. What is significant for this context is the comparison of the calculation results, which enables us to reconstruct specific historical models of transition to the modern forms of natural population movement in the region.

From a historical and anthropological perspective, childbirth is defined in science as a category of the mass phenomenon of how new individuals appear in the population. With such an approach, this category is traditionally explored using statistical methods, with the two concepts being differentiated: number of births and birth rate. The former implies an absolute extensive index of the number of people who were born within a certain chronological interval (usually one year). Meanwhile, the birth rate indicates the intensity of the childbirths within a specific historic and ethnocultural environment. Before historical demographics became widely established as a subdiscipline (not until the mid-1970s), the synonymic terms of *fertility/productivity* were used. In particular, the main focus was placed on the research into the *fertility coefficient*. This physiological feminocentrism is now perceived exclusively in terms of the

"biological ability of women, men, a married couple to conceive and give birth to a certain number of children, regardless of the fulfilment of this ability; it is measured by the number of a potentially possible number of live-birth infants in women, which depends on the genetic features and wellness of the spouses as well as the co-existence of their physiological characters in marriage" (Borisov 2003 [1999]: 139). In other words, *fertility* is determined by the results of the interaction of physiological and biological factors. Meanwhile, the *birth rate* is influenced not only by biological factors but also by social and economic, geographical, ethnic, and historical factors. The latter is more efficient for the reconstruction of historical and cultural environments. In this context, "birth rate is an actual realization of fertility amid a number of conditions (where fertility is, certainly, the most significant one), as well as economic, cultural, psychological, and other factors" (Borisov 2003 [1999]: 141–142).

According to historical demographic projections, it is a common practice to reveal the "natural birth rate" as a process under the circumstances, where the birth rate is not consciously restricted by means of contraception and abortions. It is determined only by physiological and structural factors, i.e., fertility and population structure in terms of sex, age, and marital status (Borisov 2003 [1999]: 176; Melik'ian 1994: 197). The fulfilment of biological potential in ethnocultural contexts is studied via "reproductive behaviour" – "a system of actions and relationships that determines or rejects childbirth in the marriage or beyond it" (Melik'ian 1994: 348).

Outlining calendar periods when weddings take place plays an important role in understanding the population's marriage and reproductive strategies in traditional society. These are the indices that reflect the settlement and economic specifics as well as the religious mindset. Among the entire corpus of actualized sources, only metrical books proved to hold relevant information about the dates of the marriages of the young spouses. Such circumstances of source content underline the focus of our analysis on the nineteenth and early twentieth centuries.

The everyday life of a Bulgarian family in Bessarabia during this time was determined by two groups of factors. On the one hand, all areas of life were subject to the seasonal cycles of agriculture, which is a feature of societies with agricultural economies. On the other hand, there is a profound influence of the Orthodox Church, with its system of religious taboos intertwined with the norms of customary law, which can be perceived as ethnocultural traditions.

Based on such a sophisticated life structure, similarly complex ideas about holidays and leisure time are formed. A special case here is understanding that both church and out-of-church weddings are celebrations of the birth of a new family. In the traditional world view, the births of children followed the same cycles.

For such reconstructions, we use methods of grouping the average and relative values, the index method, correlation-regression analysis, and the construction of sample time series. Moreover, engaging mass formulary documents as sources leads to applying the constructs of *conditional* and *actual generations*. When used together, they enable characterizing the typicality of phenomena, as well as the traditionalism ("patriarchy") of reproductive behaviour, and its dependence on ethnocultural and historical factors.

For the purpose of these options of analysis, we are going to turn to sources of ecclesiastical origin. Monthly data from the metric book records enable us to trace the seasonality of such demographic phenomena as fertility, marriage, and mortality. The expediency and productivity of using historical demography in seasonal factor investigations have been proven since as early as the nineteenth century. Based on metric book records and personal observations, the researchers explore the seasonality of infant mortality and fertility (Arkhangel'skii 1872).

Over time, there have been attempts to unravel the correlation between the seasonal fluctuations of marriages, births, and deaths (Avdeev & Blum & Troitskaia 2002). In addition to demographic characteristics, the seasonality of birth provides a wide range of heuristic opportunities in the context of research into the processes of society's secularization, its worldview, and social norms. We will make an attempt to unfold this historical and cultural approach on the basis of seasonality. However, we should first focus on three main issues:

(1) Firstly, according to Maria Todorova's research into a Bulgarian family in the Balkans, within the first year of marriage, 68% of women give birth to their first child (Todorova 2006: 62). However, the marriage seasonality is quite clearly regulated by the church. Due to this fact, the seasonality of births is expected to reflect the regular distribution by months of the year.

(2) Secondly, according to Orthodox Church customs, intimate marital relations are forbidden during any fast. Formally, strict compliance with such restrictions is expected to reduce the birth rate during a certain

time of the year to a minimum level. The long-lasting fasts (such as a 40-day Easter Lent or a month-long Christmas Fast) are expected to affect the December and September birth rates. Therefore, verification of these data can expose the extent to which the Bulgarians of Bessarabia adhere to this tradition at different stages of their lives.

(3) Thirdly, throughout its life in Budzhak, the Bulgarian community has been explicitly agrarian. In this context, all areas of life are closely linked to agricultural cycles. We will verify this statement by matching the seasonality of conception and birth to these cycles.

Seasonality of births

Following Louis Henry and Alain Blum, when processing data from small groups, it is customary to study seasonal movements over long periods of time – in 20, 50, and even 100 years (Henry & Blum 1997: 62).

This approach seems practical since the number of days in different months varies, so they should all be reduced to a common indicator. A certain value is usually obtained by dividing the number of births per month by the number of days in it. This number of events per month is then converted into a notional amount based on 1,200 events per year. It provides for each month to be determined by the number of 100, regardless of its duration in days. Based on this calculation method, we present the analysis and empirical data on the seasonality of births and conceptions in the Bulgarian settlements of Budzhak in the tables below.

Table 1 presents the results of our data processing, retrieved from the current statistics of the church records. The metric books of the Bulgarian settlements of Bessarabia include information about 3311 facts of births between 1812–1850.

The distribution by month clearly shows a high birth rate in January-March, a significant decline from April to October, and high rates in October-November. According to the conventional assumption of a typical pregnancy period, children born in January-March are conceived in April-June, and children born in October-November are conceived in January-February, respectively. Given the seasonality of marriages, the largest number of weddings takes place in January-February and October-November. On the one hand, these months give the population a break from agricultural work, and on the other hand,

this time precedes the long Christmas Fast and Easter Lent, when the clergy are allowed to perform marriage ceremonies.

Table 1. *Seasonality of births. 1812–1850*[2]

1812–1850	Month of birth												Total
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	
	Month of conception												
	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	
Absolute number	379	359	329	239	239	248	249	251	250	338	288	142	3311
Days in a month	31	28.3	31	30	31	30	31	31	30	31	30	31	
Births per day	12.2	12.7	10.6	8.0	7.7	8.3	8.0	8.1	8.3	10.9	9.6	4.6	109.0
Relative data	135	140	117	88	85	91	88	89	92	120	106	50	1200

Comparing these materials, we can indicate that the high birth rate in October-November allegedly coincides with a high proportion of marriages (conceptions) in January-February. At the same time, the interdependence of these two groups of events is hardly factorial. It can be assumed that the seasonality of marriage is expected to determine the seasonality of the first births in Bulgarian families. It is unlikely, however, that fluctuations in marriage would have even a minor impact on the birth of the second and subsequent children, which clearly fall into the empirical array. There is another point that supports this idea. The number of births in July-August is quite small, which convincingly demonstrates a small number of conceptions in October-November. And this was one of the significant peaks in the popularity of church weddings in those days. Therefore, the correlation between marriage and birth seasonality among Bulgarians in Bessarabia is insignificant for the first half of the nineteenth century. Quantitative models show that the facts of the births of the first children (who provide the existing determinant) are almost dissolved in the births of other children – they make up at most 15% of all births, given the total birth rate of eight children per woman.

Seeking the answer to the question about the influence of clerical customs on the matrimonial and reproductive behaviour of the Bulgarians in Bessarabia in the first part of the nineteenth century, we pursue further calculations. It is

known that the most strictly observed fast is Easter Lent. During 1815–1861, Lent started on February 3 at the earliest and on March 6 at the latest. They would end on March 30 and April 30, respectively (i.e., on the Easter days) (Avdeev & Blum & Troitskaia 2002). Therefore, in the vast majority of cases, every March fell within Lent. From this perspective, children conceived in March are expected to be born in December. This is exactly what we see in Table 1: the lowest birth rates are found in December, and the highest are found in January, which corresponds to the period of conception after Lent. However, one should keep in mind the influence of pragmatics because March is the time of intensive agricultural work in Budzhak.

The next fast on the calendar is St Peter's Fast, which covers almost the entire month of June. Babies conceived at this time amount to almost 10% of all births during the year. Such high birth rates in March clearly indicate that either the taboo during the fast was not as strict and was often violated, or it was non-existent due to regional peculiarities.

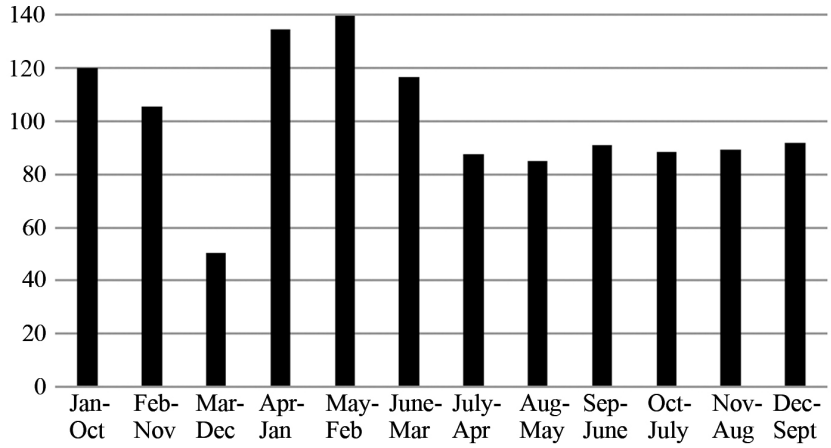
Assumption Fast is quite short and lasts only two weeks during the second half of August. Children conceived in August are born in May, where we observe the lowest birth rate of the year. Meanwhile, the birth rates in April and June are similarly low. It indicates a small number of conceptions between June and September. Certainly, it is the most intensive stage of fieldwork. This clearly shows the agrarian nature of the population group.

The fourth fast, which is rather long and strict, precedes Christmas. Going through December, it begins on November 15 (28) and ends on December 25 (January 6). The low number of births in September indicates a high degree of compliance with sexual prohibitions during this fast. This is directly evidenced by the explosion of the birth rate in October, as a consequence of the January conceptions after the end of the Christmas Fast.

Let us summarize the analysis of the seasonality of births by arranging these indicators in the order of conception months. Chart 1 reveals that in January there is an outbreak of conceptions after Christmas fasting. In February, it somewhat decreases, but the indicators remain quite high. It can be explained by the length of the gap between fasts, the lack of agricultural work, and perhaps the short daylight hours. As we have mentioned above, March is the month of strict Easter Lent as well as intensive sowing work in the fields. After a long Lenten period, there is a maximum number of conceptions in April and May, followed by a slight decrease in June. July, August, and early September are

the months of active harvesting. It can be assumed that active involvement in the labour process during this period plays a crucial role in shaping the births' seasonality. The number of children born between June and September is nearly identical. It suggests that during the autumn months and December, despite the Christmas Fast and a dramatic increase in the number of marriages, the mechanisms of population reproduction work in the same manner.

Chart 1. *Seasonality of births. 1812–1850*[3]



To determine historical dynamics in the seasonality of births in the first half of the nineteenth century, we are going to analyze the evidence in more detail. For this purpose, we grouped up our calculations with shorter time periods (Table 2).

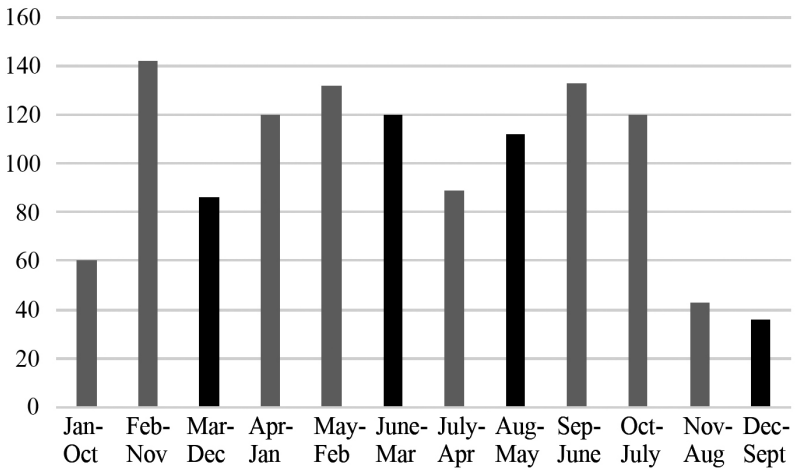
With this approach, there is a clear distribution of the births number during 1812–1820. In absolute data for this period, there are records of 136 births in 5 colonies. They include Karagach, Tashbunar, Imputsita, and Chiishiya – the colonies of the Tukan group and the colony of Cheshma-Varuita, founded in 1810 (Ganchev 2014: 215). Accordingly, this scope of data largely illustrates the state of reproductive behaviour that had been transferred from previous territories, namely the Balkans. We are going to consider these aspects separately

since they are significant characteristics that allow us to reveal the transition situation (Chart 2).

Table 2. *Dynamic of the seasonality of births 1812–1850*[4]

	Month of birth												Total
	Jan	**Feb**	**Mar**	**Apr**	**May**	**June**	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	
1812–1820	120	132	120	89	112	133	120	43	36	60	142	86	1200
1822–1825	117	137	144	96	80	78	84	103	90	105	86	80	1200
1827–1830	140	131	136	52	80	107	98	121	64	118	98	56	1200
1831–1835	108	144	89	103	96	90	83	83	96	131	123	54	1200
1839–1843	151	132	108	76	80	97	103	87	102	119	97	48	1200
1846–1850	162	148	120	91	79	83	79	79	103	131	106	20	1200
Total	**137**	**130**	**119**	**87**	**87**	**90**	**90**	**91**	**91**	**122**	**104**	**51**	**1200**

Chart 2. Seasonality of births. 1812–1820[5]



For the sake of better perception, the conditional indicators of the number of births are arranged in the order of the months of conception, while the months that are covered by fasts are marked black. As a result, among the four fasts, the restrictions were observed only during Christmas. The figures for March, the time of Easter Lent, are higher than in January. The births level of children conceived in January is among the three lowest. Meanwhile, the September figures are high on the list. The data presented in Chart 2 show an almost complete absence of seasonality, determined by church fasts, the agricultural cycle, and fluctuations in the level of marriage. It can be suggested that this absence relates to insufficient sampling of the number of births, although we extrapolate it from similar studies. This is the reason why we seek other explanations to reflect the ethnocultural and historical specificity of the group.

Bulgarians were resettling throughout Bessarabia in the early nineteenth century and tried to escape the danger of Kirdzhalis and Bashi-bazouk gangs in the Balkans. As a result, they found themselves in a rather difficult situation because of the unresolved land issue. The new land redistribution for Bulgarian immigrants was first discussed at the early stages of the Russo-Turkish War of 1806–1812 (Meshcheriuk 1970: 10). This issue, however, was finally resolved only by the Senate Order of December 29, 1819, and a special Interior Ministry Act of March 12, 1820 (Meshcheriuk 1970: 15). It means that for over a decade, the early Bulgarian immigrants were uncertain about their position and the corresponding financial security. The scarce pre-1820 records relate to agriculture and animal husbandry and significantly hinder the clear statement of the existence of any agricultural system. We believe that the permanent inflow of new migrants from the Balkans and the internal migrations of the Bulgarian population across Budzhak do not contribute to the coordination of the entire migration community of a particular colony to the seasons of fieldwork. What is more, many residents were engaged in cattle breeding.

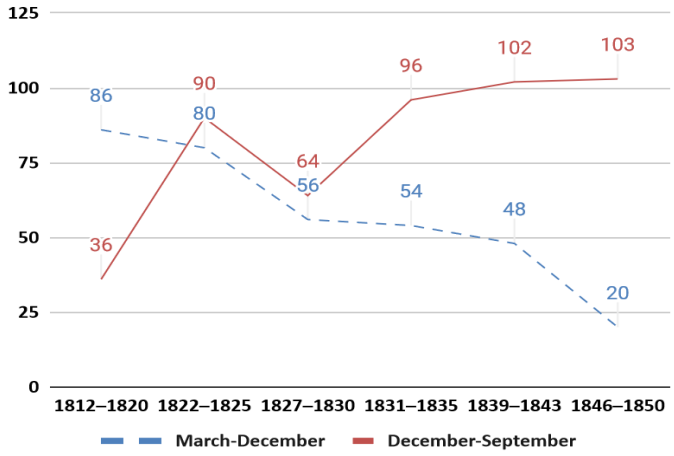
It is not clear why Bulgarian immigrants do not strictly observe the fasts. One can only assume that over four hundred years of Ottoman rule in the Bulgarian lands had affected popular Orthodoxy and the degree of the population religiosity.

The Bulgarians moved to the Budzhak territories with their priests, traditions, and, perhaps, their version of the religious rules' perception and a variant of customary law. The role and authority of the clergy among the settlers are not known yet. However, half a century later, one of the priests, Vakkh Gur'ev,

in his letters from the fronts of the 1877–1878 Russo-Turkish War, mentioned that "Bulgarians go to their churches very rarely, reluctantly, and never stay there long. They just light a candle and go home as soon as possible, because in the church nothing appeals to or interests them" (Gur'ev 1883: 105). This is one of those arguments that does not allow for the establishment of the characteristics of the phenomenon but provides grounds to change the wording of the scientific approach to the forms and levels of folk religiosity among Bulgarian immigrants.

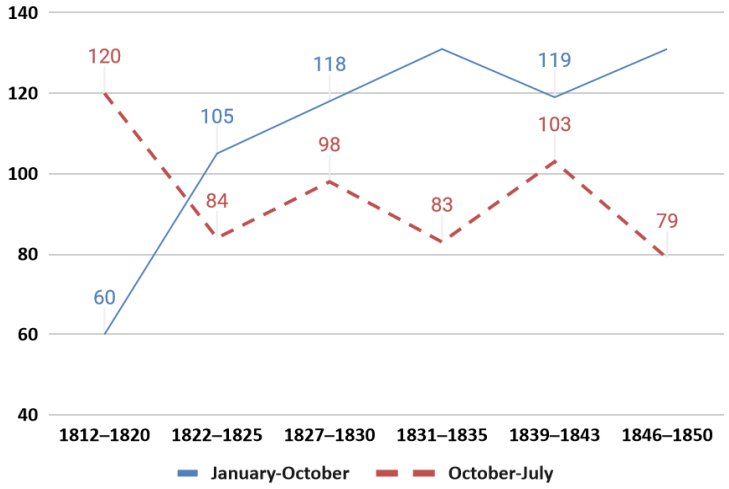
Within the dynamic analysis of the changes in the seasonality of births among the Bulgarian settlements in Bessarabia in the first half of the nineteenth century, we would like to bring one more fact to the spotlight. Chart 3 clearly shows the transformation in the relative number of births in September and December. These two months reflect the dependence on conceptions during the Christmas Fast and Easter Lent. The diagram shows two opposite trends. One evidences the growing importance of Easter Lent for Bulgarian expats. The second refers to the gradual loss of the meaning of fast observation before Christmas.

Chart 3. *Changes in the number of births in September and December of 1812–1850*[6]



Another illustrative trend is shown in Chart 4. It provides graphical data on changes in the number of births in October and July. These children were conceived, accordingly, during the two months with the largest number of weddings. And yet again, we can observe two opposite regularities. Similar to December-September, in January-October the number of births clearly increases, while in October-July there is a downward trend.

Chart 4. *Changes in the number of births in October and July 1812–1850*[7]



Therefore, the analysis of the seasonality of births in the Bulgarian colonies of Bessarabia in the first half of the nineteenth century enables us to argue about several significant features of the historical and demographic behaviour of this group. Despite the pronounced seasonality of marriages, determined by fasting periods and cycles of agricultural work, it does not affect the seasonality of births. Unfortunately, the scarce and fragmented nature of some metric books prevents us from reproducing the singled-out image of the birth of first children, which is directly influenced by marriage seasonality.

Of the four main Orthodox fasts during the year, only two (Christmas Fast and Lent) affect the seasonality of births. This correlation should be seen as

factorial and is the one that determines the stronger influence of Lent until the middle of the nineteenth century. Along with fasting, the influence of agricultural cycles is still active. Jointly, they lead to a resonant minimum value of conceptions in March and, consequently, a record low number of births in December. At the same time, despite the fasts and fieldwork, there is an absolute levelling of seasonality in the second half of the calendar year, from July to December. An explanation for this is yet to be found, but thus far we can only assume the beginning of the secularization processes of the worldview and relevant social practices, which are superimposed on the pragmatics of engagement in agricultural work.

Data on the intervals between the birth and christening of children can be very important indicators of how these trends spread. For this purpose, we created a database of 2470 cases, extracted from the metric books as of 1812–1850. To identify the historical dynamics of these processes, all cases are grouped into two chronological segments that correspond to the first and second quarters of the nineteenth century. Analysis results and empirical data are presented in Table 3.

Above all, we pay attention to the sex ratio in the group of children born. During 1812–1825, this figure equalled almost 100, with a slight advantage in favour of boys. The next period of 1827–1850 sees the ratio of 103.5, and the total for the entire first half of the nineteenth century is 102.8. Such a ratio is considered typical and falls fully within the allowable range from 100 to 110 (Henry & Blum 1997: 27). According to the data, it can be argued that in the Bulgarian family of Bessarabia, the most common practice was to baptize a child during the first week after his or her birth. In some regions of Bulgaria, the best day for that matter was the third day after birth, except when the child was "weak". In such cases, the parents would take an effort to baptize him/her during birth or on the same day (Todorova 2006: 56-57). Based on popular practice, the intervals between the birth and christening are divided into five groups: children baptized on the day of birth, those baptized on the following day (second or third day), those baptized during the first week (in this case, on the fourth-seventh day), and those baptized before the fourteenth day and in other calendar terms.

Table 3. *Intervals between children's births and baptizing in 1812–1850*[8]

	1812–1825				1827–1850				Total
	Boys		Girls		Boys		Girls		
	Abs. number	%	Abs. number	%	Abs. number	%	Abs. number	%	
Date of Birth	15	4.8	9	2.9	15	1.6	14	1.5	**53**
Second-third day	57	18.4	56	18.2	57	6.1	50	5.5	**220**
Before the seventh day	146	47.1	146	47.4	491	52.1	454	49.9	**1237**
Before the fourteenth day	62	20.0	66	21.4	349	37.0	365	40.1	**842**
After the fourteenth day	30	9.7	31	10.1	30	3.2	27	3.0	**118**
Total	**310**	**100.0**	**308**	**100.0**	**942**	**100.0**	**910**	**100.0**	**2470**

Such filtering of metric book data shows that in the first quarter of the nineteenth century, almost 5% of boys and 3% of girls were baptized on their birthday. It can be assumed that such a high percentage is rooted in high infant mortality. This is the reason why parents seek to baptize their children as soon as possible. In the second quarter of the nineteenth century, the share of such early christenings was reduced to 1.5% and the sex-related peculiarities were leveled. Somewhat paradoxically, this practice contradicts the smallpox outbreak and, thus, the high mortality rate. A similar trend is observed for newborns in the second group – those who were baptized on the second or third day since they were born. By 1825, such cases accounted for more than 18%. However, in 1827–1850, there were only 6.1% of boys and 5.5% of girls (average of 5.8%). In other words, if in the first chronological period 22.1% of all children (every fifth) were baptized on the first, second, or third day of their lives, then during the second period the percentage of such cases decreased significantly – down to 7.3% (more than three times). It can be explained by a certain stabilization and improvement of living conditions in the Bulgarian colonies in the second quarter of the nineteenth century. It resulted in the reduction of serious risks and, consequently, fear for the lives of newborns.

The data presented in Table 4 highlights the dominance of the infants' baptizing tradition before the seventh day since their birth. Almost half of

all children in this period were baptized on the fourth or seventh day of their life. The comparison with the percentage of the baptized during the second week of their lives in both quarters of the first half of the nineteenth century shows that during 1827–1850 the share of such children doubled. This trend yet again contributes to our argument about the better living conditions and the well-being of the colonists.

The latter group deserves particular attention. Why do parents not baptize their children for such a long time? Quite a high percentage of such cases brings this issue from the dimension of individual views to the context of social practices and social phenomena. It can be assumed that in some cases, a delay like this is associated with the absence of a priest. However, it is highly likely that parents simply have no concerns about the life of the child and are indifferent to the correlation between health and religious ritual. But this civil secularized worldview is not yet widespread among the Bulgarians of Bessarabia. The longest period before baptizing a child in 1825 was 38 days. In the second quarter of the nineteenth century, there was a similar interval of 39 days. What is significant is that the whole data set reveals no cases of baptism after the fortieth day.

Yet another illustrative fact is discovered here: the changing dynamics in the last group. In the first quarter of the nineteenth century, approximately 10% of all children were baptized after two weeks since their birth. In the second quarter of the same century, the percentage of such cases decreased more than threefold. The factors of such transformations may vary. One of the reasons is a process of changing traditions, influenced by priests' recommendations who sought to reduce the number of babies who die unbaptized. However, it seems possible that paperwork (besides the actual religious sacrament, metric books also function as administrative and fiscal records of the population) was established and improved. Therefore, parents try to register their children as soon as possible.

When analysing baptismal data, we distributed the entire database for the first half of the nineteenth century by months of the year to trace the dependence on months or at least certain seasons (Table 4). The highest percentage of infant baptisms is recorded in winter, December-February. When explaining it by natural conditions, we should remember that similar monthly averages are found in April, August, and September. In the second group, children are

most often baptized in January, March, and October. Evidence of baptism up to the seventh and fourteenth days of life is quite uniform.

What should also be outlined is the peculiarity of the distribution of baptism rituals in September (as a reminder, this is one of the months in which the minimum birth rate is recorded). The percentage of baptisms in these two groups is over 88%, divided into 42% and 46.1%, respectively. It can be assumed that this is due to the special engagement of Bulgarians during the harvest. In this context, similar trends are expected to be observed during July-August, but they are not. Thus, it is impossible to detect a more or less pronounced correlation between the interval from birth to baptism of the child and the seasons or people's economic employment. It brings us to the thesis that the Bulgarian population in the first half of the nineteenth century understood the importance of the baptism ritual in people's lives. The risk of the death of an unbaptized child is perceived by the parents as a serious matter, hence the attempt to perform the rite regardless of the external circumstances.

Table 4. *Intervals between births and baptizing by months 1812–1850*[9]

		Jan	**Feb**	**Mar**	**Apr**	**May**	**June**	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**
On the birthday	Abs. number	6	9	3	7	3	3	1	6	5	2	4	4
	%	2.2	3.4	1.2	3.7	1.6	1.6	0.5	3.2	2.6	0,8	1.9	3.6
Second-third day	Abs. number	30	17	28	13	15	16	11	14	12	33	17	14
	%	11.1	6.4	11.4	6.9	7.9	8.5	6.0	7.6	6.2	13.0	7.9	12.6
Before the seventh day	Abs. number	140	139	125	97	90	87	101	90	81	114	124	60
	%	51.7	52.3	51.0	51.6	47.1	46.0	55.2	48.6	42.0	45.1	57.7	54.1
Before the fourteenth day	Abs. number	85	93	78	63	73	72	59	63	89	95	60	22
	%	31.4	35.0	31.8	33.5	38.2	38.1	32.2	34.1	46.1	37.5	27.9	19.8
After the fourteenth day	Abs. number	10	8	11	8	10	11	11	12	6	9	10	11
	%	3.7	3.0	4.5	4.3	5.2	5.8	6.0	6.5	3.1	3.6	4.7	9.9
Total	**Abs. number**	**271**	**266**	**245**	**188**	**191**	**189**	**183**	**185**	**193**	**253**	**215**	**111**
	%	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**

Table 5. *Seasonality of births in 1851–1941*[10]

Year	Month of birth												Total
	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	
	Month of conception												
	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	Jan	Feb	Mar	
1851–1910	124	95	116	83	105	106	82	111	110	116	88	64	1200
1924	79	61	79	74	143	172	103	111	57	87	147	87	1200
1941	85	221	85	110	149	132	85	64	44	64	77	85	1200

Researching deeper into the seasonality of births among the Bulgarians of Bessarabia, we will extrapolate our observations of the first half of the nineteenth century. Further, we are going to generalize the frequency of births and its fluctuations in the second half of the nineteenth century and almost the entire first half of the twentieth century – 1851–1941 (Table 5). Identification of the historical dynamics of births' seasonality demonstrates that at the beginning of the twentieth century, all potential features of the first half of the nineteenth century are still observed, including conditional monthly averages, which are almost the same. There is a trend, though insignificant, to balance the distribution between the months – a slight decrease in the popularity of January and February (124 and 95 births, respectively, instead of previously recorded 135 and 140 births); increase in the number and conditional indicators for May and September (105 and 110, respectively, instead of 88 and 92).

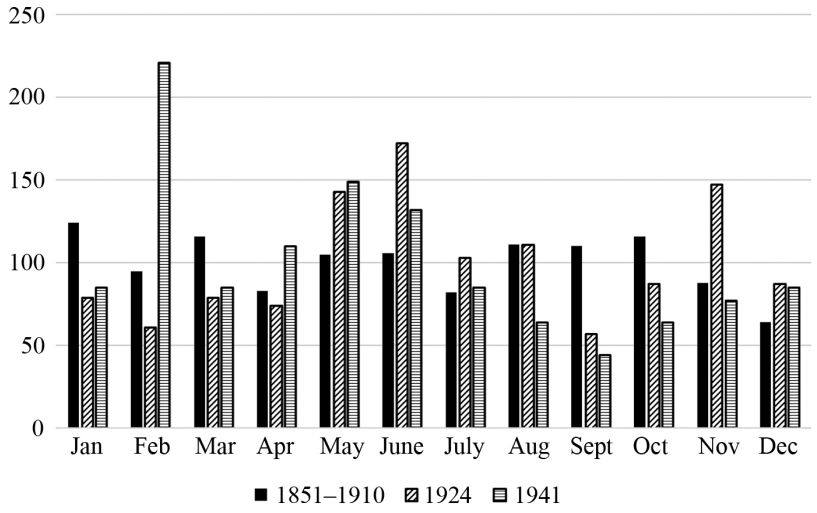
The trend towards equalising of the number of births by months continues. In 1924, there was a significant transformation, namely, the reorientation of the popular months. Now the leaders are June (172 against 91 in the first half and 106 in the second part of the nineteenth century), February (147 against 106 and 88, respectively), May (143 against 88 and 105, respectively). Thus, the number of conceptions in September, July, and August increases. It is not yet possible to identify any factor contributing to such an increase, so we will focus only on the weaker dependence on the agricultural work calendar. It is likely the way how early urbanization manifests itself: some men leave the communities to earn money.

By 1941, most of these trends were consolidated, albeit with some specificity. In particular, February regains its popularity as a record holder in the seasonal birth rate (221; that is, every sixth child is born this month); May (149) and June

(132) retain their maximum positions. As of 1941, together with April (110), these three months gave life to every third child born. Notably, December as the month of conception remains the lowest on the list with 44 births (half of the other months' average). This situation indicates the traces of relict religiosity in behaviour as well as the complete loss of correlation between the calendar of conceptions and agricultural work cycles.

Such historical dynamics are best presented in Chart 5. Gradual evolution is demonstrated only in August, while regression (the gradual loss of indicators) can be observed in January, February, and December. The remaining months do not have a clear geometric relationship. Paradoxically, the indicators of 1941 look the least balanced: the May figures are not only fundamentally different from the previous data (by two and three times, respectively), but are also three times larger than the other figures for this year. This imbalance significantly narrows the heuristic value of our assumptions about 1941; we are dealing with a coincidence that cannot yet be explained due to a lack of sources.

Chart 5. *Seasonality of births in 1851–1941*[11]



Seasonality of marriages

To analyze seasonal and calendar projections of young spouses and their parents, all the records on church weddings are divided according to the months when the ceremonies took place (Table 6). Further, the data are divided into three intervals to expose the possible dynamics during almost forty years of the first half of the nineteenth century.

Table 6. *Seasonality of marriages in 1812–1850*[12]

	1812–1825		**1827–1835**		**1839–1850**		**Total**	
	Abs. number	%	Abs. number	%	Abs. number	%	Abs. number	%
January	43	41.7	87	37.7	81	35.4	211	**37.5**
February	13	12.6	30	13.0	21	9.2	64	**11.4**
March	0	0.0	1	0.4	0	0.0	1	**0.2**
April	4	3.9	2	0.9	4	1.7	10	**1.8**
May	6	5.8	9	3.9	5	2.2	20	**3.6**
June	3	2.9	6	2.6	4	1.7	13	**2.3**
July	3	2.9	4	1.7	2	0.9	9	**1.6**
August	2	1.9	7	3.0	3	1.3	12	**2.1**
September	1	1.0	5	2.2	0	0.0	6	**1.1**
October	10	9.7	24	10.4	30	13.1	64	**11.4**
November	18	17.5	51	22.1	79	34.5	148	**26.3**
Total	**103**	**100.0**	**226**	**97.8**	**229**	**100.0**	**558**	**99.1**

The Table shows that in 1812–1825 the vast majority of weddings took place in January (41.7%). There were fewer in February, October, and November (12.6%, 9.7%, 17.5%). From April to September, there are only several weddings recorded, and only one ceremony in March. A similar choice of a wedding date is observed in 1827–1835. In January, the number of weddings decreased by only a few percent (37.7%) and then climbed slightly in February, October, and November (22.1%). In 1839–1850, the share of marriages in January decreased by another 2.3% (35.4%); besides March, weddings no longer took place in September. Instead, the share of weddings scheduled for November (34.5%) and October (13.1%) was growing.

The estimates indicate that the largest number of marriages falls between the end of the agricultural year in the automn and the beginning of the following spring. The most popular months of autumn are October and, to a greater extent, November. It matches not only with the completion of major household and fieldwork but also with economic calculations for the harvest. During this period, there are conditions for observing a wedding ritual according to all traditions, which often regulate this event throughout the year.

Table 6 does not feature December. Of the entire array of metric books for this month, there is not a single case of marriage in that month. This is due to the strict observance of the Christmas Fast and the ban on marriage ceremonies. However, the following two months of winter (especially January) host the largest number of weddings. This tradition is justified by the fact that, according to the observations of doctors and priests, winter weddings and, consequently, conception during January-February provide the healthiest children. Meanwhile, women set the biological rhythm of conception and birth. The time of the wedding determines the entire further course of family life (Mironov 2003 [1999]: 170).

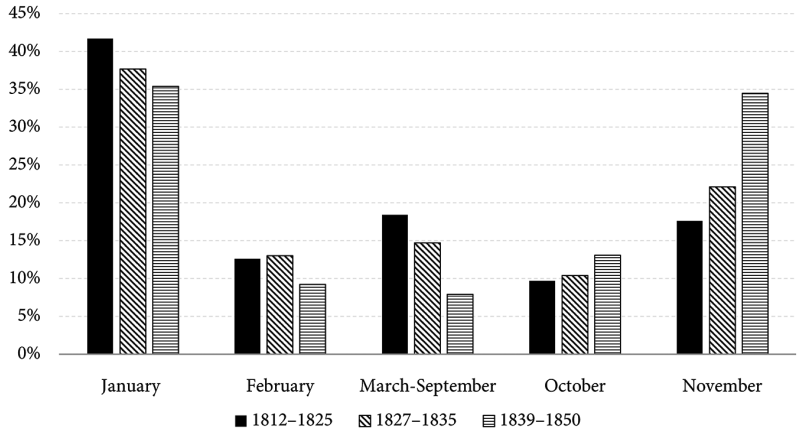
Despite the strict ban on weddings, the 1834 Metric Book of Chiishiya holds an entry about such a ceremony, performed on March 15. The colonist Petro Ivanov Gechov and Nedilya Zlateva, the daughter of the colonist Zlate Kostev, got married.[13] That year, Easter was celebrated on April 22, and, accordingly, March 15 was the Saturday of the second week of Lent. Of course, such exceptions were extremely rare. Nonetheless, Maria Todorova, studying a similar issue, cites ethnographic materials associated with the settlement of the Gabrovo region. She mentions that poor people tend to get married during the Christmas Fast, despite the religious ban, because such a wedding costs much less (Todorova 2006: 36).

Besides Easter Lent, March features the beginning of intensive fieldwork. The interval between it and late September and sometimes mid-November is a period of extremely low marriage rates. A surge in the number of weddings can be detected closer to late November. Notably, the obtained data shows that the church carries on wedding ceremonies even during the St. Peter's Fast, which covers the whole of June, and the Assumption Fast, lasting for two weeks in August.

Chart 6 is drawn up to trace the dynamics of changes in marriages' seasonality during the first half of the nineteenth century. For display purposes, all

marriages between March and September are grouped into one cluster. In this way, two parallel trends are clearly demonstrated. The first is a clear increase in the share of marriages that take place in November and, in part, in October. This trend derives from the shorter interval from January to September. It means that among the Bulgarian population of southern Bessarabia, November is increasingly preferred as the most popular month for weddings. The second trend, which is not represented clearly but comprehended intuitively, is the process as a result of which, by 1850, the boundaries of the seasonality of marriages became clearer. The percentage distribution of marriages in the March-September cluster should also be addressed. At the first stage (1812–1825), the total share is 18.4%, at the second (1827–1835) – 14.7%, and at the third (1839–1850) – only 7.9%. It means that in the first quarter of the nineteenth century, during active agricultural work, every fifth marriage was consecrated in church, while in the middle of the nineteenth century, it was only every twelfth marriage.

Chart 6. *Dynamics of marriage seasonality in 1812–1850*[14]



The transformation processes described above bring us to the following conclusion. The Bulgarian immigrants who arrived in Bessarabia in the early nineteenth century made a very diverse group in terms of economic traditions. A part of this population in the Balkans was engaged in agriculture, others

in animal husbandry. A significant number of people in this resettlement environment were artisans. Such heterogeneity led to a certain blurring of interseasonal marriages. In the process of adapting to new economic conditions, the vast majority of colonists were engaged in agriculture. It triggered the process of changes in marital seasonality, the formation of clearer boundaries, and drastic transitions.

From the perspective of historical demography, marriage seasonality is usually explored over long periods: 20, 50, and 100 years (as is the birth seasonality). Since the number of days in months differs, it is necessary to correlate the obtained values with one period. For this purpose, we divide them by the number of days in the month or, for February, the average of days. Then this number of events per day is replaced by relative values, totaling 1200 (Henry & Blum 1997: 62). This method will be utilized to analyze the marriage seasonality among Bulgarians in Budzhak.

Table 7. *Relative values of marriage seasonality in 1812–1850*[15]

1812–1850	**Month of church wedding**												**Total**
	Jan	**Feb**	**Mar**	**Apr**	**May**	**June**	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	
Absolute number	211	64	1	10	20	13	9	12	6	64	148	0	558
Days in a month	31	28.3	31	30	31	30	31	31	30	31	30	31	
Church wedding ceremonies per day	6.81	2.06	0.03	0.32	0.65	0.42	0.29	0.39	0.19	2.06	4.77	0.00	18.00
Relative values	**454**	**138**	**2**	**22**	**43**	**28**	**19**	**26**	**13**	**138**	**318**	**0**	**1200**

Table 7 shows the data of the metric books dating back to the first half of the nineteenth century in accordance with the method of marriage seasonality analysis suggested by Louis Henry and Alain Blum. The obtained relative figures of weddings per month provide us with a ratio identical to that described above. It can be established that despite certain transformational processes in marriage seasonality for almost forty years, January and November remain the leading months in the number of marriages.

Table 8. *Days of the week of church weddings in 1812–1850*[16]

	1812–1825		1827–1835		1839–1850		Total	
	Abs. number	%	Abs. number	%	Abs. number	%	Abs. number	%
Monday	8	**8.2**	26	**11.5**	6	**2.6**	40	**7.3**
Tuesday	54	**55.1**	108	**47.8**	185	**81.5**	347	**63.0**
Wednesday	9	**9.2**	29	**12.8**	14	**6.2**	52	**9.4**
Thursday	7	**7.1**	17	**7.5**	3	**1.3**	27	**4.9**
Friday	8	**8.2**	6	**2.7**	3	**1.3**	17	**3.1**
Saturday	9	**9.2**	17	**7.5**	10	**4.4**	36	**6.5**
Sunday	3	**3.1**	23	**10.2**	6	**2.6**	32	**5.8**
Total	**98**	**100.0**	**226**	**100.0**	**227**	**100.0**	**551**	**100.0**

Table 8 determines the days of the week on which weddings are scheduled by the Bulgarian population of southern Bessarabia in the first half of the nineteenth century. During 1812–1825, over half of the weddings were scheduled for Tuesday. On other days of the week, there was approximately the same share of ceremonies (from 7.1% to 9.2%), and only Sunday featured 3.1% of weddings. In 1827–1835, the share of weddings held on Tuesdays dropped by 7.8% to 47.2%. Slightly fewer weddings started taking place on Fridays and Saturdays. Meanwhile, Monday, Wednesday, and Sunday became the days when weddings were scheduled more often (10%). During 1839–1850, the share of weddings scheduled for Tuesday almost doubled to 81.5%. At the same time, weddings became much less frequent on other days of the week (6.2–1.3%).

Thus, until the mid-nineteenth century, the vast majority of newlyweds opted for Tuesday as their wedding day. We believe this is due to an increased level of religious education among the population. At the same time, village priests had a significant influence on wedding day selection. This influence is likely to become determining in a considerable number of cases.

Table 9. *Days of the week of church marriages by months in 1812–1850*[17]

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Total
Monday	19	3	1	1	0	0	0	3	0	2	11	**40**
Tuesday	141	32	0	6	7	3	7	2	2	44	104	**348**
Wednesday	15	9	0	1	6	1	0	3	0	2	17	**54**
Thursday	6	8	0	1	0	3	1	0	1	3	6	**29**
Friday	6	3	0	0	1	2	0	2	0	1	2	**17**
Saturday	11	5	1	1	1	1	0	2	2	9	3	**36**
Sunday	9	6	0	0	4	3	1	0	1	3	5	**32**
Total	**207**	**66**	**2**	**10**	**19**	**13**	**9**	**12**	**6**	**64**	**148**	**556**
%	**37.2**	**11.9**	**0.4**	**1.8**	**3.4**	**2.3**	**1.6**	**2.2**	**1.1**	**11.5**	**26.6**	**100.0**

Table 9 shows the monthly choice of Bulgarian colonists of Budzhak in terms of days of the week for wedding ceremonies. It enables us to compare the results of the analysis of the population's choice for wedding ceremonies and days of the week and month.

Notably, the priority of both January and Tuesday is confirmed in this case too, as on January Tuesdays most weddings are held (141). The second most popular were November Tuesdays (104). The third is ranked by October Tuesdays, and the fourth – by Tuesdays in February. The next most frequent weddings are on January Mondays (19). All other January days of the week, too, witness more marriages than their counterparts in other months. The only exception was January Wednesdays with 15 weddings, which are second to November Wednesdays with their 17 weddings.

Table 10 shows the population's choice of individual colonies for the days of the week for wedding ceremonies. Among them, Tashbunar is believed to be inhabited by representatives of the Tukan ethnographic group of Bulgarians. The colony of the Imputsita is a home for many Tukans, yet since this settlement lies on the path of migration routes, its population shows manifestations of other cultural features. The village of Chiishiya is inhabited by Tukans and Balkans. Cheshma-Varuita includes the members of the Syrian group of Bulgarians (Serts) (Ganchev 2014: 215-222). Therefore, we can trace the influence of certain ethnocultural features of these settlements' residents on their choice of time of wedding ceremonies.

Therefore, in Tashbunar, the vast majority of marriages (69.4%) were held on Tuesday, and another 14.5% of weddings would take place on Wednesday. On other days of the week in this locality, there were 1.7–5.2% of weddings. A similarly large share of Tuesday weddings was typical for Chiishiya (69.2%). In contrast to Tashbunar, in this colony, almost as many marriages would take place on Wednesday (11.0%) as on Monday (9.9%). On other days of the week, Chiishiya held from 2.2% to 4.4% of wedding ceremonies. No weddings were scheduled for Sunday. In Imputsita, most weddings would take place on Tuesday (54.5%), although they were a little fewer than in Tashbunar and Chiishiya. This weekday is followed by Sunday (13.9%) and Saturday (11.9%). On other days of the week, 3.0–6.9% of weddings were held. The population of Cheshma-Varuita also held more than half of their weddings on Tuesday (52.5%). Their other preferred days were Monday (13.5%), Sunday (9.9%), and Thursday (9.2%).

***Table 10**. Weeks of the wedding days by individual colonies in 1812–1850*[18]

	Tashbunar		**Imputsita**		**Chiishiya**		**Cheshma-Varuita**	
	Abs. num.	**%**	Abs. num.	**%**	Abs. num.	**%**	Abs. num.	**%**
Monday	3	**1.7**	7	**6.9**	9	**9.9**	19	**13.5**
Tuesday	120	**69.4**	55	**54.5**	63	**69.2**	74	**52.5**
Wednesday	25	**14.5**	6	**5.9**	10	**11.0**	10	**7.1**
Thursday	8	**4.6**	3	**3.0**	3	**3.3**	13	**9.2**
Friday	5	**2.9**	4	**4.0**	2	**2.2**	6	**4.3**
Saturday	9	**5.2**	12	**11.9**	4	**4.4**	5	**3.5**
Sunday	3	**1.7**	14	**13.9**	0	**0.0**	14	**9.9**
Total	173	**100.0**	101	**100.0**	91	**100.0**	141	**100.0**

The comparative perspective with the Balkans is indicative. According to the calculations of M. Todorova, during the years 1834–1886, among the Bulgarians of the Baltaji region, January (549 out of 757 cases) and Tuesday (60%) were also the most popular for weddings (Todorova 2006: 36–38). As a result, the author concludes that "Bulgarian Christian marriage (both Orthodox and Catholic), with its tabooed days and periods, becomes an integral part of the national calendar" (Todorova 2006: 37). This proves the stability of the ethnocultural tradition, formed in Bulgaria and functioning in Budzhak. The

enhancement of this tradition is observed in the second half of the nineteenth and early twentieth centuries (Table 11). Our selective calculations from the metric books of 1851–1910 strongly indicate the absolute dominance of Tuesday (the total of 64.8% or two-thirds of all church weddings) and Monday (17.6%). In dynamics, one can consider the growing significance of Monday as a "lucky day" for weddings.

Table 11. *Days of weddings in 1851–1910*[19]

	Years								Total	
	1851	**1877**	**1882**	**1883**	**1886**	**1887**	**1906**	**1910**		
Monday	0	4	0	0	0	0	12	6	22	**17.6%**
Tuesday	17	7	24	10	11	9	1	2	81	**64.8%**
Wednesday	0	0	6	0	0	3	0	0	9	**7.2%**
Thursday	0	2	0	0	0	0	1	1	4	**3.2%**
Friday	4	1	0	1	0	0	0	0	6	**4.8%**
Saturday	2	1	0	0	0	0	0	0	3	**2.4%**
Total	**23**	**15**	**30**	**11**	**11**	**12**	**14**	**9**	**125**	**100.0%**

Table 12. *Months of weddings in 1851–1910*[20]

	Years								Total	%
	1851	**1877**	**1882**	**1883**	**1886**	**1887**	**1906**	**1910**		
January	1	6	2	0	0	0	3	0	**12**	**9.6%**
February	0	0	0	0	1	1	0	0	**2**	**1.6%**
March	0	0	1	1	0	0	0	0	**2**	**1.6%**
April	1	1	0	0	0	0	0	1	**3**	**2.4%**
June	0	1	1	0	1	0	0	1	**4**	**3.2%**
July	0	0	3	0	0	0	0	0	**3**	**2.4%**
September	15	0	18	7	0	11	7	5	**63**	**50.4%**
October	6	5	5	3	9	0	4	2	**34**	**27.2%**
November	0	2	0	0	0	0	0	0	**2**	**1.6%**
Total	**23**	**15**	**30**	**11**	**11**	**12**	**14**	**9**	**125**	**100.0%**

Table 13. *Relative values of months of weddings. 1851–1910*[21]

	Month of church wedding												Total
	Jan	**Feb**	**Mar**	**Apr**	**May**	**June**	**July**	**Aug**	**Sept**	**Oct**	**Nov**	**Dec**	
Absolute number	12	2	0	2	3	0	4	0	3	63	34	2	125
Days in a month	31	28.3	31	30	31	30	31	31	30	31	30	31	
Church wedding ceremonies per day	0.39	0.06	0.00	0.06	0.10	0.00	0.13	0.00	0.10	2.03	1.10	0.06	4.03
Relative values	**115**	**19**	**0**	**19**	**29**	**0**	**38**	**0**	**29**	**605**	**327**	**19**	**1200**

There is stability regarding the days of the week. However, the calendar months undergo fundamental changes (Table 12). If in the first half of the nineteenth century, January, February, and November were apparent leaders, then in the second half of the same century they were outpointed by September and October. More than half of all weddings took place in September (50.5%) and a quarter was held in October (27.2%); together, they accounted for more than three-quarters of all weddings. January stands but as a relic, holding almost every tenth wedding (9.6%), against every third in the first half of the nineteenth century (37%). May becomes the month in which, as in December, no wedding is recorded.

The calendar marriage seasonality shows clear regrouping. Suppose that they reflect the processes of stabilization of the economic structure of the Bulgarians of Bessarabia. It is the agrarian nature of this community that determines the popularity of the autumn months when all fieldwork ends, as do the harvesting and financial calculations. An important part of any wedding celebration is the collective meal, which has all the staples of September and October (from food to wine).

This transition is well illustrated by comparing the two periods utilizing relative values (Table 13). In the first half of the nineteenth century, January and February accounted for almost half of all weddings – 454 and 138, respectively. Meanwhile, in the second half of the nineteenth century and the early twentieth century, they were only one-tenth – 115 and 19. The same picture is applied to September and October – 13 and 138 (the first half of the nineteenth century)

against 605 and 327 (the second half of the nineteenth century – beginning of the twentieth century).

Conclusions

Exploration of specific historical aspects of demographic reproduction in the Bulgarian population of Bessarabia during the nineteenth and early twentieth centuries makes it possible to focus on the seasonality of birth and marriage rates. Separately, we identified the trends in the factors underlying the changes in the processes mentioned. In particular, the eclectic nature of both seasonal variants is demonstrated. The research also characterizes the transformations concerning the factors that determined the popularity of certain months of births and marriages.

It demonstrates certain patterns despite the stochastic nature of the population's natural movement. For instance, we revealed the influence of the church and religious norms on marriages in certain months and days of the week throughout the year. Sometimes, the fluctuations of such a marriage also determined the birth processes (especially in the first half of the nineteenth century regarding October-November matching the weddings in January-February). However, what was more significant were the factors of economic pragmatics, which can be detected in a kind of explosion of births in January-March (respectively: April-June).

Another productive factor is the process of adaptation to the resettlement environment. We tend to see it as a manifestation of society modernization through migration models. It has been proved that resettlement groups have greater demographic potential. Artificial 'rejuvenation' of the population in this way generates more rapid patterns of population reproduction. In its turn, it determined new trends in seasonality. This correlation was detected and demonstrated by comparing different ethnocultural groups of Bulgarians in Bessarabia: Serts, Tukans, and Balkans (Ganchev 2014: 215–222).

Over time, the results of our calculations indicate a conditional equalization and an approximate uniformity of the distribution in births number by months. It is this trend that can be characterized as the transition from the traditional agrarian model to the new or modern one. Dependence on religious factors is gradually weakening, and the economic cycle of work prevails. It determines

both the marriages' seasonality and, accordingly, the birth rate. This is a strong illustration of the secularization of world views and social practices.

Our observations and calculations are made on the ethnocultural community of the Bulgarians of Bessarabia. The identified patterns of marriage and birth rate seasonality require careful extrapolation to other territorial and ethnic groups. However, it can already be argued that the demographic transition from traditional to modern models of population reproduction was clearly expressed not only in direct factors (transformations in the structure and number of deaths and births) but also in changes in ethnocultural factors (the transition to new world views and modern social practices). This is specifically exposed in a comparative analysis of seasonality, which reflects trends in the context of our working hypothesis.

Notes

[1] In linguistic and cultural terms, the Bulgarians of Budzhak represent four groups of immigrants: Tukan or Chiishiya group – people from the Surnena Sredna Gora region in southern Bulgaria; Chushmeli group – immigrants from a group of villages between the cities of Shumen and Provadia in eastern Bulgaria; Thracian group – people from southeastern Bulgaria and a number of villages located on the territory of modern Turkey; and South Balkan group – immigrants from the Sliven and Yambol districts of Bulgaria (see more in Ganchev 2014: 215–222).

[2] National Archive of the Republic of Moldova (NARM). Fund (F.) 211. Description (Descr.) 1. Case 1. Sheet 220–221, 216–219, 263–266; Descr. 4. Case 46. Sheet 96–151, 261–311, 693–737, 1062–1091, 1127–1148; Descr. 21. Case 1. Sheet 10–18, 19–32 overleaf (ol.), 33–46, 72–89, 216–223 ol., 314–323 ol., 257–264, 199–204 ol.

Municipal Enterprise "Izmail Archive" (MEIA). F. 630. Descr. 1. Case 6. Sheet 25–37, 224–228; Case 9. Sheet 111–116; Case 14. Sheet 43–53, 99–107, 271–281, 421–439; F. 631. Descr. 1. Case 2 [Colonies of Tashbunar, Imputsita, Cheshma-Varuita, Chiishiya]; Case 3. Sheet 234–248, 431–447, 692–704, 758–768; Case 5. Sheet 264–272, 484–524, 776–792, 852–866; Case 6. Sheet 300–313, 534–548, 844–858, 934–944; Case 7. Sheet 218–223, 398–407, 730–745; Case 9. Sheet 113–141, 183–199, 585–607, 807–820; Case 10. Sheet 113–130, 669–685, 693–718, 921–934; Case 11. Sheet 122–144, 192–203, 648–660; Case 12. Sheet 113–130, 172–184, 244–258, 445–461, 560–569, 613–625, 631–648; Case 13. Sheet 91–110, 153–173, 448–463; Case 15. Sheet 1–35 ol., 285–327; Case 16. Sheet 306–357; Case 18. Sheet 236–279 [Colonies of Tashbunar and Chiishiya]; Case 20. Sheet 42–93, 289–331, 885–921; Case 23. Sheet 55–110; Case 24.

Sheet 112–172, 279–321, 536–605; Case 27. Sheet 303–357, 629–703; Case 28. Sheet 136–199, 336–388, 648–723, 371–417 ol.

[3] See the note to Table 1.

[4] See the note to Table 1.

[5] See the note to Table 1.

[6] See the note to Table 1.

[7] See the note to Table 1.

[8] See the note to Table 1.

[9] NARM. F. 211. Descr. 1. Case 1. Sheet 216–221, 263–266; Descr. 4. Case 46. Sheet 96–151, 261–311, 693–737, 1062–1091, 1127–1148; Descr. 21. Case 1. Sheet 10–32 ol., 33–46, 72–89, 199–204 ol., 216–223 ol., 257–264, 314–323 ol.

MEIA. F. 630. Descr. 1. Case 6. Sheet 25–37, 224–228; Case 9. Sheet 111–116; Case 14. Sheet 43–53, 99–107, 271–281, 421–439; F. 631. Descr. 1. Case 2 [Colonies of Tashbunar, Imputsita, Cheshma-Varuita, Chiishiya]; Case 3. Sheet 234–248, 431–447, 692–704, 758–768; Case 5. Sheet 264–272, 484–524, 776–792, 852–866; Case 6. Sheet 300–313, 534–548, 844–858, 934–944; Case 7. Sheet 218–223, 398–407, 730–745; Case 9. Sheet 113–141, 183–199, 585–607, 807–820; Case 10. Sheet 113–130, 669–685, 693–718, 921–934; Case 11. Sheet 122–144, 192–203, 648–660; Case 12. Sheet 113–130, 244–258, 172–184, 445–461, 613–625, 631–648, 560–569; Case 13. Sheet 91–110, 153–173, 448–463; Case 15. Sheet 1–35 ol., 285–327; Case 16. Sheet 306–357; Case 18. Sheet 236–279 [Colonies of Tashbunar and Chiishiya]; Case 20. Sheet 42–93, 289–331, 885–921; Case 23. Sheet 55–110; Case 24. Sheet 112–172, 279–321, 536–605; Case 27. Sheet 303–357, 629–703; Case 28. Sheet 136–199, 336–417 ol., 648–723.

[10] NARM. F. 211. Case 36. Sheet 32–108 ol., 279–318; Descr. 20. Case 16. Sheet 65–106; 497–538; Case 17. Sheet 72–112; Case 19. Sheet 224–264; Case 20. Sheet 73–109; Case 107. Sheet 364–401; Case 162. Sheet 1–79.

MEIA. F. 26. Case 2. Sheet 1–79; also according to the data from House-books of the village councils of the villages Hlavany, Vynohradne, and Zadunaivka of Bolhrad district of Odesa oblast (kept in the village councils).

[11] NARM. F. 211. Case 36. Sheet 32–108 ol., 279–318; Descr. 20. Case 16. Sheet 65–106, 497–538; Case 17. Sheet 72–112; Case 19. Sheet 224–264; Case 20. Sheet 73–109; Case 107. Sheet 364–401; Case 162. Sheet 1–79.

MEIA. F. 26. Case 2. Sheet 1–79; also according to the data from House-books of the village councils of the villages Hlavany, Vynohradne, and Zadunaivka of Bolhrad district of Odesa oblast (kept in the village councils).

[12] The table is drawn up by the authors according to: NARM. F. 211. Descr. 4. Case 36. Sheet 32–108 ol., 279–318; Descr. 20. Case 16. Sheet 65–106, 497–538; Case 17. Sheet 72–112; Case 19. Sheet 224–264; Case 20. Sheet 73–109; Case 107. Sheet 364–401; Case 162. Sheet 1–79; F. 211. Descr. 1. Case 1. Sheet 216–221, 263–266; Descr. 4. Case 46. Sheet 96–151, 261–311, 693–737, 1062–1091, 1127–1148; Descr. 21. Case 1. Sheet 10–46, 72–89, 199–204 ol., 216–223 ol., 257–264, 314–323 ol.

MEIA. F. 630. Descr. 1. Case 6. Sheet 25–37, 224–228; Case 9. Sheet 111–116; Case 14. Sheet 43–53, 99–107, 271–281, 421–439; F. 631. Descr. 1. Case 2 [Colonies of Tashbunar, Imputsita, Cheshma-Varuita, Chiishiya], 3. Sheet 234–248, 431–447, 692–704, 758–768; Case 5. Sheet 264–272, 484–524, 776–792, 852–866; Case 6. Sheet 300–313, 534–548, 844–858, 934–944; Case 7. Sheet 218–223, 398–407, 730–745; Case 9. Sheet 113–141, 183–199, 585–607, 807–820; Case 10. Sheet 113–130, 669–685, 693–718, 921–934; Case 11. Sheet 122–144, 192–203, 648–660; Case 12. Sheet 113–130, 244–258, 172–184, 445–461, 560–569; 613–625, 631–648; Case 13. Sheet 91–110, 153–173, 448–463; Case 15. 1–35 ol. Sheet 285–327; Case 16. Sheet 306–357; Case 18. Sheet 236–279 [Colonies Tashbunar and Chiishiya]; Case 20. Sheet 42–93, 289–331, 885–921; Case 23. Sheet 55–110; Case 24. Sheet 112–172, 279–321, 536–605; Case 27. Sheet 303–357, 629–703; Case 28. Sheet 136–199, 336–417, 648–723.

[13] MEIA. F. 631. Descr. 1. Case 12. Sheet 631–648.

[14] See the note to Table 6.

[15] See the note to Table 6.

[16] See the note to Table 6.

[17] See the note to Table 6.

[18] See the note to Table 6.

[19] The table is drawn up by the authors according to: NARM. F. 211. Descr. 4. Case 36. Sheet 32–108 ol., 279–318; Descr. 20. Case 16. Sheet 65–106, 497–538; Case 17. Sheet 72–112; Case 19. Sheet 224–264; Case 20. Sheet 73–109; Case 107. Sheet 364–401; Case 162. Sheet 1–79.

[20] See the note to Table 6.

[21] See the note to Table 6.

References

Arkhangel'skii Grigorii 1872. Vliianie urozhaev na braki, rozhdaemost' i smertnost' v Evropeiskoi Rossii. [The Influence of Harvests on Marriages, Birth Rate, and Death Rate in European Russia.] *Sbornik Sochinenii po Sudebnoi Meditsine, Sudebnoi Psikhiatrii, Meditsinskoi Politsii, Obshchestvennoi Gigiene, Epidemiologii, Meditsinskoi Geografii i Meditsinskoi Statistike.* Vol. 1, pp. 505–544.

Avdeev, Aleksandr & Blum Alain & Troitskaia, Irina 2002. Sezonnyi faktor v demografii rossiiskogo krest'ianstva v pervoi polovine 19 veka: brachnost', rozhdaemost', mladencheskaia smertnost'. [Seasonal Factor in the Demography of the Russian Peasantry in the First Part of the 19th Century: Marriages, Birth Rate, Infant Mortality.] *Rossiiskii demograficheskii zhurnal*, No. 1, pp. 35–45. Available at http://demoscope.ru/weekly/2003/0135/analit04.php#1, last accessed on 24 November 2022.

Borisov, Vladimir 2003 [1999]. *Demografiia.* [Demography.] Moscow: NOTABENE.

Ganchev, Alexander 2014. *Budzhak: istoriko-etnograficheskie ocherki narodov iugo-zapadnykh raionov Odesshchiny.* [Budzhak: Historical and Ethnographic Essays on the Peoples of the Southwestern Districts of Odesa Region.] Odesa: PostScriptUm – Smil.

Gur'ev Vakkh 1883. *Pis'ma sviashchennika s pokhoda 1877–1878 gg.* [Priest's Letters from the Expedition of 1877–1878.] Moscow: Universitetskaia tipografiia. Available at https://www.prlib.ru/item/436992, last accessed on 24 November 2022.

Henry, Louis & Blum, Alain 1997. *Metodika analiza v istoricheskoi demografii.* [Methods of Analysis in Historical Demography.] Moscow: RGGU.

Melik'ian, Gennadii (ed.) 1994. *Narodonaselenie: entsiklopedicheskii slovar'.* [Population: Encyclopedic Dictionary.] Moscow: Bol'shaia Rossiiskaia entsiklopediia.

Meshcheriuk, Ivan 1970. *Sotsial'no-ekonomicheskoe razvitie bolgarskikh i gagauzskikh sel v Iuzhnoi Bessarabii (1808–1856 gg.).* [Social and Economic Development of Bulgarian and Gagauzian Villages in the Southern Bessarabia (1808–1856).] Kishinev: AN MSSR.

Mironov, Boris 2003 [1999]. *Sotsial'naia istoriia Rossii perioda imperii (18 – nachalo 20 veka).* [Social History of Russia in the Empire Period (18th – the Early 20th Century).] Saint Petersburg: Dmintrii Bulanin. Available at http://www.imperskiy-fund.com/files/-.1.pdf, last accessed on 24 November 2022.

Todorova, Maria 2006. *Balkan Family Structure and the European Pattern: Demographic Developments in Ottoman Bulgaria*. Budapest: Central European University Press. Available at https://www.jstor.org/stable/10.7829/j.ctt2jbmf5, last accessed on 24 November 2022.

Vishnevskii, Anatolii 2014. *Demograficheskaia revoliutsiia meniaet reproduktivnuiu strategiiu vida Homo sapiens.* [The Demographic Revolution is Changing the Reproductive Strategy of Homo Sapiens.] *Demographic Review*, Vol. 1, No. 1. https://doi.org/10.17323/demreview.v1i1.1825.

Oleksandr Ganchev, PhD, Docent at the State University of Intellectual Technologies and Communications, Odesa, Ukraine. His research interests include the history and demography of the Bulgarians of the Northern Black Sea region and migration studies.

alexander_ganchev@yahoo.com

Oleksandr Prigarin, Sc.D., Professor at the Odesa I.I. Mechnikov National University, Ukraine. His research interests include the history, culture, and traditional architecture of the ethnic groups of Southeast Europe; identity and interethnic communication; migration studies; the study of the Old Believers; theory of anthropology; and the application of computer technologies in humanitarian research.

prigarin.alexand@gmail.com