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### POPULATION REGISTRY CARDS FOR INHABITANTS OF LODZ AS A SOURCE OF INFORMATION ABOUT THE CITY'S POPULATION IN THE 19TH AND EARLY 20TH CENTURY

**Abstract:** During the industrialization period of the city of Lodz, one of the most important industrial centres in the Kingdom of Poland (the former Russian Partition), experienced a dynamic population growth caused by migratory movement from rural areas to the city. The population registry cards for inhabitants of Lodz contained information on dates of birth (sometimes on dates of death), place of birth, religious denomination, nationality, and address of residence in the city, as well as the number of children born in a family. The aim of this paper is to present population registry cards of permanent and non-permanent residents of the city of Lodz deposited in the State Archives in Lodz, as a source for research on urban society during the period of industrialization. In this work, the use, quality, and reliability of population registry cards, as well as their research limitations for studies are discussed.

**Keywords:** register cards, industrialization, censuses, Kingdom of Poland, migrants, quality and reliability of cards

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#### INTRODUCTION

In the 19th century, Lodz faced rapid urbanization and industrialization. The population of the city was multi-ethnic and multi-religious, therefore, it is a great case study for demographical research. One of the sources, which can be used in such a research, is population registry cards from years 1916–1921. The aim of this paper is to present population registry cards of permanent and non-permanent residents of the city of Lodz deposited in the State Archives in Lodz, as a source for research on urban society during the period of industrialization. In this work, the use, quality, and reliability of population registry cards, as well as their research limitations for studies are discussed. But first, a short history of Lodz in the 19th and early 20th centuries, especially, the changes in population size, will be presented.

As a result of the decisions of the Congress of Vienna in 1815, Lodz became a part of the Kingdom of Poland, formally united with Russia by personal union. In 1820, Lodz was included in the group of industrial settlements of drapery and weaving. Then, the city had a population of about 800 permanent residents. This date has been considered the breakthrough in the history of Lodz as it marked the end of the era of "agricultural" Lodz and the beginning of the new era of "industrial" Lodz. The dynamic development of industry led to a rapid inflow of migrants, causing a sudden transformation from a town of over 4,300 permanent inhabitants in 1830 (exactly 4,343 people) into an industrial metropolis, accounting for over 280,000 inhabitants in 1900 (i.e. 92,286 and 190,920 permanent and temporary residents, respectively) and over 470,000 by 1914 (i.e. 213,564 and 264,298 permanent and temporary residents, respectively) (Janczak, 1982: 38-40). The period of the greatest economic boom started at the beginning of the second half of the 19th century. Some of the factors that contributed to it were as follows: the development of the internal market, the inflow of cheap workforce from villages after the peasantry enfranchisement, and the re-opening of exports after the abolition of the Russian customs border in 1851 (Baranowski, 1988; Janczak, 1988; Szram, Wach and Wiktorowski, 1987: 192–205).

In the 1830s and 1840s, the city of Lodz became the most important centre for textile industry in Poland, and due to its dynamic urban and industrial development was known as the "Polish Manchester" (Koter, 1988). Migration movements made the nationality structure of the city more dynamic. Agricultural Lodz was a more homogeneous town in

terms of nationality and religion. The development of industry would later changed this situation. In 1831 Lodz was inhabited by the following national groups: Germans who constituted 74% of the city's population, Poles 17.4%, and Jews 8.5%. However, it should be emphasized that the ethnic composition quoted here after Kossmann (1936) was established based on names from the list of the funds of contributions to the army during the November Uprising. According to more reliable sources from the second half of the 19th century, the share of Poles and Germans in the population of Lodz was around 40%. Over time the number of Polish and Jewish dwellers, systematically, increased (Dzieciuchowicz, 2014: 31–32). The municipal classification was introduced only in the 1860s. In its light, the percentage of Germans in the urban community ranged from over 40% to more than 60%, whereas the frequency of Polish and Jewish populations fluctuated from 21% to 34% and from 16% to 21%, respectively (Janczak, 1988). Janczak (1988) quite critically evaluated these classifications, accusing them "of dubious quality and origin" as it was not known exactly how they were gathered. National statistics for 1913 and 1914 indicated a clear predominance of the Polish population (50%), placing the Jews in second position (over 30%). The Germans constituted 15% of the city's population, while the Russians just over 1%.

In the 1850s, Lodz was inhabited by the following four denominations: Catholics, Protestants, Jews, and Orthodox. The proportion of Catholics and Protestants was then equal: over 40% (Janczak, 1988). Jews constituted about 14-15% of the city's inhabitants. The number of Orthodox followers in the 1850s was very small. At the beginning of the 20th century, they represented about 3% of the total population (Janczak, 1988). It is worth noting that there was a strong tendency for particular parts of the city to be inhabited by believers of a given denomination (Dzieciuchowicz, 2014: 33-36). Regarding the sex proportion, women outnumbered men. The high feminization rate was typical of urban communities at that time. In the case of Lodz, it was connected with the specific specialization of the industry, predominated by textiles. A great number of home servants were also represented by women (Janczak, 1982: 99-100). Large migrations to Lodz caused adults to predominate in the age composition compared to the Kingdom of Poland as a whole (Dzieciuchowicz, 2014: 22; Janczak, 1982: 100–106).

The development of the Lodz population in the 19th century was characterized by an unprecedented increase. In the 19th century, Lodz became an industrial centre closely dependent on the pace of industrial develop-

ment. The, particularly, tremendous development of the city actually began in 1877. This was possible, thanks to the migration movement, as in all major cities throughout history. Initially, people from neighbouring countries, such as Saxony, Prussia, and other German countries, were coming to Lodz. However, internal migrations from the Kingdom of Poland itself took on more importance than from abroad, in particular the migration of peasants from the countryside (Dzieciuchowicz, 2014: 19–21). The rapid pace of industrialization caused migratory movements, mainly, from sub-Lodz villages. The population migrated to the city in search of jobs. Consequently, factory districts and working-class residential districts were created on the outskirts of the city. These suburbs absorbed masses of the poorest. The acceleration of the migration processes took place especially post 1864, after the act of enfranchisement of peasants had been signed (Koter, 1988). The expansion of the city's territorial borders also affected the number of inhabitants, however, the population of the suburbs underwent a similar demographic process as in the city itself (Dzieciuchowicz, 2014: 21). The rural population "brought" rural traditions with them. They were used to a different rhythm of work and having a large number of children, unlike in cities, etc. In a nutshell, the newcomers from the countryside to Lodz were not prepared for living and working in the city. Moreover, the majority of them were illiterate. The dynamic industrialization forced the sudden socialization resulting from the transition from the countryside to the city, without a transitional phase. Thus, it generated a powerful stress connected with the need for adjusting to completely new habits. Migrants, who managed to settle down in the city, attracted other family members to Lodz (Sikorska-Kowalska, 2001: 223; 2013).

## POPULATION REGISTRY CARDS FOR INHABITANTS OF LODZ

Based on the Napoleonic Code and the Civil Code of the Kingdom of Poland since 1810, residents were registered in the population registry books in their places of permanent residence (Janczak, 1982; Janik, 2012). According to the provisions contained in these codes, the state of the population had to be constantly updated. The dead as well as emigrants were crossed out of the books while every newborn child and immigrant were registered in the books. To control the population growth, the inhabitants

of all religions were subject to registration. The registration was also intended to record recruits for military service (Janik, 2012). At the beginning, the population registers included only the census of men. This, however, changed at the end of the 1820s when the forms in the books were made more detailed and not only men, but women also and children were recorded. The registers contained information about the date and place of birth of the person, the date of his/ her death, and the date of his/ her marriage. They also included annotations about the directions and reasons for migration. There are also data on the military service performed by men, their professions or court cases against them, or imprisonment/ sentenced served. Pursuant to the nationwide reform that introduced changes to the population registration system at the beginning of the 1930s, the keeping of books of the permanent population in Lodz was discontinued (Janik, 2012).

A rich source of information about the population of Lodz is the population registry cards. About 350,000 census cards have survived till this day, containing details of people living in Lodz since the beginning of the 19th century. The registration was carried out in both Polish and German with the forms having been changed three times: in 1916, 1919, and 1921, and the changes included both the language in which they were prepared as well as the scope of the collected information. The forms from 1916 and 1919 assumed that the whole family should be recorded on one registry card, while the form from 1921 provided for only one person to be recorded on each card, i.e., in the case of the whole family – each individual member was recorded on a separate card (Janik, 2012).

Before the outbreak of World War I, the Address Office (Polish: *Biuro Adresowe*) was responsible for keeping the registry cards, which, however, ended with the evacuation of the tsarist administration. In September 1916, this institution was reactivated, under the name of the Registration Office (Polish: *Biuro Meldunkowe*), which kept a register of residents based on registry cards collected by the Imperial-German Police Presidium (Polish: *Cesarsko-Niemieckie Prezydium Policji*; Stawiszyńska, 2016: 227). During the time of the Polish administration, the Address Branch of the Finance and Accounting Department (Polish: *Oddział Adresowy Wydziału Finansowo-Rachunkowego*), IVC, which operated within the structures of the Municipal Office of the City of Lodz, was responsible for the supervision over the keeping of the population registers. The branch consisted of two parts: it belonged to the Address Office, which issued addresses to private persons for a small fee of 50 pfennigs, and the Permanent

Population Book Office (Polish: Biuro Ksiąg Stałej Ludności), which kept a permanent population register (Informator..., 1920). The new registration form was introduced on October 7, 1919, and each of the printed cards, the circulation of which amounted to 60,000 copies, was numbered according to the order of filling in. Filling the address cards according to the pattern from 1921 was, in turn, supervised by the Lodz State Police, located within one of the fourteen police stations in the area of Lodz. They recorded people moving into or out of apartments. The content of the information gathered was influenced, not only by the type of institution producing the source, but also by the purpose of the city officials' activity. Keeping the current registration of residents was important, not only due to the requirements of the customary population register, but also to solve problems of accommodation. One of the areas of activity of the Magistrate of the City of Lodz was to prevent the problem of the lack of apartments in the city. For this purpose, the Housing Department was established, which collected data "on local housing relations" and accommodated residents in premises that were considered to be lacking in accommodation. There was also an inspection of sanitary standards and a list of vacant flats for the purpose of creating as many cheap and hygienic flats as possible, especially, for the less affluent inhabitants of Lodz (Informator..., 1920). The knowledge about current tenants was undoubtedly helpful in these activities. During World War I, a certain justification for the most accurate filling in of the registration cards was also the conviction of the employees of the Lodz City Hall about the frauds made on the cards to buy food. The problem, however, was that some of those cards might have belonged to people who had actually left the city, and their ID cards were taken over by homeowners or neighbours. Therefore, Lodz officials tried to oblige the owners and managers of houses to fill in the address cards as scrupulously as possible (Stawiszyńska, 2016: 224).

The registration cards contained the following information: the name and surname of the family head (usually it was a man: a husband and a father), the name of his father, date, place, and district (*Kreis*) of birth, marital status, occupation, address of residence and of registration. Other data included on the card are: religion of the person registered, nationality, and – in the case of people from outside Lodz who came to this city – addresses of the place of previous residence, and date of arrival in Lodz. A separate field on the card was for family members and contained information such as: the spouse's name, maiden name, names of children, dates, and places of their birth, and addresses of residence. Sometimes the date

of death or annotation about the person's departure from Lodz or from the country was added. The cards do not contain information about stillbirths or about the child's sex. The sex of the child can be inferred from the given names.

Currently, population registry cards for inhabitants of Lodz are deposited at the State Archives in Lodz in the Department of Population Records (Polish: *Wydział Ewidencji Ludności*) and are available online (APL, AM, WEiL, 39/221/0/4.12). The cards in the online file have been arranged alphabetically according to the phonetic sound of the surname.

Figure 1 shows an example of a population registry card for inhabitants of Lodz (Personenblatt). The form is bilingual: German-Polish. As we can see, the card consists of 3 parts. The surname (Zuname) and the first name (Vorname) of the family head appear in the upper left-hand corner. Below, there is a place for the woman's maiden name in the case where she was named as head of the house. It is also a place for a woman's family name (Bei Frauen auch der Geburtsname). In the case of the card in Figure 1, the name of the Altmann family is recorded, and the family head is Herschek Joseph, whose father's name was Icek (line: Vorname des Vaters). Then the (marital) status and occupation (German: Stand oder Berufsstellung) were provided. According to the information written on the card, Herschek Joseph was married and worked as a carter (verheiratete / Fuhrmann). On the next line, the date (geboren am) and place of birth (geboren in) were recorded, as well as the county (*Kreis*) from which the person arrived in Lodz. There is also a space for religion (Religion). At the end of the first part of the card, there is information about citizenship (line: Staatsangehörigkeit) and place of permanent residence (line: Ständiger Einwohner von). From the card in Figure 1, therefore, we learn that Altmann Joseph was born in 1858 in the town Gura Kalwaria (probably Góra Kalwaria). He was of Jewish faith (Jüdische) and of Polish nationality. We also know from the card that Joseph Altmann had the status of a permanent resident of Lodz (Ständiger Einwohner von  $\angle \delta d\hat{z}$ ). The second piece of information is also on the left side of the card, under the head of the family details. It is in the form of a table; its individual columns include the remaining family members/household members (Familienglieder), their day/month/year of birth (Geburtstag/ Month/ Jahr), place of birth (Geburtsort und Kreis), and religion (Religion). We find out from the card that the wife of Joseph Altmann was Mariem (no family name), born in 1863 in Wangrodno (probably Wagrodno). Mariem gave birth to five children: Haskiel Elia (born on October 4, 1899), Mindel Sura (born on September 8, 1901), Jankiel Wolf (born on November 28, 1906),

Hanna Schneiderin (born on October 5, 1896) and Chaim Mendel (born on December 10, 1920). The annotation placed in pencil next to Hanna Schneiderin shows that the eldest daughter (born in 1896) left for America in August 1920. On the right side of the card, there is a table that served as an address book and contained the family's subsequent places of residence in Lodz. The table begins with information about when and from where the family came to the city (*Zugezogen am - von*). The dates of subsequent removals are listed below (Tag des Umzuges), and subsequently addresses are provided (Wohnung: Strasse oder Platz), house number (Hausnummer) and tax district (Steuerbezirk). In the address table, in the comments column (Bemerkungen), additional information about family members was often provided, such as about leaving the city, conscription into the army, or death. Let us return to the family of Joseph Altmann, who lived in Lodz at 4 Chłodna street (Chlodnastrasse 4) in the Bałuty district (3rd tax district). In March 1918, the family moved to 51 Brzezińska Street (18th tax district), and in May 1921, the Altmann family moved from Lodz to Opoczno.

The cards from 1919 contained similar information to those from 1916, but were run in Polish. The cards from 1921 contained information on individual persons (one card = one person). If the family had already created a card, the information was only supplemented (updated) on it, without the need to create a new one. Because Poland had been an independent country since 1918, cards from the last census were created in Polish. Figure 2 shows another example of a card. The table on the right contains information about Lodz's inhabitants. On the top, there is a box for surname (Polish: *Nazwisko*), and below - the name of the person registered (Polish: Imię). Next, there is the place for parents' names and mother's maiden name (Polish: Imiona rodziców oraz nazwisko panieńskie matki). The next information in the table is the date of birth (Polish: Data urodzenia: dzień/ miesiąc/rok) and place of birth (Polish: Miejsce urodzenia). Then the religion (Polish: wyznanie) and nationality (Polish: Przynależność państwowa) were recorded. Below, there is a place to introduce the individual's marital status (Polish: *Stan cywilny*) and occupation (Polish: *Zawód*). Further, the table shows the type of document on the basis of which a given person was registered in Lodz, and under it, in the penultimate line, there is a space for information about the place of permanent residence. At the end of the table, there are data about the address (floor and house number). In the left column, there were data on arrival to Lodz: the police station number and the name of the street where the person lived as well as the police and mortgage numbers. Below that, there are data on the direction of migra-

| Zuna                   | ame Altma   | 100  | n   | 7    |                |       | Zug                              | gezogen am<br>ybył w d.                       |        |                                     |                      |
|------------------------|---|------|---|------|----------------|-------|----------------------------------|---|--------|-------------------------------------|----------------------|
| Nazy                   | wisko   |      |   |      |                |       | von                              |   |        |                                     |                      |
|                        | bei Frauen auch<br>der Geburtsname<br>u mężatek i na-<br>zwisko ojca                                      |      |   |      |                |       | Tag des<br>Um-<br>zuges<br>Dzień | Wohnung<br>(Strasse oder Platz)<br>Mieszkanie | Haus-  | Stener-<br>bezirk<br>Dziel-<br>nica | Bemerkungen<br>Uwagi |
| Vorn<br>Imię           | name Herschek-  | Tose | pr  | h    |                |       | pro-<br>wadzki                   | Today Tolisty                                 | domu 4 | nica<br>podat-<br>kowa              | Owagi                |
| Vorname des Vaters Mek |   |      |   |      |                |       |                                  | Brezinska                                     | 51     | XVIII                               | 12/5 19210           |
| Stan                   | ojca<br>d oder Berufsstellung 2<br>lub zawód  |      |   | Fu   | hrmann         | ····· | 1918                             |   |        |                                     | To Opverne           |
| gebo<br>Urod           | oren am 185<br>Izony d.   | 58   | n )<br>w                                  | lura | - Kalwarii     | ·     |                                  |   |        |                                     |                      |
|                        | Kreisziemi  |      |   | Reli | gion jud       |       |                                  |   |        |                                     |                      |
| Staa<br>Przy           | tsangehörigkeitnależność państwowa  |      | pol                                       | 1    |                |       |                                  |   |        |                                     |                      |
| Stän                   | diger Einwohner von A   | odn  | ii  |      |                |       |                                  |   |        |                                     |                      |
|                        |   |      |   |      |                |       |                                  |   |        |                                     |                      |
|                        | Familienglieder   |      |   |      | Geburtsort     |       |                                  |   |        |                                     |                      |
| Lfd. Až bież.          | (bei Frauen auch der Geburtsname<br>und Stand<br>Nazwisko i imię<br>(u mężatek i nazwisko ojca)<br>i stan | Tag  | Geburts-<br>Tag   Mon.   Jahr<br>Urodzony |      |                | Rel.  |                                  |   |        |                                     |                      |
| 1                      | Mariem gel.   | dnia | mies.                                     | 1    | Wangrodn       | 1     |                                  |   |        |                                     |                      |
| 2                      | Haskel- Elia  | 4    |   |      | Sura - Kalware |       |                                  |   |        |                                     | The tolo Riem        |
| 3                      | Mindel . Jura   |      |   |      | Lodr           | "     |                                  |   |        |                                     |                      |
| 4                      | Jankel- Wolf<br>Hanna Ehneiderin  | 15   |   | 1906 |                | "     | 22.                              | 9 100 - 1 1 1 1/2                             |        |                                     |                      |
| -                      | Chaim Mendel  |      | 0   | 1    |                | "     | INN.                             | 8, 1970 do Ameryla                            |        |                                     |                      |
|                        |   |      |   |      |                | 1     |                                  |   |        |                                     |                      |
|                        |   |      |   |      |                |       |                                  |   |        |                                     |                      |
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|                        |   |      |   |      |                | 300   |                                  |   |        |                                     |                      |
|                        |   |      |   |      |                |       |                                  |   |        |                                     |                      |
|                        |   |      |   |      |                |       |                                  |   |        |                                     |                      |
|                        |   |      |   |      |                |       |                                  |   |        |                                     |                      |

Figure 1. Population registry card for inhabitants of Lodz (a form in German and Polish) Source: APL, AM, WEiL, 39/221/0/4.12/24443: K. 133.

| ZWraca (   | V , /   | cząrwonym atrar   | nentem, o storusku do wojskowości:                        | 52                    |
|--|---|---|---|-----------------------|
| Presydent Market | Komisarjat.   | Nazwisko Imię Imtona rodziców I nazwisko ponieńskie   | Aleksander<br>Nieksander                                  |                       |
| ovedzających<br>nop op<br>von  | wymieniona osoba wprowadzła się: nu przy ulicy whouskej cyjny | motki Dzień, miesiąc i rok urodzenia Miejsce urodzenia (wieś, miasto, powiat) Wyznanie Przynależność państwowa              | 15. 12. 1860<br>Lecryce<br>Ewang.                         | ·a                    |
| hip hip hip hip hip wastarate  | cybył:  | Stan rodzinny Zawód lub rzemiosło Na podstawie jakich dokumentów, przes kogo i kiedy wydanych                               | Ronaly rol. (Parport Brees posholitud Konstellattic Ensen | 7 Tolska<br>4.12.1920 |
| gmine, p<br>Jub min<br>Jeżeli w ł<br>to wsk<br>ulice t Ma  | sto, a<br>Łodzi,<br>azać                                      | Stoly mieszkanice<br>(wakazać gmine, miasto<br>powici, gdzie zapisany<br>do ksiąg iudności)<br>Piętro 1 numer<br>mieszkania | Lecyce Unite #13.   | 201,                  |
| Podpis u<br>lub rząd<br>Archiwum Państwowe w Łodzi   | classiciela Werne   | Pool  | lpis Komisarka<br>ub Zaaiępcy                             |                       |

Figure 2. Population registry card for inhabitants (a form in Polish) Source: APL, AM, WEiL, 39/221/0/4.12/24442: K. 52.

tion: where and when exactly the emigrant came to Lodz, and at the top of the card, information about the completed military service. At the bottom of the registration card, there are places for the signatures of the owner or manager of the house and the police commissioner. On the card shown in Figure 2, Aleksander Allert, a son of Fridrick and Rozalia née Weber, was registered. The card informs us, among other things, that Aleksander was born on December 15, 1860, in Łęczyca and that he was of Evangelical denomination. The card states that he was married and worked as a labourer. Aleksander came to Lodz from Essen on December 15, 1920, and lived on the second floor of a building located at 23 Częstochowska Street.

# THE USE OF REGISTRY CARDS TO STUDY THE POPULATION OF LODZ: CARDS' POSSIBILITIES AND LIMITATIONS

Population registry cards are a source that is relatively, rarely, used by Polish researchers. Attention is drawn to their numerous shortcomings, but due to the lack of alternative censuses for inhabitants of the Kingdom of Poland, population registry cards have remained a valuable source that can be widely used in historical demography (Szukała, 2012 ab) or biology of historical populations. The only census in the Kingdom of Poland was carried out in 1897. Various local censuses were also carried out in the 1880s, including the ones in Warsaw, Kalisz, and Piotrków. In Łódź, a census of inhabitants was run in 1911 (Janczak, 1981: 133). During the German occupation, a census was also run in early 1918 when the daily duties performed by the Committee for the Distribution of Bread and Flour (Polish: Komitet Rozdziału Chleba i Mąki), which dealt with among others issuing food cards (Rżewski, 1937: 18-20). Population registry cards of Lodz residents, thanks to information on the socio-economic status (occupation, religion, nationality, place of origin/ place of residence in the quarter of Lodz) of family members, may, with some caution, be used to examine demographic behaviour considering family socio-economic status. They provide us with information, not only about the dates and places of birth, but also about religion, nationality, and profession. The subsequent addresses in Lodz also give very interesting information. They allow the reconstruction of the directions of migration to the city and the movement between city quarters.

Below we present an example of the practical use of population registry cards for population research. Information on 2,392 families was collected from cards, including individual data on 2,224 mothers and 6,205 children, and family social status. Based on such data, it was possible to conduct fertility analyses as a calculation of the average number of children born to mothers, the length of intergenic (between-births) intervals, and the average age of mothers at the time of the first and subsequent deliveries. The following fertility picture emerges from these analyses: in Lodz, there were 2.8 children born to the average woman. The mother's age increased with subsequent births: from 25.8 years to 43 years; 50% of women gave birth to their first child between the ages of 22 and 29 years. The average length of intergenic interval was around 30 months, meaning

that a mother had another child every 2.5 years on average (Repczyńska, 2021). Since the information on the social status of the family was available, it was also possible to investigate the differences in the number of children in the family according to socio-economic status. Father's professional status was considered a proxy for a family economic position. Moreover, paternal place of birth, nationality and their religious denomination was also taken into account. The differences in the lengths of between-birth intervals due to the mother's place of birth (immigrant/ permanent resident), her religion, and nationality were also carried out. The influence of socio-economic factors, the mother's age at the time of giving birth to the first child and subsequent children was investigated, as well as the impact of migration on the size of a family in Lodz (Repczyńska, 2019ab). Unfortunately, information about children's deaths was provided extremely rarely in the cards. Figure 3 shows an example of a card with information about children's deaths (see: child number 3 - Szaja Alexander was born on December 4, 1895, and died on July 19, 1918; child number 9 - Anna Ranna was born in 1898 and died on July 17, 1918). Among 2,392 families registered, only 86 cases of child deaths were recorded and collected. It allowed, however, to study the relationship between mother's age at the moment of giving birth to her child and the child's age at death. The relationship between the early (≤ 16 years) and advanced (≥ 30 years) maternal age at birth and the risk of the child's death before the age of 5 was also captured. Too early and too late motherhood increased the risk of offspring death before the age of 5 years (Repczyńska, 2021). Of course, we are aware that a better source of information about mothers and their offspring would be the reconstructed reproductive histories of families based on parish registers. However, the findings could have enriched the pioneering demographic study of Lodz conducted by Janczak (1982). Janczak's work was based on the population registers giving a rough picture of demographic dynamics (fertility and mortality). The cards used in earlier work provide fine individual details of the socio-cultural diversity of the population of Lodz. In this way, it was possible to obtain a much more complete picture of Lodz inhabitants, various conditions impacting demographic components, as well as relationships between them.

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Figure 3. Population registry card for inhabitants of Lodz with added information about children deaths

Source: APL, AM, WEiL, 39/221/0/4.12/24435: K. 387.

The earlier-mentioned missing information on the dates of deaths of children is not the only limitation of the population registry cards of the inhabitants of Lodz. The cards often do not include the birth dates of parents, mainly the mother, which does not allow calculating her age at the time of giving birth. Information on the mother's age at death is often lacking, which limits the estimation of a woman's stopping behaviour. It happens that within one family some people had their correct dates of birth registered, while some only the declared age at the moment of registration. It is suspected that another limitation of the database, built on the basis of the cards, is the lack of continuity of information about the families, often skipped or entered with errors when updating information on cards. Not only the inaccuracy of registration is a drawback of the cards, but a factor that should also be considered when examining the population of Lodz, based on registry cards, is the changes in the city's population size resulting from the turmoil of World War I. During the Great War, the number of inhabitants of the Kingdom of Poland decreased significantly due to the increase in mortality, a decline in fertility, and emigration deep into the Russian Empire, which was emphasized even during the conflict (Szturm de Sztrem, 1918). The population of Lodz underwent similar changes, so it should be kept in mind that the image emerging from the registry cards does not have to be representative of the period before and after the war. The population of Lodz, altogether with the suburbs incorporated into the city in 1915 (Bałuty itself, at that time, officially considered a village adjacent to the city had as many as 100,000 inhabitants), decreased by 28% compared to the state before the outbreak of the war (Szturm de Sztrem, 1918). The population of Lodz was systematically declining and by March 1918 had reached just 340,000 people (Stawiszyńska, 2016: 223). Soon after, many of the former inhabitants began to return to the city and the population slowly began to increase to almost 400,000 inhabitants in early 1919 (Stawiszyńska, 2016: 224).

The first problems for the functioning of the city appeared already with the beginning of military operations, when the vicinity of Lodz, in the fall of 1914, became the field of a vast battle between the German army, with the Austro-Hungarian troops supporting them, and the Russian army. The German occupation introduced after the victory of the Central Powers was accompanied by mass unemployment and a systematic decline in the number of inhabitants, caused by the collapse of industry cut off from supplies of raw materials and its main market in Russia. The city's population status from 1913 was only restored after a dozen or so years. The

majority of those leaving Lodz were migrant workers from the country-side who were looking for a source of income in the dynamically developing industry and, faced with the lack of work, decided to return to their homeland (Borodziej and Górny, 2014: 237). During the Great War, the number of Christians in Lodz had decreased sharply. Soon after WWI had ended, however, the religious structure in the city returned to the pre-war situation. Therefore, it should be kept in mind that the data collected from the oldest sources may lead to an overrepresentation of the Jewish population in the city. The situation was similar in terms of sex structure since Lodz was significantly feminized (women outnumbered men). The events of the Great War left on the population of Lodz similar effects in terms of anomalies in the state and structure of the population as those in the entire society of the Second Republic of Poland, which was pointed out by Ogórek (2018; Rżewski, 1937: 26).

The registry cards from 1916–1921 can be successfully used to assess the impact of World War I on the city's demographic behaviour, and thus contribute to the research on, so far poorly developed, issues on the scale of the whole country. A certain disadvantage of this type of source is also the possibility of the underestimation of all inhabitants. It has already been emphasized by the current employees of the Statistical Department of the Lodz magistrate, pointing to the public's distrust of official statistics, as being always suspected of using the knowledge obtained in this way for fiscal purposes (Rżewski, 1937: 19).

Awareness of the gaps in the previous forms of population records is also evidenced by later legislation that attempted to include residents who had escaped the previous statistics, for example, those who had no other place of residence: conscripts, prisoners, children in orphanages, educational and care institutions, and certainly a large group of domestic servants (Regulation of the Minister of Internal Affairs of 16 October 1930 issued in consultation with the Minister of Military Affairs regarding Articles 14 (2), 20 (1), 23 (2) and (3) and with the Minister of Foreign Affairs regarding Article 20 (2) on reports and population books; Dz.U. 1930 No 84 item. 635). Infants were also registered with greater accuracy, e.g., infants given away to be fed by wet nurses were to be treated as "temporarily absent from their place of residence" unless they had no other place of residence (Dz.U. 1930 No 84 item 635). This factor - the phenomenon of placing children in the care of wet nurses, especially sending them away from highly industrialized areas to the countryside - in addition to high infant mortality rates, may have influenced the underrepresentation of infants in official statistics of the city. Among children sent away to live with wet nurses, mortality was high (Bołdyrew, 2010), as was the number of registered deaths of illegitimate children. Statistics from Lodz cited by pediatricians in the first half of the 20th century indicate that 31.4% of liveborn illegitimate children died in 1924, 31.2% in 1926, and 57.6% in 1928. It should be noted that it was among unmarried women that the majority of wet nurses were recruited (Nawrot-Borowska, 2014: 95; Bołdyrew, 2012: 45–46), and working women from lower social strata were suspected of sending children away to the countryside, which was highly criticized (Jakubowski, 1890: 16–17). The majority of children placed in the care of wet nurses were not registered (Bołdyrew, 2012: 44).

#### POSSIBILITIES OF USING CARDS FOR FURTHER RESEARCH

The type of information collected in population registry cards may allow the examination of the structure of families in Lodz using Laslett's typology (Laslett, 1983). In Polish historiography, there is, particularly, little research on the population in the post-partition era, which was highlighted by Cezary Kuklo when writing about the need to intensify research "in terms of a more detailed understanding of the internal composition of urban households, at least, until the end of the 19th century" (Kuklo, 2015). However, a certain difficulty may be the scope of information provided in the Lodz registers, which are usually limited to listing married couples with children. Registry cards are a great source of research on the directions of migration to Lodz. A similar source was previously used, among others, for attempts to assess the territorial origin of new inhabitants of Warsaw at the end of the 19th century (Sobechowicz, 2016). The much better state of preservation of the Lodz population cards would allow for the description of immigrants in the 19th century Lodz. According to Janczak (1982: 85-87), most of the new inhabitants of the city came from nearby towns in the Piotrków and Kalisz Gubernyas. Due to the significant outflow of people during World War I, registry cards can be used, for example, for research on the return of former residents to Lodz. Registration of addresses on the card makes the source successfully applicable to research on the socio-topography of Lodz from the beginning of the 20th century, while the results of the 1918 census of the city's population can be used as comparative material (Stawiszyńska,

2016: 229–231; Goerne, 1919). Furthermore, the occupational structure of the city's residents in wealthier and poorer quarters together with archives of police stations may be useful for an analysis of the spatial distribution of different types of crimes. Recent studies on contemporary populations have found interesting correlations between crimes and city quarters (Xu et al., 2021). Studying a spatial distributional pattern of denominations, on the other hand, may allow us to investigate how religious enclaves were formed.

The information recorded on the cards can allow for the reconstruction of the economic geography of the city and the ownership structure of urban space, as well as for analysing the development of Lodz's housing stock. An interesting perspective would be to examine the status attainment or social degradation of the city's inhabitants by analysing their movement from poorer to richer districts, and vice versa, especially in the case of women characterized as heads of households, widows, and widowers (taking into account their occupation).

In addition to the usefulness of cards in historical demography and economic history, it is worth considering the auxiliary use of the cards in other disciplines. The information contained in them may help estimate the intensity of anthropopressure in particular parts of the city as well as epidemiological risk (an important factor: overpopulation in poorer locations). The recording of the documents on the basis of which the report was prepared influences the history of administrative thoughts and the evolution of recognized forms of documentation. In this context, it is also worth looking at what additional information was relevant to the reporting officials. It is also interesting to trace the evolution of the numbering systems of buildings – from the mortgage number, through the police station number, to the police number (the last two can be used in the study of the organization of the Lodz police).

#### CONCLUSIONS

The registration cards of the inhabitants of Lodz presented in this study come from censuses conducted in the first two decades of the 20th century. Nevertheless, the information value of the city's population, recorded on the cards, dates back to the 19th century. This makes it possible to study demographic trends over time based on individual data.

Research by Janczak (1982), emphasized very often in this work, was limited only to the basic elements of natural movement, expressed by crude death and birth rates as well as population growth rate. Meanwhile, registration cards, despite many limitations, provide details of the socio-cultural diversity of the inhabitants of Lodz, which allows for a much more complete picture of the population of Lodz with its social differentiations. In interdisciplinary research, combining, for example, history, historical demography, and biology of human populations, the point is not to show exactly what it was when the group under study was part of a living population, but to create a certain probable picture of its biological, social, and cultural state. Therefore, with an appropriate dose of criticism and caution in the interpretation of the results, the population registry cards can be used to carry out research on the population of Lodz during the period of industrialization.

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