Objective: The auriculotemporal syndrome is known worldwide as Frey's syndrome. However, the Jewish physician Lucja Frey, after whom it was named, has fallen into obscurity. The little information about her is fragmentary, contradictory, and often incorrect. Study Design: To reconstruct the life of Lucja Frey, who was murdered by the Nazis in her native town if Lwów, it was imperative to look for original documents as irrevocable proof of her life. Methods: During this research, more than 100 archives and institutions in 8 countries have been contacted. Results: With the archive materials, it was possible for the first time to create a complete picture of the life of this fascinating physician. Furthermore, her day of death, unknown until now, could be determined with great plausibility. The lasting impression is not only of a tragic death under the Nazis but also of a tragic life as a whole. Conclusion: Lucja Frey would have been forgotten if not for the eponym Frey's syndrome. In this way, she is remembered not only as an unusual woman, physician, and scientist but also as one of millions of Jews murdered by the Nazis. This may be the only key remaining to prevent the repetition of one of the most haunting and devastating times in history. Key Words: Lucja Frey, Frey's syndrome, auriculotemoporal syndrome, Jewish physician, holocaust, Lwów.

INTRODUCTION
The auriculotemporal, or Frey's, syndrome is a well-known late complication of surgery involving the parotid gland and is the subject of intensive scientific research. Originally described as a neurologic phenomenon, it is recognized today as an important, late complication of parotid gland surgery. The name “auriculotemporal syndrome” is based on the publications “Przypadek zespołu nerwu usznokroniowego” and “Le syndrome du nerf auriculo-temporal” written by Lucja Frey in 1923. Higier was the first to add the name “Frey” in 1926. In 1932, Bassoe introduced the synonym “Frey's syndrome.” Despite this, the physician Lucja Frey has fallen into obscurity. Her name is rarely mentioned in medical reference books. If she is mentioned, the published data are proven to be wrong: her first name is written as “Lucie,” which suggests French nationality. Her dates of birth and death are given as 1852 to 1932; however, this corresponds to the life of Maximilian Ruppert Franz von Frey, an Austrian physician and physiologist.

MATERIALS AND METHODS
At first, the information available in the current literature was recorded and analyzed. The published details were compared and checked for accuracy and contradictions. Next, original documents and further information were looked for. For this, more than 100 archives, Jewish research institutes, holocaust institutions, memorial places, universities, libraries, medical societies, and others in Poland, the Ukraine, Austria, Russia, the United States, Israel, Great Britain, and Germany have been searched and contacted. Only five could supply us with information: The Central State Historical Archives of Ukraine, Lwiw; The Regional State Archive, Lwiw; The State Archive of Poland, Krakow; The Archive of the University of Warsaw; and The Holocaust Martyrs' and Heroes' Remembrance Authority, “Yad Vashem,” Jerusalem. Finally, the resulting data were analyzed, updated, and put into a historic context.

RESULTS
Childhood in Lwów
Lucja Frey was born on November 3, 1889, as the daughter of the building contractor Szymon Symcha Frey and his wife Dina in the city of Lwów. In this period, Lwów was part of the Austro-Hungarian empire. Therefore, Lucja Frey was, for more than 20 years of her life, an Austrian citizen.

Her family belonged to the Mosaic faith. Only Glinksi and Bennett point explicitly to this ethnic and reli-
gious background, which dictated her tragic fate. Nevertheless, from 1896 to 1900, she attended a Christian elementary school. Her Polish first name, the profession of her father, and the fact that the family lived outside the traditional Jewish quarters in a favored district of Lwów all point to a prosperous and assimilated Polish family. This thesis is further supported by Lucja Frey’s attendance at a private Jewish high school because higher school education was not intended for girls from an orthodox Jewish background. The children of less conservative Jews frequently used Polish in favor of Yiddish and in this way gradually alienated themselves from their culture. Lucja Frey indicated her mother tongue as Polish and not Yiddish. On November 7th, 1907, as an external pupil, she successfully received her high school graduation certificate at the state girl’s high school.

**Studies in Lwów**

More attention is paid in the literature to the next phase of Lucja Frey’s life, her university days. The details vary considerably, however. It is reported that she studied mathematics under Professor Smoluchowski at the University of Lwów. Others report a change to philosophy, with and without the receipt of a degree. At the same time, it is claimed she started studying medicine in Warsaw and finished it there successfully in 1913.

Professor Marian Smoluchowski was a world famous physicist, belonging to the faculty of philosophy. Original documents from the University of Lwów confirm that Lucja Frey was a student at the faculty of philosophy from the winter semester 1907/1908 to 1912. According to her own details, in 1913, she passed an examination for secondary teachers in the mathematical-natural science department. This then disproves the reports of her getting a medical diploma in 1913.

Documents verify that Lucja Frey only started studying medicine in 1917, at the age of almost 28 years, in Lwów (Fig. 1). The reasons for this decision are unknown. As explained above, she appeared to come from an assimilated Polish family. In other words, she was probably felt like an outsider. She possibly sought acceptance by society, which generally did not admit Jews, through success in a highly respected profession.

Until 1920, Lucja Frey studied for four semesters at the medical faculty of Lwów. She interrupted her studies for a year in 1918/1919 and justified this break by stating, “Because of the war between Poland and the Ukraine I interrupted my studies for a year. In this time I worked for Professor Orzechowski in the State Hospital of Lwów.” As a result of the civil war, Lucja Frey became a Polish citizen.

Apart from the reason Lucja Frey cited for her break in studies, there is another possible or additional cause: the birth of a son. Hedwa Balat, her later sister-in-law, remembered her nephew Jakub, son of Lucja and Marek as born in 1919, at Yad Vashem.

No further evidence exists for the cause of Lucja Frey’s break in her studies, excluding Hedwa Balats testimony. The possible birth of a son, Jakub, will remain a mystery.

**Studies in Warsaw**

In a handwritten document, Lucja Frey justified changing her university because she became employed as a junior assistant at the neurologic clinic at the University of Warsaw. In the literature, it is indicated that she had a job as a senior assistant for the period 1921 to 1928. Medicine was a diploma course over 10 semesters. After receiving the diploma, the graduate had to complete a licensing year as a junior assistant, called staz. After this, the physician received the license and rose to the status of senior assistant. However, more talented students who were very interested in a specific branch of medicine were sometimes employed as junior assistants, too. Lucja Frey would have been appointed in this way.

On February 20th, 1921, she matriculated from the University of Warsaw during the winter semester of 1922/1923. Examinations certify her excellent knowledge of neurology and psychiatry as well as pathology and general anatomy. The medical diploma was awarded to her on June 2nd, 1923, at the age of 34.

The literature indicates that between 1921 and 1928, she was employed as Professor Orzechowski’s senior as-

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![Lucja Frey in 1918.](Fig. 1)
sistant at the University of Warsaw. This is not quite correct. No direct proof could be found covering the time period from 1923. However, notes from Lucja Frey's publications show her affiliation with the neurologic clinic at the University of Warsaw. These publications range from articles concerning specific subjects to lecture notes from scientific meetings. Contrary with the details found in the literature, she only published between 1923 to 1928. Her first article was published in 1923, in both Polish and French. It concerned the syndrome that bears her name today. Several articles followed on various neurologic topics, such as brain topography, the effects of vegetable poisons on spinal cord degeneration, anatomical changes in Charcot joints and aneurysms of the medullary plexus, as well as hereditary diseases of the nervous system. Altogether, her bibliography contains 43 articles.

A contemporary witness, Herman, wrote that “Lucja Frey was extraordinarily modest, quiet and as hard working as an ant. She was distinguished to no mean extent by innovative creativity. All her works were characterized by an exceptional accuracy, a seeking for a wide and versatile understanding of the problem under study as well as a deep knowledge of her subject. Although the scientific output of Lucja Frey is not large, each of her works carries a tremendous scientific weight and has left a long-lasting mark on the scientific world.”

Despite the numerous publications, a thesis is not included. Therefore, the title “Dr. med.” mentioned in Herman’s biography stands for the professional title “doctor medicinae universae” and not the academic title “doktor medycyny.”

The hypothesis posed in the literature and supported by her publications that Lucja Frey was employed at Warsaw University’s neurologic clinic between 1921 to 1928, does not take account of her performing her staz. Indeed, there are no publications or lectures in Lucja Frey’s bibliography for the year 1924, whereas she worked continuously scientifically throughout the other years.

Lucja Frey dated her accreditation on June 25th, 1925. Accreditation must be understood as a license and not as recognition in a specialist field. She also described herself for the first time as an assistant at the clinic for neurology in 1925.

During her Warsaw student days, Lucja Frey lived in a building that belonged to the neurologic clinic. No documents exist concerning the inhabitants of Warsaw in this time period. Therefore, it is not known whether her future husband Marek Gottesman accompanied her or whether, for career reasons, she left him and their possible son to study 300 km distant for 8 years.

**Return to Lwów**

Little is found in the literature after 1928. Some biographies end with the note that Lucja Frey died “under Hitler” in the year 1943 in Lwów. When and why she returned to her native town are not mentioned. Benjamin wrote, “With the rise of anti-Semitism in Eastern Europe (i.e., middle of the 1930s) she moved back to the relative safety of her hometown where she worked at the Hospital of the Jewish Religious Commune in 1936.” Burton and Brochwicz-Lewinski indicated her only being employed in this hospital in the year 1936. Bennett wrote, “It was in 1939 that she returned to Lwów.” Against this, in his article written in cooperation with Pietruski, Bennett dated Lucja Frey’s return to Lwów at the end of WWI. Glinski mentioned, “After her employment in Warsaw she returned to Lwów and worked at the Hospital of the Jewish Religious Community.” However, details concerning her time with Professor Orzechowski are missing.

One can assume that the reasons for Lucja Frey's return to Lwów were primarily personal in nature. This took place in the winter 1928/1929. A document confirms that, from May 1929, the neurologist Lucja Frey-Gottesman was working as deputy senior consultant at a neurologic outpatient clinic in Lwów. In her 40th year, she had married the lawyer Marek Gottesman.

At first, they lived together with her father-in-law in a favored residential area south of the traditional Jewish districts. The place of residence, the Polish first names—Marek and Leon—as well as the professions of both father and son indicate that Marek also came from a prosperous and probably Polish-assimilated family.

In 1930, Lucja and Marek's daughter Danuta was born. By 1932, the Gottesman family had moved house. Their new home was directly north of the richest part of Lwów. Some physicians resided in this street. Over the next few years, Lucja Frey's employment as the deputy senior consultant at the neurologic outpatient clinic of the Jewish hospital is repeatedly confirmed. Lucja Frey's life seemed finally to take a more conventional route. She had, after all, won important professional and social acceptance, which presumably was what she strove for so much.

**The Second World War**

In 1939, Lwów was one of the most important centers of Jewish life in the world: 32.6% of the 330,000 inhabitants were Jews. In the summer of 1940, Jewish refugees from German-occupied Poland increased this population to 160,000.

On September 19th, the town surrendered to Soviet troops. Under Soviet occupation, there were arrests, deportations, and shootings. Jews were also affected by this if they were part of the ruling classes or were considered to be anti-Communist because of their professional activities or tenure. This is what happened to Marek Gottesman, who was accused of counter-revolution and arrested. He was not heard from again. Lucja Frey continued her work at the Jewish hospital. The German attack on the Soviet Union ended the Soviet intermezzo. Lwów was conquered by the Germans on June 30th, 1941.

It is difficult to trace the last years of Lucja Frey's life. The Nazi annihilation of the European Jews was accompanied by the destruction of nearly all proof of her existence. In the literature, there is very little about this time. Her biographies generally just end with the detail that Lucja Frey died “under Hitler” in the year 1943. Therefore, how can this statement be justified? There is nothing to confirm 1943 as the year of her death. The answer seems rather banal:

The Lwów ghetto was liquidated in the summer of 1943. Therefore, this is the latest that Lucja Frey could
still have been alive. Looking at it this way, one is protected from the terrible details of the crimes that were committed. However, it does not do justice to the portrayal of this woman's life. To get an idea of her last years, literature concerning the holocaust in Lwów was combined with the scanty information about Lucja Frey.

The occupation of Lwów by German troops represented an immediate threat to the Jews. One day after the conquest, 7,000 Jews had already been arrested, tortured, and murdered. Discriminatory and degrading anti-Jewish laws followed immediately. In the first month of occupation, there were more than 17,000 deaths, which was over 10% of the Jewish population in Lwów.

In August, the town was subdivided into a German, an Indo-German, and a Jewish area. Jewish real estate was confiscated. It has to be assumed that this affected Lucja Frey because her home was in the Indo-German district near the German area. On September 25th, 1941, 3 weeks before the ghetto decree, she had already indicated a new address in the north of Lwów, which is where the ghetto was officially soon set up.Rooms in ghetto buildings were on average less than 10 m², and they were usually shared by 10 people. Leaving the ghetto unauthorized was punished by death. The ghetto population was subdivided into “useful” and “useless.” At first, physicians were considered useful. Lucja Frey worked in the second ghetto clinic. Only Glinksi reported this detail.

By the end of 1941, forced labor, hunger, cold, arbitrary executions, and a typhoid fever epidemic had decimated the ghetto population to approximately 100,000 Jews. In February 1942, to help identify those for further culling, lists were prepared indicating 1) all employees and 2) necessary employees. These lists were the basis of new identity papers.

At the same time, the death camp Belzec was put into operation to accelerate the mass murder. The first 15,000 Jews from Lwów were deported to Belzec at the end of March. The killing machinery, however, was soon overburdened so that further deportations had to be stopped.

The new green cards were assigned on April 1st. Altogether, 70,000 were distributed, 20,000 of them for women.

Lucja Frey received a card with the number 144. This is the last piece of evidence testifying that she was still alive.

Getting one of these green cards must have been an incredible relief because it represented the best possible chance of survival. Jews who were not working could be arrested and shot, as happened to 6,000 of them on April 6th alone. For the Jews, hunger, exhaustion, and the always present arbitrariness of death were the greatest danger.

The overload of Belzec lasted until August 1942. Because deportations became possible again, a new judgment was passed and Jews were classified as either “work fit” or “unsuitable.” They were only now interested in skilled workers and technically qualified employees. Physicians were regarded as useless. On August 20th, 1942, the ghetto clinic’s medical staff were shot, together with their patients. At least 400 people died.

Nobody can say with any certainty whether Lucja Frey was still alive at this time. If this was the case, this day was probably her day of death. Even if this is not entirely accurate, one can assume that she died within this month. From August 10 to 22, the deportations to Belzec amounted to 50,000 Jews, far more than half of the remaining ghetto population and included all remaining graduates. After several days journey in locked railroad wagons without water and food, only approximately 70% reached the death camp alive.

In June 1943, the final liquidation of the ghetto occurred, and the decimation of Jews in Lwów was driven forward with infinite cruelty. Finally, the so-called death brigade had to remove all traces of the mass murder. This entailed the digging up of graves, burning of the bodies, reduction of the bones to small pieces in bone mills, which had been especially made for this purpose, and scattering of the ashes. Jews were forced to perform this work, and there were then murdered, too.

Lwów was recaptured by the Russians on July 27th, 1944. According to a first registration, only 260 of the original 250,000 Jews (City of Lwów 160,000; Lwów district 90,000) survived. This number was later corrected to 823.

There is no evidence that Lucja Frey nor any of her relatives, her husband Marek, her daughter Danuta, the rumored son Jakub, her parents, or parents-in-law, survived.

Fig. 2. Lucja Frey in 1941.
DISCUSSION
With archive material from the Ukraine, Poland, and Israel, it was possible to correct the current published data and to supplement it with the results of this search. It turned out that some of the data provided by the biographers was correct in its detail but was presented in the wrong (causal) context. Furthermore, her day of death, unknown until now, could be determined with great plausibility.

The changing national affiliation of Lucja Frey’s native region to different states and the advent of two World Wars and a civil war precipitated the loss of many personal data and documents. In addition, the Nazi regime is unquestionably responsible for the deliberate destruction of many documents, particularly concerning Jewish culture and individuals.

Under these circumstances, a biography must remain incomplete. There is more of lack of information about the individual, Lucja Frey, than gaps in her curriculum vitae reveal. Only by putting Lucja Frey in her historic context is it possible to glimpse indirectly into her life. The lasting impression is not only of a tragic death under the Nazis but also of a tragic life as a whole.

CONCLUSION
Lucja Frey’s mentor, Professor Orzechowski, was one of the most important neurologists of his time. There is nothing more that remains of him today.

Lucja Frey would also have been forgotten forever if not for the eponym Frey’s syndrome. In this way, she is remembered not only as an unusual woman, physician, and scientist but also as one of millions Jews murdered by the Nazis. This remembrance may be the only keys remaining to prevent the repetition of one of the most haunting and devastating times in history (Fig. 2).

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