

REMEMBRANCES OF THINGS PAST

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Ludwik Zamenhof: A Major Contributor to World Culture, on the 150th Anniversary of His Birth

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Abstract. More than 200 universal languages have been proposed to replace the nearly 3,000 existing languages. Esperanto, developed by the Polish-Jewish ophthalmologist Ludwik Zamenhof in 1887, became the most widely used artificial language of the 20th century. It is estimated that between one million and 15 million people in the world can speak or read Esperanto. Zamenhof was nominated 14 times for the Nobel Peace Prize, and also received the French Legion of Honor, and the Medal of Isabelle of Spain the Catholic. Ludwik Zamenhof started his professional training in ophthalmology at the Jewish Hospital in Warsaw, later spent several months in Vienna, and finally started a private ophthalmology practice in Warsaw, where he remained for most of his life. His son Adam was an associate professor of ophthalmology at the University of Warsaw and head of ophthalmology in the Jewish Hospital in Czyste, the biggest and most modern hospital in Warsaw at that time. Some lesser known aspects of Zamenhof's life and work drawn from the original 19th century Russian and 20th century Esperanto documents are described. (*Surv Ophthalmol* 55:183–188, 2010. © 2010 Elsevier Inc. All rights reserved.)

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More than 200 universal languages have been proposed, including those in the 17th century originated by John Comenius, Bishop of Moravia, and Rene Descartes to replace the nearly 3,000 existing languages.^{19,20} Of these, Esperanto, developed by Ludwik Zamenhof in 1887, became the most propagated artificial language in the 20th century. A Braille version of Esperanto was introduced by Theophilus Cart in 1904 in Laussane, and since 1921, annual world congresses of Esperanto are accompanied by a meeting of blind Esperantists.

There are probably several reasons why Esperanto became the most popular artificial language, but its simplicity is among the most important. Zamenhof's

basic Esperanto included 16 grammatical rules without any exceptions, 40 prefixes and suffixes, and only 900 words. Today, Esperanto uses about 15,000 words, all created according to the same rules proposed by Zamenhof. The alphabet (a modified version of the Latin alphabet) consists of 28 letters, orthography is phonetic, and words are spelled as pronounced. There is only one form of the article: "la," for example, "la homo" (man). Grammar is simple and regular. Its vocabulary, phonetics, and grammar are similar to Romance, Germanic, and Slavic languages; however, there are characteristic word endings for nouns, adjectives, and verbs.⁶ The phonetics and semantics are primarily of Slavic

origin, whereas the vocabulary derives from the Romance, and with a lesser contribution from the Germanic, languages. Although Esperanto is based on the Indo-European languages, its use extends beyond Europe, mainly in China, Korea, Japan, and Iran within Asia; in Brazil, Argentina, and Mexico in the Americas; and in Togo in Africa.

By the 1970s Esperanto was taught in 600 schools around the world to 20,000 students a year.^{4,21} There have been about 100 journals written in Esperanto, and, including translations from 65 different languages, about 7,500 books published.^{4,21} In addition, Esperanto has been used at more than 700 international conferences. According to the *Cambridge Encyclopedia* there were, by the year 2000, somewhere between one million and 15 million people in the world who could speak or read Esperanto.

Over 1,000 objects (mainly monuments and streets) bear the name of Zamenhof in more than 50 countries. More than 160 of them are in Brazil, more than 130 in France, and more than 100 in Poland. There are *Zamenhof Hills* in Hungary and Brazil, and a *Zamenhof Island* in the Danube River. A minor planet (Planet 1462, Zamenhof) discovered in 1938 by Väisälä and the *Zamenhofia* genus of lichens were named in his honor.^{4,5,21} In the decade from 1907 to 1917, Ludwik Zamenhof was nominated 14 times for the Nobel Peace Prize (The Nomination Database for the Nobel Prize in Peace, 1901–1956. <http://nobelprize.org/nomination>; accessed August 10, 2008), and he received the French Legion of Honour in 1905 (Letter of confirmation from the Grande Chancellerie de la Légion d'Honneur. Paris, France) and the Medal of Isabelle of Spain the Catholic in 1909.

With or without these personal honors, there is little doubt that Esperanto is the most widely distributed and the most versatile of the international artificial languages. Notable Esperanto enthusiasts include Leo Tolstoy, Jan Baudouin de Courtenay, Otto Jespersen, Giuseppe Peano, Rudolph Carnap, and Bertrand Russell; and Nobel Prize awardees Alfred Hermann Fried, Daniel Bowet, and Reinhard Selten. There are several Esperanto medical journals, none devoted to ophthalmology, but there are two ophthalmology textbooks.¹³

Although Esperanto became the most popular artificial language in the 20th century, it failed to become a universal worldwide second language. Among many reasons for that, the most important are probably limitations of Esperanto itself, including the European origin of its vocabulary and grammar that is difficult for many non-Europeans and the fact that Esperanto is not derived from any original culture. At the same time, English, with its

idiosyncratic syntax and grammar and non-phonetic spelling, became an international language of scientific research, economics, music, and cinema.

Ludwik Zamenhof—His Life and Work

Although he was a physician and ophthalmologist and some of his relatives were also in medicine, very little reliable information about his life is available. This is in part because the 19th century documents were in Russian and the 20th century information is in Esperanto. I have reviewed the available papers on Zamenhof's life and family and found them unreliable^{8,9} and feel obliged to consider the subject in some detail.

Ludwik Lazarus Zamenhof (Fig. 1) was born into a Jewish family on December 15, 1859, in Bialystok, Poland. The question of Zamenhof's nationality often comes up. For example in the 1991 *Encyclopedia Britannica*¹⁹ it is stated that he was a "Russian physician and oculist" [p. 891, vol. 12, *Micropaedia*], and also that he was "a Polish oculist" [p. 560, vol. 4, *Micropaedia*], and also "a Polish-Russian doctor" [p. 583, vol. 22, *Macropaedia*]. It would be more accurate to say that Zamenhof was a Jewish physician living in a Polish city that had been occupied by Russians for nearly 100 years. In the city of Bialystok in those days there were about 18,000 Jews, 5,000 Germans, 4,000 Russians, and 3,000 Poles.¹⁴ In one of his letters, Zamenhof gave the following description of the situation: "This place, where I was born and grew up, Bialystok, gave direction to all my future activities. The inhabitants of Bialystok were composed of Russians, Poles, Germans and Jews, and each of the groups was hostile to all of the others."¹⁷

It is known that Zamenhof could speak many languages by the age of 14. He was fluent in Polish, Russian, Yiddish, and German and had the basics of Hebrew, Belarussian, English, French, Latin, and Greek. In Bialystok, just stepping out of one's home demanded some language skills: the intelligentsia spoke Polish, most of skilled craftsmen spoke German, the shopkeepers and tradesmen spoke Yiddish, the farmers spoke Belarussian, and in the City Hall the official language was Russian.

During the 19th century Poland was partitioned and occupied by its three neighbors: Russia, Prussia, and Austria. In Warsaw, medical studies were initiated in 1809 in the Academy of Medicine, but ceased for 26 years after the November Uprising in 1831. In 1857 the Academy of Medicine and Surgery was established and then closed 4 years later, after the January Uprising. In 1869 the Russians started the Tsar's Warsaw University. The official language of the university was Russian, and its lecturers were



Fig. 1. Ludwik Zamenhof (1859–1917).

Russian. The Tsar's Warsaw University did not offer a high quality education and most Poles chose to study medicine in Dorpat or Saint Petersburg.

Zamenhof considered studying in Dorpat, but on the advice of his father, started medical studies in 1879 in Moscow. He did extremely well on his examinations in ophthalmology in the first year, an indication of his keen interest in ophthalmology from the earliest stage.¹⁰ In 1881—partly because of financial difficulties of his father (letter to Michaux from February 21, 1905)¹¹ and partly because of increasing anti-Semitism and pogroms in Russia after Tsar Alexander II was assassinated,³ he moved to Warsaw, where he graduated from the medical faculty in 1885. In the same year he worked as a general physician for several months in Lithuania (Veisiejė) before deciding to specialize in ophthalmology.

Ludwik Zamenhof started his professional training in ophthalmology at the Jewish Hospital in Warsaw under the supervision of the Polish-Jewish ophthalmologist, humanist, and philosopher Zygmunt Kramsztyk (1849–1920), an important member of the Polish School of the Philosophy of Medicine.^{2,7,15} Kramsztyk was an author of more than 65 scientific articles, an ophthalmology textbook (*Objawy kliniczne*

chorób oczu [Clinical Symptoms of Eye Diseases]), a co-owner of an important Polish medical journal *Gazeta Lekarska* [Medical Journal] and a founder of the journal *Krytyka Lekarska* [Medical Review], which published many important works on the philosophy of medicine. He was the director of the hospital in charge of the ophthalmology ward. Despite his prominence, he was imprisoned for filling out an application for a Russian passport in Polish, which was against the Russian rules. During his imprisonment he was asked to perform an eye surgery on the governor general, G. Skallon. The success of this operation earned him both freedom and fame.

Later (May–November 1886) Zamenhof spent several months in Vienna pursuing additional ophthalmology training. Not much is known about that visit. It seems likely that he visited both of Vienna's ophthalmology departments, one headed by Carl Stellwag von Carion (1823–1904) and the other headed by Ernst Fuchs (1851–1930).

In one of his letters Zamenhof described these periods in the following words:

After the stay in Veisiejė, I came back to Warsaw, and decided to chose a more quiet specialization, that is ophthalmology.... I have worked six months at the ophthalmology ward of one of Warsaw's hospitals.... Then I have studied for some time in clinics of Vienna (Austria) and at the end of 1886 started private practice in ophthalmology in Warsaw [A letter from Zamenhof to Michaux on February 21 1905]¹⁷

He then worked in various places: Ukraine (Cherson), Belarus (Grodno), Poland (Plock), where he hardly could earn a living. In one his letters he confessed to his friend: "My earnings in those years did not enable me to provide for my family, not even to maintain myself even I led the modest and economical life. Often I had nothing to eat, often I had no dinner."¹⁷ In Grodno, where he lived in the years 1893–1897, Zamenhof conducted free eye examinations for children, who had a high incidence of refractive errors and eye diseases believed to be related to poor living conditions.¹² Eventually, with the help of his father-in-law, Zamenhof in 1897 started a private ophthalmology practice in Warsaw, where he remained for most of his life.¹⁶ The beginnings were very difficult as he described in one of his letters:

During the first year I almost had gone mad of despair. But finally due to a large effort the fate smiled on me. My medical practice started increasing and in 1901 was so big, that earnings balanced expenditures. I am saved.



Fig. 2. Adam and Ludwik Zamenhof (from the left).

After many years of worries and fight I have attained peaceful life and enough bread for my family (although I still need to live very modestly and count every penny). I live in one of the poorest streets of Warsaw. My patients are very poor and pay me not much. I have to see thirty to forty patients a day to have as much as other doctors who see five to ten patients a day. However, I am very satisfied, because I have my own bread and do not need any help.¹⁷

Zamenhof never published an original medical paper. His only contribution to the medical literature was the Esperanto translation of Fuchs's article on conjunctivitis entitled "Kronika katara konjunktivito" published in *Fundamenta Krestomatio de la Lingvo (Lingvo) Esperanto* (Paris Hachette 1905).

Ludwik had four sisters, Sara (1860–1870), Fania (1862–ca. 1930), Augusta (1864–ca. 1934), and Ida (1879–1942), and four brothers, Feliks (1868–1933) a pharmacist, Henryk (1871–1932) a dermatologist, Leon (1875–1934) an otolaryngologist, and Aleksander (1877–1916) a general surgeon. Moreover, two of Ludwik's three children, Adam and Zofia, were medical doctors.¹⁰

Adam (1888–1940) (Fig. 2) became a prominent ophthalmologist. He was an associate professor of ophthalmology at the University of Warsaw and head of ophthalmology in a Jewish Hospital in Czyste, the largest and most modern hospital in Warsaw at that time. He graduated from the University of Lausanne (Switzerland) where he also received his PhD with a study of astigmatism ("Contribution à l'étude de l'étiologie et des variations de l'astigmatisme cornéen") in 1912.

He trained in ophthalmology in Lausanne under Samuel Eperon, the successor of Marc Dufour and

predecessor of Jules Gonin. In 1914 he passed medical certification exams in Kiev and then was allowed to work in Russia (including Warsaw). He helped his father in his private practice and gradually took it over. In 1919 he was mobilized to the Polish army and took part in the war against Russia. His sister Zofia at the same time served the Russian army as a medical doctor. In 1923 Adam married Wanda Frenkiel, an ophthalmologist who worked with him for many years. Wanda's father was a schoolmate and a university colleague of Ludwik Zamenhof. It is believed that as a child she was a patient of Ludwik Zamenhof and this led her to become an ophthalmologist.³ In 1925, their son Ludwik (currently using the name Louis Christophe) was born. He was a talented cello player, and with his sister Lidia, who played the piano, they entertained their sick father during his last days of life.

From early in his life, Adam was closely involved in Esperanto movement issues, prepared an address book of Esperanto activists, and translated Puszkyn poetry to Esperanto. He also attended many Esperanto congresses with his father. He published more than 30 papers in Polish and international ophthalmology journals. His main research interests were in ophthalmoscopy^{22,23} and in retinal disease.²⁶ He designed a simple, inexpensive ophthalmoscope. This was based on the Gullstrand ophthalmoscope and consisted of a rectangular mirror (1.5 × 3.0 cm) in a cardboard frame.²⁵ Moreover, he introduced the Gillette-type knife in glaucoma surgery, a technique known later in Poland as "sclerecto-iridectomie modo Zamenhof."²⁴ His operation was later referred to in international literature.¹⁸ He also used chicken egg protein in the treatment of difficult corneal ulcers.²⁷

In 1937 he defended his postdoctoral habilitation thesis entitled "Examination of Eye Fundus in Focused and Indirect Light" and became an associate professor of Warsaw University. When World War II broke out in September 1939 and the previous director of the Jewish Hospital left his post, Adam Zamenhof, a major of the Polish army, decided to stay and take over this responsibility. On October 1, 1939, he was arrested by German soldiers and murdered at the beginning of 1940, probably in Palmiry in Warsaw. The detailed circumstances of his death have not been revealed, his name was not listed on any execution list, and the place of his burial is still unknown. His wife, Wanda Zamenhof (1893–1954) (later Wanda Zamenhof-Zaleska) survived the war, partly in the Warsaw ghetto, where she worked in a Jewish hospital.^{1,3}

Both of Ludwik's daughters, Zofia and Lidia, were murdered in Treblinka concentration camp in 1942.



Fig. 3. Louis Émile Javal (1839–1907).

Zofia (1889–1942) had studied medicine in Lausanne in the years 1907–1913, and in 1914 passed a state medical examination in Saint Petersburg, and then specialized in internal and pediatric medicine. During the war she worked in the Jewish Hospital as a volunteer.^{1,3} Lidia (1904–1942) after receiving a degree in law, became very active in promoting Esperanto and even in the development of the Bahai religion, which had many ideas similar to her father's "homaranismo" religion.¹¹

Zamenhof had many contacts with Louis Émile Javal (Fig. 3), a famous French ophthalmologist who invented a keratometer. Javal was one of the most prominent persons in the Esperanto movement and contributed significantly to its popularity. More than 40 letters between Javal and Zamenhof in Esperanto have been published.¹⁷ They addressed issues concerning the language itself, including a reform of Esperanto orthography proposed by Javal and the ideas of the language propagation. They also

discussed issues related to new editions of Zamenhof's works in France, organization of Esperanto congresses in France, and the formal procedures of the French Legion of Honor. Their relationship must have been quite close, since Javal in several of his letters addressed Zamenhof as "My dear brother" [*Mia kara konfrato*].¹⁷ Moreover, he proposed to fund a pension for Zamenhof and his family to enable him to give up his medical practice and devote his time to Esperanto. Zamenhof declined this offer, emphasizing that his medical practice, accumulated after many years of hard work, provided him independence and comfort. Javal also tried to get Zamenhof off the issue of hillelism and homeranism and advised him to keep his Jewish origin a secret. Javal believed that these issues might do harm to the Esperanto movement.¹⁷

Zamenhof had published under the pseudonym of Doktoro Esperanto a textbook, *Lingvo Internacia*, in 1887 (Fig. 4). His pseudonym, Esperanto ("[One] Who Hopes") became the language's name. For rest of his life, Zamenhof was engaged in the propagation of Esperanto and in preparing

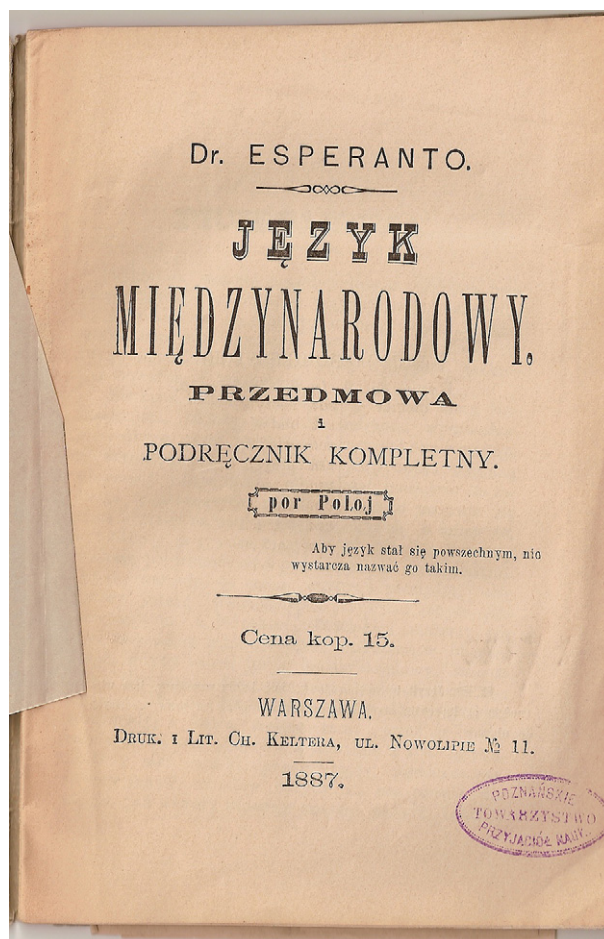


Fig. 4. The front page of Zamenhof's Esperanto textbook *Lingvo Internacia*. Polish edition, 1887.

many translations. He translated not only Russian and German dictionaries, but also other literature to Esperanto, including the works of Gogol, Molliere, Goethe, Schiller, Shakespeare, Orzeszkowa, Dickens, Andersen's Fairy Tales, and many parts of the Bible.

At the end of his life Zamenhof became involved in the preparation and propagation of the philosophy of hillelismo (from the teachings of Rabbi Hillel the Elder of Herod's times), later re-named "homaranismo," a new monotheistic religion based on the principles of brotherhood, equality, and justice. This was, however, not accepted by majority of Esperantists.¹ Ludwik Zamenhof died on April 14, 1917, in Warsaw.

References

- Banet-Formalowa Z. La familio Zamenhof: Originala biografia studo. La Chauv-de-Fonds, Kooperativo de Literatura Foiro;20–45
- Bernardczykowa A. Działalność społeczna Zygmunta Kramsztyka na polu okulistyki. [Social activity of Zygmunt Kramsztyk in the field of ophthalmology]. *Archiwum Historii Medycyny*. 1969;32:443–6
- Boulton M. Zamenhof. Creator of Esperanto. London, Routledge and Kegan Paul, 1960, pp 22–3
- Dobrzynski R. Ulica Zamenhofa. [Zamenhof Street]. Bielsko-Biala, Wydawnictwo Kleks;1–20
- Dobson F. Lichens. An illustrated guide to the British species. Slough, The Richmond Publishing Co. Ltd., 2000, p 45
- Esperanto. in *Micropaedia*. In Goetz PW (ed): *The New Encyclopaedia Britannica*, vol. 4. Chicago, Encyclopaedia Britannica Inc., 15th ed, 1991, p 560
- Gonet T. Społeczno-lekarska działalność dra Zygmunta Kramsztyka. [Social and medical activities of Dr Zygmunt Kramsztyk]. In *Sylwetki polskich lekarzy—humanistów XIX i XX wieku* [Biographies of Polish physicians—humanists in the 19th and 20th century]. Poznan, Akademia Medyczna w Poznaniu;23–47
- Grzybowski A. More facts about Ludwik Zamenhof and his family's professional life. *Israel Med Assoc J*. 2007;9:691
- Grzybowski A. More facts and fewer myths about Ludwik Zamenhof's life. *Clin Exp Ophthalmol*. 2008;36:97–8
- Halina-Dokumenty pri la studenta jaroj de L.L. Zamenhof: Osaka, Esperanta Servo-Centro Osaka;95–7
- Heller W. Lidia. Oxford, George Ronald, 1985, p 9
- Ignatowicz FI. Medyczna i społeczna działalność Ludwika Zamenhofa w Grodnie w latach 1893–1897. [Medical and social activities of Ludwik Zamenhof in Grodno in the years 1893–1897]. *Medycyna Nowożytna*. 1998;5(2):127–32
- Kato. Seiici Lernolibro pri oftalmologio. Nagano, Shinkjo Presejo
- Krasko R. Ludwik Zamenhof—twórca Esperanto [Ludwik Zamenhof—the founder of Esperanto]. In *Studia i materiały do dziejów miasta Białegostoku* [Studies and materials on the history of the city of Białystok]. Białystok, Białostockie Towarzystwo Naukowe, 1972, pp 120–147
- Kroszczor H. Zygmunt Kramsztyk, in Kroszczor H. Kartki z historii Żydów w Warszawie XIX–XX w. [Leaves from the Jewish history in Warsaw in the 19th and 20th centuries]. Warszawa, Żydowski Instytut Historyczny w Polsce;162–5
- Lapenna I. Memorlibro. Eldonita okaze de la centjara datreveno de la naskigo de Dro L.L. Zamenhof. London. Universala Esperanto-Asocio Centro de Esploro kaj Dokumento;101–2
- Leteroj de LLIn: Zamenhof. Prezento kaj komento de G. Waringhien. vol. 1. Paris, S.A.T., 1948
- Mantiband MI. Sclerotomy ab externo in operations for glaucoma. *Brit J Ophthalmol*. 1952;36:332
- Goetz PW (ed): *New Encyclopaedia Britannica*. Chicago, Encyclopaedia Britannica Inc., 15th ed 1991
- Rytel A, Ludwik L. Zamenhof Creator of Esperanto. *Pol Med Sci Hist Bull*. 1965;8:139–40
- Wisniewski T: Ludwik Zamenhof. Białystok, Krajowa Agencja Wydawnicza;1–45
- Zamenhof A. Die Ophthalmoskopie im fokalen und indirekten Licht. *Graefes Arch Clin Exp Ophthalmol*. 1932;129(2):149–90
- Zamenhof A. Ein neue Weg zur Untersuchung des Augenhintergrundes im fokalen Licht. *A Graefes Arch Clin Exp Ophthalmol*. 1930;124(1):89–102
- Zamenhof A. O cieciu prostopadłym do powierzchni galki w operacjach jaskry. [On perpendicular cutting to surface of eyeball in glaucoma operations]. *Klinika Oczna*. 1932;2:146–63
- Zamenhof A. O sposobach ulatwiających badanie dna oka. [On methods of eye fundus examination]. *Warsz Czasop Lek*. 1926;6:272–5
- Zamenhof A. Rokowanie z dna ocznego w schorzeniach ogólnych ustroju. [Value of eye fundus picture in systemic disorders]. *Warsz Czasop Lek*. 1937;1:1–4
- Zamenhof A. Zakraplanie białka kurzego pod spojówkę. [Application of chicken egg's protein under conjunctiva]. *Med. Współczesna*. 1938;8:849

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