# Preface

When Poland gained its independence in 1918, having endured 123 years of servitude and oppression, the country was bloodied and ruined. For the next three years it would be further battered and torn by armed conflicts to its east and west (the Polish-Ukrainian War, the uprising in Poznań province, the Russo-Polish War against the Bolsheviks, the Silesian Uprising, as well as lesser uprisings). Once the borders had finally been settled in 1921 and peace arrived, nobody would have thought that "achieving independent status for Polish mathematics" (to quote Janiszewski) would happen so quickly in the wake of the political "strike for freedom" (to quote Kościuszko). But it did happen, and in an astonishing way. The phenomenon which the Polish School of Mathematics became, starting just after World War I, followed by its subsequent development up to World War II, has long been a source of awe and wonder. The school had two main branches, one in Warsaw, the other in Lvov. However, while much used to be written at home and abroad about the Warsaw school[1], there was total silence about the one in Lvov. The reason was political. In communist Poland it was impossible to write about anything linked, either directly or indirectly, with the territories seized by the Soviet Union: there was heavy censorship; a conspiracy of silence prevailed; even the city of Lvov itself was physically out of bounds, let alone getting anywhere near its archives. Thankfully those times are over, and one can now write freely about such things. It is now possible to travel to Lvov, and its archives are becoming ever more accessible. It therefore seems high time indeed for a reminder about the legacy and significance of the Lvov school. The issue is particularly pressing now that its founders and those who could still remember it have all passed away. At the same time, its "later grandsons" (to quote the poet Norvid) have a right to know what it was and what actually happened.

The aim of this book is to describe the Lvov School of Mathematics between 1920–1940. More precisely, the aim is to identify and describe: the time and place of true historical events; the key individuals and their followers; the school's greatest achievements and their significance. An attempt is also made to assess the influence of the school on mathematics in Poland as well as around the world. To do that, the book is divided into seven parts, each part subdivided as chapters. The first five parts describe the school itself. The last two provide complementary material. Specifically, the first part provides the background from which the school arose.

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[1]We mention just a few of many sources: E. Szpilrajn (Marczewski), *Rozwój Matematyki w Polsce* (Development of mathematics in Poland), Cracow: Cracow Academy of Arts and Sciences, 1948; [B: Opiał, 1966], [B: Sierpiński, 1967]; [B: Kuratowski, 1989]; Sister Mary Grace Kuzawa, *Modern Mathematics: The Genesis of a School in Poland*, New Haven: New Haven College and University Press, 1968; [B: Kahane, 1995].

The second and third describe its development. The fourth part seeks to convey the drama of the tragedy which befell it, while the fifth is an attempt at understanding what happened and what its importance is. The sixth part provides short biograms of mathematicians who either belonged to the school or who where active there during its lifetime. The seventh part is an extensive bibliography, subdivided into three sections: Section A cites original works produced by Lvov mathematicians and quoted in the main text; Section B lists source material used by the author; while Section C references other mathematical works. For example, [A: Sierpiński, 1916b] refers to the second of Sierpiński's papers appearing in 1916 and is found in Section A, while [B: Steinhaus, 2010] refers to the personal recollections of H. Steinhaus, which were reprinted in 2010 and which can be found in Section B. Information about mathematicians from outside Lvov is given in accompanying footnotes.

As author, I wish to express my gratitude to Professor Roman Bobryk from Lvov (currently at the University of Liberal and Natural Sciences in Kielce) for making his archive material available to me, and to Professor Jarosław Prytuła of Lviv University for his kind support and help in numerous matters.

I also thank my reviewers, Professor Wojbor W. Woyczyński and Professor Andrzej Pelczar, for comments and favorable reviews, as well as others, including Andrzej Granas and Professor Lech Maligranda, who trial read the manuscript. A word of thanks is due to my editors, Irena Szymaniec and Lucyna Jachym, for their care and attention to the editorial layout, as well as for a favorable opinion.

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## Preface to the English edition

The first version of the book generated much interest in Poland, evidenced by eight favorable reviews in both specialist and general journals, the fact that it won the prize for Poland's best academic book of the year 2008, and some comments and updates received as feedback. Since the publication of the first edition new documents have come to light and some new works have appeared. This made it possible to implement minor corrections, provide extra substance to the main text in several places, while including some new entries in the bibliography.

The book has been generating significant interest abroad. In response to that interest, my earlier article [B: Duda, 2009] was translated into German and English, for which I received yet more feedback. The original text has been fully updated for the preparation of this volume, the first translation of the whole book into English. It is an honor to have the American Mathematical Society as publisher and for the book to be included in the AMS History of Mathematics Series. The translator is Mr. Daniel Davies, to whom I am most grateful for numerous incisive remarks, particularly regarding matters which might be familiar to Poles but are unlikely to be familiar to others. I owe a debt of gratitude to all concerned—reviewers, translators of my articles and books, and my readers. I particularly thank Professor Marek Górny for bringing the first edition to publication so wonderfully a few years ago and for encouraging me to update everything for this current issue.

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### Translator's notes and acknowledgements

Translating this work has been a challenge as well as an honor. However, it should be noted that this book is not intended exclusively for a specialist readership (though, admittedly, a mathematical education—at Imperial College and Warsaw University in my case—was certainly helpful for doing the actual translation). Indeed, the demonstrable success and interest generated by the original Polish version could not have happened were that the case. I therefore sincerely hope my translation will generate similar interest among English-speaking readers.

Bringing this work to publication was as much a moral imperative as a logical one. For far too many decades the subject matter of this award-winning book has been largely inaccessible to an English-speaking readership. Professor Duda provides us not only a long overdue, authoritative record of the achievements, significance, and personalities that made the Lvov School of Mathematics so special, he also profiles a very human story: a glimpse into the lost world of Lvov's once vibrant café culture, the complexity of underlying political and societal tensions, the need for an oppressed Polish community to assert both its cultural as well as its intellectual identity. Finally, there was the sheer brutality which preceded oblivion.

I would like to thank Dr. Sergei Gelfand (whose illustrious father is briefly mentioned in Chapter 22) and Dr. Ina Mette of the American Mathematical Society for approving this project, the AMS editorial team for their unwavering dedication, and the specialist reviewers for their erudite feedback. I am fully aware that even the best project ideas have no guarantee of making it to publication, especially now during these times of severe economic austerity. Most particularly, I must of course thank the author himself for confidently entrusting his precious text to my attention; having had the privilege of being invited to work for a few years at Wrocław University of Technology, I had the good fortune to be based in the author's home city, so I had the opportunity to discuss various matters personally with him. Lastly, I acknowledge several useful discussions with Mr. Marek Battek and Mr. Marek Łata regarding historical, cultural, and linguistic issues.

Any inaccuracies of translation are naturally my responsibility.

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