

Preface to the Second Edition

The Scottish Book, wrapped in the mists of the past, is a legend in the mathematics world. Its fascinating story and the legendary figures who formulated the problems in the book continue to hold our attention. It represents the best of café mathematics, an informal, free-wheeling style of mathematical conversation and interaction that seems almost lost today. For the solution to some of the problems, prizes were offered, ranging from the famous live goose, a bottle of whiskey of measure > 0 , one kilo of bacon to one small beer.

One can imagine the atmosphere at the Scottish Café while the problems were being formulated. We should take to heart the playfulness and enjoyment that is on display, a good model for encouraging and stimulating mathematics at any age. One can also see that a few of the problems must have been stated after spending some time drinking tea or perhaps a brandy or two. In his book *Adventures of a Mathematician*, Ulam describes what a session (one lasting at least seventeen hours) at the café might be like and sketches some of the central figures. During the years I knew and worked with Ulam, he loved the café mode of discussion. Gian-Carlo Rota gives a detailed description of this in his article ‘The Lost Café’, in *From Cardinals to Chaos*, edited by N. G. Copper (Cambridge University Press, 1989). The entire school of mathematics in Lwów is wonderfully presented by Roman Duda in *Pearls From a Lost City* (American Mathematical Society, 2014), a translation of his 2008 Polish version. The tragedy that befell so many of the figures around the book has been traced many times, including the article by Joanna Diane Caytas, ‘Survival of the Scottish Book: A Phoenix from the Holocaust of Polish Mathematics’, available on the internet. There is even a collection of poems about the book by Susana H. Case, *The Scottish Café* (Slapering Hot press, 2002).

The problems and the ideas behind continue to effect mathematics today. In the 35 years since the first edition of the book, many more problems have been solved or partially solved. But even today, quite a few remain unsolved. In view of this, I decided to gather new commentaries and update some of the old ones. The appendices of this edition include a list of the unsolved and partially solved problems together with those that have no commentary, a list of unsolved prize problems, a list of problems posed by each author, and a list of problems by subject

area. Besides correcting many errors in the first edition, for clarification a few changes in Ulam's translation of the original Scottish Book have been made.

In addition to some of the lectures given at the 1979 Scottish Book conference, this edition also includes a brief history of Wrocław's *New Scottish Book* and some selected problems from it.

This edition would not be possible without the generous contributions and suggestions of the commentators. I offer them my heartfelt gratitude. I want to thank Kirby Baker, Larry Lindsay, Bill Bernard, and Sue DeMeritt for their assistance in getting this project underway. I thank Al Hales, Joe Buhler, and Jan Mycielski for their counsel. I thank Allen Mann, Christopher Tominich, and Benjamin Levitt at Birkhäuser for their support during the preparation of this new edition. Finally, I thank Diana, my wife, for supporting me throughout this long project.

It is my sincere hope that this collection will bring to the reader, as it has to me, many hours of enjoyment and an image of what must have been a most wonderful place, The Scottish Café.

San Diego, CA, USA

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The Scottish Book

Mathematics from The Scottish Café, with Selected
Problems from The New Scottish Book

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