

Preface

From 2007 to 2014 we produced the weekly “Maths Masters” column for Melbourne’s *Age* newspaper. (Australians follow the English in studying “maths” rather than “math”.) This book comprises 1,000,000 of those columns, selected from the 11,111,111 columns we wrote in total.

The mission of our column, and of the book you are now holding, was to present ingenious, unusual and beautiful nuggets of mathematics in as clear and as entertaining a manner as possible. Since the column appeared in a regular newspaper, we had to assume that our readers had little mathematics background apart from, perhaps, a few remnants left over from school days. As such, most columns employed a little arithmetic or geometry or algebra, but little else. Still, we were often ambitious, exploring genuinely deep ideas and—bloody hell!—proving things. Of course this often required simplification and shortcuts, but we always endeavored to be honest, to never cheat our readers.

What did we write about? Whatever took our fancy: some columns were our versions of familiar standards of math popularisation; others were inspired by news items, either mathematical breakthroughs or pseudo-mathematical nonsense; others were the product of our random pondering, as we pursued our mathematician activities.

Many “Maths Masters” columns had a distinctly Australian flavor, and it is a selection of those columns that we have chosen for this book. Some of this Aussieness is gratuitous, the framing of general ideas in a (hopefully) entertaining scenario. Other columns are much more genuinely Australian, focusing upon, for example, Australians’ love of sports and, alas, gambling, or upon Melbourne’s iconic, mathematically inspired architecture.

Our column changed significantly over the years. It began in print, with a limit of about 400 words and little room for graphics: just enough space to say hello, introduce an idea, and wave goodbye again. In 2009 the column moved online, allowing us much more freedom to explore ideas in depth.

The column also changed in another significant way. In 2009 Australia’s education authorities began the design and implementation of a new, national curriculum. Dominated by education “experts”, and with the almost total exclusion of mathematicians, the implementation was farcical, and the mathematics curriculum that emerged is simply a mess: strong on calculators and foolish pseudo-relevance, and very, very short on genuine mathematics, on beauty and reasoning and proof. This state of affairs inspired a number of grumpy columns criticizing the mathematics curriculum and Australia’s math education in general.

The columns as reproduced here are pretty much as they first appeared in *The Age*, except for updating, and other minor corrections and adjustments. We’ve included explanatory footnotes when it seemed helpful or necessary, and each column

ends with a (possibly tricky) puzzle or two; solutions to the puzzles are provided in the appendix.

This book is dedicated to Simon Pryor, then CEO of the Mathematical Association of Victoria, for his incredible—sometimes bemused—support over the years. For over a decade Simon was our cheerleader, roadie, agent and God-knows-what-else, and it was Simon who shouted our names when *The Age* went hunting for writers of a new mathematics column. Many of the opportunities that we have enjoyed would never have eventuated if not for Simon’s inexhaustible efforts.

We would like to thank the following people and organisations for their very kind permission to reproduce photographs in the book: Bruce Bilney for photos of his tessellations (Chapter 1); the University of California, Los Angeles, for the photo of Professor Terry Tao (Chapter 13); Feliks Zemdeg for the photo of himself speedcubing (Chapter 14); Rayda Deakin for the photo of her late husband Michael Deakin (Chapter 15); and architects McBride Charles Ryan for the photos of the Klein Bottle house (Chapter 22).

We’d also like to thank the wonderful Ken Merrigan, our original editor at *The Age*, who guided us with patient good humor through our first clumsy years. Thanks also to Ben Haywood at *The Age*, who somehow coped with the naively ambitious typography and graphics that we threw at him on a weekly basis. Thank you to our editor Ina Mette at the AMS and all her colleagues who helped with making this book a reality. And, a huge thanks to all our readers, whose patronage ensured the long and happy life of Australia’s only mathematics column.

Finally, our thanks and apologies to Anu and Ying, and to our children—Lara, Karl, Eva and Lillian—who patiently tolerated (less than or equal to) seven years of weekly stress.