

**She graduated as a teacher of mathematics at the university of Budapest. Besides teaching 10-14 year-olds, she defended her doctoral thesis on recursive functions summa cum laude. It is due to her influence that recursive functions now form a separate branch of mathematics. In 1939, forced into a ghetto, she wrote *Playing with Infinity* which was published in 21 editions and 10 languages in Péter's life.**



## RÓZSA PÉTER

(1905 - 1976)

### Citation from the preface:

„This book is intended for non-mathematician intellectuals: for those who come from literature, arts and humanities. I have received so many beautiful things from that side, let me now give them mathematics in exchange. Let them see: we are not that far from each other. I do not only like mathematics because it may be applied in technology but mainly because it is beautiful. Because it contains mankind's playful spirit and it is capable of the greatest game: making infinity capturable. It has authentic things to say about infinity and ideas. And yet, it is so very human, not just simple two times two: as all human creations, it can never be closed.” –

### Contemporary writers said:

“Humanity is divided into two parts, the first is good at mathematics, the second is not. There is as great a distance between these two camps as between earthly creatures and martians. And Rózsa Péter, who belongs to the camp that believes in equations, decided to tell everything about mathematics to those who are completely unfamiliar with the fairy world of numbers. And the most interesting thing is that she managed to carry out this task, seemingly doomed to failure, successfully. And behold, the blind can see.”

“Besides having understood the book, which is its greatest merit, I must add that it is admirable.”

“I would never have thought that mathematics, the abstraction of abstractions, may be able to reflect a whole person. This book is at an astronomical distance from all the mathematical textbooks that caused us so much suffering!”

**CONTENTS**

**Introduction**

**Part I The sorcerer's apprentice**

- 1 Playing with fingers
- 2 The 'temperature charts' of the operations
- 3 The parceling out of the infinity number series
- 4 The sorcerer's apprentice
- 5 Variation on a fundamental theme — Postscript on geometry without measurements
- 6 We go through all possibilities
- 7 Colouring the grey number series
- 8 'I have thought of a number'

**Part II The creative role of form**

- 9 Diverging numbers
- 10 Limitless density
- 11 We catch infinity again
- 12 The line is filled up
- 13 The charts get smoothed out
- 14 Mathematics is one — Postscript about waves and shadows
- 15 'Write it down' elements
- 16 Some workshop secrets
- 17 'Many small make a great'

**Part III The self-critique of pure reason**

- 18 And still there are different kinds of mathematics — Postscript about the fourth dimension
- 19 The building rocks
- 20 Form becomes independent
- 21 Awaiting judgement by metamathematics — Postscript on perception projected to infinity
- 22 What is mathematics not capable of?

**After use**



ROZSA  
PETER  
THE