Letter from the editors

Renato Betti¹ · Angelo Guerraggio² · Settimo Termini³

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In this issue of *Lettera Matematica International Edition*, the reader will find more questions than answers, more interpretations than certainties. This is the style of the journal, part of its nature made of suggestions and proposals, of reading the facts of the past and anticipating the future, recounting figures who belong to history and theories still in development: the whole “structure” that aims at bringing to life the adventure of science, especially from the point of view of mathematics.

So: how do we interpret the interests shown by teenagers in science and technology, in view of their future in the labour market? Which new ways of understanding the universe do the sensitive tools of modern astronomy have to offer? Will the mathematical models of economics be able to incorporate some of the psychological and social characteristics of people? This is called behavioural economics: what kind of predictions may we expect? How many questions. You will find them, fully expressed and commented, in “Adolescents between science, technology and the future: the results of the 2017 Observa-PRISTEM Bocconi survey” by Padua sociologist **Giuseppe Pellegrini**, in “The dawn of multi-messenger astronomy” by **Filippo Martelli**, a physicist in Urbino and a collaborator of the LIGO-Virgo project devoted to the detection of gravitational waves, and in “Behavioural economics and mathematics: chronicles of an alliance” by **Fabio Tramontana**, professor in Venice.

And then: how does non-fiction celebrate the individuals who made mathematical thinking great? One such individual was young Galois, the founder of modern algebra: in “Cinema scientists: a film about Galois”, **Renato Betti** reports about the documentary film by Giuseppe Mussardo, the latest in his series devoted to great figures of science. Another such individual is the “mathematician-philosopher of our time” Norbert Wiener, whom we commemorate as the founder of a subject, cybernetics, a term that has gone out of fashion but which is increasingly present in our world: here **Settimo Termini**, in “A *Baedeker* for our challenging and troubled times”, introduces a recent book by our author Leo Montagnini, which is captivating starting from the title: *Harmonies of Disorder*. Another striking individual is described in the book review by **Enrico Rogora** of *Emma Castelnuovo* by Carla degli Esposti and Nicoletta Lanciano, a fond commemoration of this “teacher of teachers”, who taught mathematics by starting with concrete needs instead of formal definitions.

This issue is now taking form, continuing with “The importance of being ‘one’ (or Benford’s law)” by **Marco Corazza**, **Andrea Ellero** and **Alberto Zorzi**, all from Venice, about the mystery of the theory of the distribution of digits in numerical data sets and its unexpected applications, and “The sundial in the Cremona Campus of the Politecnico di Milano” by **Alessandro Maianti**, about the working of sundials, motivated by the one he himself designed and built.

Then, we have an essay by **Mario Castellana**, philosopher of science in Lecce, “For an epistemology of mathematical contents: Albert Lautman”, about the thinker, who, although crushed at an early age by Nazi brutality, remains one of the most original figures to address and discuss mathematical structures. We also have the reflections by another philosopher of science, **Gianni Rigamonti** from Palermo, about “Where points came from”. Yes, points indeed: how have they been seen and considered since ancient times, and what are the modern viewpoints about them?

More questions. But we are glad to end with a “lofty goal, in the best Italian tradition”, in the words of **Settimo Termini** who, in “Building peace with knowledge and

✉ Renato Betti
renato.betti@polimi.it

Angelo Guerraggio
angelo.guerraggio@unibocconi.it

Settimo Termini
settimo.termini@unipa.it

¹ Dipartimento di Matematica, Politecnico di Milano, Piazza Leonardo da Vinci 32, 20133 Milan, Italy

² Università Bocconi di Milano, Via Sarfatti 25, 20136 Milan, Italy

³ Dipartimento di matematica e informatica, Università di Palermo, Via Archirafi 34, 90123 Palermo, Italy

conscience (step by step)”, his book review of *Capire il conflitto, costruire la pace* by Valentina Bartolucci and Giorgio Gallo, gives us a personal view of a book based on important initiatives, such as the establishment of the degrees in Science of Peace at the University of Pisa. In the preface we read: “Everything that has to do with science and knowledge has to do with peace”. We fully agree, and leave the reader, once again, to evaluate our work.

Translated from the Italian by Daniele A. Gewurz.

Renato Betti is a former professor of geometry at the Politecnico di Milano. His research concerns category theory and its applications to algebra and geometry. His recent publications include *La matematica come abitudine del pensiero. Le idee scientifiche di Pavel Florenskij* (Libri del Pristem, 2009) and *Geometria leggera. Introduzione all'idea di spazio matematico* (Franco Angeli 2015). He is a member of the Accademia Nazionale Virgiliana in Mantua.

Angelo Guerraggio is lecturer of general mathematics at the Università dell'Insubria in Varese and at the Bocconi University in Milan, where he directs the Research Centre PRISTEM (Progetto RICerche SToriche E Metodologiche), founded by him in 1987. His research interests range from non-linear programming to the history of mathematics, with particular reference to the Italian post-unification period. In 2007 he was appointed by the Italian Government national representative for the

committees of the 7th Framework Programme of the European Union.

Settimo Termini was professor of Theoretical Computer Science at the Universities of Palermo and Perugia, directing—from 2002 to 2009—the Istituto di Cibernetica “Eduardo Caianiello” of the Italian National Research Council (CNR) in Naples. A theoretical physicist by training, he has been mainly concerned with problems raised by the treatment of incomplete and revisable information in complex systems and, recently, with the connections among scientific research, innovation and economic development. His work forms the basis of the “Theory of measures of fuzziness”. Fellow of the International Fuzzy Systems Association (IFSA) and the Accademia Nazionale di Scienze Lettere ed Arti, his books include: *Aspects of Vagueness* (with H. J. Skala and E. Trillas; Kluwer—now Springer—1984); *Imagination and Rigor* (Springer, 2006); *Contro il declino* (with Pietro Greco; Codice, 2007); *On Fuzziness* (with R. Seising, E. Trillas and C. Moraga; Springer 2010).

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