Editorial

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Twenty years back, I wrote a parody in the *Mathematical Intelligencer* on what the layman might think of bizarre mathematical terminology. It portrayed a mathematician being mistaken by a fellow traveller for a terrorist. Last May, an American Airlines flight was delayed more than two hours when a passenger saw Guido Menzio, a prominent economist and Ivy League professor scribbling mathematics, and allegedly thought he was a terrorist. Following this news item, some people wrote to me saying I had been prescient. It was nothing of the kind, and I certainly had no inkling that such a thing could actually happen. The incident reveals more than anything else the deep chasm between a scientist's world and that of a common person.

Interestingly, it was an economist Julian Simon, who had helped the airline industry by popularizing in the 1970s, the idea that carriers should – instead of randomly deplaning travellers from overbooked flights – auction off the 'right to be removed' by offering vouchers that increase in value until all the necessary seats have been reassigned. Apparently, this has led to a savings of about hundred billion dollars in the U.S. economy over the last three decades. This is the same Simon known for the famous Simon–Ehrlich wager from 1980 to 1990 which Simon won.

In recent news, Yves Meyer has been awarded the 2017 Abel prize ('the Nobel Prize of Mathematics'). Meyer's pivotal work on wavelet theory has led to breakthroughs in a wide spectrum of areas. For instance, some applications of wavelet analysis are in – applied and computational harmonic analysis, data compression, noise reduction, medical imaging, archiving, digital cinema, deconvolution of the Hubble space telescope images, and the recent LIGO detection of gravitational waves created by the collision of two black holes.

The present issue features the Russian mathematician Igor Shafarevich whose work in diverse areas is celebrated all over the world. Shafarevich's work in number theory includes the introduction of certain fundamental concepts and objects, and proving landmark results on them like the occurrence of every solvable group as a Galois group over the rationals. Moreover, equally importantly, Shafarevich proposed visionary conjectures, guiding directions in number theory and algebraic geometry.

Shafarevich also wrote for high school students in his inimitable style – ideas often gained precedence over rigour. His political and religious views were controversial; his essay titled 'Russophobia' which was first circulated as *Samizdat* led to accusations of antisemitism.

The issue carries a beautiful classroom note by Aditi Kambli and Chirag Kalelkar which is part of a series of article demonstrating phenomena in fluid dynamics by tabletop experiments that can be carried out using home-made instruments. The present one is on vortex rings. In a departure from popular film magazines, Sushan Konar tells us that when a self-gravitating gas cloud attains the capability of fusing hydrogen into helium, a star is born! In either case, a lot of gas is involved. In this third part of her series of articles, she talks about white dwarfs. In a classroom note of pedagogical value, Swarup Poria and Aman Dhiman have brought together a set of examples to illustrate different aspects of Lipschitz continuity.

Amit Roy traces the story of superconductivity whose origin is also intertwined with the story of liquefaction of helium. In this context, I would like to recall a tongue-in-cheek story that went around the Tata Intitute of Fundamental Research in the 1980s. Allegedly, the cyclotron in Kolkata could not possibly work because $v \times B$ would be zero in those regions (try to pronounce v in the local language!)

In an extremely engaging article, Vinayak Patil examines the strategies adopted by spiders for maximizing the survival of their offspring.