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# LETTER FROM THE EDITOR

## Fortune and chance

Alexandra Ozorio de Almeida

EDITOR IN CHIEF

Science evolves in a nonlinear manner. Subject to mishaps and chance, its path is much more lively and interesting than one might presume. Frequently, there is a good story behind important discoveries. One of these stories happened one hundred years ago and had Brazil as its stage (*page 4*).

In 1919, Albert Einstein was not yet the renowned physicist that he would become. In 1905 and 1915, he published his special and general theories of relativity, respectively. Up until then, physics treated the tridimensionality of space as independent of time, as unidimensional. Einstein brought all four dimensions together, creating the nondivisible spacetime model. Gravity, according to Einstein's proposal, is a geometrical property of spacetime. In addition, the presence of a body with great mass, such as the Sun, bends the fabric of spacetime. That effect causes light to change its path when passing by the Sun.

A total eclipse was a perfect opportunity to prove the bending of light by gravity proposed by the theory of relativity. After a few unsuccessful attempts, which involved an astronomer being arrested as a suspected spy, among other difficulties, in May 1919, a team of astronomers in Sobral, Northeastern Brazil, measured the position of stars during a five-minute long total eclipse. Another team, sent to the African island of Principe, experienced a cloudy sky. The validation of Einstein's theory opened up a vast area of research and revealed a dynamic universe where spacetime expands, collapses in black holes and creates waves—the existence of gravitational waves, predicted by the physicist, was verified in 2016.

The oncologist Drauzio Varella is, without a doubt, the best-known doctor in Brazil. Starting in radio in the 1980s, Varella went on to television, where millions of viewers all over the country watch his reports on Sunday evenings. Varella also developed a passion for writing. The doctor has a weekly column in the press and is the author of many novels, including a bestseller on his work in Carandiru, an infamous prison in São Paulo city, which was demolished in 2002.

Using various media channels, Varella talks mainly about health-related issues, without shying away from controversial topics. The thread that links all his work is the respect for scientific knowledge. Varella's arguments are based on data from scientific research, complemented by his ample experience as a doctor. Varella, 76 years old, runs a private clinic, works in a hospital and has been a volunteer worker in the state penitentiary system for the last 25 years. This issue brings an extensive interview with Varella on many topics, including his pioneering work in Brazil on the first cases of HIV (*page 14*).

The current issue of *Pesquisa FAPESP* covers articles published from January until May 2019 in the Portuguese edition of the magazine. Highlights include features on wind farming in Brazil and niobium, an interview with Alex Antonelli, the Brazilian who is the new scientific director of Kew Gardens, and a feature on the success rate of the judiciary in combatting corruption. All articles published by *Pesquisa FAPESP* are available in English on our website: [www.revista-pesquisa.fapesp.br/en](http://www.revista-pesquisa.fapesp.br/en).