Shankar Raman equates literature with mathematics

When Shankar Raman arrived in Strasbourg at the research unit *Knowledge in the Anglophone Area: Representations, Culture, History (SEARCH)*, he managed to bring two domains that appear to be far apart closer together: literature and mathematics. To do this, Raman looked back in time to the 16th and 17th centuries in Europe when these two disciplines did not yet exist in their own right. He obtained a grant from the University of Strasbourg Institute for Advanced Study (USIAS) to write a book on the subject.

As soon as he began his studies, Shankar Raman combined humanities with science and technology. He was born in India and gained his first degree in electronics from the Massachusetts Institute of Technology (MIT) before embarking on, in parallel, studies in the Department of Architecture at MIT. "To be a good student in India, one has to study a sensible subject such as medicine or science," Raman says with a smile.

He hesitated between these two paths and started by studying for a doctorate at the University of California, Berkeley in electrical engineering. But after two years he stopped this to complete his course in English literature, gaining a doctorate from Stanford University. He studied the relationship between literature and colonialism in the 16th and 17th centuries, focusing on the perception of India.



Shankar Raman in his office. Photo: M. Riegert

A course to engage dialogue between humanities and natural sciences

Raman was recruited as professor of literature at MIT and became interested in the scientific knowledge of the Jesuits from both the East and West. "Following a discussion with two colleagues, we decided to set up a course which would create a dialogue between the humanities and natural sciences and, more particularly, literature and mathematics, with a focus on probabilities."

At that time, mathematics and literature were not disciplines as such

The idea of a publication on the relationship between literature and mathematics in Europe during the 16th and 17th centuries arose from this course. "In those days, mathematics and literature were not disciplines as such. Several transformations that founded the bases of modern mathematics took place at that time, and notably in literature, hence the title of my book *Before the Two Cultures*," says Shankar Raman.

A lawyer initiated the use of symbols in equations

"Montaigne, Sidney, Shakespeare, Pascal and even Descartes all developed, and also questioned, abstract forms of reasoning which rapidly developed in domains such as arithmetic, geometry, algebra and calculation," continues Raman. He also discovered that it was a lawyer, François Viète, who was one of the first to write out equations with symbols and especially letters. According to John Wallis,

an English mathematician and contemporary of Viète, the idea came to Viète during a court case where he used letters to simplify people's names.

USIAS will enable Raman to complete his work. "I visited Strasbourg when my wife worked there as a researcher. There is a strong focus at the university on science and mathematics and serious research is carried out in the humanities." This is an ideal combination for Shankar Raman whose wish is to acquire a better knowledge of the texts in France and in Europe.

Marion Riegert

Read more about the 14 other 2022 USIAS Fellows

Three new Chairs at USIAS

<u>Three new chair positions</u> of a two-year duration have been created by USIAS, specifically for Strasbourg researchers who have made exceptional contributions in their domains.

They cover three principal academic areas: humanities and social sciences, life sciences and natural sciences. These positions are named in honour of famous academics in the history of the University of Strasbourg. During their terms, the Chairs will join the Governing Board of permanent Chairs as temporary members.

This article was originally published in French: Shankar Raman fait rimer littérature et mathématiques.