

**V. Ramanathan**

Grande Médaille de l'Académie des sciences

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Conclusion, par Pierre Léna

We just heard the achievements of Veerabhadran Ramanathan, an exceptional researcher in climatology. Let me conclude this afternoon of science celebration by some glimpses on the person, on Ram my friend who inspired me during the last decade.

November 1944: a young boy is born in Chennai – then named Madras. In this Southeastern part of India, the Tamil Nadu, his family moves to Bangalore where schooling is in English. The boy speaks only tamul. He remembers: "I lost the habit of listening to my teachers and had to figure out things on my own". What a good start to enter into science! Later, the boy graduates in engineering and rapidly moves to some experimental physics at the Indian Institute of Science. He dreams of the United States where he lands in 1970, aiming at a PhD at Stony Brook. His advisor, Robert Cess, directs him to look at the atmosphere of the planet Venus, which was intensively explored in the 1960s, with the discovery of atmospheric ultrafast winds and the first ever landing on another planet by the Soviet probe Venera 7. After his PhD in 1973, he moves to the beautiful National Center for Atmospheric Research in Boulder, the heart of climate science where his famous work on chlorofluorocarbons will take off.

But Ram will never forget his Indian origin. He remains deeply rooted in the immense crowds of India as well as in the most advanced science centres of the West. He frequently illustrates his papers and talks by the picture of a seated Indian woman, cooking in front of her brasero of which she depends to live and eat, as tens of millions of other women, but which also produces carbon soot and changes the monsoon climate – some have called this ‘a Faustian bargain’. After his work on CFCs he studies the ‘brown clouds’ pollution over the Gulf of Bengal, and their possible effects on severe droughts, impacting over 1 billion human beings.

We find here the expression of his main concern. Let him speak: *We must, first, recognize that there are two separate but co-dependent worlds. The bottom 3 billion, who lives in a world with minimal access to fossil fuels, while the top 4 billion live in a world with seemingly inexhaustible supply of affordable fossil fuels. The first contributes to only 6% of fossil CO<sub>2</sub> emissions, while about 2.5 billion in the second contributes as much as 85%.*

Then, the impact of climate change on these 3 billion people will become the centre of Ram’s action in the last decade. You remember, dear Ram, that in 2004, after your successful projects ERBE and INDOEX, when becoming a member of the National Academy of sciences in the US and of the Pontifical Academy of sciences in the Vatican, you realized this: the climate change was much more than a scientific problem, it is *a moral and ethical issue*.

There was probably a slow maturation of this vision, until you decide to devote all your energy to convey and hammer the message: action is possible; education is needed to make every person aware and engaged; men and women of good will, inspired by their spiritualities and accompanied by scientists, must join everywhere. I give two short illustrations of your effort.

1. For all the students - no matter what their field is - in the twelve campuses of the University of California, you conceive, detail and publish in 2015 the education program *Bending the curve*. Soon, its impact goes well beyond California. In France it inspired the report that Jean Jouzel presents in 2022 to Frédérique Vidal, our then Minister of higher education, in order to prepare students to the ecological transition. *Bending the curve* also inspired us, when we created in 2018, with your encouragements, the Office for Climate Education, as an offspring of *La main à la pâte*.
2. 2014, a year before the COP21 in Paris. You organize in Rome, with the two Pontifical Academies, a remarkable Workshop entitled *Sustainable Humanity, Sustainable Nature, our Responsibility*. Could you then foresee its result? Its conclusions would lead, the next year, to *Laudato Si'*, the Encyclical Letter of pope Francis, who you had met and quickly convinced to listen

to science, to *the cry of the poors, the cry of the Earth* and to express it in a strong message to the world. Since 2024, you multiply regional Summits in Americas, Africa, Europe, Asia with mayors, leaders of faith-communities, in order to strengthen climate resilience of people and ecosystems. Again you plea for the bottom 3 billion, for vulnerable children and women who represent 70% of the people living in poverty, for the 200 million climate migrants expected in 2050.

Professor Ramanathan, our Academie is proud to have distinguished with the Grande Medaille, not only an exceptional scientist, but also a person who tirelessly helps humans – and especially the youth too often doubtful about the future - to search justice, keep hope and act.