A star is born

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In 1687, King Louis XIV of France delegated fourteen jesuit priests as Royal Mathematicians to the court of the King of Siam. However, by the time the priests reached Siam in 1688, the King was dethroned in a revolution. Three of the priests left the country and managed to reach Pondicherry in India in 1689. Of these, Father Bouchet (1655-1732) did work on geography in India while Father Richaud (1633-1693) chose astronomy. The name of the third jesuit is not known.

Father Richaud measured the latitude and longitude of Pondicherry, observed the zodiacal light, saw a comet in 1689 and, more importantly, made the discovery, in 1689, that the alpha-centauri is a double star system. The credit for the first discovery of a binary, however, goes to Father Fontenay who made the observation of alpha-crucis in 1685 from the Cape of Good Hope. Nevertheless, the alpha-centauri discovery can be considered the first real astronomical discovery from India, the credit for which goes to a French astronomer.

Another Frenchman who came to do astronomy in India had a rather mixed success. Guillaume Le Gentil came to India from Paris in 1761 and stayed several years to do important astronomical work on the oceans. He also carried out the determination of longitude of Pondicherry. He published his results in Paris in 1779 under the title "Voyages dans les Mers de l'Inde".

Le Gentil was, however, singularly unfortunate in his ventures. He was initially deputed by the King of France on the recommendations of the "Académie Royale des Sciences" to observe the transit of Venus across the solar disc which was to be visible in Pondicherry in 1761. He left on this deputation but because of the seven-year war between England and France he had to take several detours to avoid the war zones. So he reached Pondicherry well past the date of 6th June 1761 for observing the transit.

Nevertheless he decided to remain in India to observe another transit due eight years later on 3rd June 1769. When the date came, the sky was overcast and no observations could be made. The rival attempts of the British, deputed by the Royal Society, were similarly thwarted at Madras.

When Le Gentil sailed back to France, he was shipwrecked twice en route and arrived much later than expected. He discovered that, during his 11 years of absence from Paris, he had been declared "legally dead" and his property given away.

Today, things have changed for the better; my colleagues and I, as also our French counterparts, have very pleasant memories of interactions, both under the umbrella of the Indo-French Centre for the Promotion of Advanced Research (IFCPAR), as well as in our personal capacity.

Indeed, I recall with great pleasure my two-month visiting professorship at the celebrated Collège de France in the spring of 1988. My host Jean-Claude Pecker, Professor at the Collège de France and a distinguished astronomer and former Director of Institut d'Astrophysique (IAP), had arranged my accommodation at the Fondation Hugot, within walking distance of the Collège de France and, of course near many landmarks that make the city of Paris so beautiful and famous. I delivered eight lectures on quantum cosmology, a subject in which I was then working. It was fun to work with Jean-Claude Pecker and J.P. Vigier, Professor at the Institut Henri Poincaré, on rather unconventional aspects of fundamental physics.

It was at this time that the idea of setting up the Inter-University Centre for Astronomy and Astrophysics (IUCAA) had been taking shape and it was very instructive to see how the well-established institutions like the IAP and the CdeF were running as we could adopt some of their academic modus operandi for IUCAA. I was glad when Jean Audouze, Professor and Director of IAP accepted my invitation to be a member of the first Scientific Advisory Committee of IUCAA.

In 1992, we had arranged an interdisciplinary meeting on the nature and origin of matter as depicted in ancient Indian science and philosophy, and in modern science. Jean Audouze had attended the meeting to present the current cosmological viewpoint on the origin of light nuclei in the early universe.

The interaction through IFCPAR began to take shape when two of IUCAA's proposals were approved. One related to data analysis for the gravitational wave detectors, and the other for making a specialised spectrograph. Sanjeev Dhurandhar, who was the Principal Investigator of the first of these projects from the IUCAA-side, writes :

"On the academic side, the gravitational wave group at IUCAA and my French collaborators Prof. Jean-Yves Vinet and Dr. Patrice Hello have formed a close-knit scientific group. This has led to the exchange of ideas, knowledge and skills which has resulted in innovative and original research and finally a successful completion of the project. Besides my direct collaborators, the Orsay group of the VIRGO experiment (the construction of a large-scale interferometer to detect gravitational waves) has been very interactive and supportive, which has led to fruitful research. On a wider scale, I have had extensive interaction with the group at the Observatioire de Meudon where I delivered and attended seminars and discussions.

Our experience of the French has been delightful. Their attitude was very welcoming, forthcoming, warm and helpful. This made our visits wonderful and therefore also successful".

The second project was organised at IUCAA-end by Shyam Tandon in collaboration with C. Vanderriest and G. Herpe in 1996.

The project is aimed at providing the Vainu Bappu Telescope (VBT) at Kavalur with a high efficiency medium resolution spectrograph for studying kinematics of emission line regions in active galaxies, etc. When this collaboration was being discussed by the

two groups, it was realized that the French spectrograph SILFID was not being used any more by the French group and that it could be modified to suit the VBT. This provided a very attractive alternative, and hence it was agreed that SILFID would be modified and commissioned on VBT.

The modifications involve implementing an acquisition and guiding unit on SILFID, getting a suitable fiber-device for imaging spectroscopy, and changing the mechanical interface to match VBT.

Design work has been going on for these modifications. The work on the modifications, as well as on commissioning of the instrument on the telescope and the observations, would be shared by the two groups.

Discussions entre des scientifiques de l'IUCAA et des visiteurs français.

Discussion between IUCAA scientists and French visitors.

IFCPAR also sponsored an Indo-French School at IUCAA in 1995, coorganised by T. Padmanabhan at IUCAA and François Bouchet at the IAP in the area of structure formation in the early universe. The school brought together active participants from France and India. It was a great success and has encouraged collaborations between the French cosmologists and their Indian counterparts.

In 1997, IUCAA and three other Indian institutions had organised a joint discussion meeting in Bangalore on "Big Bang Cosmology and Alternatives : A Critical Appraisal" at which it was a pleasure to have Jean-Claude Pecker as a participant presenting the radical point of view in cosmology. He also visited IUCAA before going to Bangalore. Having participated in the informal discussions about its planning in 1988, he was indeed pleased to see the centre in full bloom.

I hope that these collaborations will continue both at personal and institutional levels and I look forward to visits of more of our French colleagues. Certainly modern travel conditions have made it far more manageable to visit India than what Guillaume le Gentil experienced way back in the 18th century ■