

GLOBAL BEACON

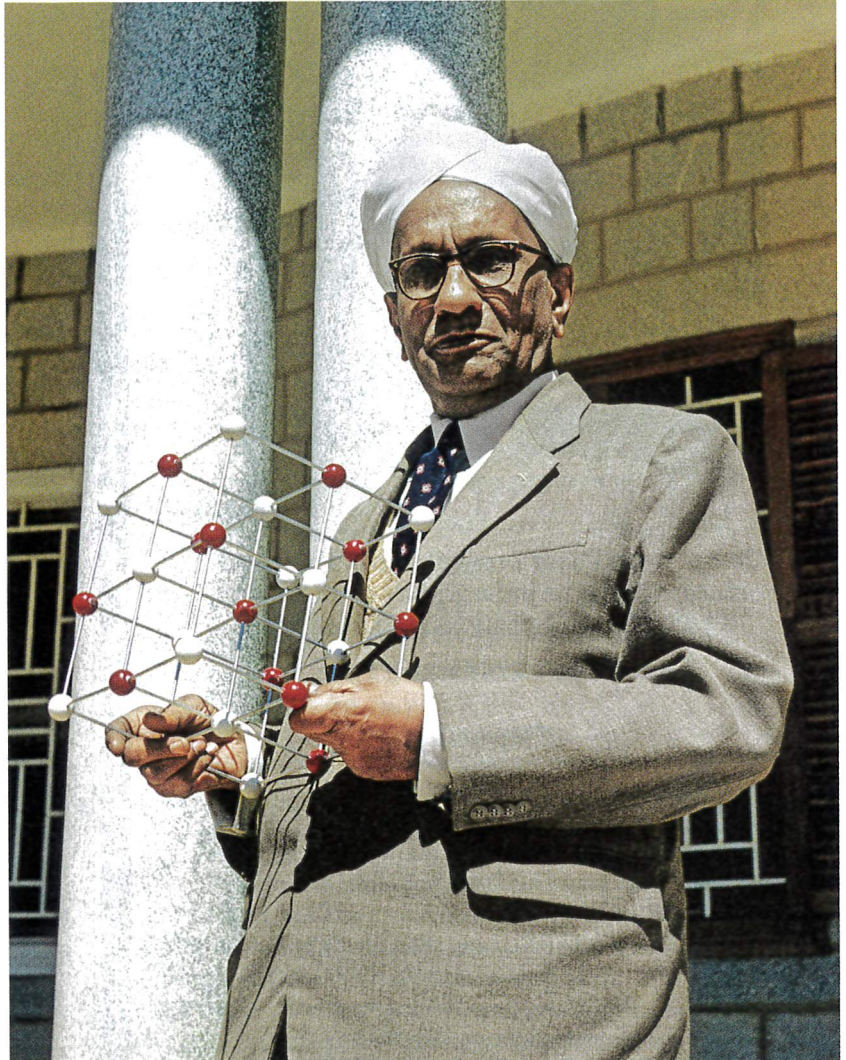
C.V. RAMAN
(1888-1970)

His groundbreaking discovery on the scattering of light, the Raman Effect, inspired a league of scientists at home

BY SANDIP TRIVEDI

Chandrasekhara Venkata Raman, one of Indian's greatest scientists, is best known for his pathbreaking discovery, along with student K.S. Krishnan, of the Raman Effect. For this, he was awarded the Nobel Prize in 1930. Usually when light scatters, through a process called Rayleigh scattering, it changes direction but not its energy. This happens, for example, when light scatters from dust in the atmosphere, leading to the sky being blue. Raman and Krishnan found a new method of scattering in which light changes both its direction and energy; a change in energy means light also changes its wavelength. The Raman Effect has proved extremely important in science. It's an important tool that allows one to characterise and identify different types of molecules.

Raman's great discoveries and the confidence he brought to our country and its culture were a tremendous inspiration to scientists in independent India. At a time when India's contributions were being systematically undermined, Raman showed how Indian musical instruments were among the most scientifically advanced in the world; for example, Indian drums, such as the tabla, have a definite tone



ALAMY STOCK PHOTO

C.V. Raman shaped institutions in significant ways by his presence and contribution

because of the varying density along their vibrating surface.

He shaped institutions in significant ways by his presence and contribution. After working at the Indian Association for the Cultivation of Science, he was appointed the Palit Professor of Physics at Calcutta University in 1917. He joined the Indian Institute of Science in 1933, went on to become its first Indian director, and founded the Raman Research Institute in 1948, which continues to be one of the leading scientific research laboratories in the country. ■

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