

Humanizing science

Neeraja Raghavan

In a rather barren landscape of biographies of Indian scientists, this is a unique book that tries to draw in young readers by telling them a story based on facts.

This slim and unpretentious book hides a huge effort that went into its making. The author Arundhati Venkatesh has thoroughly researched the lives of C V Raman and his nephew, S Chandrasekhar to craft this story. Targeted at young readers, Venkatesh makes a valiant attempt to explain scientific concepts through the voice of C V Raman. Her clever insertion of a family tree into the story is well-timed, as the story teems with characters and I had to flip back to it several times to figure out who each person was.

Peppered with quotes as footnotes and mathematical equations at the beginning of each chapter, the book is well illustrated by Priya Kuriyan. I was eagerly looking for a coloured illustration of a rainbow when that was described, but (very valid) cost considerations must have kept all illustrations in black and white.

The liveliness of the children and the social mores of the time are well brought out. An interesting chapter that every child can relate to is titled *The Leaning Rod of Brindavan*, where children measure their heights in two positions: standing erect and lying down. This is an activity that I didn't get to do until I was middle-aged, and the difference in the two measurements astounded me. It is very doable and children reading this book may well feel tempted to try it themselves. It made me wonder why school teachers don't use this activity to bring home the enormous effect of gravity. Perhaps another universally easy-to-relate segment of the book is the gender bias where young girls are seen as being required to marry early and boys as needing to study. School teachers can use this book to draw out discussion on science as well as social science.

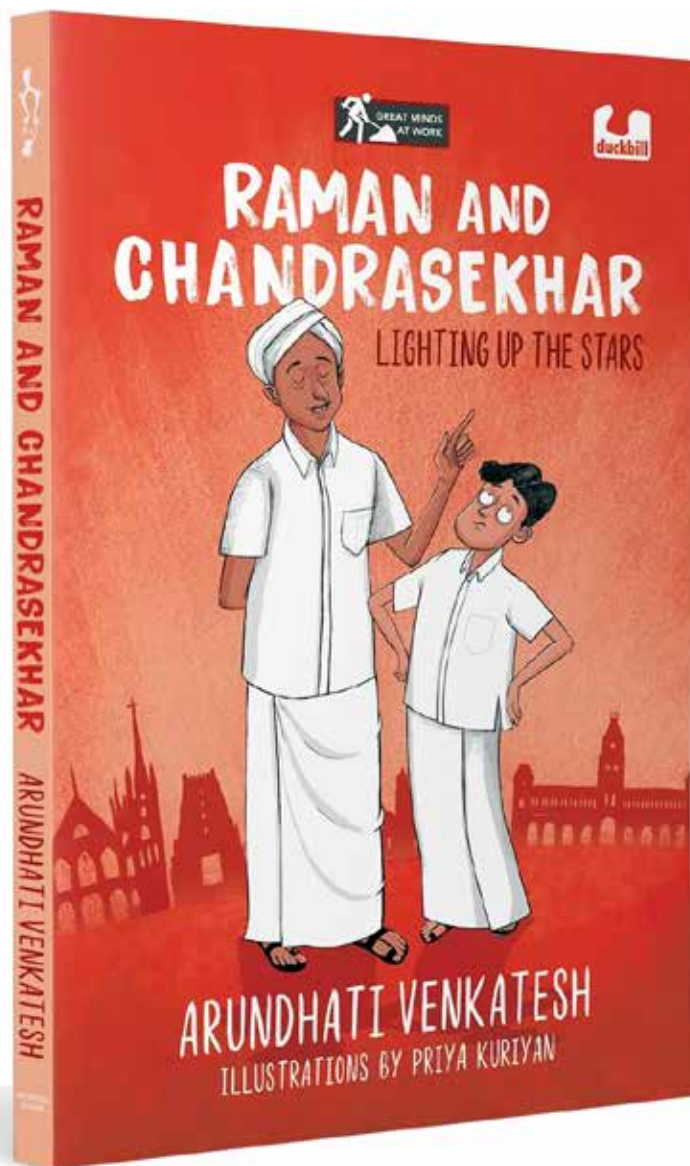
However, the book revolves mainly around science as the author takes the readers on a swift ride through concepts like gravity, dispersion of light, refraction, wave motion, diffraction, and the Doppler Effect. She does this by having the characters experience lessons on all these from "Raman Chittappa". She depends on Chandrasekar's curiosity and Raman's undying thirst for knowledge to sustain the story. My question, though, was: Would every young reader manage to sustain that level of interest throughout the book?

As an adult reader, I felt that the book would have maximum impact if it was read aloud to children (by parents or teachers) in order to hold their interest. I say this because numerous science concepts follow hot on the heels of each other, in the guise of questions being asked either by young Chandrasekar or his illustrious uncle. The eagerness with which a few characters in the story set about performing the activities could well infect a reader or two. No doubt, a good teacher can evoke that curiosity in motivated students. By and large, however, it is unlikely that every young reader will have the same level of curiosity as the characters in the book. [In fact, even the characters in the book are often portrayed as not-so-interested in Raman Chittappa's lectures – all save Chandrasekar!] So, an optimal way of using this book with children would be for an adult to read aloud one chapter at a time and pause between chapters for discussions and trials of the activities described therein.

”

The book will have maximum impact if it is read aloud to children in order to hold their interest.

“



It was not until I came to the Afterword that (again, being an adult reader) I was riveted. I found the enormous efforts of the author to be truly remarkable. Such treasures have been sourced by this committed author in writing this book, that I am tempted to ask her to write another one for adults. A book where she can safely stick to facts without feeling compelled to fictionalize anything, and give us all the science just as it is. That will surely make for a mouth-watering (and rare) biography: of the illustrious uncle-nephew duo!

That said, I recommend this book to teachers struggling to make science interesting for middle schoolers, with the caveat that they will need to steer the book discussion, if not the book reading as well. It will be well worth the effort!

Neeraja Raghavan is Founder-Director of **Thinking Teacher** (www.thinkingteacher.in), an organization that networks with teachers across the country. **Thinking Teacher** aims to awaken and nurture the reflective practitioner within each teacher, with the goal of building deep inquiry and rich learning into the teaching process. The author can be reached at <neeraja@thinkingteacher.in>.

RAMAN AND CHANDRASEKHAR

Lighting up the stars

Author: Arundhati Venkatesh

Illustrator: Priya Kuriyan

Publisher: Duckbill

No. of pages: 144

Format: Paperback

Price: Rs 191.55

Where to buy: <https://www.amazon.in/Raman-Chandrasekhar-Introduction-Prize-Winning-Scientists/dp/0143467085?s=bazaar>