

# Editorial

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*Amitabh Joshi, Associate Editor*

The prophet Moses, we are told, communed with the almighty on Mount Sinai and received a revelation as a result of which he returned to the Hebrews with the ten commandments. Millenia later, in a house in Gali Qasim, a congested by-lane in Daryaganj in Old Delhi, Mirza Ghalib wrote in his typical iconoclastic style:



*“kya farz hai ki sabko miley ek sa jawaab; aao na hum bhi sair karein koh-e-toor ki”*

(The same insight is not bestowed on every contemplating soul;

Let us, too, then take our chance, and upon Mount Sinai stroll)

The attitude of slightly flippant irreverence for dogma reflected in Ghalib’s lines, and indeed in his life, has played an important role in the development of every scientific discipline. The physicist Niels Bohr is said to have once remarked that the opposite of a great truth was usually another great truth. Scientific belief, once it crystallizes into dogma, can become an intellectual strait-jacket for an entire field, and it needs someone who can successfully challenge the dogma to chart a new course for further refinements of understanding in that area.

After the identification of DNA as the genetic material in most life forms, and the elucidation of how the information in the DNA eventually leads to the production of specific proteins, the unidirectional flow of genetically encoded information from DNA to RNA to protein became the ‘Central Dogma’ of molecular biology. In this issue, we remember Nobel Prize winner Howard Temin, who successfully challenged this dogma. Mahadevan’s Article-in-a-box discusses how Temin arrived at the conclusion that it must be possible for RNA to be used as a template for making a DNA copy, and how this work led to the discovery of reverse transcriptase, the enzyme responsible for this reversed information flow. Today this enzyme is an indispensable part of the molecular biologist’s toolkit. Just how far molecular biology has come since the discovery of reverse transcriptase in 1970 is exemplified by Rangarajan’s discussion of DNA vaccines.

Switching from molecular to organismal biology, the fifth article in Smetacek’s ongoing series on butterflies takes a look at congregations and courtship in these delightful insects, while Gopukumar and Balasingh describe the activities of tent-making bats. We also have an article on ferroic materials by Wadhavan, who discusses the common properties of this class of materials that are promising candidates for application as ‘smart materials’. Roy, Basu and Eswaran introduce us to some of the applications of photosensitive organic compounds. Keeping in tune with the times, we also have two articles on various ways of making the most of the Internet. Reddy introduces us to mobile agents, programs that can act as our personal assistants in finding specific kinds of information on the internet, whereas Srinath and Ramanna discuss better ways of web caching.