

Editorial

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The world has changed, and the change has been rapid. When I need to find the address of a place in Bangalore, I look up the telephone directory; my son looks it up on the internet. For those growing up today, computer literacy has joined the ranks of the three R's, reading, 'riting and 'rithmetic. Those of us who grew up a while ago are trying to catch up, and it isn't always easy.



Although computers as we know them today are relatively recent inventions, the idea of machines that would rapidly carry out complex and numerous calculations too tedious for humans to attempt is anything but new. In this issue we remember Charles Babbage, dismissed in his own times as a brilliant but eccentric mathematician whose hare-brained schemes did not quite work out. A hundred and thirty one years after his death, however, we can truly appreciate his vision and foresight. In the mid-nineteenth century, Babbage had already conceptualized what we now recognize to be the forerunner of the modern stored program computer.

In our Classics section, we reproduce an excerpt from his autobiography in which Babbage lays out his conceptualization of a programmable computer. Reading this excerpt awed me with the prescience that Babbage had, and this prescience reminded me of some lines from one of my favourite poems. In his '*Shama aur Shair*', a poetic dialogue between a poet and a lamp penned in 1912, Allama Iqbal wrote:

*"Aasmaan hoga sahar ke noor se aaina-posh, aur zulmat raat ki seemaab-pa ho jayegi
Aankh jo kuch dekhti hai lab pe aa sakta nahin, mahv-e-hairat hun ki duniya kya se kya ho jayegi"*
(*The morning's light will polish the face of the sky, and silent, the night will flee
The world of the future will be so very new, that I cannot express what my mind can see.*)

Apart from the excerpt from his autobiography, we also carry a brief biographical note on Babbage by Rajaraman, while Srinivasa and Bhatt introduce us to search engines and information retrieval from the world wide web, which is a good example of how far Babbage's initial vision has now been taken. This issue also carries the third part of a series on glial cells, focussing this time on oligodendrocytes, cells that are promising candidates in the search for cures to debilitating degenerative diseases of the nervous system, such as multiple sclerosis. Other articles in this issue cover topics ranging from trace zero matrices to fundamental symmetries in nature, and their violation. We also have a very interesting article on making paper models of the DNA double helix, and a Nature Watch piece on sea turtle migration, which is one of the endearing and enduring mysteries in animal behaviour.

