

mediaeval Latin word *influentia* signifying 'influence of the stars'.

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From the archives



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Presidential address by L. L. Fermor at the Indian Science Congress

... An event of major importance to the development of science in India during the past year was the decision made by a group of scientists during the last session of the Indian Science Congress at Bangalore to publish a scientific journal on the lines of the well-known English weekly journal, *Nature*. A committee was appointed and eventually the publication has been commenced of a monthly journal entitled *Current Science*; the first issue appeared in July 1932. You will all agree that the journal is a success, for

there has been no lack of material suitable for publication and the journal is pleasantly printed on good paper. On one point, however, the Board of Editors have cause for anxiety. The University of Madras and the Indian Institute of Science have made grants towards the maintenance of this journal, and, in addition, there are receipts from the sale of the journal and from advertisements. The total receipts from these sources is not, however, sufficient to meet the total expenditure, and for its continuance the journal will require either additional grants from other bodies, or an increased number of subscribers. These are hard times and it is going to be difficult to secure donations from University bodies. But when I mention that the present year's budget of the journal has been framed on the basis of only 300 subscribers, which is less than one per million inhabitants of the country, and that 200 additional subscribers would square the budget, it will be seen that if Indian Science deserves the dignity of supporting an All-India journal in science, it can

easily secure this dignity by what is really a trivial increase in the number of subscribers; for what are 500 subscribers amongst over 300 million people? No doubt, many of you have been waiting to see what the journal was like before subscribing. Now that you see the result, I hope that as many as possible will send in their subscriptions.

... I have mentioned all this to indicate the extent to which the Indian Science Congress is a dependent body financially, and not yet in a position to provide donations towards laudable scientific enterprises such as *Current Science*, or towards endowing particular researches in the manner undertaken by the British Association for the Advancement of Science in England. *Current Science* will no doubt eventually pay its way; but we could well do with funds for financing special items of research by private workers. We may hope perhaps that eventually donations for this purpose will be forthcoming from generous donors, who may perhaps remember the Indian Science Congress in their wills. ...

Random selections

Surface of extremely energetic cosmic rays

'Violation of the Greisen-Zatsepin-Kuzmin cutoff: A tempest in a (magnetic) teapot? Why cosmic ray energies above 10^{20} eV may not require new physics?'

Glennys R. Farrar and Tsvi Piran
Phys. Rev. Lett., 17 April 2000, **84**, 3527–3530

Extremely energetic (typically 10^{20} eV) particles constitute a part of cosmic rays that continuously bombard the earth's atmosphere. The source of these yet-unidentified particles cannot be associated with any plausible ones on the basis of current theories and remains mysterious. Farrar and Piran find that if one were to assume stronger magnetic fields (tens of microgauss) than the ones based on current estimates (typically nanogauss),

the energetic particles would follow a more circuitous path than that along the line-of-sight from earth. On this basis they conclude that the mysterious source may be M17, 'an active galactic nucleus powered by a billion-sun-sized black hole'. Confirmation of this concept will come if more data reveal certain asymmetry with respect to observations made in the direction of M17.