

has a band gap of 3.0 eV. The oxide is being formed due to atmospheric oxygen (uncapped clusters are prone to oxidation). Such oxides, in general, generate trap states within the band gap of the semiconductor. The intense red-shifted bands around 893 nm and 814 nm are due to trap states only. The low intensity

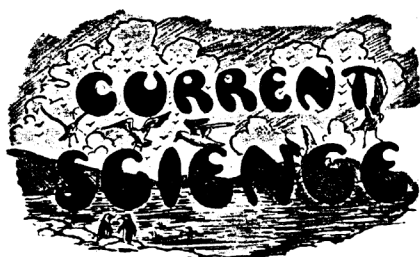
band around 514 nm is the contribution from HOMO–LUMO gap of the Sb cluster. A similar HOMO–LUMO gap has also been detected for nanostructure Sb films around 473 nm (Ludwig, M., Hummel, H. R. E. and Stora, M., *Thin Solid Films*, 1994, **255**, 103). The glancing angle XRD did not detect any As-

oxides from our Sb cluster films. Hence, the 514 nm band is not due to As-oxide.

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FROM THE ARCHIVES



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Science and culture

We have pleasure in offering a warm welcome to *Science and Culture*, a new monthly journal of natural and cultural sciences, the first issue of which has reached us by the courtesy of the editor, and whose aim is to promote the cause of science by spreading scientific knowledge among the public. It is further explained that publication is promoted by a non-profit corporation of 'some eminent scientists and educationists of India', whose identity will doubtless be revealed in a subsequent issue.

The subject-matter is varied and interesting. Following an editorial introduction which rapidly sketches outstanding events in the historical development of Indian civilisation, there comes a long and informing article on 'Bengal Rivers and their Training' by Dr N. K. Bose, who wisely advocates establishment of a river physics laboratory resembling those already operating in Western countries, where schemes connected with river-control may be tested before adoption. An article on the 'Ultimate Constituents of Matter' by Professor M. N. Saha deals comprehensively and lucidly with modern views of atomic architecture, and con-

cludes with an imposing list of the fundamental particles involved. Rai Bahadur Ramaprasad Chanda, under the title 'Aryan, Indo-Aryan and Dravidian' traces the various authorities for different forms of *bakti*, while 'Some Reactionary Consequences of Psychoanalysis' are indicated by Col. Owen Berkeley Hill. A short contribution on 'Susruta and Early Hindu Anthropometry', by Dr Panchanan Mitra is followed – abruptly as it may seem to some readers – by 'Safety of Electrical Installations in India' from Professor B. C. Chatterjee.

Other features are book reviews, obituary notices, a full description of the Indian Statistical Institute's foundation and purpose, a report of the U.P. Academy of Sciences April meeting, and letters to the editor. Support is given to the view of Lord Rutherford as expressed in his letter to *The Times* dated 29 April 1935, concerning retention of Professor Kapitza by the Soviet Government, and a useful outline of the distinguished captive's technical ingenuity is presented. Treatment of the subject would have gained piquancy – and perhaps proportion – if Lord Rutherford's contribution had been supplemented by the letter of Professor H. E. Armstrong, who considers that the restoration of Professor Kapitza to his homeland, so far from being a calamity, is merely a blessing in fancy dress; but then it must be remembered that this chemical veteran on a recently previous occasion stoutly opposed himself to the principle of imported professors.

From this brief survey it will be recognised that *Science and Culture* covers a wide range of material, and incidentally it may be stated that the printing and paper are excellent. It remains

to consider whether the treatment of the subjects chosen is calculated to achieve the declared purpose of the promoters, namely, 'dissemination of scientific knowledge amongst the public'. A rough classification of the literate public in relation to scientific knowledge would reveal two main groups, namely, specialists in one or more branches, and a generally well-informed public whose members desire to keep themselves aware of such scientific discoveries and principles as may be assimilable without previous training in science. *Nature* and the *Scientific American* are probably the best known journals appealing to these two groups, respectively, and throughout the past three years we have consistently endeavoured to meet the needs of the former group in this country, with strict avoidance of partisan or territorial bias. Some aspects of *Science and Culture* are so similar to the corresponding features of *Current Science* that we confess to misgiving that its promoters have judged us and found us wanting. Actually, there is very little of the material presented in this first issue for which we would not gladly have found space in our columns. The question therefore arises in our mind, is there a large enough public for two similar journals; because, if not, we fear that both must languish, under-nourished in both material and support. On the other hand, there is ample room for a journal popularising science, old and new. Therefore, while welcoming *Science and Culture* we take leave to hope that future issues may devote themselves more definitely to the declared policy of its promoters, and expand on lines complementary to – rather than competitive with – *Current Science*.