

## KOMBUR SSHA IYENGAR KUPPUSWAMY IYENGAR IN MEMORIAM

THE sudden death due to pneumonia of Kombur Ssha Iyengar Kuppuswami Iyengar—better known as K. S. K. Iyengar—at Mysore, on 23rd June 1944, marks the loss of one of our distinguished Fellows, and one who was well known in mathematical circles in India. The loss is all the more poignant because his death at the age of 45 is so premature.

Born on 29th August 1899, K. S. K. Iyengar finished his early education in the Government High School, and the Central College, Bangalore, and later went to Madras and joined the Presidency College to study for the Honours Degree Examination. He passed the Honours Examination with distinction in 1920, and noticing his pronounced ability in Mathematics his parents decided to send him to Cambridge to study for the Mathematical Tripos.

But for a short spell of a few months at London where he came in contact with Karl Pearson, K. S. K. Iyengar spent the good part of his stay of nearly five years in Europe in Cambridge itself. He took courses in several branches of pure and applied mathematics but his favourite subject was Analysis, and contact with Littlewood had a profound influence on him. He too was one of the many students who went to Cambridge, and came under the spell of the Hardy-Littlewood tradition. The pioneering work of W. H. Young on sets of points made a great appeal to him, and was responsible for the keen interest he always evinced in point set topology. Continental mathematical work of the time on the theory of functions of a complex variable, especially the work of the German school attracted him so much that he once made a trip to Germany and met Koebe who had by then perfected his uniformisation theory.

After taking a star wranglership at Cambridge he returned to India in 1925, and was soon appointed to the position of the Head of the Department of Mathematics in the University of Mysore, at the Central College, Bangalore, in January 1926. It was largely due to his high standards, energy, and vision that the department was adequately equipped with library and other facilities to keep pace with modern developments. He was largely instrumental in introducing rigour in mathematical teaching in the University, in making provision for teaching several advanced branches, specially theory of functions of a complex variable and real variables and

theories of integration, and in introducing methods of mathematical physics as a compulsory subject for the Honours Courses. In 1930 he was elected a Fellow of the Cambridge Philosophical Society from Trinity Hall. He was also a member of the London, American and Indian Mathematical Societies. He was elected a Fellow of the Academy in 1934. He served on the Boards of Studies, Boards of Examiners, Faculties and Academic Council of his University and several others in India. He was also in charge of the teaching of German in the Science Faculty.

It was only in 1938 that K. S. K. Iyengar started publishing his papers regularly and the bibliography of his published papers contains 20 titles and is appended at the end of this note. The important of these can be classified as follows:—four papers on sequences and series, four on summability and Tauberian theorems, three on normal orthogonal sets, two on derivatives of a function, one on integral functions, three on a geometrical problem, and one on the mathematical aspect of the Bhabha-Heitler cascade theory of cosmic rays. One of the papers on derivatives which consists of generalisations of the theorems of Khintchine and Mazurkiewicz were noticed by Saks and published in the *Proceedings of the Warsaw Scientific Society*. The papers dealing with summability are characteristic of his zeal for generalisation and contain many well-known theorems of Hardy and Littlewood as particular cases. The three connected papers on linear transformations of bounded sequences offer a penetrating study of this topic. I shall however give it as my personal opinion that K. S. K.'s paper dealing with the exact solution of the equations of the general cascade theory is his best. This paper, which arose out of discussions with Bhabha on the subject, consists of rigorous proofs for the existence of solutions of a type of differential equations, and the sharp and manifold analytical tools employed serve to show that their author is an analyst of high calibre.

He married in 1926, but had no children. A tall and arresting personality, a good sportsman, a charming conversationalist, full of foibles and lovable just because of them, K. S. K. Iyengar made a deep impression on all who came in contact with him. He was recently getting himself interested in point set topology which he had been studying deeply, but deeper still was his interest in Indian Philosophy, the Bhagavad Gita, Buddhism, religious mysticism, and systems of Yoga. His sudden death removes from our midst a good teacher, and a great friend of all who teach or learn mathematics.

K. S. K. IYENGAR

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3. ON A PROBLEM RELATING TO TETRAHEDRA, *Ibid.*, p. 305.
4. THEOREMS ON THE FUNCTIONAL LIMITS OF DERIVATIVES OF A FUNCTION AT INFINITY, *ibid.*, p. 343.
- 5, 6, 7. ON LINEAR TRANSFORMATIONS OF BOUNDED SEQUENCES—I, II, III, *ibid.*, 7, p. 399 ; 8, p. 20, p. 135.
8. NOTE ON AN INEQUALITY, AND A NOTE ON THE ZEROS OF  $\sum_{n=0}^n z^n/r!$ , *Math. Student*, 6, 1938.
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15. ON FRULLANI INTEGRALS, *Proc. Camb. Phil. Soc.*, 37, 1941, 9.
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19. A TAUBERIAN THEOREM AND ITS APPLICATION TO CONVERGENCE OF FOURIER SERIES, *Proc. Ind. Acad. Sci.*, 18, 1943, 81.
20. NEW CONVERGENCE AND SUMMABILITY TESTS FOR FOURIER SERIES, *ibid.*, p. 113.

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