

diplomatist of the very best type, strong, able, quiet, cultivated, humorous, with great and wide experience. I think I've never met anyone more really attractive."

The writer enjoyed the privilege of his friendship and will always remember the kind hospitality he received from him at Peking at a time when he was busy dealing with the vexed problems that arose after the Boxer troubles. He was a most hospitable and kindly host, whose conversation was full of charm and interest though his natural modesty made him refrain from making himself appear in any way the protagonist in the stirring incidents in which he had played the chief part, and which he could so graphically describe. His excellent personal qualities and his eminence as a scholar and a diplomat will always make the name of Satow one that will be held in the highest esteem by those who know what manner of man he was and realize how devotedly and successfully he served his country.

J. H. STEWART LOCKHART.

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### George Rusby Kaye

Kaye was born in Leicester in 1866 and educated at Wyggeston Grammar School there, and at St. Mark's College, Chelsea. He went to India first to take a mastership at Bishop Cotton School, Simla, and was subsequently appointed Headmaster of the Boys' High School, Allahabad, and afterwards of the Byculla Boys' School, Bombay. From there he went to Lucknow as Vice-Principal of the Government Training College, and in 1903 to Allahabad in a similar capacity. Shortly afterwards he was transferred to the Bureau of Education in Simla, where he began and carried on until his retirement in 1923 the series of publications on Indian mathematics and astronomy which constituted his life's work. His first articles were published in the *Journal of the Asiatic Society of Bengal* "(Notes on Indian Mathematics: I Arithmetical Notation, II Āryabhata," in

vol. iii, July, 1907, and vol. iv, March, 1908; "The Use of the Abacus in Ancient India," in vol. iv, June, 1908). His point of view was in the nature of a reaction against exaggerated claims of originality and antiquity for Indian mathematics, and was afterwards summarized by him in his contribution to this Journal (*JRAS.* 1910, pp. 749-60), on "The Source of Hindu Mathematics," in which he underlined suspicions cast on the authenticity of the apparently early inscriptions in which place-notation is used. His attention was naturally drawn to the very old birchbark manuscript of a mathematical work which is named after its find-place, Bakhshālī, and in 1912 he gave an account of it in the *Journal of the Asiatic Society of Bengal* (vol. viii, pp. 349-61: "The Bakhshālī Manuscript"), foreshadowing the views which he was to develop as editor of the manuscript fifteen years later. For the time being (his activities for the next ten years were to be directed to Indian astronomy rather than mathematics) he summed up his views on this subject in his book *Indian Mathematics* (Calcutta, 1915). His conclusions have been challenged; most recently by Dr. Walter E. Clark in a contribution ("Hindu-Arabic Numerals") to the Harvard University *Indian Studies in Honor of Charles Rockwell Lanman* (1929). Into the merits of this controversy a layman cannot go; but it seems not improbable that Kaye went rather further in his reaction against older views than the evidence warranted.

His special qualifications now marked him out for certain work on behalf of the Archæological Department of the Government of India (to which he was appointed Honorary Correspondent), the outcome of which was a series of publications on Indian astronomy and astronomical instruments and observatories. In 1918 appeared his "Astronomical Observatories of Jai Singh" (*Archæological Survey of India*, New Imperial Series, vol. xl); in 1920 *A Guide to the Old Observatories at Delhi, Jaipur, Ujjain, Benares* (Calcutta); in 1921 "Astronomical Instruments in the Delhi Museum"

(*Archæological Survey of India—Memoirs*, No. 12); and finally, in 1924, his general account of the subject, "Hindu Astronomy" (*Archæological Survey of India—Memoirs*, No. 18). In the latter year was also published his *Index to the Annual Reports of the Director-General of Archæology in India, 1902 to 1916*. His services were recognized in 1921, when he received the Kaisar-i-Hind Medal of the First Class.

After his retirement from India in 1923 he was appointed cataloguer of the European Manuscripts preserved in the India Office Library (exclusive of the Temple Collection), so far as these had not already been described in S. C. Hill's catalogue of the Orme Collection and C. O. Blagden's catalogue of the Mackenzie Collection. The "minor collections and miscellaneous documents", which constitute the remainder of the India Office Library's European manuscripts, had been in great part described by him when his sudden death (1st July, 1929) left the work incomplete, though within sight of completion. When Kaye's catalogue is published students of British-Indian history will find that they owe no small gratitude to the untiring industry and power of arrangement which enabled him to deal effectively with (for instance) the Moorcroft papers.

Kaye's last published work was a return to his earliest interest. *The Bakhshālī Manuscript, A study in Mediaeval Mathematics* (Parts 1 and 2) was published in 1927 as vol. xliii of the Archæological Survey of India's New Imperial Series. (There are references in it to a Part 3 which make it apparent that a further volume was at least planned.) The published volume contains an account of the manuscript and of the contents of the work, a transliteration, and facsimiles in xlvi plates. Kaye must have felt when he received the first copies that his memory was perpetuated in a splendid monument.

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