

## OBITUARY NOTICES.

James Burgess, C.I.E., LL.D. By C. G. Knott, D.Sc., LL.D.

(MS. received November 12, 1917.)

JAMES BURGESS was born on August 14, 1832, at Kirkmahoe, Dumfriesshire, Scotland. He received his education chiefly at Glasgow, and was trained as a teacher. In 1855 he was appointed Professor of Mathematics in the Doveton College, Calcutta, and after six years proceeded to Bombay, where he became head of the Sir Jamsetjee Jejeebhoy Parsee Benevolent Institution. Here he became greatly interested in archæological matters, and began to contribute to the *Bombay Gazette* a series of valuable geographical and architectural notes. Some of these took the form of guide-books, and his activity in this direction led to his devoting more and more of his time to antiquarian research. In 1868 Dr Burgess was appointed Secretary of the Bombay Geographical Society, and while holding that position he did his first great service to the scientific world by starting the *Indian Antiquary* in 1872. Among his main objects were the publication of all kinds of historical and archæological work carried out in India, and the encouragement of research in these lines. A feature was the reproduction of English translations and abstracts of work done by European scholars in other languages. His editorial work and two books which he published, viz. *Temples of Satruñjaya*, in 1869, and the *Rock-cut Temples of Elephanta*, in 1871, attracted the attention of the Government, and in 1874 Dr Burgess was appointed Archæological Surveyor and Reporter to Government for Western India. In 1881 his sphere of work extended, and he became Archæological Surveyor and Reporter to Government for Southern India. During this period he published a series of large, well-printed, and handsomely illustrated quarto Reports on the archæology and architecture of most of the famous sites of Western and Southern India. These are specially valuable on the architectural side, but also contain the most ancient inscriptions. They constitute the beginning of the New Imperial Series of the Archæological Survey.

On the retirement of General Sir Alexander Cunningham from the directorship of Northern India in 1886, Dr Burgess was appointed Director-

General of the Archæological Survey in India for all three districts. After three years he retired from this office, and with his retirement the office came to an end. The work, however, continued, one very important development being the institution by Dr Burgess of the *Epigraphia Indica*, an official periodical devoted to the publication of Sanskrit and other inscriptions, with facsimiles, translations, annotations, etc. This periodical is still the leading organ of this branch of Indian research.

Meanwhile he had settled in Edinburgh, and continued to fulfil his engagement with the Government, viz., to publish a number of volumes based on the drawings he had accumulated during his tenure of office. The last appeared in 1911. In 1910 he re-edited Fergusson's *Indian Architecture*, and in 1913 published his *Chronology of Modern India, A.D. 1494-1894*. He also edited, with additions, translations of Grünwedel's *Buddhistic Art in India* and Bühler's *Indian Sects of Jaina*. It may be mentioned that at his instance the Orientalist Congress adopted the present accepted scheme of transliteration of Indian alphabets.

After 1913 increasing infirmities of age considerably curtailed his literary activities; but his mental faculties remained unimpaired, and he was dictating important correspondence only a few days before his death. He died on October 3, 1916, in the eighty-fifth year of his age.

His antiquarian work must be regarded as the most important of all he undertook; but it is well to remember that he was a man of keen interest in other lines of study. While engaged in education in India he published for the sake of his Indian students various English classics, with notes explanatory, philological, and critical. These are mines of information. He also published an *Introduction to Arithmetic, containing the Theory and Practice of Whole Numbers, with Tables of the Coins, Weights and Measures in use in British India and the United Kingdom*. This is in many respects, a very original work. He had indeed a strong bias toward arithmetical and mathematical calculations. He contributed interesting articles for a number of years to the *Times of India Calendar*, and drew up an important discussion on "Hypsometrical Measures by means of the Barometer and the Boiling-point Thermometer," published in the *Journal of the Asiatic Society of Bengal*. An article by him on the same subject appeared about the same time in the *Philosophical Magazine* for 1863 (vol. xxv, pp. 29-37). His most important and lasting contribution to mathematical literature was his paper in our *Transactions* (vol. xxxix, 1897) on the "Calculation and Tabulation of the Error-function Definite Integral." For this he was awarded the Keith Prize in 1898.

Dr Burgess received from the Edinburgh University the honorary

degree of LL.D. in 1881, and in 1885 was created Companion of the Order of the Indian Empire. He was an Honorary Associate of the Royal Institute of British Architects; Honorary Member of the Imperial Russian Archæological Society, the American Oriental Society, and the Royal Philosophical Society of Glasgow; Fellow of the University of Bombay; Honorary Associate of the Finno-Ugrian Society; Corresponding Member of the Ethnological Society of Berlin and of the Batavian Society of Arts and Sciences; Fellow of the Royal Geographical Society; and Member of the Société Asiatique, Paris. He was also a member of the Royal Asiatic Society of Great Britain and Ireland, which he joined in 1886, and of which he was at the time of his death almost the oldest surviving member.

He was for many years one of the external members of the Library Committee of the University of Edinburgh, and devoted a great deal of his time to the preparation of a new catalogue.

He was elected a Fellow of the Royal Society of Edinburgh in 1894, served two terms of three years as a Member of Council, and one term of six years (1908–1914) as Vice-President.

His taste for mathematical calculation led him to give valuable help in the preparations for the Napier Tercentenary Celebration in 1914, although the state of his health prevented him attending the Congress.

Dr Burgess took a strong personal interest in the mission work of the Free Church of Scotland and (later) of the United Free Church, and served for many years on their Committees.

The following list of books and papers, although not exhaustive, contains his most important contributions to archæology:—

The Rock-cut Temples of Ajanta. Pamphlet, 1868.

The Temples of Satruñjaya, photographed by Sykes and Dwyer, with historical and descriptive introduction (one plate and forty-six photographs). Atlas fol. Bombay, 1869. Reprint of text. 8vo. Ahmadabad, 1878.

Notes of a Visit to Somanâth, Girnâr, etc., in Kâthiâwâd. 18mo. Bombay, 1869.

Notes of a Visit to Gujarât. 12mo. Bombay, 1870.

Photographs from Somanâth, Girnâr, Junâgadh, etc., in Kâthiâwâd, with descriptive text. Bombay, 1870.

The Rock-cut Temples of Elephanta or Ghârâpurî. Illustrated (with drawings and photographs). 8vo and oblong fol. Bombay, 1871.

Photographs of Architecture and Scenery in Gujarât and Rājputāna (by Bourne and Shepherd), with historical and descriptive letterpress. Fol. Calcutta, 1874.

Report of the Archæological Survey in Belgaum and Kaladgi Districts. Roy. 4to. London, 1874.

Memorandum on the Buddhist Caves at Junnar. In conjunction with J. F. Fleet. 1874.

Memorandum on the Remains of Gumli, Gop, etc. 1875.

Report of the Archæological Survey: Kâthiâwad and Kachh. Roy. 4to. London, 1876.

The Rock-cut Temples of Elura or Verul, with twelve photographs. Cr. 8vo. Bombay, 1877.

Report of the Archæological Survey: Bidar and Aurangâbâd. Roy. 4to. London, 1878.

Pali Sanskrit and old Canarese Inscriptions from the Bombay Presidency and Parts of the Madras Presidency and Maisur, arranged and explained. In conjunction with J. F. Fleet. London, 1878.

Notes on the Rock-temples of Ajanta and their Wall-paintings. Demy 4to. Bombay, 1879.

The Cave Temples of India. In conjunction with Jas. Fergusson. 8vo. London, 1880.

Inscriptions, etc., from the Cave-temples of Western India. Demy 4to. Bombay, 1881.

Notes on the Amarâvati Stûpa. 4to. Madras, 1882.

Buddhist Cave-temples and Brahmanical and Jaina Caves in Western India; and the companion volume, The Buddhist Cave Temples and their Inscriptions. Roy. 4to. London, 1883.

Notes and Inscriptions from Temples in the Madura District. 1886.

Tamil and Sanskrit Inscriptions. 1886.

List of Ancient Monuments for Conservation in the Madras Presidency. 1886-7.

List of Antiquarian Remains in the Bombay Presidency. Demy 4to. Bombay, 1885. Second edition, revised by H. Cousens, 1897.

Buddhist Stûpas of Amarâvati and Jaggayyapeta. Roy. 4to. London, 1887.

"Archæological Research in India," Actes du Congrès Int. des Orientalistes, 1889.

Epigraphia Indica. Vols. 1 and 2. 4to. Calcutta, 1891-94.

Muhammadan Architecture of Bharoch, Cambay, Dholka, etc., in Gujarât. Roy. 4to. London, 1896.

The Ancient Monuments, Temples, Sculptures, etc., of India. Pt. i, 170 plates. Fol. London, 1897.

Muhammadan Architecture of Ahmadabad. 2 vols. Roy. 4to. 1900-5.  
VOL. XXXVII.

Buddhist Art in India, translated from A. Grünwedel's *Handbuch*. Revised and enlarged: 154 illustrations. 8vo. London, 1901.

"Indian Architectural Details," Journ. of Indian Art, vol. 3, No. 32, fifteen plates. Fol. London, 1890.

The Gandhâra Sculptures (twenty-five plates and thirty-eight text-blocks). Ibid., vol. 8, pp. 23-40 and 73-92.

"The Great Stûpa at Sânci-Kânâkheda," Journ. R. As. Soc., 1902, pp. 29-45.

"Sketch of Archæological Research in India during half a century," Journ. Bom. B. R. As. Soc. Centenary vol., 1905, pp. 131-148.

J. Burgess and H. Cousens.—The Antiquities of Dabhoi. Fol. Edinburgh, 1888.

The Architectural Antiquities of Northern Gujarât. Roy. 4to. London, 1903.

J. Burgess, E. W. Smith, and A. Führer.—Sharqi Architecture of Jaunpur. 4to. 1889.

In addition to what has been mentioned above, Dr Burgess was also the author of:—

Observations on the Tides, with reference to the Computation of the Times of High Water at Bombay, 1864. From the "Bombay Almanac," 1864.

A Guide-book to the Elura Caves.

Notes on Hindu Astronomy, and the History of our Knowledge of it. From the "Journal of the Royal Asiatic Society," October, 1893.

Note on Finding the Logarithmic Sines and Tangents of Small Arcs, Proc. Roy. Soc. Edin., vol. xxii, 1898.

Indian Architecture—an Outline Sketch. From the Imperial Gazetteer of India, "The Indian Empire," vol. 2, pp. 155-205, 1907.